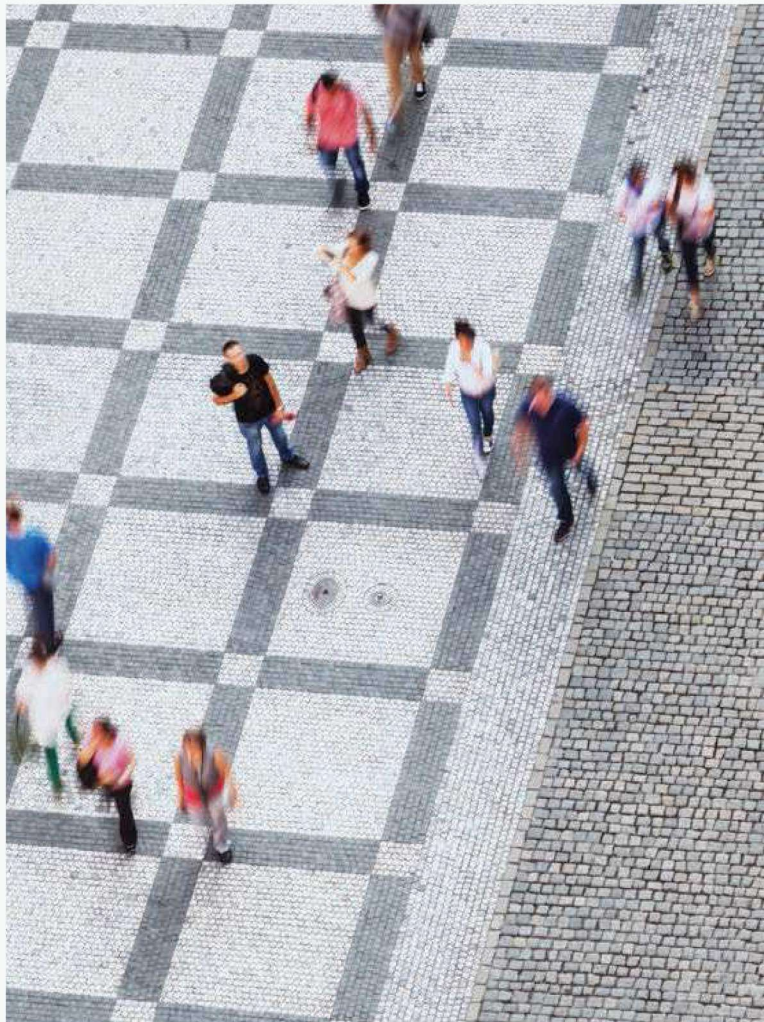




# YORK® Commercial & Industrial HVAC 2016





A more comfortable,  
safe and sustainable world

# Solutions for your success

Every building is unique in design and technical requirements.

Our customers always receive customised building solutions to meet their individual needs.

Johnson Controls can handle many challenges with its innovative and flexible solutions. From A to Z, from consulting to planning, installation, maintenance (service, inspection and repair) and modernisation – Johnson Controls supports customers throughout the entire life cycle of a building.



## AIR CONDITIONING SOLUTIONS

- Chillers & fan coils
- Absorption chillers
- Cooling towers
- Dry coolers
- Air Handling Units



## BUILDING AUTOMATION

- Monitoring, control and optimisation
- Standardised communication protocols



## SECURITY SOLUTIONS

- Identity management
- Facility zoning
- Video surveillance systems
- Alarm systems





Our well thought-out solutions guarantee a high level of comfort and energy efficiency.

The majority of our products are already rated as Class A for Energy Efficiency, with high levels of compatibility and flexibility allowing for future additions to be carried out without difficulty.

External systems can be easily integrated using BACnet® or proprietary solutions.

Our service team is available to you 24 hours a day with one of the largest service networks in Europe.



#### AIR CONDITIONING SOLUTIONS

- Air systems
- VRF systems
- Roof-top air-conditioners
- Minisplits



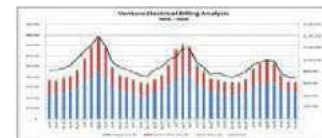
#### ROOM CONTROL

- Integration of HVAC controls with lighting and automatic blinds



#### SERVICE & SOLUTIONS

- Maintenance solutions
- Modernisation solutions
- Energy performance contract solutions
- Renewable energy solutions



#### ENERGY MANAGEMENT

- Energy monitoring
- Real time consumption Mgmt
- Continuous commissioning



## Reference sites

At Johnson Controls, we are dedicated to protecting the environment since our invention of the electric thermostat in 1885, which provided a fundamental shift in the energy efficiency of buildings. Now, all over the world, our products and services empower customers and communities to consume less energy and conserve resources.

The following sites represent building solutions we have developed for our customers based on wide-ranging cross industrial experience in HVAC&R equipment, controls, fire and security systems, and services for commercial and industrial buildings.





### Doğanay ➤

The name Doğanay come to be known in the food sector as the synonym for quality, prioritizing the concepts of quality, service, integrity, respect and love. We as Johnson Controls proud to be a part of their production cycle by giving a superior advantage of VSD driven water cooled and air cooled chillers.



### OBA Makarna ➤

OBA Makarna, which was established in the year 1966 in Gaziantep, makes world class production in its new and modern facilities together with our YCIV & YVAA series air-cooled screw chillers which provides superior control and industry leading efficiency, delivering lower equipment and installation costs and driving down the total cost of ownership.



### Naksan Plastik ➤

Naksan Plastik, which always aims for the best quality and researches the development in the sector systematically bringing all the innovation to its customers, is a global brand with its exports to 140 countries and they are strengthening awareness for the environment with environmentally friendly productions as well..



### ➤ Zorlu Center

Zorlu Center is one of the most prestigious and the first mixed-use project in Turkey. Our centrifugal chillers, air handling units, chiller plant optimization systems (CPO) and operation & maintenance services are provided as a single source solution partner.



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# Chillers & Heat Pumps

SCROLL COMPRESSOR CHILLERS  
AND HEAT PUMPS

SCREW COMPRESSOR CHILLERS  
AIR-COOLED & WATER-COOLED

CENTRIFUGAL COMPRESSOR CHILLERS  
WATER-COOLED

ABSORPTION CHILLERS AND HEAT PUMPS

CENTRAL PLANT OPTIMISATION™ 10



# ECOFRIO v2 / ECOFRIO v2 Plus

## Air cooled chiller / heat pump

YLCA 0012 to 0027 / YLHA 0012 to 0027 Plus

A complete range from 12 kW up to 25.8 kW



The **YORK YLCA/YLHA** air-cooled chillers and heat pumps represents the right solution for any kind of installation.

With thousand. of units installed all around Europe and Africa, used for different applications and in different climate conditions are one of the most flexible and reliable scroll type chillers in the market.

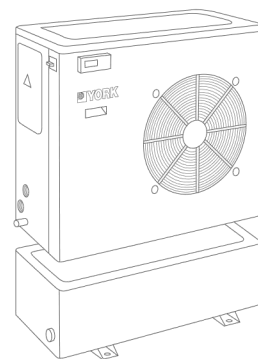
The standard product configuration and the different options and accessories selectable by the customer make these units ideal where a compact, and high performance unit is required.

### Features

- Scroll compressor units
- Very compact units
- High efficiency units
- Leaving and return water temperature control
- Hydro pack standard
- Buffer tank supresion function
- Dynamic set point function
- Fan speed control as standard
- Coated condenser fins as standard (blue fin)
- Flow switch and water filter included

### Options / Accessories

- Condenser copper fins
- BMS Communication (Carel and Modbus protocol)
- Remote control / Remote terminal
- High pressure fans
- External buffer tank
- Tray cable heater (YLHA Plus)
- Condenser protection grill



*External Buffer tank in accessories*

# ECOFRIO v2 / ECOFRIO v2 Plus

## YLCA 0012 to 0027 / YLHA 0012 to 0027 Plus



### Technical features

T Three phases supply    C Hydro Pack

| Model                     |                                                      |                        | YLCA G1                     |                   |         |               | YLHA PLUS G1  |                   |         |               |                             |
|---------------------------|------------------------------------------------------|------------------------|-----------------------------|-------------------|---------|---------------|---------------|-------------------|---------|---------------|-----------------------------|
|                           |                                                      |                        | 0012 TC                     | 0015 TC           | 0020 TC | 0027 TC       | 0012 TC       | 0015 TC           | 0020 TC | 0027 TC       |                             |
| Performance               | Cooling capacity (1)                                 | kW                     | 12.6                        | 14.8              | 19.9    | 26.2          | 12.2          | 14.1              | 19.8    | 26.4          |                             |
|                           | Total Input Power (1)                                | kW                     | 4.32                        | 5.9               | 6.96    | 9.26          | 4.31          | 5.62              | 7.07    | 9.07          |                             |
|                           | EER (1)                                              |                        | 2.92                        | 2.51              | 2.86    | 2.83          | 2.83          | 2.51              | 2.8     | 2.91          |                             |
|                           | ESEER                                                |                        | 3.07                        | 2.87              | 3.66    | 3.07          | 3.05          | 2.77              | 3.27    | 3.24          |                             |
|                           | Heating capacity (1)                                 | kW                     | -                           | -                 | -       | -             | 12.2          | 15.8              | 19.8    | 25.7          |                             |
|                           | Total Input Power (1)                                | kW                     | -                           | -                 | -       | -             | 4.31          | 5.32              | 6.64    | 8.77          |                             |
|                           | COP (1)                                              |                        | -                           | -                 | -       | -             | 2.83          | 2.97              | 2.98    | 2.93          |                             |
|                           | Heating capacity (2)                                 | kW                     | -                           | -                 | -       | -             | 12.6          | 16.4              | 20.5    | 26.8          |                             |
|                           | COP (2)                                              |                        | -                           | -                 | -       | -             | 3.86          | 4.0               | 3.79    | 3.8           |                             |
|                           | Capacity steps                                       | %                      | 0 / 100                     |                   |         |               |               |                   |         |               |                             |
| Compressor                | Type                                                 |                        | 73                          | 73                | 74      | 78            | 73            | 73                | 74      | 78            |                             |
|                           | Quantity                                             |                        | 43                          | 43                | 44      | 48            | 43            | 43                | 44      | 48            |                             |
|                           | Sound power level                                    | dB(A)                  |                             |                   |         |               |               |                   |         |               |                             |
| Air side heat exchanger   | Sound pressure level at 10 m                         | dB(A)                  |                             |                   |         |               |               |                   |         |               |                             |
|                           | Type                                                 |                        | Scroll                      |                   |         |               |               |                   |         |               |                             |
| Water side heat exchanger | Quantity                                             |                        | 1                           |                   |         |               |               |                   |         |               |                             |
|                           | Fans quantity                                        |                        | 2                           |                   |         |               |               |                   |         |               |                             |
|                           | Working ambient temp. cool / heat mode               |                        | (5) (-18°C) -10°C ~ 46°C    |                   |         |               | -18°C ~ 46°C  |                   |         |               | -18°C ~ 46°C / -15°C ~ 20°C |
| Water side heat exchanger | Type                                                 |                        | Plate Heat Exchanger        |                   |         |               |               |                   |         |               |                             |
|                           | Unit water volume                                    | Litres                 | 1.5                         | 2                 | 2.8     | 3.2           | 1.5           | 2                 | 2.8     | 3.2           |                             |
|                           | Pump Type                                            |                        | Multi stage                 |                   |         |               |               |                   |         |               |                             |
|                           | Nominal water flow in cooling                        | l/h                    | 2 065                       | 2 530             | 3 360   | 4 405         | 1 980         | 2 375             | 3 335   | 4 440         |                             |
|                           | Available pressure (1) (3)                           | kPa                    | 115                         | 152               | 134     | 191           | 118           | 160               | 130     | 191           |                             |
|                           | Working water leaving temp. cooling/heating mode (4) | °C                     | -5°C to 15°C / 30°C to 50°C |                   |         |               |               |                   |         |               |                             |
|                           | Water connections                                    | inch                   | 1"                          | 1 1/4"            |         |               | 1"            | 1 1/4"            |         |               |                             |
|                           | Dimensions & Weight                                  | Height / Width / Depth | mm                          | 1 270 / 905 / 460 |         | 1270/1430/502 | 1270/1876/502 | 1 270 / 905 / 460 |         | 1270/1430/502 | 1270/1876/502               |
| Electrical features       | Weight                                               | kg                     | 146                         | 160               | 220     | 290           | 150           | 164               | 235     | 330           |                             |
|                           | Voltage / Phases / Frequency                         | V/ph/hz                | 400-3-50+N+E                |                   |         |               |               |                   |         |               |                             |
|                           | Maximum Unit current                                 | A                      | 11.6                        | 15.8              | 18.1    | 23            | 11.6          | 12.4              | 15.5    | 21            |                             |

(1) net values at Nominal conditions    (2) net values at floor heating conditions    (3) with filter    (4) below 6°C with glycol    (5) -18°C with LAK option  
Nominal conditions: Cooling capacities for 7°C water leaving temperature Δt 5°C and 35°C ambient temperature  
Heating capacities for 45°C water leaving temperature Δt 5°C and 7°C ambient temperature  
Floor heating conditions: Heating capacities for 35°C water leaving temperature Δt 5°C and 7°C ambient temperature

### Compatibility table / Codes

| YLCA Model                         | 0012 TC    | 0015 TC    | 0020 TC    | 0027 TC    |            |            |            |            |
|------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Cooling only units (Pack included) | S668551282 | S668551582 | S668552082 | S668552782 |            |            |            |            |
| YLHA Plus Model                    |            |            |            |            | 0012 TC    | 0015 TC    | 0020 TC    | 0027 TC    |
| Heat pump units (Pack included)    |            |            |            |            | S668651285 | S668651585 | S668652085 | S668652785 |

Use this unit code when a factory fitted option is NOT required

#### Accessories (Supplied loose)

|                         |                      |            |            |            |  |            |
|-------------------------|----------------------|------------|------------|------------|--|------------|
| Water tank              | 30 Liters            | S613990300 | -          | S613990300 |  | -          |
|                         | 115 Liters           | -          | S613991150 | -          |  | S613991150 |
| Water tank + heater     | 30 L + 4.5 kW (3~)   | -          |            | S613990305 |  | -          |
|                         | 30 L + 6 kW (3~)     | -          |            | S613990306 |  | -          |
|                         | 115 L + 10.5 kW (3~) |            | -          |            |  | S613991151 |
| Remote control          |                      | S613802011 |            |            |  |            |
| Remote terminal         |                      | S613802231 |            |            |  |            |
| BMS Communication       |                      | S613802041 |            |            |  |            |
| Anti vibration mounting |                      | S613029001 | S613029002 | S613029001 |  | S613029002 |
| Compressor heater       |                      | S613760322 | STANDARD   | S613760322 |  | STANDARD   |
| Tray cable heater       |                      | -          |            | S611080788 |  | -          |

| YLCA Model                         | 0012 TC    | 0015 TC    | 0020 TC    | 0027 TC    |            |            |            |            |
|------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Cooling only units (Pack included) | S668000010 | S668000012 | S668000014 | S668000016 |            |            |            |            |
| YLHA Plus Model                    |            |            |            |            | 0012 TC    | 0015 TC    | 0020 TC    | 0027 TC    |
| Heat pump units (Pack included)    |            |            |            |            | S668000239 | S668000242 | S668000243 | S668000244 |

Use this unit code when a factory fitted option is required

#### Options (Factory fitted)

|                            |            |            |            |            |            |            |
|----------------------------|------------|------------|------------|------------|------------|------------|
| High pressure fans         | S611991083 |            | S611991085 | S611991083 |            | S611991085 |
| Condenser protection grill | S613995085 | S613995086 | S613995087 | S613995085 | S613995086 | S613995087 |
| LAK -18°C                  | S613112083 | STANDARD   |            |            |            |            |

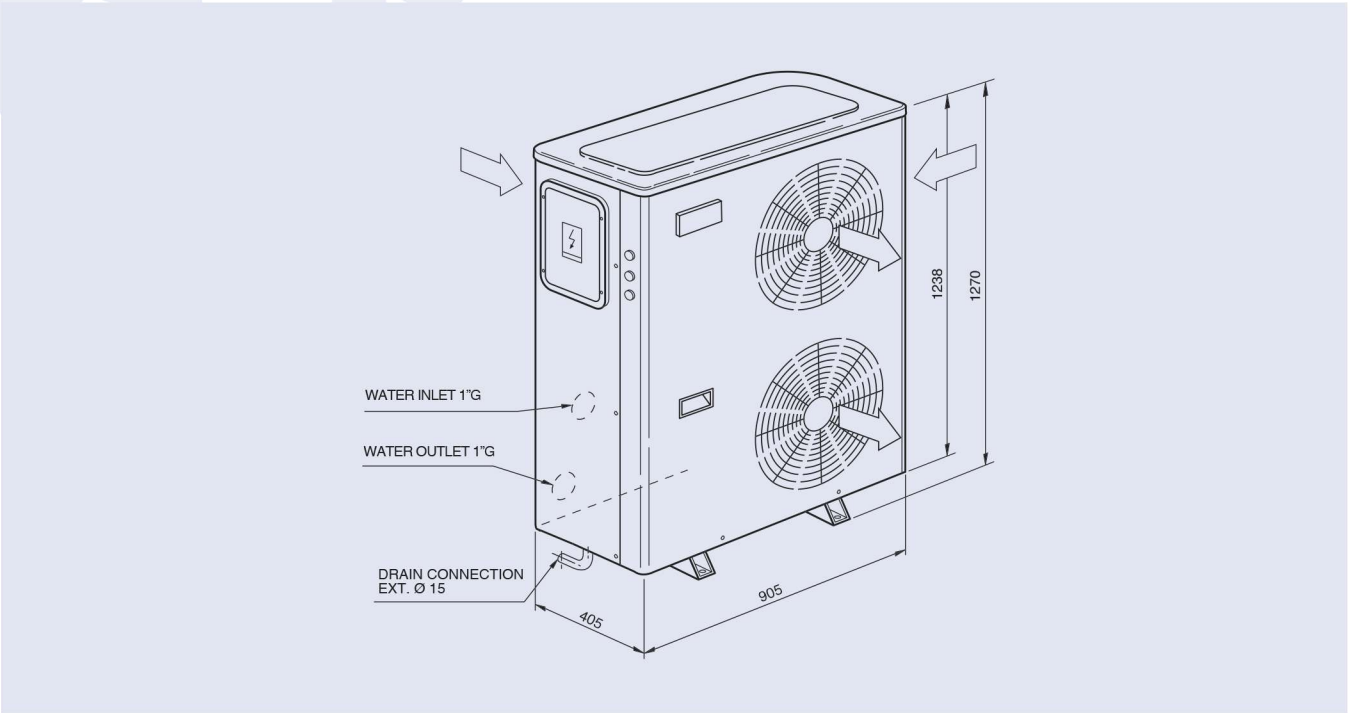


Manufacturer reserves the rights to change specifications without prior notice.



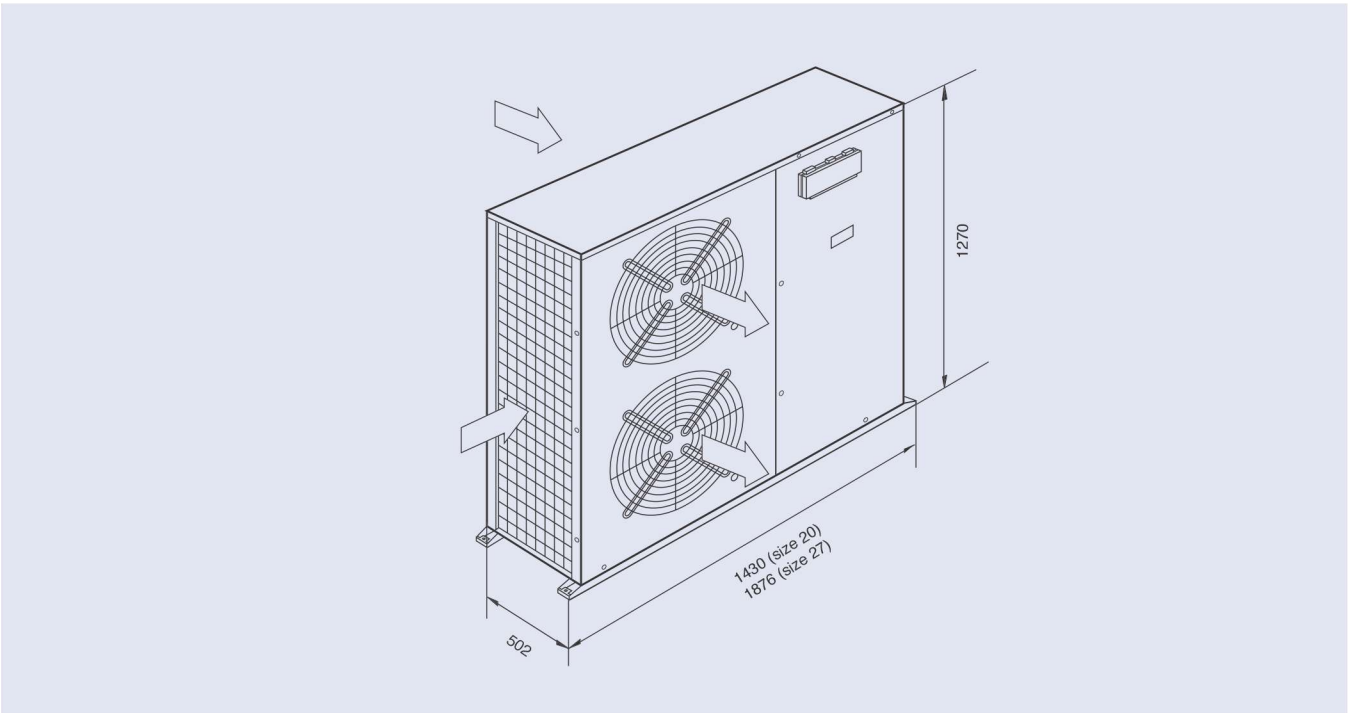
# Dimensions, hydraulic connections and space requirements

YLCA-YLHA PLUS 0012/0015 TC



All dimensions in mm. Drawings not a scale.

YLCA-YLHA PLUS 0020/0027 TC

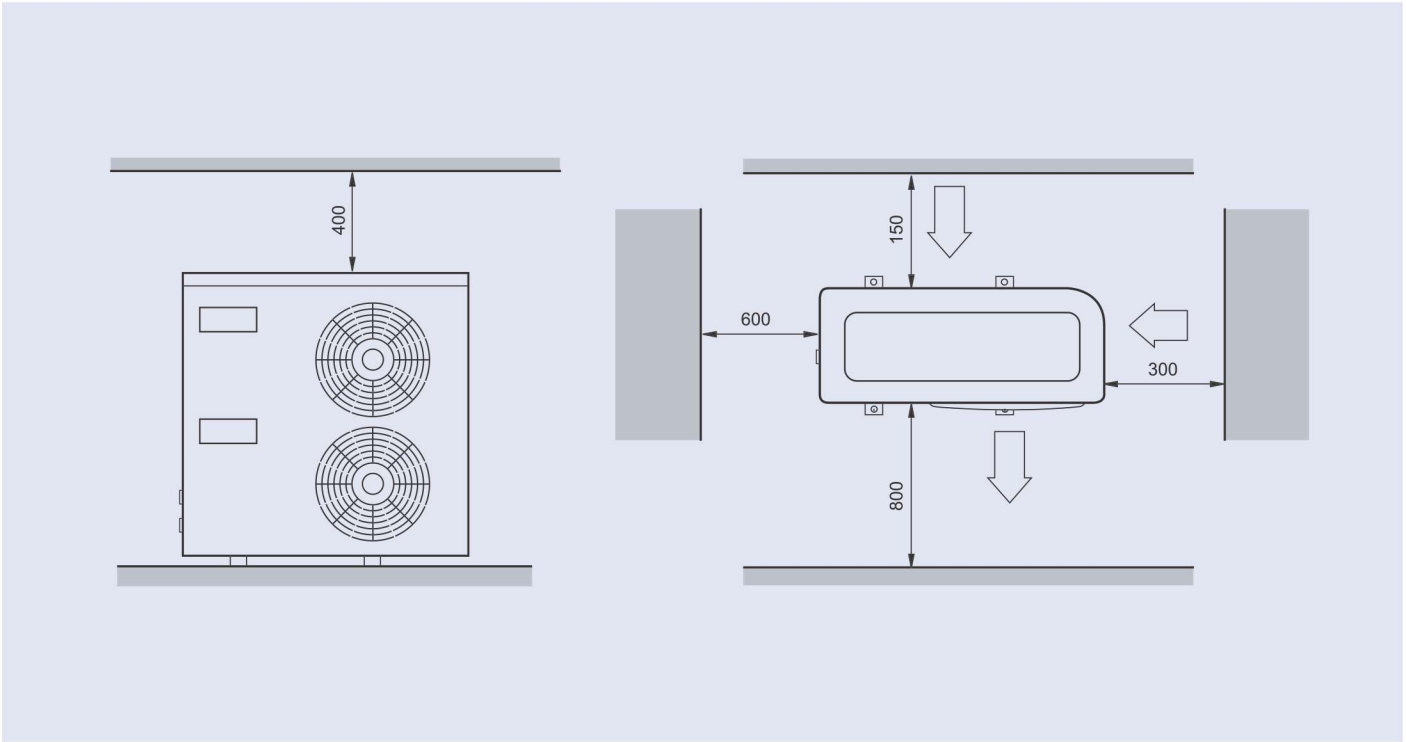


All dimensions in mm. Drawings not a scale.

# YLCA-YLHA PLUS 0012 to 0027

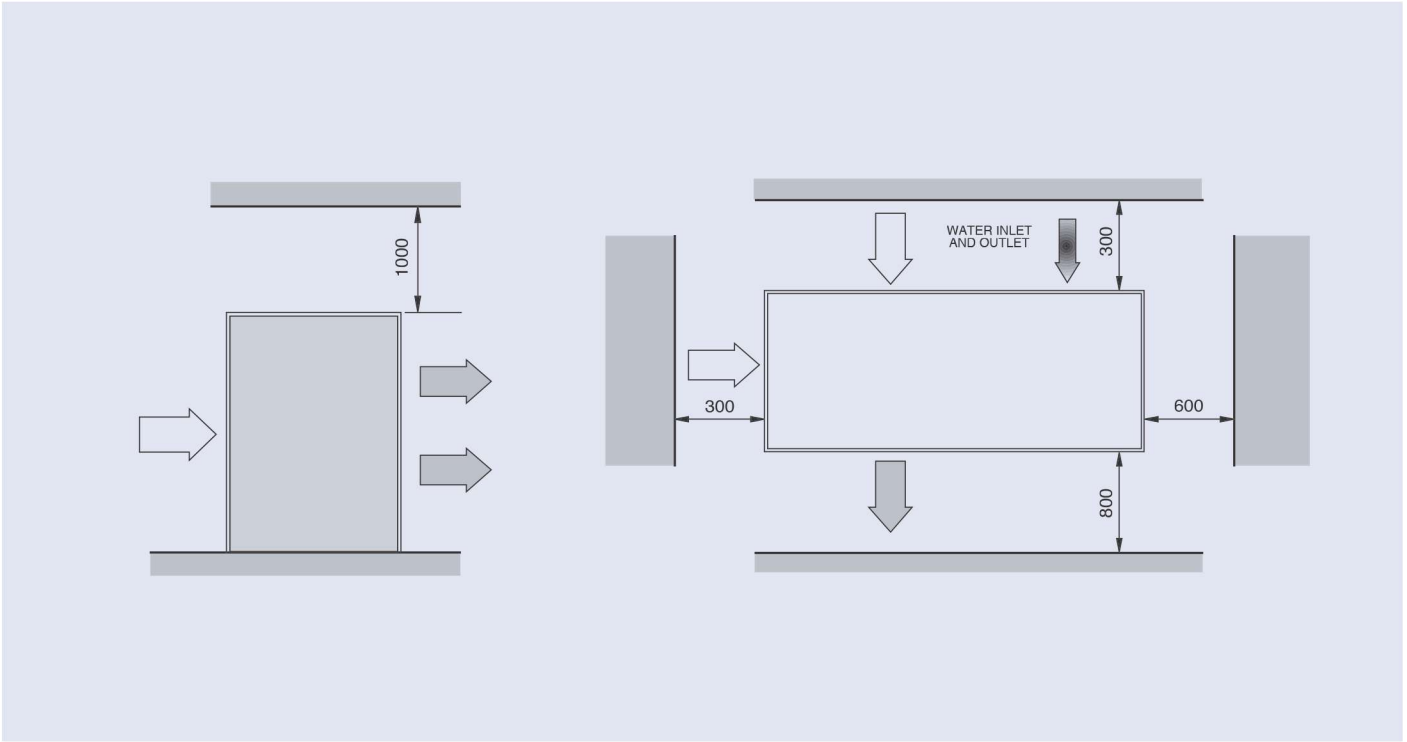


Models YLCA-YLHA PLUS 0012/0015



All dimensions in mm. Drawings not a scale.

Models YLCA-YLHA PLUS 0020/0027



All dimensions in mm. Drawings not a scale.

# ECOFRIO v2

## Air cooled chiller / heat pump

YLCA / YLHA 0040 to 0150

A complete range from 39.6 kW up to 151 kW



The **YORK YLCA/YLHA** air-cooled chillers and heat pumps represents the right solution for any kind of installation.

With thousands of units installed all around Europe and Africa, used for different applications and in different climate conditions are one of the most flexible and reliable scroll type chillers in the market.

The standard product configuration and the different options and accessories selectable by the customer make these units ideal where a compact, and high performance unit is required.

### Features

#### YLCA/YLHA 0040 to 0080

- 2 capacity steps (1 for size 40)
- LWT & RWT Control
- Plate heat exchanger
- Condenser fins (blue fin)
- Pressostatic LAK (-18°C)

#### YLCA/YLHA 0100 to 0150

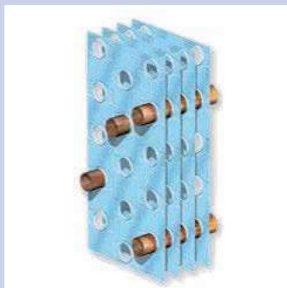
- Same features as YLCA/YLHA 40 to 80
- 4 capacity steps
- High efficiency at full and partial load
- Reduced noise levels
- 1/4 turn lock for easy access

### Options / Accessories

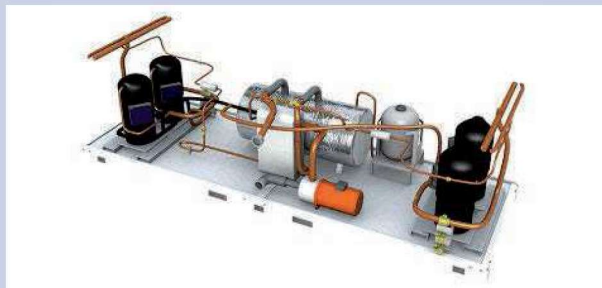
- Unit without pack
- BMS Communication (Carel and Modbus protocol)
- Remote control
- Remote terminal
- Water filter (unit without Hydro Pack)
- Flow switch (unit without Hydro Pack)
- Low noise version
- Dual pump version
- Antivibration mountings
- Condenser protection grille



Low noise version with special insulation in the compressor chamber.



Special coating on the condenser fins for improved corrosion protection.



Pump built-in for space saving and easy installation.



# ECOFRIO v2

## YLCA / YLHA 0040 to 0150



### Technical features

T Three phases supply P Hydro Pack H Heat pump

| Model                     |                                                               |         | YLCA / YLHA                 |                    |              |                |                           |               |                |
|---------------------------|---------------------------------------------------------------|---------|-----------------------------|--------------------|--------------|----------------|---------------------------|---------------|----------------|
|                           |                                                               |         | 0040 T-TP                   | 0050 T-TP          | 0060 T-TP    | 0080 T-TP      | 0100 T-TP                 | 0120 T-TP     | 0150 T-TP      |
| Performance               | Cooling capacity c/o units (1)                                | kW      | 39.3                        | 51.8               | 60.1         | 77             | 100.3                     | 118.5         | 150.5          |
|                           | Total Input Power (1) (3)                                     | kW      | 13.69                       | 18.3               | 20.03        | 27.11          | 34.47                     | 40.44         | 54.14          |
|                           | EER (1)                                                       |         | 2.87                        | 2.83               | 3            | 2.84           | 2.91                      | 2.93          | 2.78           |
|                           | ESEER (1)                                                     |         | 3.15                        | 3.18               | 3.3          | 3.15           | 3.74                      | 3.83          | 3.66           |
|                           | Cooling capacity h/p units (1)                                | kW      | 37.6                        | 51.2               | 60.1         | 71.7           | 95.4                      | 113.6         | 144.5          |
|                           | Heating capacity h/p units (1)                                | kW      | 38.8                        | 52.8               | 60           | 75.2           | 104.6                     | 120           | 150.5          |
|                           | Total Input Power cool/heat mode (1) kW                       |         | 13.48 / 12.81               | 17.65 / 18.21      | 20.03 / 20.2 | 26.46 / 26.86  | 36.14 / 37.76             | 43.69 / 40    | 51.06 / 53.94  |
|                           | EER / COP (1)                                                 |         | 2.79 / 3.03                 | 2.93 / 2.9         | 3 / 2.97     | 2.71 / 2.8     | 2.64 / 2.77               | 2.6 / 3       | 2.83 / 2.79    |
|                           | ESEER (1)                                                     |         | 3.15                        | 3.18               | 3.29         | 2.91           | 3.39                      | 3.43          | 3.73           |
|                           | Capacity steps                                                | %       | 0 / 100                     | 0-50-100           |              |                | 0-25-50-75-100            |               |                |
| Compressor                | Sound power level STD / LN                                    | dB(A)   | 78 / 73                     | 81 / 76            | 87 / 77      | 83 / 79        | 82 / 78                   | 82 / 78       | 84 / 80        |
|                           | Type                                                          |         | Scroll                      |                    |              |                |                           |               |                |
|                           | Quantity                                                      |         | 1                           | 2                  |              |                | 4                         |               |                |
| Air side heat exchanger   | Fans quantity                                                 |         | 2                           |                    |              | 3              | 4                         |               |                |
|                           | Working ambient temp. cool. / heat. mode                      |         | -18°C ~ 46°C / -10°C ~ 20°C |                    |              |                |                           |               |                |
| Water side heat exchanger | Type                                                          |         | Single Plate Heat Exchanger |                    |              |                | Dual Plate Heat Exchanger |               |                |
|                           | Unit water volume (2)                                         | Litres  | 131                         | 188                | 194          | 285            | 193                       | 195           | 214            |
|                           | Pump Type                                                     |         | Multistage horizontal pumps |                    |              |                |                           |               |                |
|                           | Nominal water flow                                            | l/h     | 6 820                       | 8 960              | 10 400       | 13 350         | 17 600                    | 20 470        | 25 970         |
|                           | Available pressure (1) (2)                                    | kPa     | 105                         | 108                | 158          | 123            | 187                       | 202           | 186            |
|                           | Pressure drop (1) (3)                                         | kPa     | 75                          | 39                 | 50           | 63             | 59                        | 33            | 27             |
|                           | Working range water leaving temperature cooling / heating (4) |         | -5°C ~ 15°C / 30°C ~ 50°C   |                    |              |                |                           |               |                |
| Dimensions & Weight       | Water connections (2)                                         | inch    | 1 1/4"                      | 2"                 |              |                | 2 1/2"                    |               |                |
|                           | Height / Width / Depth                                        | mm      | 1573/1500/822               | 1600 / 1011 / 2104 |              | 1600/1118/2944 | 2190 / 1101 / 3416        |               | 2263/1101/3770 |
|                           | Weight without pack / pack c/o                                | kg      | 340 / 380                   | 524 / 580          | 555 / 611    | 715 / 785      | 1 124 / 1 220             | 1 190 / 1 286 | 1 415 / 1 503  |
|                           | Weight without pack / pack h/p                                | kg      | 337 / 397                   | 537 / 593          | 568 / 624    | 735 / 805      | 1 154 / 1 250             | 1 220 / 1 316 | 1 445 / 1 703  |
| Electrical features       | Voltage / Phases / Frequency                                  | V/ph/hz | 400 / 3 / 50+N+E            |                    |              |                |                           |               |                |
|                           | Maximum Unit current                                          | A       | 33                          | 46.2               | 49.2         | 70.5           | 80                        | 108           | 120            |

YLCA: Cooling only units models. YLHA: Air to water heat pump models.  
(1) net values at Eurovent nominal conditions (2) version P with hydro kit with filter (3) version without hydro kit (4) below 6°C with glycol  
Nominal conditions: Cooling capacities in kW given for 7°C water leaving temperature Δt 5°C and 35°C ambient temperature  
Heating capacities in kW given for 45°C water leaving temperature and 7°C ambient temperature

### Compatibility table / Codes

| Model                                  | 0040 TP    | 0050 TP    | 0060 TP    | 0080 TP    | 0100 TP    | 0120 TP    | 0150 TP    |
|----------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| YLCA Cooling only unit (Pack included) | S668554084 | S668525182 | S668526182 | S668528182 | S668521182 | S668551156 | S668551507 |
| YLHA Heat pump unit (Pack included)    | S668654084 | S668625182 | S668626182 | S668628182 | S668621182 | S668651156 | S668651506 |

| Model                                 | 0040 T     | 0050 T     | 0060 T     | 0080 T     | 0100 T     | 0120 T     | 0150 T     |
|---------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| YLCA Cooling only unit (without Pack) | S668554080 | S668525180 | S668526180 | S668528180 | S668521180 | S668551154 | S668551503 |
| YLHA Heat pump unit (without Pack)    | S668654080 | S668625180 | S668626180 | S668628180 | S668621180 | S668651154 | S668651504 |

Use this unit code when a factory fitted option is NOT required

|                                             |            |            |            |            |  |  |  |
|---------------------------------------------|------------|------------|------------|------------|--|--|--|
| Accessories (Supplied loose)                |            |            |            |            |  |  |  |
| AVM mounting                                | S613029002 | S613026080 | S613028180 | S613021580 |  |  |  |
| Mechanical flow switch                      |            |            | S611992021 |            |  |  |  |
| Water Filter *                              | S611300150 | S611300170 |            | S611300190 |  |  |  |
| Remote control                              |            |            | S613802011 |            |  |  |  |
| Remote terminal                             |            | S613802231 |            | -          |  |  |  |
| Cable for remote connection of the terminal |            | -          |            | S613802241 |  |  |  |
| B.M.S. Communication                        |            | S613802041 |            | S613802051 |  |  |  |

| Model                                  | 0040 TP    | 0050 TP    | 0060 TP    | 0080 TP    | 0100 TP    | 0120 TP    | 0150 TP    |
|----------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| YLCA Cooling only unit (Pack included) | S668000226 | S668000247 | S668000251 | S668000255 | S668000259 | S668000107 | S668000111 |
| YLHA Heat pump unit (Pack included)    | S668000228 | S668000248 | S668000252 | S668000256 | S668000260 | S668000131 | S668000135 |

| Model                                 | 0040 T     | 0050 T     | 0060 T     | 0080 T     | 0100 T     | 0120 T     | 0150 T     |
|---------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| YLCA Cooling only unit (without Pack) | S668000038 | S668000245 | S668000249 | S668000253 | S668000257 | S668000105 | S668000109 |
| YLHA Heat pump unit (without Pack)    | S668000039 | S668000246 | S668000250 | S668000254 | S668000258 | S668000129 | S668000133 |

Use this unit code when a factory fitted option is required

|                             |            |            |            |            |            |            |            |
|-----------------------------|------------|------------|------------|------------|------------|------------|------------|
| Options (Factory fitted)    |            |            |            |            |            |            |            |
| Low Noise version           | S613990550 | S613990650 | S613990850 | S613991050 | S613991285 | S613991584 |            |
| Softstart                   | S606744692 | S606744693 |            | S606744694 |            |            |            |
| Dual pumps **               | -          | S613990540 | S613990640 | S613990840 | S613991040 | S613991286 | S613991585 |
| Condenser protection grille | S613995090 | S613995091 | S613995092 | S613995093 |            | S613995094 |            |

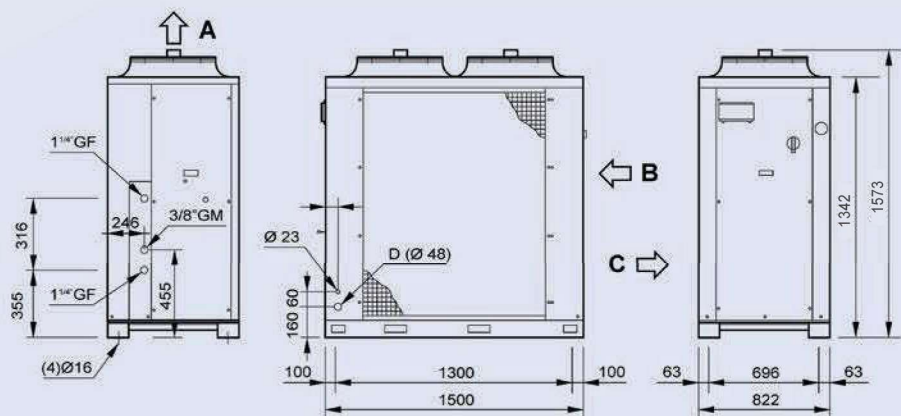
\* included with unit version "P" only for unit without pack. Filter size: 2" for YLCA 40-50-60-80 and 2 1/2" for YLHA 100-120-150.  
\*\* Dual pump option has to be ordered with units with hydrokit.



Manufacturer reserves the rights to change specifications without prior notice.

# Dimensions and hydraulic connections

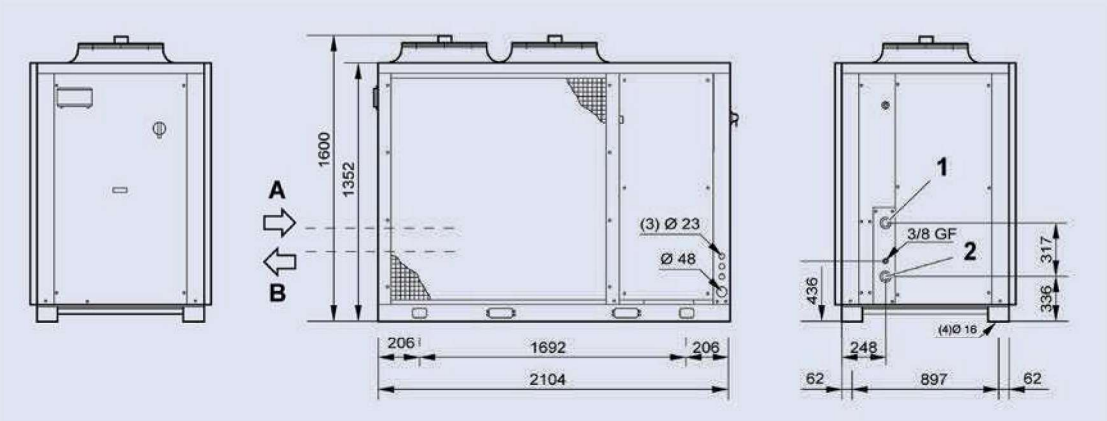
## YLCA-YLHA 0040 T-TP



All dimensions in mm. Drawings not a scale.

| Unit           | A          | B           | C            |
|----------------|------------|-------------|--------------|
| YLCA/YLHA 0040 | Air outlet | Water inlet | Water outlet |

## YLCA-YLHA 0050 and 0060 T-TP



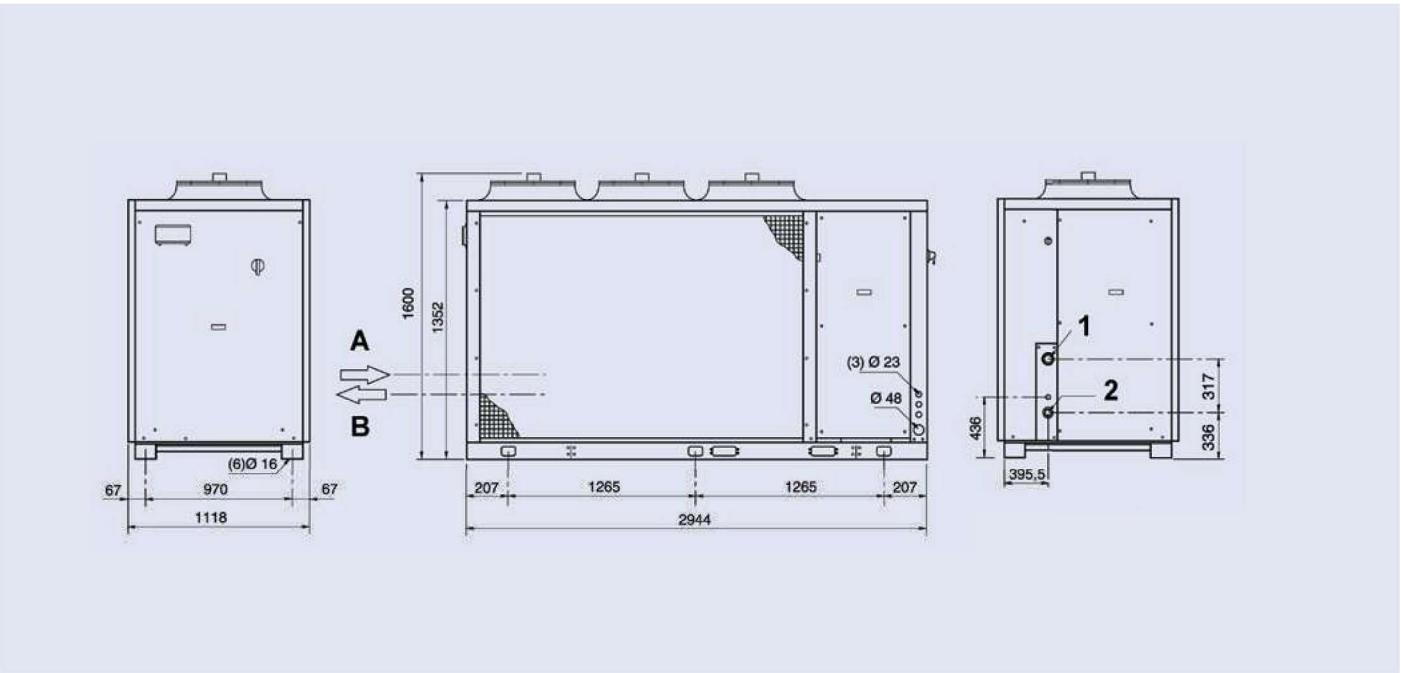
All dimensions in mm. Drawings not a scale.

| Unit                | A           | B            | 1             | 2              |
|---------------------|-------------|--------------|---------------|----------------|
| YLCA/YLHA 0050-0060 | Water inlet | Water outlet | 2" GF (Inlet) | 2" GF (Outlet) |

# YLCA / YLHA 0040 to 0150



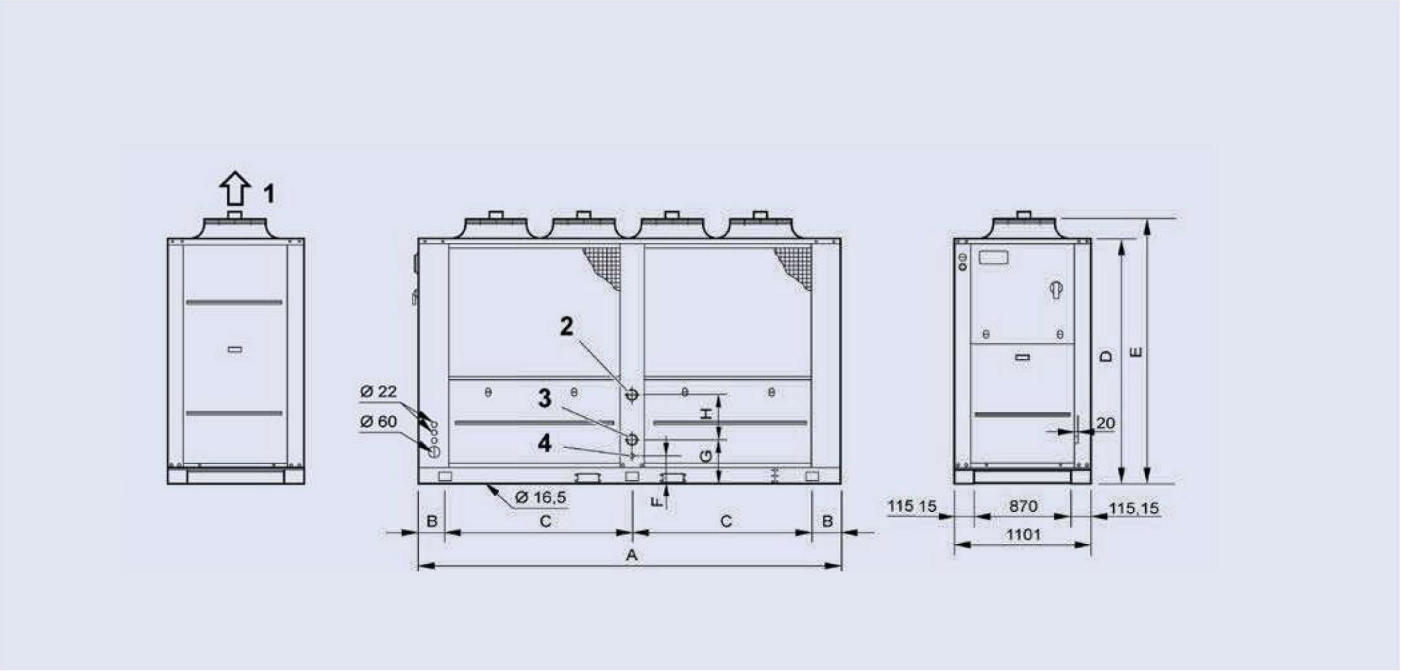
## YLCA-YLHA 0080 T-TP



All dimensions in mm. Drawings not a scale.

| Unit           | A           | B            | 1             | 2              |
|----------------|-------------|--------------|---------------|----------------|
| YLCA/YLHA 0080 | Water inlet | Water outlet | 2" GF (Inlet) | 2" GF (Outlet) |

## YLCA-YLHA 0100, 0120 and 0150 T-TP



| Unit                | 1          | 2                         | 3                        | 4                  | A     | B   | C     | D     | E     | F   | G   |
|---------------------|------------|---------------------------|--------------------------|--------------------|-------|-----|-------|-------|-------|-----|-----|
| YLCA/YLHA 0100-0120 | Air outlet | Water outlet<br>Ø2 1/2" G | Water inlet<br>Ø2 1/2" G | Drain<br>Ø 20 x 20 | 3 416 | 182 | 1 525 | 1 942 | 2 190 | 199 | 289 |
| YLCA/YLHA 0150      |            |                           |                          |                    | 3 770 | 255 | 1 630 | 1 993 | 2 263 | 145 | 211 |

All dimensions in mm. Drawings not a scale.



# YLCD-YLHD

## Air cooled chiller / heat pump

YLCD-YLHD 0025 to 0150

A complete range from 24 kW up to 145 kW



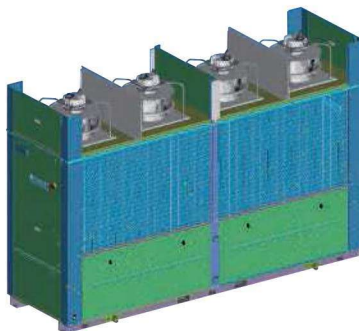
The new **YORK YLCD/YLHD** air-cooled chillers and heat pumps with powered fans are ideal solution for units to be installed in technical rooms or in louvered/hidden spaces on the roof.

Sharing the reliable and proven designed with YLCA/YLHA, these new units using R-410a aims to help the installer and the user to help to find solutions for special and difficult installations.

The bigger sizes (from 100 to 150 kW) utilize new EC Inverter radial fans, that will keep always the right performance for the unit at any outdoor condition.

### Features

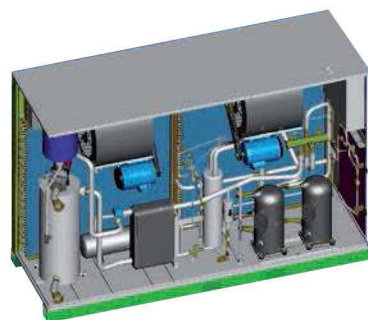
- Centrifugal or radial fans
- Scroll compressor
- Vertical and horizontal discharge
- Integrated Hydro kit (P versions)
- LAK (-18°C) standard (sizes 100-150)
- Flow switch standard



EC Radial Fans (sizes 100 to 150), using new high efficiency ventilation technology to improve the overall performance.

### Options / Accessories

- Vertical Discharge kit (sizes 25 to 70)
- Low Noise (sizes 100 to 150)
- Dual Water Pumps (sizes 100 to 150)
- Water filter and water flow switch
- Antivibration mounting
- Remote control and remote terminal
- BMS communication (Carel and Modbus protocol)



Integrated Hydrokit, shared with YLCA/YLHA product platform, for a compact and quick installation.

Air cooled chiller & heat pump

YLCD-YLHD 0025 to 0150



Technical features

T Three phases supply C/P Hydro Pack H Heat pump

| Models                    |                                                               |         | YLCD / YLHD                       |              |               |                             |               |               |
|---------------------------|---------------------------------------------------------------|---------|-----------------------------------|--------------|---------------|-----------------------------|---------------|---------------|
|                           |                                                               |         | 0025 TC                           | 0040 T-TP    | 0070 T-TP     | 0100 T-TP                   | 0120 T-TP     | 0150 T-TP     |
| Performance               | Cooling capacity c/o units (1)                                | kW      | 24.6                              | 39.8         | 69.5          | 98.4                        | 118.5         | 144.5         |
|                           | Total Input Power (1)                                         | kW      | 8.45                              | 15.13        | 27.36         | 37.41                       | 44.72         | 56.67         |
|                           | EER (1)                                                       |         | 2.91                              | 2.63         | 2.54          | 2.63                        | 2.65          | 2.55          |
|                           | Cooling capacity h/p units (1)                                | kW      | 23.6                              | 39.8         | 67.5          | 95.4                        | 116.5         | 142.5         |
|                           | Heating capacity h/p units (1)                                | kW      | 23.4                              | 43.2         | 72.5          | 104.6                       | 120.1         | 159.5         |
|                           | Total Input Power cool/heat mode (1)                          | kW      | 8.14 / 8.18                       | 15.13 / 15.6 | 26.57 / 26.46 | 36.27 / 37.63               | 42.21 / 43.2  | 60.13 / 59.07 |
|                           | EER / COP (1)                                                 |         | 2.9 / 2.86                        | 2.63 / 2.77  | 2.54 / 2.74   | 2.63 / 2.78                 | 2.76 / 2.78   | 2.37 / 2.7    |
|                           | Capacity steps                                                | %       | 100                               | 50-100       |               | 25-50-75-100                |               |               |
| Compressor                | Sound power level                                             | dB(A)   | 81                                | 83           | 86            | 86                          | 86            | 87            |
|                           | Type                                                          |         | Scroll                            |              |               |                             |               |               |
|                           | Quantity                                                      |         | 1                                 | 2            | 2             | 4                           | 4             | 4             |
| Air side heat exchanger   | Fans quantity                                                 |         | 1                                 | 2            | 2             | 4                           | 4             | 4             |
|                           | Nominal air flow                                              | m³/h    | 8 100                             | 18 000       | 23 000        | 36 000                      |               | 48 000        |
|                           | Nominal static pressure                                       | Pa      | 100                               |              |               | 200                         |               |               |
|                           | Working ambient temp. cool. / heat. mode                      |         | (4) (-18°C) ~ 46°C / -10°C ~ 20°C |              |               | -18°C ~ 46°C / -10°C ~ 20°C |               |               |
| Water side heat exchanger | Type                                                          |         | Single plate heat exchanger       |              |               | Dual plate heat exchanger   |               |               |
|                           | Unit water volume                                             | Litres  | 32                                | 84           |               | 193                         | 195           | 214           |
|                           | Pump Type                                                     |         | Multistage horizontal pump        |              |               |                             |               |               |
|                           | Nominal water flow                                            | l/h     | 4 300                             | 6 880        | 12 040        | 17 030                      | 20 470        | 24 940        |
|                           | Available pressure (1) (2)                                    | kPa     | 208                               | 105          | 120           | 187                         | 202           | 186           |
|                           | Pressure drop (1) (3)                                         | kPa     | -                                 | 31           | 53            | 54                          | 32            | 24.5          |
|                           | Working range water leaving temperature cooling / heating (5) |         | -5°C ~ 15°C / 30°C ~ 50°C         |              |               |                             |               |               |
|                           | Water connections                                             | inch    | 1-1/4"                            | 2"           |               | 2-1/2"                      |               |               |
| Dimensions & Weight       | Height                                                        | mm      | 1 526                             |              | 1 794         | 2 460                       | 2 460         | 2 480         |
|                           | Width                                                         | mm      | 1 740                             | 2 659        | 2 659         | 3 466                       | 3 416         | 3 768         |
|                           | Depth                                                         | mm      | 785                               | 897          | 897           | 1 101                       | 1 101         | 1 101         |
|                           | Weight without pack / pack c/o                                | kg      | - / 390                           | 730 / 770    | 740 / 780     | 1 264 / 1 360               | 1 264 / 1 360 | 1 680 / 1 776 |
|                           | Weight without pack / pack h/p                                | kg      | - / 400                           | 750 / 790    | 760 / 800     | 1 284 / 1 380               | 1 284 / 1 380 | 1 700 / 1 796 |
| El. supply                | Voltage / Phases / Frequency                                  | V/ph/hz | 400 / 3 / 50 + N + E              |              |               |                             |               |               |

YLCD: Cooling only units models. YLHD: Air to water heat pump models.  
(1) net values at Eurovent nominal conditions (2) version P with hydro kit with filter (3) version without hydro kit (4) -18°C with LAK option (5) below 6°C with glycol  
Nominal conditions: Cooling capacities in kW given for 7°C water leaving temperature Δt 5°C and 35°C ambient temperature  
Heating capacities in kW given for 45°C water leaving temperature and 7°C ambient temperature

Compatibility table / Codes

| Models                 | -          | 0040 T     | 0070 T     | 0100 T     | 0120 T     | 0150 T     |
|------------------------|------------|------------|------------|------------|------------|------------|
| Cooling only unit YLCD | -          | S668594083 | S668597083 | S668591083 | S668591283 | S668591583 |
| Heat pump unit YLHD    | -          | S668574083 | S668577083 | S668571083 | S668571283 | S668571583 |
| Models                 | 0025 TC    | 0040 TP    | 0070 TP    | 0100 TP    | 0120 TP    | 0150 TP    |
| Cooling only unit YLCD | S668592580 | S668594080 | S668597080 | S668591080 | S668591280 | S668591580 |
| Heat pump unit YLHD    | S668572580 | S668574080 | S668577080 | S668571080 | S668571280 | S668571580 |

Use this unit code when a factory fitted option is NOT required

Accessories (Supplied loose)

|                                             |            |            |            |
|---------------------------------------------|------------|------------|------------|
| AVM mounting                                | S613029002 | S613028180 | S613021580 |
| Flow switch                                 | S611992021 |            |            |
| Remote control                              | S613802011 |            |            |
| Remote terminal                             | S613802231 |            | -          |
| Cable for remote connection of the terminal | -          |            | S613802241 |
| B.M.S. Communication                        | S613802041 |            | S613802051 |

| Models                 | -          | 0040 T     | 0070 T     | 0100 T     | 0120 T     | 0150 T     |
|------------------------|------------|------------|------------|------------|------------|------------|
| Cooling only unit YLCD | -          | S668000264 | S668000268 | S668000272 | S668000276 | S668000280 |
| Heat pump unit YLHD    | -          | S668000266 | S668000270 | S668000274 | S668000278 | S668000282 |
| Models                 | 0025 TC    | 0040 TP    | 0070 TP    | 0100 TP    | 0120 TP    | 0150 TP    |
| Cooling only unit YLCD | S668000262 | S668000265 | S668000269 | S668000273 | S668000277 | S668000281 |
| Heat pump unit YLHD    | S668000263 | S668000267 | S668000271 | S668000275 | S668000279 | S668000283 |

Use this unit code when a factory fitted option is required

Options (Factory fitted)

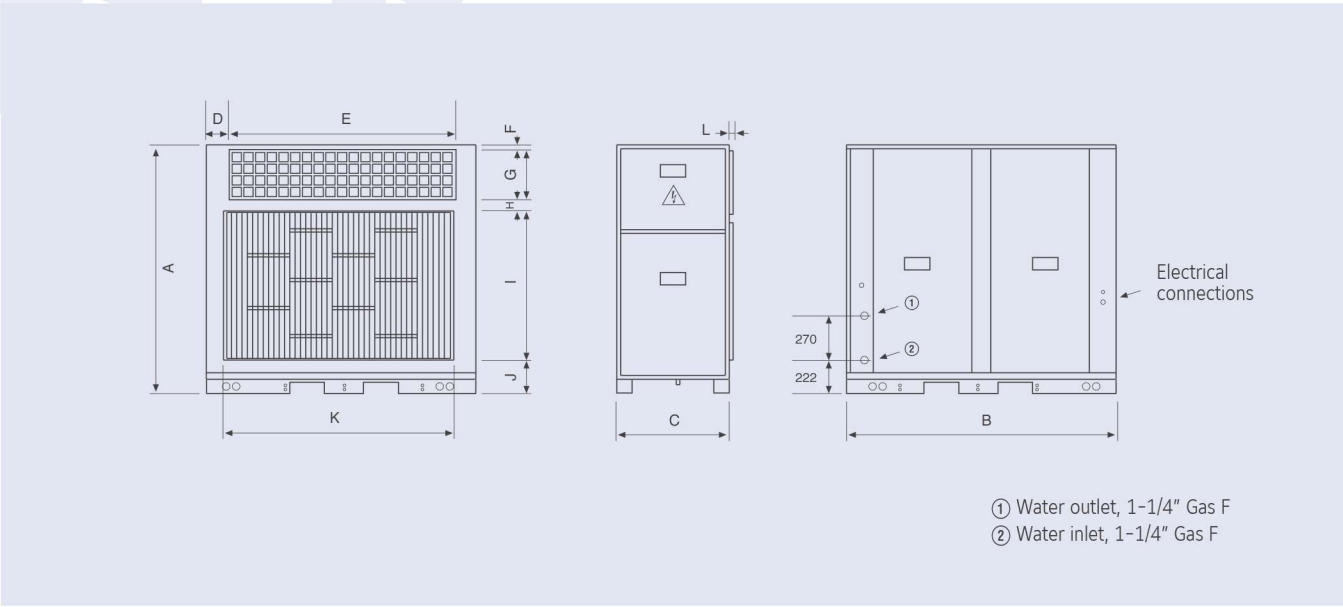
|                         |                          |            |    |            |            |            |
|-------------------------|--------------------------|------------|----|------------|------------|------------|
| Low noise               | NA                       | S613990550 | NA | S613991050 | S613991285 | S613991584 |
| Dual pump               | NA                       | NA         | NA | S613991040 | S613991286 | S613991585 |
| Coil guard net          | Standard                 |            |    | S613995093 |            | S613995094 |
| Low Ambient Kit         | S613114085               | S613111084 |    | Standard   |            |            |
| Soft start              | S606744692               | S606744693 |    | S606744694 |            |            |
| Vertical air discharge  | S612828405               | S612828205 |    | Standard   |            |            |
| Copper/copper condenser | Contact Johnson Controls |            |    |            |            |            |



Manufacturer reserves the rights to change specifications without prior notice.

# Dimensions and hydraulic connections

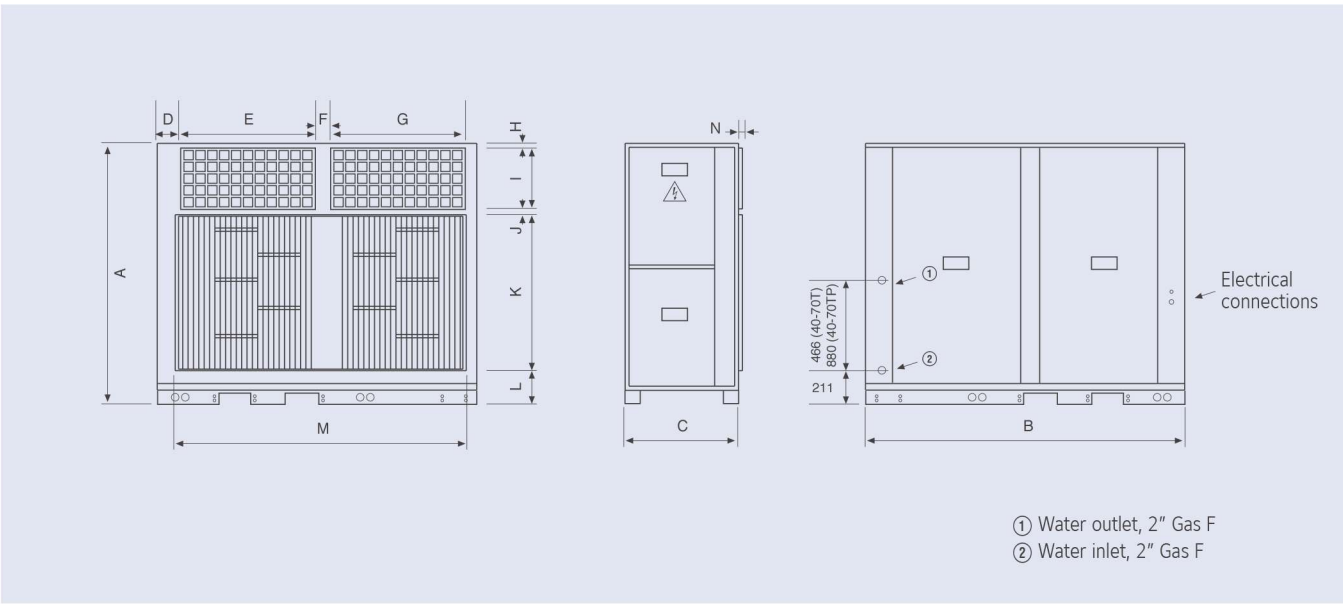
## YLCD / YLHD 0025 TC



All dimensions in mm. Drawings not a scale.

| Unit              | A     | B     | C   | D   | E    | F  | G   | H  | I   | J   | K    | L  |
|-------------------|-------|-------|-----|-----|------|----|-----|----|-----|-----|------|----|
| YLCD/YLHD 0025 TC | 1 526 | 1 740 | 785 | 151 | 1436 | 30 | 324 | 37 | 994 | 141 | 1476 | 24 |

## YLCD / YLHD 0040-0070 T/TP



All dimensions in mm. Drawings not a scale.

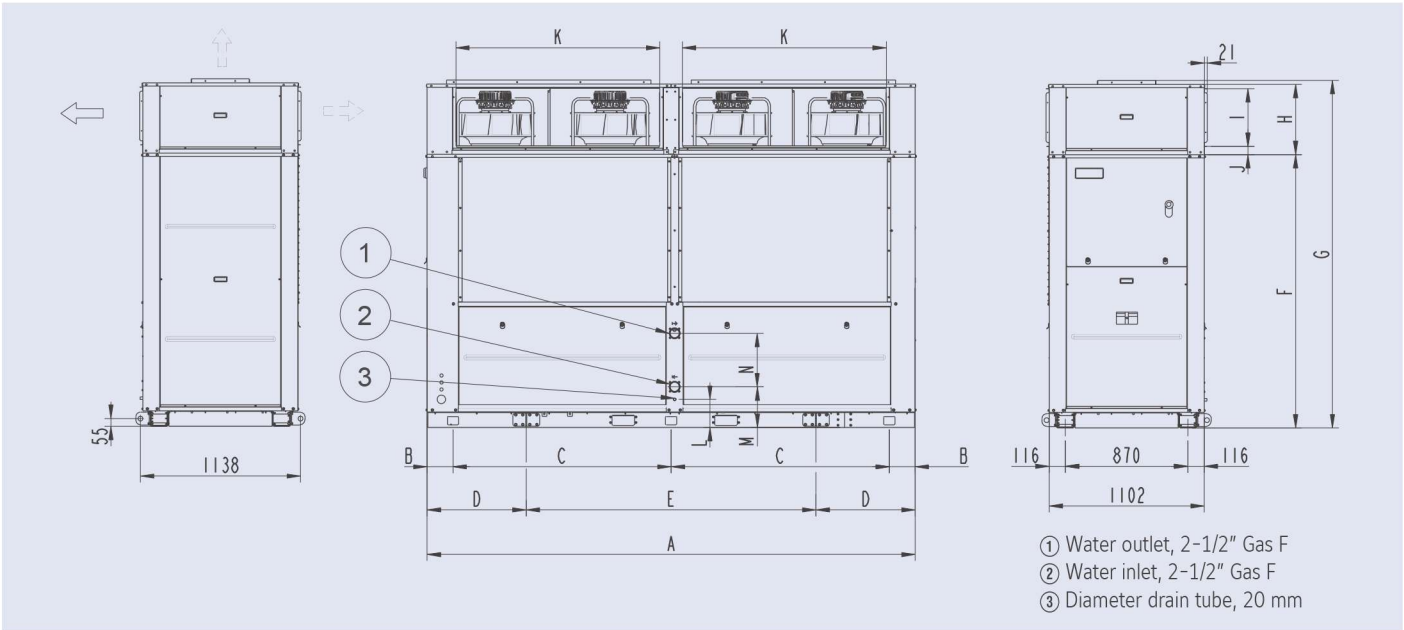
| Unit                | A     | B    | C   | D   | E    | F  | G    | H  | I   | J  | K     | L   | M    | N  |
|---------------------|-------|------|-----|-----|------|----|------|----|-----|----|-------|-----|------|----|
| YLCD/YLHD 0040 T/TP | 1 794 | 2658 | 897 | 148 | 1155 | 95 | 1155 | 30 | 389 | 37 | 1 200 | 138 | 2479 | 23 |
| YLCD/YLHD 0070 T/TP | 1 794 | 2658 | 897 | 148 | 1155 | 95 | 1155 | 30 | 389 | 37 | 1 200 | 138 | 2479 | 23 |



# YLCD-YLHD 0025 to 0150



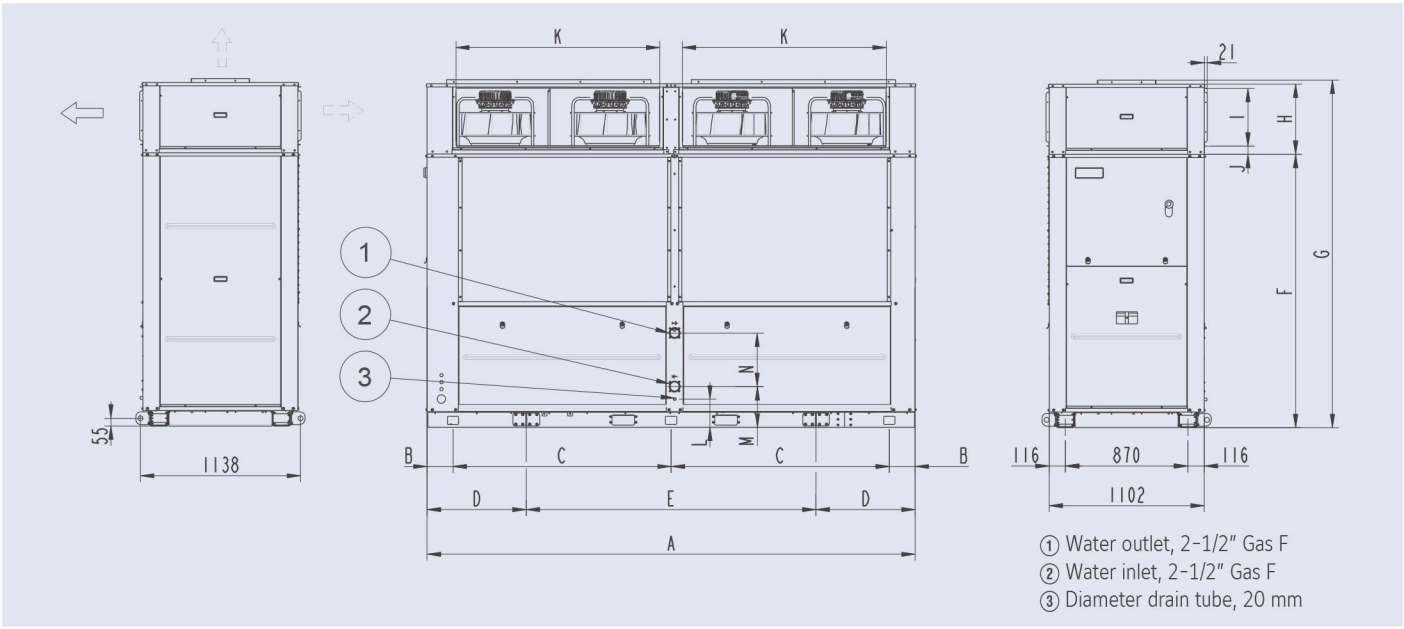
## YLCD / YLHD 0100-0120 T/TP



All dimensions in mm. Drawings not a scale.

| Unit                | A     | B   | C     | D   | E     | F     | G     | H   | I   | J  | K     | L   | M   | N   |
|---------------------|-------|-----|-------|-----|-------|-------|-------|-----|-----|----|-------|-----|-----|-----|
| YLCD/YLHD 0100 T/TP | 3 466 | 183 | 1 550 | 704 | 2 058 | 1 942 | 2 460 | 500 | 410 | 59 | 1 450 | 200 | 290 | 380 |
| YLCD/YLHD 0120 T/TP | 3 416 | 183 | 1 525 | 604 | 2 208 | 1 942 | 2 460 | 500 | 418 | 55 | 1 438 | 200 | 290 | 380 |

## YLCD / YLHD 0150 T/TP



All dimensions in mm. Drawings not a scale.

| Unit                | A     | B   | C     | D   | E     | F     | G     | H   | I   | J  | K     | L   | M   | N   |
|---------------------|-------|-----|-------|-----|-------|-------|-------|-----|-----|----|-------|-----|-----|-----|
| YLCD/YLHD 0150 T/TP | 3 768 | 254 | 1 630 | 605 | 2 558 | 1 992 | 2 480 | 470 | 386 | 55 | 1 617 | 410 | 210 | 458 |

# YCAE

## Modular air cooled scroll chiller / heat pump

YCAE 065R/S to 0100R/S (CE version)

A complete range from 64 kW up to 99 kW



**NEW**



### Features

Up to 8 modules in one water system; each module can be operated separately. Built-in main water pipe makes it easy to install in the field

#### **Ability to configure modular chillers to fit the space**

Installation flexibility for modular chillers will allow you to use all the available space. Many different possible configurations (linear, parallel, star, etc).

#### **Ability to add more modular chillers in the future**

Buildings being constructed or occupied in phases do not need the full cooling/heating capacity at the start. Modular chillers allow you to stage the investment by combining modules to obtain the required capacity.

#### **Ability to stock a few models and cover large range**

Modular chillers are your solution. Limited numbers of module configurations allow the distribution channel to keep modules in stock.

#### **Quick and easy module combination**

Connecting the water piping and cables, installing the sensors and bringing power to the modular(s) makes installation quick and easy.

#### **Full redundancy – Easy parts management**

Modularity and the central controller allows you to decide the quantity of modules active at anytime. In the event of maintenance other modules in the system will continue to operate ensuring minimal capacity loss.

#### **Small modules, small components, low noise**

Modularity design is based on low capacity modules installed together. Components are carefully selected based on its performance, reliability and low sound attributes. When comparing modular systems with standard chillers, modular chillers provide a lower noise level.

#### **Very easy and intuitive central controller**

Modular units, which can manage up to 8 modules per system, are controlled with a single central controller. Central controller sequence enables the units to even out the run hours and prolong the life of the chiller.

#### **Intelligent defrost – For heat pumps**

For our air to water heat pumps, defrost must occur. The central controller optimizes the sequencing of the defrost cycle allowing only one module to defrost at a time. This allows the remaining modules to continue to provide heating.



# Modular air cooled scroll chiller / heat pump

YCAE 065R/S to 0100R/S



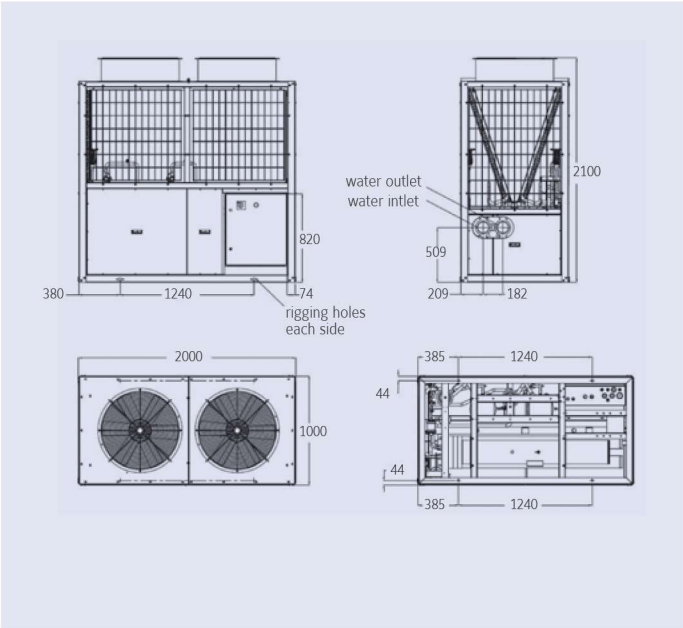
## Technical features

| Model                     |                     |      | YCAE065SME53 | YCAE065RME53 | YCAE100SME53   | YCAE100RME53   |
|---------------------------|---------------------|------|--------------|--------------|----------------|----------------|
| Cooling capacity          | kW                  |      | 64.1         | 64.1         | 99             | 99             |
| Heating capacity          | kW                  |      | -            | 70           | -              | 103            |
| EER / COP                 |                     |      | 3.05 / -     | 3.05 / 3.39  | 3.16 / -       | 3.16 / 3.2     |
| ESEER                     |                     |      | 3.32         | 3.32         | 3.65           | 3.65           |
| Refrigerant charge        | kg                  |      | 2 x 9        | 2 x 9        | 3 x 10.5       | 3 x 10.5       |
| Sound power level         | dB(A)               |      | 83           | 83           | 85             | 85             |
| Capacity adjustment       | %                   |      | 0, 50, 100   | 0, 50, 100   | 0, 33, 66, 100 | 0, 33, 66, 100 |
| Compressor                | Type                |      | Scroll       | Scroll       | Scroll         | Scroll         |
|                           | No.                 |      | 2            | 2            | 3              | 3              |
| Power input               | Cooling             | kW   | 21           | 21           | 31.3           | 31.3           |
|                           | Heating             | kW   | -            | 20.8         | -              | 33.9           |
| Fan                       | Power input         | kW   | 0.9 x 2      | 0.9 x 2      | 0.9 x 3        | 0.9 x 3        |
|                           | Fan No.             |      | 2            | 2            | 3              | 3              |
|                           | Air flow            | m³/h | 13000 x 2    | 13000 x 2    | 13000 x 3      | 13000 x 3      |
| Water-side heat exchanger | Water pressure drop | kPa  | 50           | 50           | 50             | 50             |
|                           | Water pipe size     | mm   | 114          | 114          | 89             | 89             |
|                           | Pipe connection     |      | Clamp        | Clamp        | Clamp          | Clamp          |
|                           | Water flow          | m³/h | 11.1         | 11.1         | 17.2           | 17.2           |
| Max. operating Current    | A                   |      | 49.3         | 49.3         | 74             | 74             |
| Dimensions                | Length              | mm   | 2000         | 2000         | 2030           | 2030           |
|                           | Width               | mm   | 1000         | 1000         | 1930           | 1930           |
|                           | Height              | mm   | 2100         | 2100         | 2100           | 2100           |
| Weight                    | Shipping weight     | kg   | 800          | 840          | 1180           | 1240           |
|                           | Operating weight    | kg   | 880          | 920          | 1280           | 1350           |

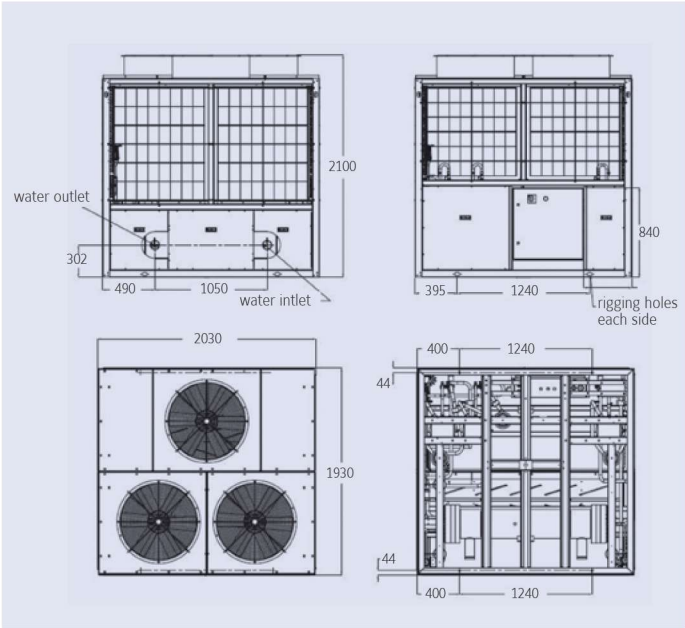
Nominal conditions: Cooling capacities in kW given for 7°C water leaving temperature Δt 5°C and 35°C ambient temperature  
Heating capacities in kW given for 45°C water leaving temperature and 7°C ambient temperature

# Dimensions and hydraulic connections

### YCAE 065R/S



### YCAE 100R/S



All dimensions in mm. Drawings not a scale.



Manufacturer reserves the rights to change specifications without prior notice.



# YLAA

## Air-cooled scroll compressor chiller

Cooling capacities from 190 kW to 519 kW



There are 2 versions **COOLING ONLY**

|         |                     |
|---------|---------------------|
| YLAA SE | Standard Efficiency |
| YLAA HE | High Efficiency     |

### Options / Accessories

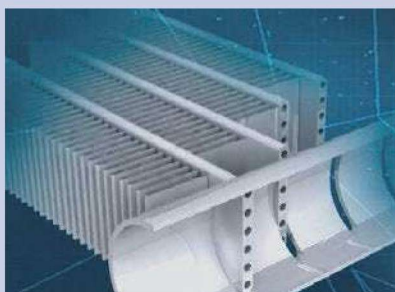
- Soft start
- Power Factor Correction Capacitors
- Low ambient kit
- BMS Interfacing options
- Dual pressure relief valves
- Victaulic coupling
- Flow switch
- Heat recovery option
- Enclosure options
- Sound attenuation options
- Anti-vibration mounts options
- Hydrokits with single and dual pump
- Epoxy Post-coated Dipped Microchannel Coils
- VSD Fans

### Features

The **YORK YLAA TEMPO** air-cooled chiller is an environmental leader.

Utilising scroll type compressors and microchannel condenser coil technology the **YLAA** delivers premium efficiency for all air conditioning applications.

**YLAA** chillers are a self-contained cooling solution that is light-weight and compact for convenient installation on the ground or on building rooftops.

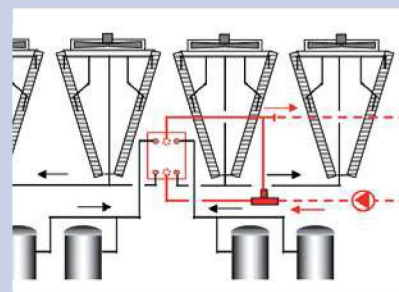


The TEMPO delivers energy efficiency levels that surpasses Eurovent A Class requirements. Aluminium microchannel condenser coil technology is one reason for this premium efficiencies.



Ultra quiet operation can be obtained through optional dual or low speed fans and a compressor accoustic enclosure.

A single point power connection and optional, factory packaged water pumps, water filter and flow switch provide fast and easy installation.



An optional heat recovery feature can be added to provide hot water to 50°C; which is useful for facility heating or hot water preheating.

# Air-cooled scroll compressor chiller

YLAA 0180 to 0517



## Nominal capacity

| YLAA SE Standard                          | 0180 | 0210 | 0241 | 0286 | 0320 | 0360 | 0400 | 0435 | 0485 |
|-------------------------------------------|------|------|------|------|------|------|------|------|------|
| Cooling capacity (kW)                     | 190  | 205  | 218  | 272  | 310  | 349  | 388  | 423  | 473  |
| EER                                       | 2.97 | 2.42 | 2.74 | 2.62 | 2.44 | 2.57 | 2.45 | 2.55 | 2.48 |
| ESEER                                     | 3.97 | 3.43 | 3.6  | 3.84 | 3.63 | 3.84 | 3.71 | 3.75 | 3.74 |
| ESEER with VSD                            | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Sound power level dB(A)                   | 89   | 89   | 86   | 90   | 94   | 94   | 95   | 96   | 96   |
| Sound power level Low Noise Version dB(A) | 82   | 83   | 84   | 87   | 87   | 87   | 87   | 89   | 89   |
| YLAA HE High Efficiency                   | 0195 | 0221 | 0261 | 0301 | 0350 | 0391 | 0442 | 0457 | 0517 |
| Cooling capacity (kW)                     | 198  | 212  | 248  | 295  | 344  | 380  | 426  | 455  | 519  |
| EER                                       | 3.1  | 3.2  | 3.08 | 2.99 | 2.95 | 2.96 | 2.96 | 2.9  | 2.93 |
| ESEER                                     | 4.25 | 4.15 | 4.08 | 3.98 | 3.92 | 4.12 | 4.1  | 3.98 | 4.16 |
| ESEER with VSD                            | -    | 4.44 | 4.34 | 4.27 | 4.28 | 4.36 | 4.35 | 4.30 | 4.38 |
| Sound power level dB(A)                   | 89   | 91   | 90   | 93   | 94   | 95   | 95   | 96   | 96   |
| Sound power level Low Noise Version dB(A) | 82   | 84   | 87   | 86   | 87   | 88   | 88   | 89   | 89   |

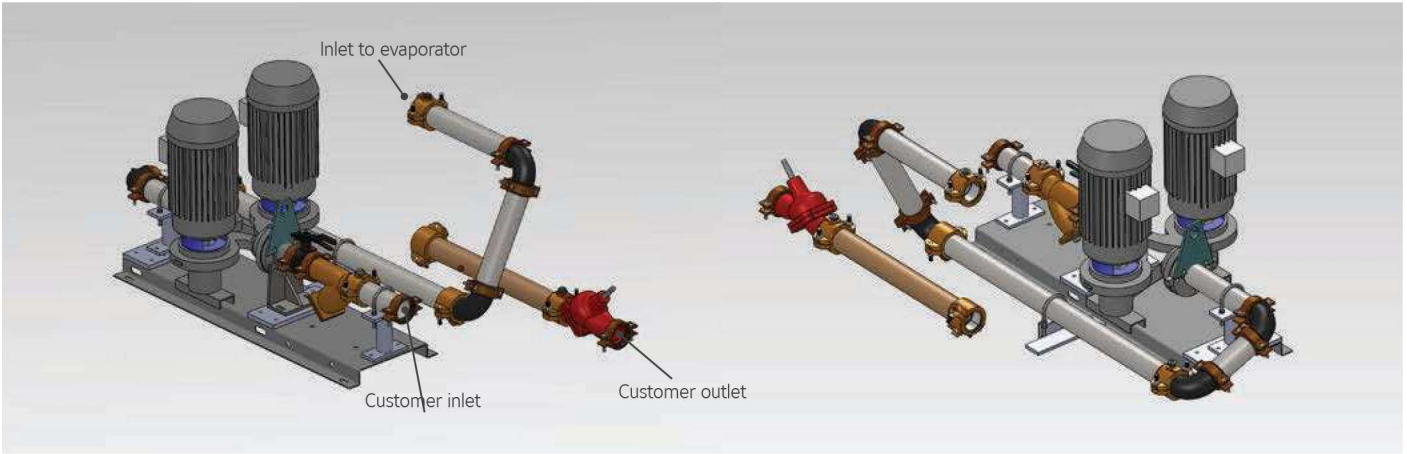
At leaving chilled water temperature of 7°C, and ambient temperature of 35°C.

## Technical data

| YLAA SE Standard        | 0180   | 0210 | 0241 | 0286 | 0320 | 0360 | 0400 | 0435 | 0485 |
|-------------------------|--------|------|------|------|------|------|------|------|------|
| Dimensions              | Length | 2911 |      |      |      | 3614 |      |      |      |
|                         | Width  |      |      |      |      | 2242 |      |      |      |
|                         | Height |      |      |      |      | 2508 |      |      |      |
| Operating weight kg     | 1681   | 1725 | 1785 | 1853 | 1937 | 2814 | 2873 | 2642 | 2755 |
| YLAA HE High Efficiency | 0195   | 0221 | 0261 | 0301 | 0350 | 0391 | 0442 | 0457 | 0517 |
| Dimensions              | Length | 2911 |      |      |      | 3614 |      |      |      |
|                         | Width  |      |      |      |      | 2254 |      |      |      |
|                         | Height |      |      |      |      | 2507 |      |      |      |
| Operating weight kg     | 1706   | 1721 | 1851 | 2170 | 2339 | 2508 | 3343 | 3481 | 3615 |

## YLAA Pump Kit

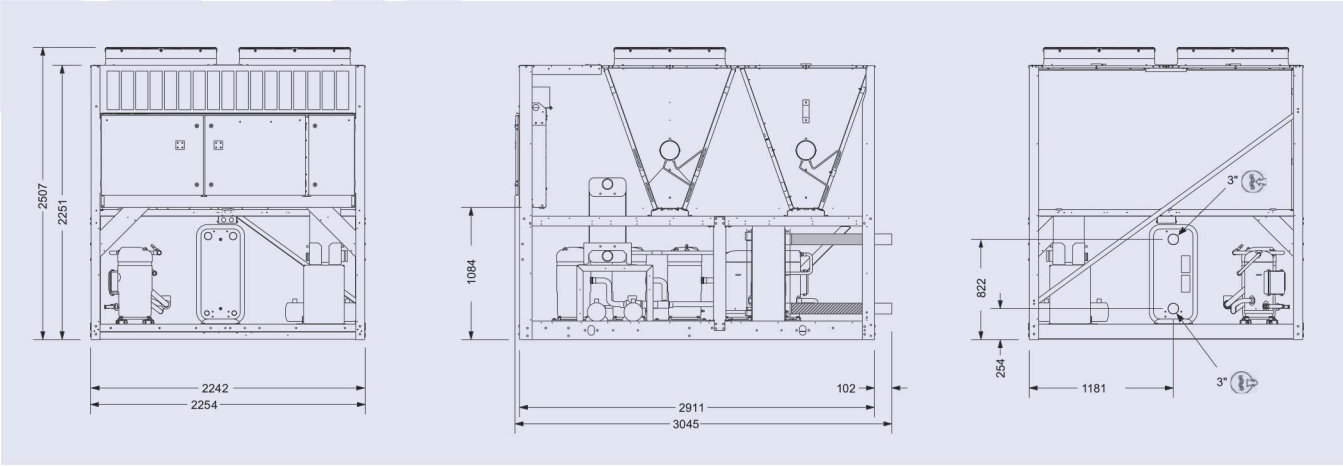
- Two option levels – basic and full featured – for maximum flexibility
  - More impeller size options for better match to customer requirements
- New, smaller pump motors suitable for primary-secondary systems
  - VSD option by SQ



Manufacturer reserves the rights to change specifications without prior notice.

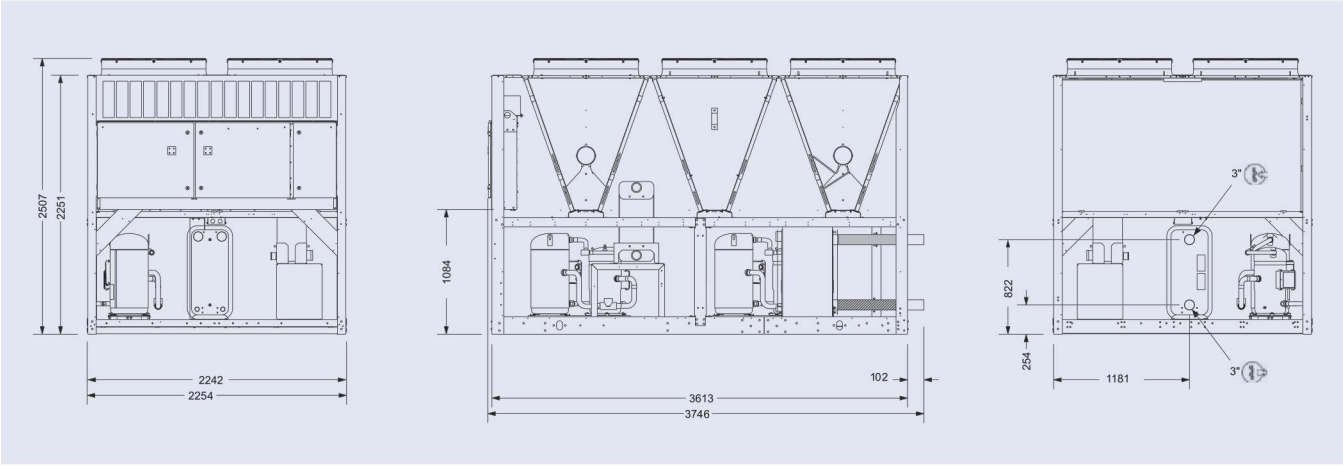
# Dimensions and hydraulic connections

YLAA0180SE, 0210SE, 0241SE, 0286SE, 0320SE, 0195HE, 0221HE & 0261HE



All dimensions in mm. Drawings not a scale.

YLAA0360SE, 0400SE, 0435SE, 0485SE, 0301HE & 0391HE



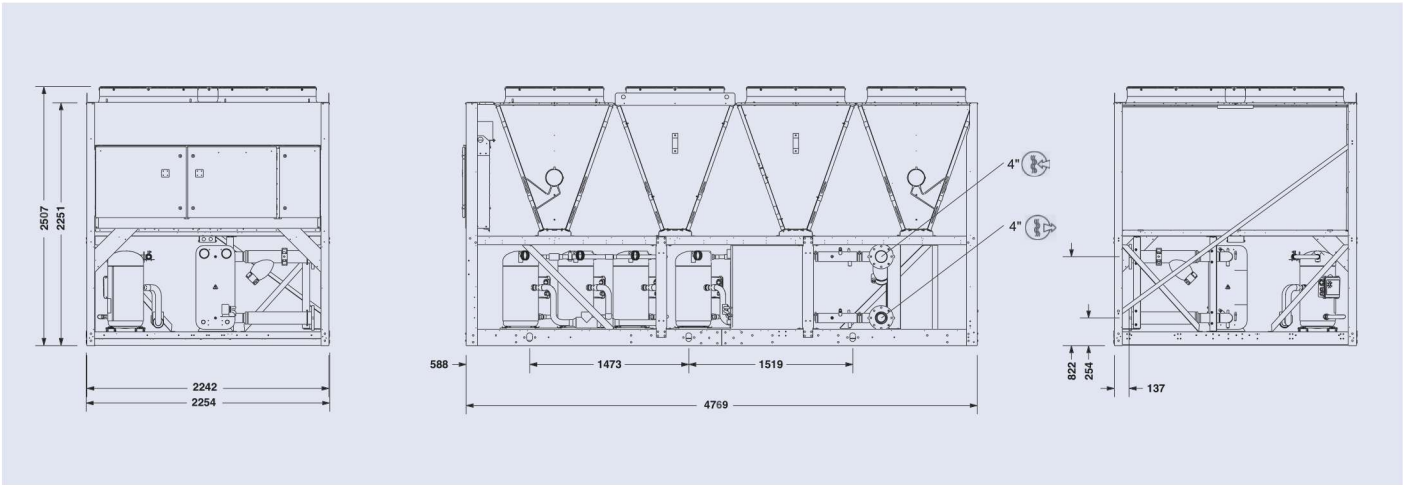
All dimensions in mm. Drawings not a scale.



# YLAA 0180 to 0517

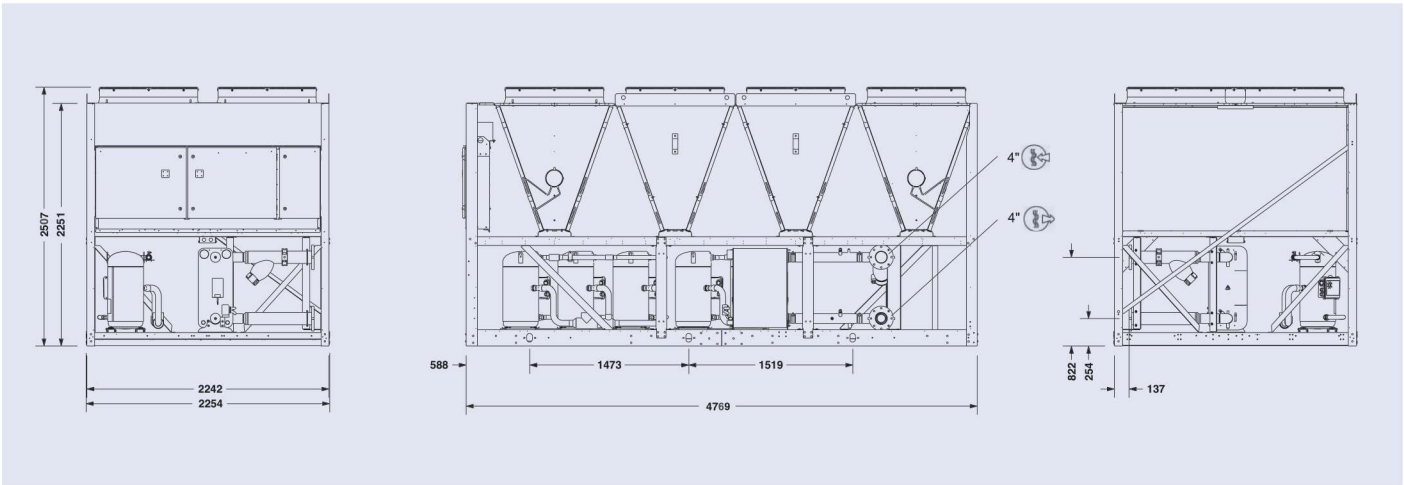


## YLAA0442HE



All dimensions in mm. Drawings not a scale.

## YLAA0457HE & 0517HE



All dimensions in mm. Drawings not a scale.

# YLRA

## Air cooled heat pump scroll compressor

Cooling capacities from 181 kW to 307 kW

Heating capacities from 200 kW to 327 kW

At Eurovent Standard Conditions all models meet A Class energy efficiency levels for heating mode.



### Features

**YLRA** are available in 6 models, from 200 to 330, with a nominal capacity range from 181 to 307 kW in cooling mode and from 200 to 327 kW in heating mode. Up to 3.99 ESEER with EC fans.

Except for the fans all the units have the same configuration of base units (structure, electrical board, compressors and coils).

Each model is available in the following acoustic versions:

- Basic Low Noise version (BLN): These models are equipped with delta connected fans running at a fixed rpm and are fitted with compressor boxes to reduce noise emissions.
- Super Low Noise version (SLN): Those models are equipped with special inverter fans driven by EC (electronic brushless type), fitted with a variable speed controller which allows the fans to operate at a very low rpm. The chillers are supplied with compressor boxes and soundproof jackets on compressors reducing significantly the noise emissions.

The BLN model is also available in an EC version (developed for high seasonal efficiency) which has the same equipment as that of the standard BLN model, except that the units are equipped with special inverter fans driven by EC (electronic brushless type) motors with integrated electronic inverter, to ensure low energy consumption.

### Options / Accessories

- ModBus protocol kit for BMS (standard)
- Lonwork protocol kit for BMS
- Bacnet protocol kit for BMS
- Soft start
- Power factor correction capacitors
- Compressors overload protection
- Condensing control kit (down to -14 °C ambient temperature in cooling mode)
- Polar version (down to -18 °C ambient temperature in heating mode)
- Double set point
- HP & LP manometers
- E-coating Al/Cu condenser coils
- Chiller grilles
- Desuperheater
- Optional hydro kits
- Remote ON/OFF control
- Remote keyboard panel
- Sequencer unit
- Spring isolators
- Flow switch
- Water filter

# Heat pump scroll compressor

## YLRA 0200 to 0330



### Nominal capacity

| YLRA BLN versions               | 0200  | 0230  | 0260  | 0280  | 0300  | 0330  |
|---------------------------------|-------|-------|-------|-------|-------|-------|
| Cooling capacity (kW)           | 181.3 | 213.6 | 243.7 | 261.1 | 287.8 | 307.4 |
| EER                             | 2.93  | 2.92  | 2.91  | 2.88  | 2.92  | 2.97  |
| Energy Efficiency Class         | B     | B     | B     | C     | B     | B     |
| ESEER                           | 3.6   | 3.71  | 3.71  | 3.65  | 3.6   | 3.64  |
| EER (EC units)                  | 2.97  | 2.96  | 2.95  | 2.91  | 2.96  | 3.02  |
| ESEER (EC units)                | 3.71  | 3.83  | 3.83  | 3.78  | 3.71  | 3.71  |
| Heating capacity (kW)           | 200.1 | 229   | 262.3 | 279.6 | 305.6 | 327.2 |
| COP                             | 3.22  | 3.23  | 3.21  | 3.20  | 3.27  | 3.21  |
| COP (EC units)                  | 3.28  | 3.27  | 3.26  | 3.25  | 3.27  | 3.26  |
| Energy Efficiency Class         | A     | A     | A     | A     | A     | A     |
| Sound power level (dBA) *       | 92    | 92    | 93    | 93    | 94    | 95    |
| Sound pressure at 10 m (dBA) ** | 60    | 60    | 61    | 61    | 62    | 63    |

| YLRA SLN versions               | 0200  | 0230  | 0260  | 0280  | 0300  | 0330  |
|---------------------------------|-------|-------|-------|-------|-------|-------|
| Cooling capacity (kW)           | 168.5 | 194.7 | 224   | 238.5 | 263.3 | 283.5 |
| EER (EC units)                  | 2.7   | 2.54  | 2.58  | 2.5   | 2.55  | 2.66  |
| Energy Efficiency Class         | C     | D     | D     | D     | D     | D     |
| ESEER (EC units)                | 3.86  | 3.99  | 3.95  | 3.93  | 3.86  | 3.79  |
| Heating capacity (kW)           | 189.8 | 219.8 | 250.8 | 267.1 | 294.7 | 315   |
| COP                             | 3.27  | 3.27  | 3.25  | 3.24  | 3.26  | 3.25  |
| Energy Efficiency Class         | A     | A     | A     | A     | A     | A     |
| Sound power level (dBA) *       | 82    | 82    | 83    | 83    | 85    | 86    |
| Sound pressure at 10 m (dBA) ** | 50    | 50    | 51    | 51    | 53    | 54    |

Cooling Capacity at Eurovent Conditions, entering/leaving chilled water temperature 12°C/7°C, ambient temperature 35°C  
Heating Capacity at Eurovent Conditions, entering/leaving hot water temperature 40°C/45°C, ambient temperature 7°C  
\* Sound levels are at fully loaded conditions. Sound power level values refer to ISO standard 3744 and Eurovent 8/1  
\*\* Sound pressure levels refer to ISO Standard 3744, parallelepiped shape

### Technical data

| YLRA BLN versions                  |        |    | 0200  | 0230  | 0260  | 0280  | 0300  | 0330  |
|------------------------------------|--------|----|-------|-------|-------|-------|-------|-------|
| Dimensions                         | Length | mm | 3 500 |       |       |       | 4 550 |       |
|                                    | Width  | mm | 2 150 |       |       |       |       |       |
|                                    | Height | mm | 2 600 |       |       |       |       |       |
| Operating weight (kg)              |        |    | 1 858 | 1 993 | 2 216 | 2 226 | 2 806 | 2 899 |
| Additional weight EC versions (kg) |        |    | 50    | 50    | 60    | 60    | 70    | 80    |
| YLRA SLN versions                  |        |    | 0200  | 0230  | 0260  | 0280  | 0300  | 0330  |
| Dimensions                         | Length | mm | 3 500 |       |       |       | 4 550 |       |
|                                    | Width  | mm | 2 150 |       |       |       |       |       |
|                                    | Height | mm | 2 600 |       |       |       |       |       |
| Operating weight (kg)              |        |    | 1 908 | 2 043 | 2 276 | 2 286 | 2 876 | 2 979 |

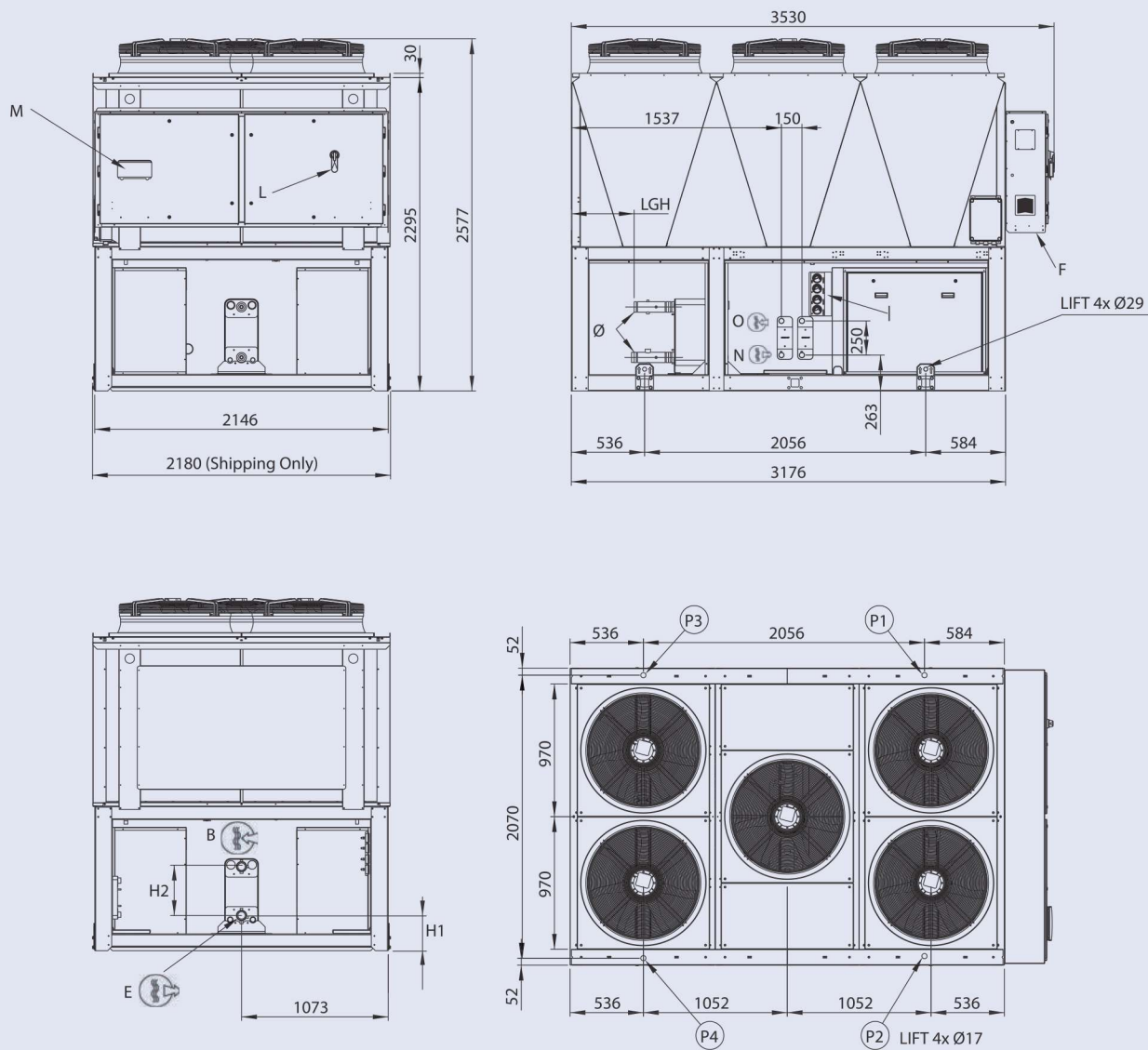


Manufacturer reserves the rights to change specifications without prior notice.



# Dimensions and hydraulic connections

YLRA 0200 to 0280



All dimensions in mm. Drawings not a scale.

NOTES:  
**B, E** - WATER CONNECTION GAS M  
**F** - ELECTRICAL POWER SUPPLY  
**I** - GAUGE KIT (ACCESSORY)  
**L** - MAIN SWITCH  
**M** - CONTROL KEYPAD / DISPLAY

OPTIONAL DESUPERHEATER  
**N** - WATER INLET Ø1" GAS M  
**O** - WATER OUTLET Ø1" GAS M

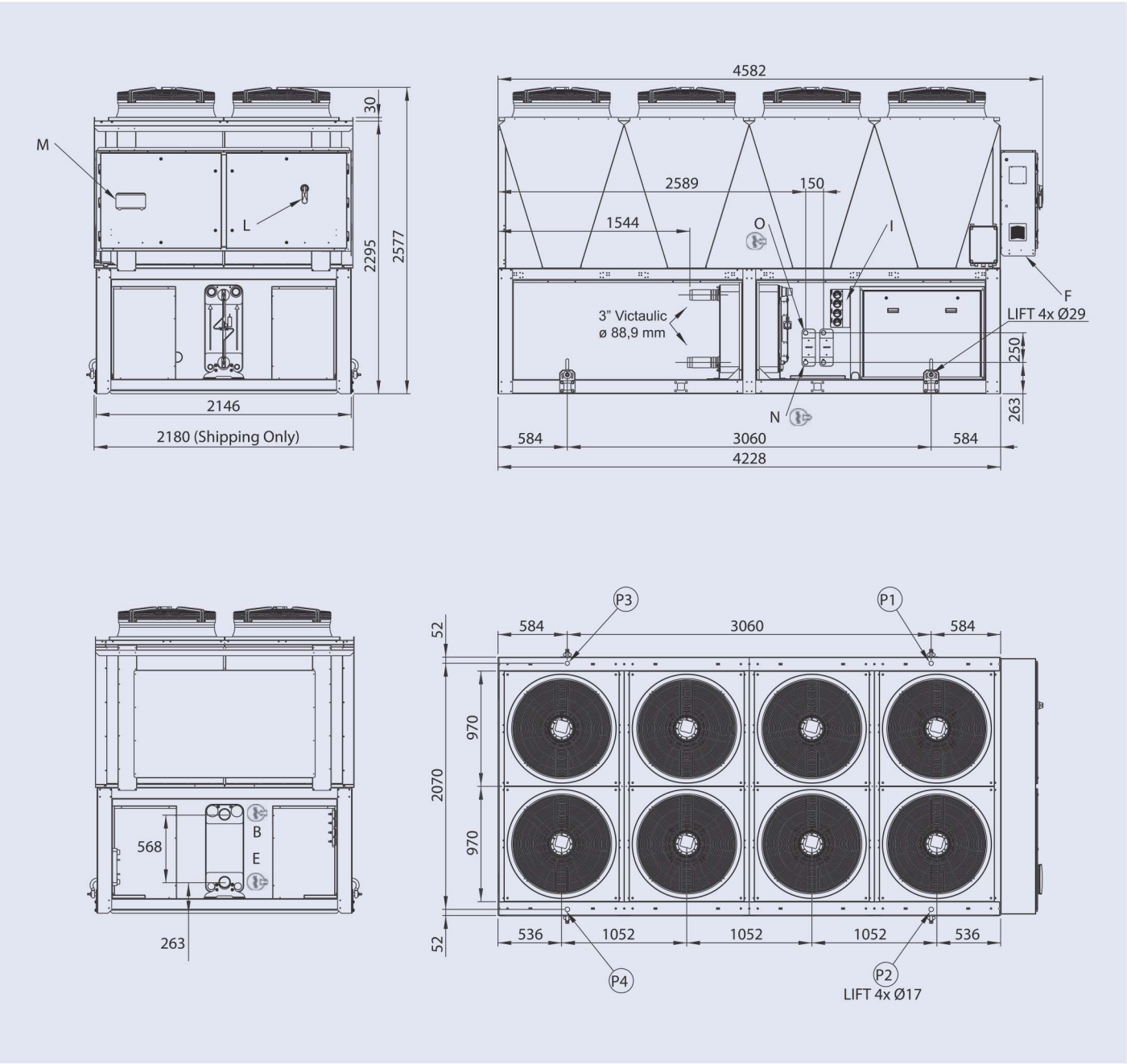
**P1, P2, P3, P4** AVM POSITION

| Size              | LGH | Ø                          |
|-------------------|-----|----------------------------|
| YLRA 0200         | 440 | 2" 1/2 Victaulic Ø 76.1 mm |
| YLRA 0230 to 0280 | 344 | 3" Victaulic Ø 88.9 mm     |

| Size              | H1  | H2  |
|-------------------|-----|-----|
| YLRA 0200         | 246 | 370 |
| YLRA 0230 to 0280 | 205 | 520 |

# Dimensions and hydraulic connections

YLRA 0300 and 0330



All dimensions in mm. Drawings not a scale.

- NOTES:
- B, E** - WATER CONNECTION 3" GAS M Ø88,9 mm
  - F** - ELECTRICAL POWER SUPPLY
  - I** - GAUGE KIT (ACCESSORY)
  - L** - MAIN SWITCH
  - M** - CONTROL KEYPAD / DISPLAY

- OPTIONAL DESUPERHEATER
- N** - WATER INLET Ø1" GAS M
  - O** - WATER OUTLET Ø1" GAS M

**P1, P2, P3, P4** AVM POSITION

# YVAA

## Air-cooled VSD screw chiller

Cooling capacities from 471 kW to 1660 kW

At Eurovent Standard Conditions this equipment meets A Class energy efficiency levels.



Note: this picture is showing aesthetics enclosures, contact your York office for additional information

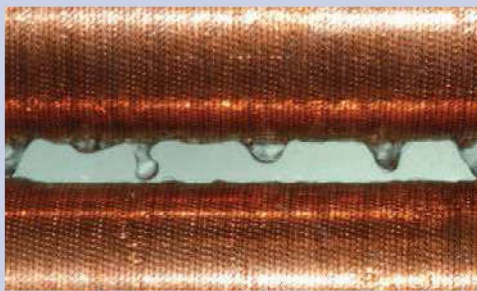
### Features

- Reduce your annual energy costs by as much as 30%
- Reduce your sound levels by up to 16 dBA to meet tighter regulations
- Enhance your flexibility with a variety of chiller options to fit your needs
- Minimise your environmental impact dramatically
- Lower your part load energy and night time sound levels with inverter fans and compressors
- Deliver increased motor longevity and increased chiller reliability with low starting currents
- Cut your operational expenses with a high chiller power factor at all loads
- Improve your peace of mind knowing we stand behind every chiller

### Options / Accessories

- BMS Interfacing options
- Advanced Controls (Silent night™, Quick restart)
- Low temperature application options
- Dual pressure relief valves
- Flow switch
- Epoxy treatment Microchannel Coils
- Fan options
- Enclosure options
- Sound attenuation options
- Anti-vibration mounts options
- Desuperheater

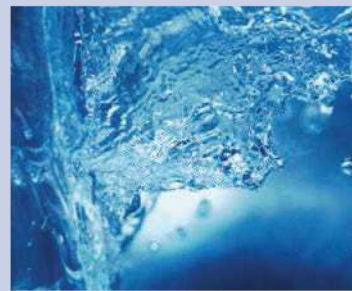
Photo courtesy of the LTCM lab of the Ecole Polytechnique Fédérale de Lausanne, Switzerland



Reduce refrigerant charges by up to 15% beyond traditional chiller designs with the YVAA's falling-film evaporator and microchannel condenser coil technology.



A more efficient chiller means less electricity generation, which reduces greenhouse gas emissions, water consumption – and your environmental footprint. The sustainability advantages of the YVAA chiller give you the opportunity to **earn points in the LEED® and BREEAM® building certification programs.**





# Air-cooled VSD screw chiller

YVAA 0153 to 0500



## Application flexibility (\*) example of selections

| YVAA                         | 0153 | 0165 | 0178 | 0183 | 0195 | 0198 | 0200 | 0213 | 0215 | 0218 | 0233 | 0245 | 0248 | 0263 | 0273 |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Cooling capacity (kW)        | 471  | 549  | 569  | 573  | 588  | 639  | 614  | 658  | 698  | 738  | 748  | 768  | 808  | 812  | 867  |
| Full Load Efficiency (EER)   | 3.04 | 3.13 | 3.22 | 3.07 | 3.09 | 3.17 | 2.78 | 3.11 | 3.16 | 3.13 | 3    | 3.08 | 3.15 | 3.06 | 3.14 |
| Part Load Efficiency (ESEER) | 4.2  | 4.26 | 4.39 | 4.27 | 4.26 | 4.34 | 3.8  | 4.29 | 4.31 | 4.29 | 4.22 | 4.34 | 4.32 | 4.25 | 4.32 |
| Sound power level (dBA)      | 95   | 97   | 94   | 96   | 94   | 95   | 95   | 97   | 97   | 95   | 97   | 95   | 96   | 98   | 98   |

| YVAA                         | 0275 | 0278 | 0295 | 0303 | 0305 | 0308 | 0323 | 0318 | 0343 | 0345 | 0373 | 0375 | 0413 | 0500 |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Cooling capacity (kW)        | 898  | 933  | 948  | 964  | 971  | 997  | 1002 | 1022 | 1017 | 1047 | 1077 | 1118 | 1221 | 1455 |
| Full Load Efficiency (EER)   | 3.02 | 3.13 | 3.05 | 3.06 | 3.03 | 3.12 | 3.1  | 3.18 | 3.06 | 3.14 | 3.07 | 3.14 | 3.12 | 3.03 |
| Part Load Efficiency (ESEER) | 4.31 | 4.38 | 4.37 | 4.3  | 4.29 | 4.47 | 4.38 | 4.34 | 4.3  | 4.43 | 4.27 | 4.37 | 4.31 | 4.17 |
| Sound power level (dBA)      | 96   | 96   | 95   | 99   | 97   | 97   | 99   | 97   | 97   | 97   | 97   | 97   | 101  | 101  |

Cooling Capacity at Eurovent Conditions, entering/leaving chilled water temperature 12°C/7°C, ambient temperature 35°C  
Sound Pressure according to Eurovent conditions.  
(\*) YVAA is a tailor and tune chiller. Its performance will be factory-adjusted to match the exact site requirements based on the specific project operating conditions.  
The table above shows only a representative sample of performance points based on generic project operating conditions. For tailored and tuned performance based on your specific project requirements, and for more information, please contact your Johnson Controls representative.

## Technical data

| YVAA                  |        |    | 0153 | 0165 | 0178 | 0183 | 0195 | 0198 | 0200 | 0213 | 0215 | 0218 | 0233 | 0245 | 0248 | 0263 | 0273 |
|-----------------------|--------|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Dimensions            | Length | mm | 5163 | 6280 | 7397 | 6274 | 7397 | 8514 | 5741 | 7397 | 7397 | 8514 | 7397 | 8514 | 9631 | 8514 | 8514 |
|                       | Width  | mm | 2241 |      |      |      |      | 2244 | 2241 |      |      | 2244 | 2241 | 2244 |      |      |      |
|                       | Height | mm | 2401 |      |      |      |      | 2405 | 2401 |      |      | 2405 | 2401 | 2405 |      |      |      |
| Operating weight kg   |        |    | 5990 | 6247 | 7554 | 6208 | 6551 | 7012 | 6977 | 6589 | 7668 | 8011 | 6793 | 8100 | 8445 | 7151 | 8314 |
| Refrigerant charge kg |        |    | 160  | 172  | 204  | 150  | 164  | 189  | 186  | 160  | 204  | 218  | 182  | 216  | 228  | 192  | 240  |

| YVAA                  |        |    | 0275 | 0278 | 0295 | 0303 | 0305  | 0308  | 0323 | 0318  | 0343  | 0345  | 0373  | 0375  | 0413  | 0500  |
|-----------------------|--------|----|------|------|------|------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| Dimensions            | Length | mm | 8514 | 9631 | 9631 | 9631 | 10748 | 10748 | 9631 | 11865 | 10748 | 11865 | 11864 | 11864 | 11864 | 11865 |
|                       | Width  | mm | 2244 |      |      |      |       |       |      |       |       |       |       |       |       |       |
|                       | Height | mm | 2405 |      |      |      |       |       |      |       |       |       |       |       |       |       |
| Operating weight kg   |        |    | 8651 | 8996 | 9201 | 9007 | 9546  | 8665  | 9362 | 9891  | 9704  | 10049 | 12086 | 11169 | 10558 | 12951 |
| Refrigerant charge kg |        |    | 242  | 246  | 261  | 248  | 268   | 243   | 268  | 277   | 282   | 286   | 353   | 302   | 365   | 368   |

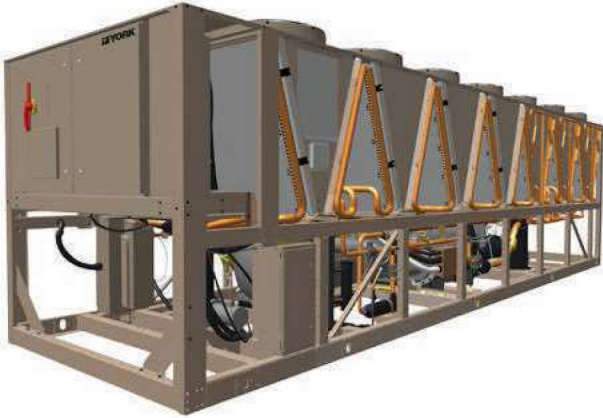
# YVFA, Air-cooled VSD screw chiller with integrated Free-cooling

## Providing the lowest possible operating costs

YORK® YVFA chillers deliver the lowest possible operating cost by combining superior engineering and technology in a packaged design that’s simple to own and operate. Advanced technologies include:

- Industry-leading variable-speed drive (VSD) that allows YVFA compressors to operate efficiently across all cooling-load and ambient-temperature conditions.
- High-efficiency, air-to-liquid “free-cooling” coils, designed by our heat transfer experts, reduce or eliminate the need for mechanical cooling when ambient conditions allow. Plus, the coils are integrated within the chiller footprint to conserve space.
- Intelligent controls that optimize energy use year-round, constantly evaluating conditions and controlling bypass valves to reduce pump energy when free cooling is not beneficial.
- Plus, performance is assured by AHRI certification, the first time certification has been given to an air-cooled screw chiller with free cooling.

For additional information, please contact your Johnson Controls Sales Representative.

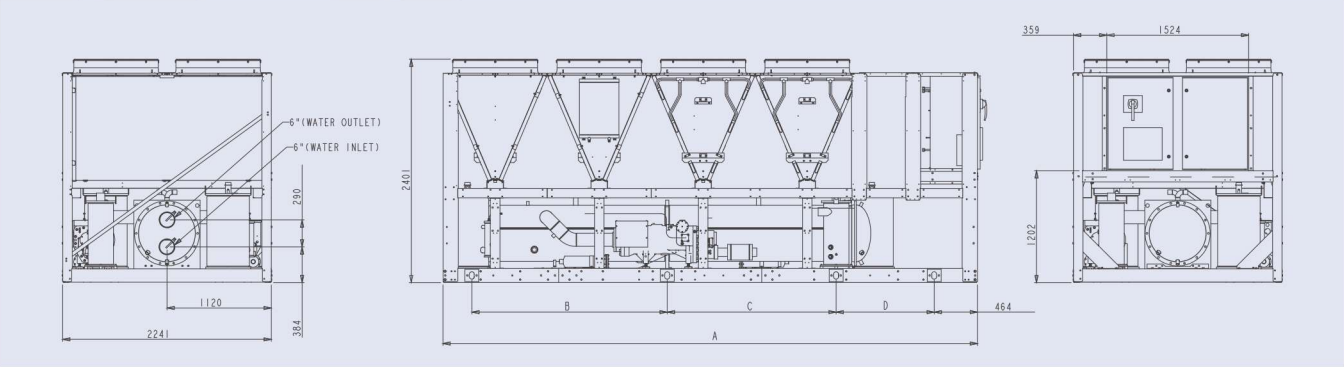


Manufacturer reserves the rights to change specifications without prior notice.

# Dimensions and hydraulic connections

All drawings are for two pass evaporator. For other configurations, please, contact JCI.

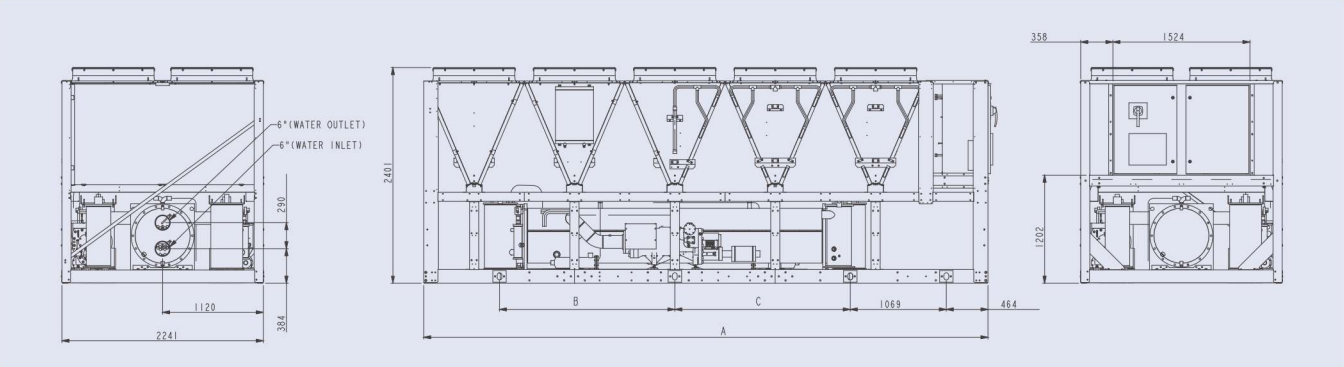
## YVAA 0153 & 0200



| Unit frame | A     | B     | C     | D     |
|------------|-------|-------|-------|-------|
| YVAA 0153  | 5 163 | 1 929 | 1 425 | 1 048 |
| YVAA 0200  | 5 741 | 2 098 | 1 814 | 1 054 |

All dimensions in mm. Drawings not a scale.

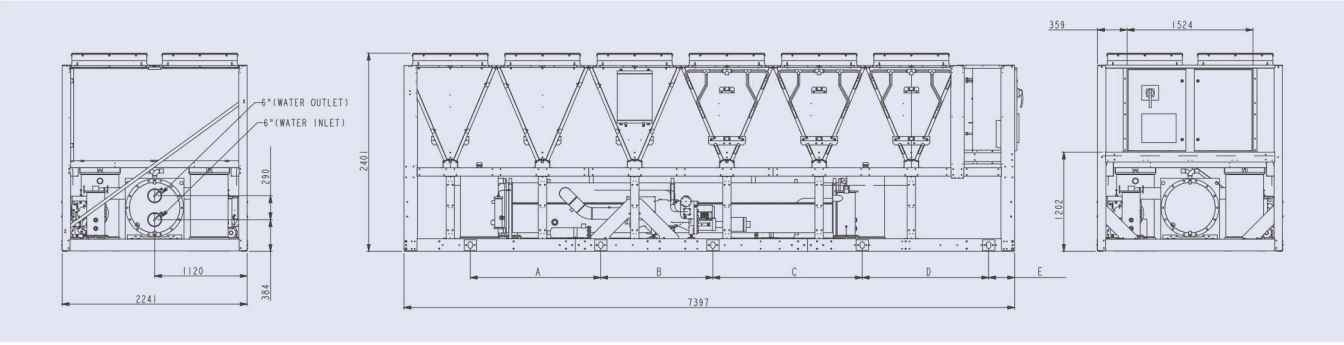
## YVAA 0165 & 0183



| Unit frame | A     | B     | C     | D     |
|------------|-------|-------|-------|-------|
| YVAA 0165  | 6 280 | 1 951 | 1 952 | 1 048 |
| YVAA 0183  | 6 274 | 1 962 | 2 104 | 1 054 |

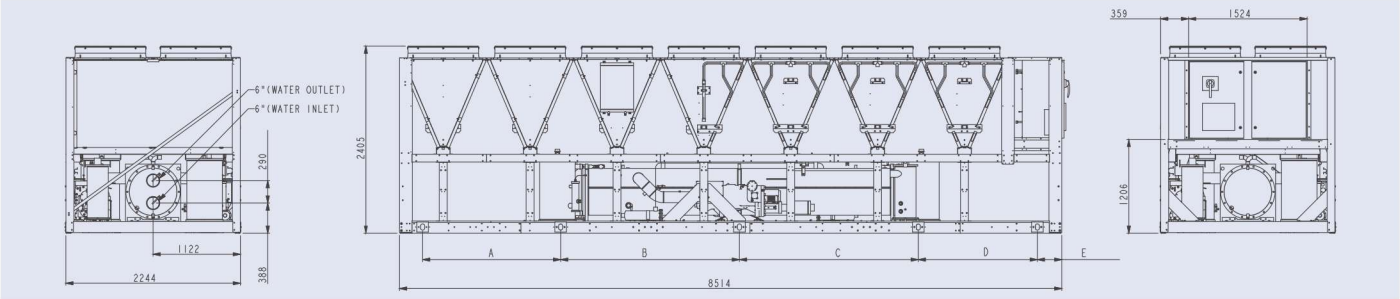
All dimensions in mm. Drawings not a scale.

## YVAA 0178, 0195, 0213, 0215 & 0233



| Unit frame       | A     | B     | C     | D     | E   |
|------------------|-------|-------|-------|-------|-----|
| YVAA 0178 & 0215 | 1 581 | 1 358 | 1 809 | 1 531 | 314 |
| YVAA 0195 & 0213 | 1 159 | 2 125 | 2 103 | 1 069 | 464 |
| YVAA 0233        | 1 464 | 1 971 | 1 951 | 1 069 | 464 |

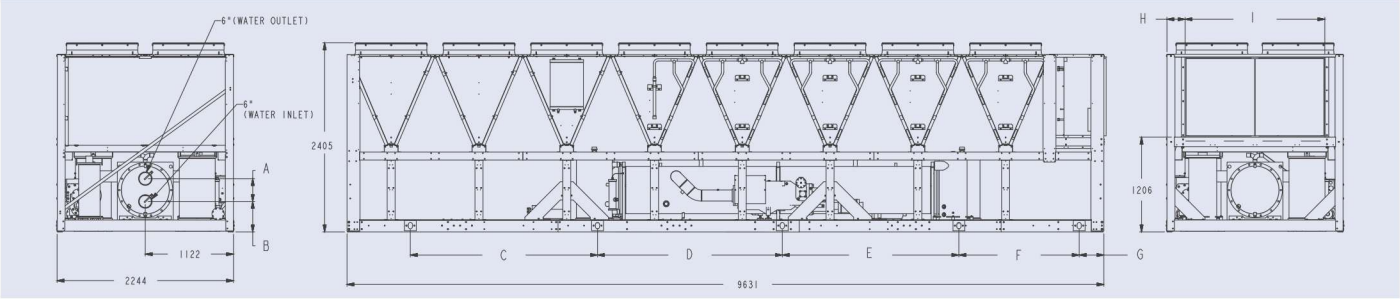
All dimensions in mm. Drawings not a scale.



| Unit frame       | A     | B     | C             | D     | E   |
|------------------|-------|-------|---------------|-------|-----|
| YVAA 0198 & 0263 | 2 214 | 1 971 | 1 951         | 1 069 | 464 |
| YVAA 0218        | 1 774 | 2 299 | 2 299         | 1 531 | 314 |
| YVAA 0245        | 2 129 | 2 299 | 2 256         | 1 069 | 464 |
| YVAA 0273        | 2 049 | 1 568 | 1 529 + 1 228 | 1 531 | 314 |
| YVAA 0275        | 1 501 | 2 115 | 1 529 + 1 228 | 1 531 | 314 |

All dimensions in mm. Drawings not a scale.

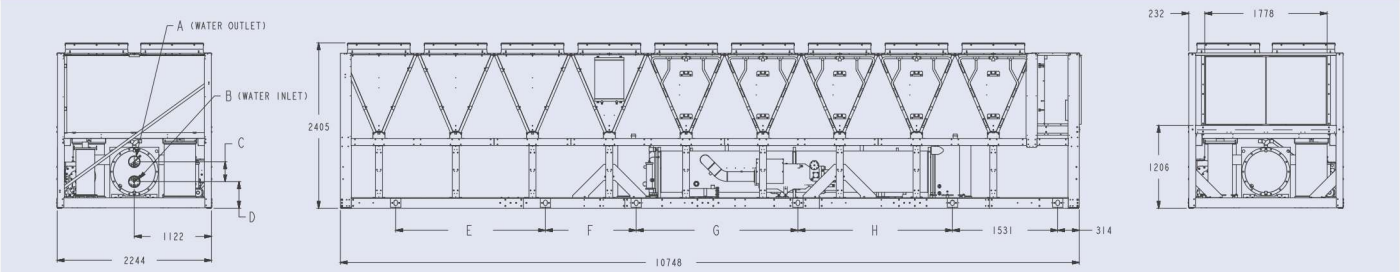
YVAA 0248, 0278, 0295, 0303, & 0323



| Unit frame | A   | B   | C     | D     | E             | F     | G   | H   | I     |
|------------|-----|-----|-------|-------|---------------|-------|-----|-----|-------|
| YVAA 0248  | 290 | 388 | 2 381 | 2 299 | 2 299         | 1 531 | 359 | 359 | 1 524 |
| YVAA 0278  | 355 | 394 | 2 656 | 1 568 | 1 529 + 1 228 | 1 531 | 314 | 359 | 1 524 |
| YVAA 0295  | 355 | 394 | 1 467 | 2 807 | 2 706         | 1 531 | 314 | 232 | 1 778 |
| YVAA 0303  | 290 | 388 | 2 381 | 2 351 | 2 247         | 1 531 | 314 | 232 | 1 778 |
| YVAA 0323  | 355 | 394 | 2 656 | 1 568 | 1 529 + 1 228 | 1 531 | 314 | 232 | 1 778 |

All dimensions in mm. Drawings not a scale.

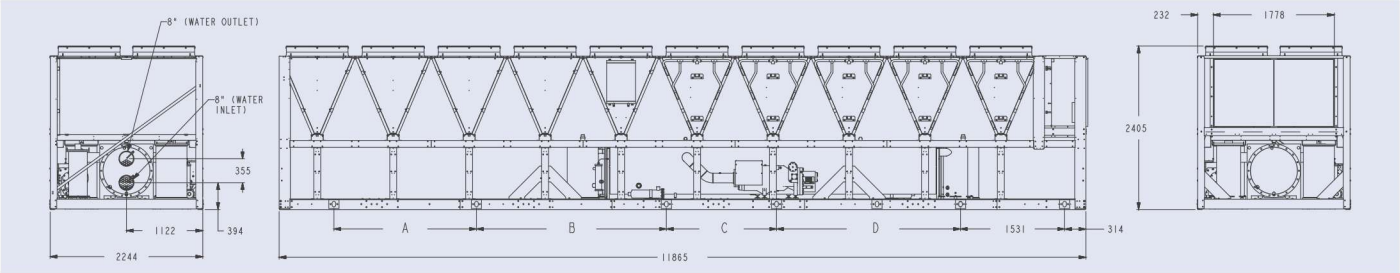
YVAA 0305, 0308 & 0343



| Unit frame | A  | B  | C   | D   | E     | F     | G             | H     |
|------------|----|----|-----|-----|-------|-------|---------------|-------|
| YVAA 0305  | 6" | 6" | 290 | 388 | 2 178 | 1 320 | 2 351         | 2 247 |
| YVAA 0308  | 8" | 8" | 355 | 394 | 2 433 | 2 433 | 1 620 + 1 477 | 1 228 |
| YVAA 0343  | 8" | 8" | 355 | 394 | 2 433 | 2 433 | 1 568 + 1 529 | 1 228 |

All dimensions in mm. Drawings not a scale.

YVAA 0318, 0345, 0373, 0375, 0413 & 0500



| Unit frame              | A     | B     | C     | D             |
|-------------------------|-------|-------|-------|---------------|
| YVAA 0318               | 2 097 | 2 793 | 1 619 | 1 477 + 1 228 |
| YVAA 0345               | 2 097 | 2 793 | 1 568 | 1 529 + 1 228 |
| YVAA 0373 / 0375 / 0413 | 3 397 | 1 623 | 1 437 | 2 757         |
| YVAA 0500               | 3 701 | 1 318 | 1 437 | 2 757         |

All dimensions in mm. Drawings not a scale.



# YMW / YMRA

## Water-cooled cooling only, remote condenser and heat pump scroll compressor chiller

Cooling capacities from 20 kW to 190 kW



### Features

- Scroll compressors (single or tandem)
- Higher EER and COP
- 2 different frames / configurations:
  - 1 compressor / 1 circuit up to 45 kW
  - 2 compressors / 1 circuit from 50 to 190 kW
- Reduced refrigerant charge
- Condensing pressure control
- "Plug and Play" units

Same cabinet w/o or with factory mounted hydrokit (one or two pumps).  
More compact and slim.

### Available versions

14 available YMW sizes in three versions:

- 1) **YMW-CO** : Cooling only
- 2) **YMRA** : Remote condenser
- 3) **YMW-HP** : Reversible heat pump

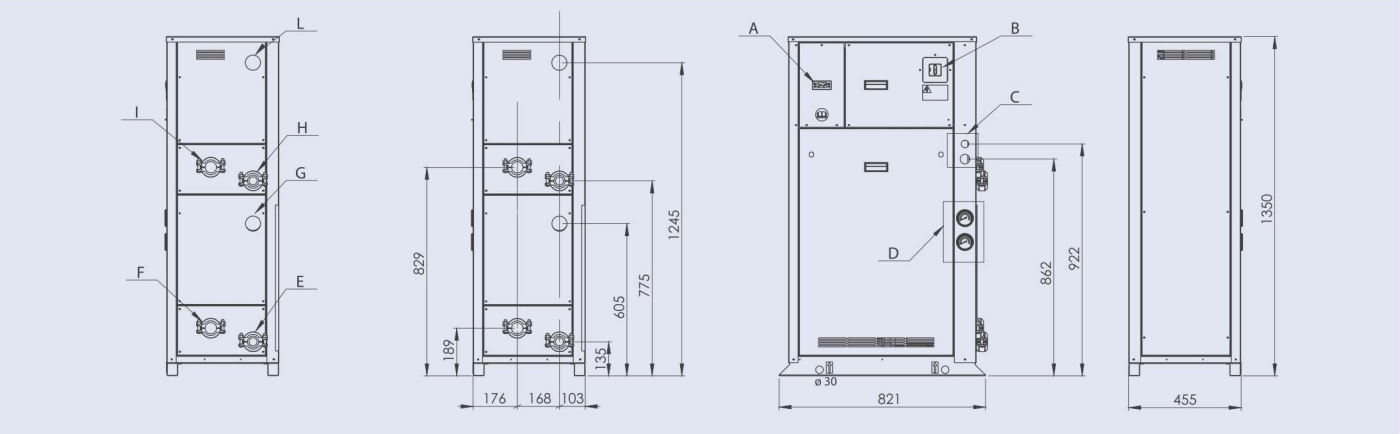
### Nominal capacity and technical data

| YMW-CO                      | 0020             | 0025      | 0030      | 0035      | 0040      | 0045      | 0050              | 0060      | 0075      | 0090      | 0120      | 0150      | 0170      | 0190      |
|-----------------------------|------------------|-----------|-----------|-----------|-----------|-----------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Cooling Capacity (kW)       | 21.2             | 26.2      | 31.1      | 34.8      | 39.2      | 46.6      | 50.9              | 61.1      | 77.3      | 91.1      | 118.4     | 147.1     | 170       | 192.7     |
| EER                         | 4.58             | 4.54      | 4.46      | 4.53      | 4.48      | 4.57      | 4.29              | 4.48      | 4.48      | 4.38      | 4.46      | 4.46      | 4.50      | 4.51      |
| Length /Width / Height (mm) | 821 / 455 / 1350 |           |           |           |           |           | 1210 / 850 / 1500 |           |           |           |           |           |           |           |
| Operating weight (kg)       | 156              | 176       | 174       | 179       | 185       | 203       | 440               | 491       | 540       | 591       | 837       | 966       | 1041      | 1145      |
| YMRA                        | 0020             | 0025      | 0030      | 0035      | 0040      | 0045      | 0050              | 0060      | 0075      | 0090      | 0120      | 0150      | 0170      | 0190      |
| Cooling Capacity (kW)       | 20.9             | 26.0      | 31.3      | 34.8      | 39.3      | 46.2      | 51.2              | 61.7      | 77.8      | 91.4      | 118.7     | 147.6     | 169.4     | 193.2     |
| Length /Width / Height (mm) | 821 / 455 / 1350 |           |           |           |           |           | 1210 / 850 / 1500 |           |           |           |           |           |           |           |
| Operating weight (kg)       | 144              | 164       | 166       | 166       | 172       | 172       | 376               | 404       | 439       | 466       | 678       | 762       | 813       | 874       |
| YMW-HP                      | 0020             | 0025      | 0030      | 0035      | 0040      | 0045      | 0050              | 0060      | 0075      | 0090      | 0120      | 0150      | 0170      | 0190      |
| Cooling Capacity (kW)       | 20.8             | 26        | 30.1      | 34        | 38.1      | 45.5      | 49.9              | 58.9      | 76.1      | 88.6      | 114.9     | 144.3     | 165.7     | 185.4     |
| Heating Capacity (kW)       | 23.8             | 29.1      | 33.8      | 38.8      | 43.2      | 51.6      | 57.7              | 68.2      | 86.3      | 102.2     | 132       | 164.2     | 190.1     | 212.3     |
| EER / COP                   | 4.45/4.03        | 4.47/4.00 | 4.28/3.88 | 4.35/3.94 | 4.33/3.92 | 4.39/4.00 | 4.15/3.98         | 4.24/3.96 | 4.36/4.07 | 4.20/4.04 | 4.26/4.07 | 4.34/4.11 | 4.34/4.09 | 4.28/4.09 |
| Length /Width / Height (mm) | 821 / 455 / 1350 |           |           |           |           |           | 1210 / 850 / 1500 |           |           |           |           |           |           |           |
| Operating weight (kg)       | 159              | 181       | 179       | 184       | 190       | 208       | 448               | 499       | 551       | 602       | 850       | 983       | 1058      | 1162      |

YMW-CO: Standard Eurovent LCP/W/AC conditions in cooling mode: evaporator EWT/LWT 12°C/7°C, condenser EWT/LWT 30°C/35°C  
YMRA: Evaporator EWT/LWT 12°C/7°C, condensing temperature 40°C  
YMW-HP: Standard Eurovent LCP/W/AC conditions in cooling mode: evaporator EWT/LWT 12°C/7°C, condenser EWT/LWT 30°C/35°C  
YMW-HP: Standard Eurovent LCP/W/AC conditions in heating mode: evaporator EWT/LWT 10°C, condenser EWT/LWT 40°C/45°C

# Dimensions and hydraulic connections

## YMW-00/HP 0020-0045

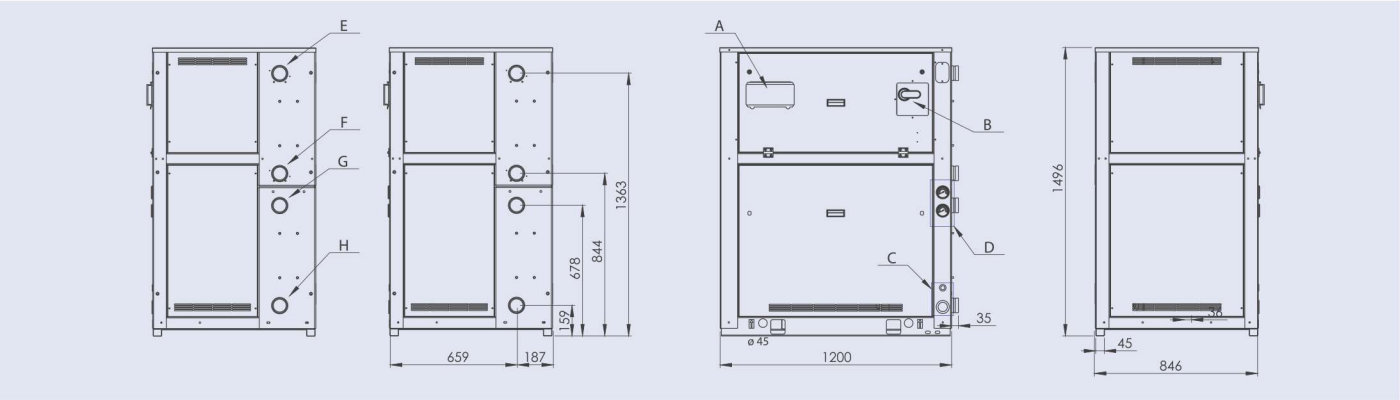


|          |                                        |                |                                                 |
|----------|----------------------------------------|----------------|-------------------------------------------------|
| <b>A</b> | Control display                        | <b>D</b>       | Gauge kit                                       |
| <b>B</b> | Main switch                            | <b>E, F, G</b> | Water evaporator connections Ø 1 1/2" victaulic |
| <b>C</b> | Auxiliary lines, electrical connection | <b>H, I, L</b> | Water condenser connections Ø 1 1/2" victaulic  |

| YMRA Sizes     | In       | Out      |
|----------------|----------|----------|
| <b>020</b>     | H Ø 5/8" | L Ø 5/8" |
| <b>025-045</b> | H Ø 5/8" | L Ø 7/8" |

All dimensions in mm. Drawings not a scale.

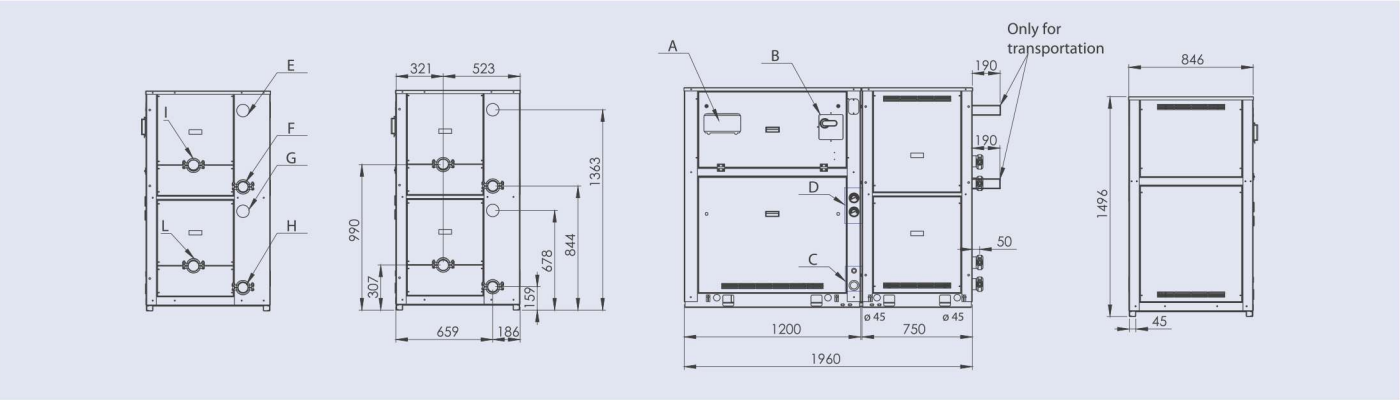
## YMW-00/HP 0050-0190 without Hydrokit



|          |                                        |             |                                                 |
|----------|----------------------------------------|-------------|-------------------------------------------------|
| <b>A</b> | Control display                        | <b>D</b>    | Gauge kit                                       |
| <b>B</b> | Main switch                            | <b>G, H</b> | Water evaporator connections Ø 1 1/2" victaulic |
| <b>C</b> | Auxiliary lines, electrical connection | <b>E, F</b> | Water condenser connections Ø 1 1/2" victaulic  |

All dimensions in mm. Drawings not a scale.

## YMW-00/HP 0050-0190 with Hydrokit



|          |                                        |                |                                                 |
|----------|----------------------------------------|----------------|-------------------------------------------------|
| <b>A</b> | Control display                        | <b>D</b>       | Gauge kit                                       |
| <b>B</b> | Main switch                            | <b>G, H, L</b> | Water evaporator connections Ø 1 1/2" victaulic |
| <b>C</b> | Auxiliary lines, electrical connection | <b>E, F, I</b> | Water condenser connections Ø 1 1/2" victaulic  |

| YMRA Sizes     | In         | Out        |
|----------------|------------|------------|
| <b>050-060</b> | F Ø 5/8"   | E Ø 7/8"   |
| <b>075-090</b> | F Ø 7/8"   | E Ø 1 1/8" |
| <b>120</b>     | F Ø 7/8"   | E Ø 1 3/8" |
| <b>150</b>     | F Ø 7/8"   | E Ø 1 5/8" |
| <b>170-190</b> | F Ø 1 1/8" | E Ø 1 5/8" |

All dimensions in mm. Drawings not a scale.



Manufacturer reserves the rights to change specifications without prior notice.

# YCSE / YCRE Style C

## Water-cooled or remote air-cooled screw compressor chiller

Cooling capacities from 140 kW to 240 kW



**YORK® YCSE Style C** chiller is designed for water or water-glycol cooling. It is designed for indoor installation in a plant room. The unit is completely factory assembled with all interconnecting refrigerant piping and wiring ready for field installation. **YCSE** unit is pressure tested, evacuated, and fully factory charged with refrigerant R134a and oil in each of the independent refrigerant circuits. After assembly, an operational test is performed with water flowing through the evaporator and condenser to ensure that each refrigerant circuit operates correctly..

### Features

#### Efficient screw compressors

Highly efficient the **YORK® YCSE Style C** offers the highest standard of reliability and economical operation utilizing twin-screw rotor technology and fully modulating compressor slide valve unloading, together with low inrush current star delta starters. To further improve the operating efficiency the leaving liquid temperature can be remotely reset.

#### Quiet operation

The compressor has been designed so that there is minimal external gas pulsations and integral oil separators resulting in very low sound and vibration levels.

#### Small footprint

The compact design is ideally suited for reduced base area locations. The unit frame is manufactured from heavy gauge galvanized steel coated with baked-on powder paint.

### Options / Accessories

- BMS Interface (Modbus, Bacnet)
- Compressor Circuit Breaker
- Power Meter
- Soft Starter
- Heat pump sensor kit
- Evaporator Heater
- Cable Power Routing
- High Leaving Evaporator temperature
- High Condenser Water and glycol options
- Suction Pressure Relief Valve (single/dual)
- Dual Compressor safety valve
- Suction and/or Discharge stop valves
- Water connection flanges
- Differential Water Pressure Switch
- Water Flow Switch and Water Filter
- Anti-vibration mounts (rubber or springs)

### Nominal capacity and technical data

| Model                        | YCSE                         |      |       |       | YCRE           |      |      |
|------------------------------|------------------------------|------|-------|-------|----------------|------|------|
| Size                         | 0141                         | 0181 | 0221  | 0241  | 0141           | 0181 | 0221 |
| Cooling Capacity (kW) *      | 140                          | 180  | 215   | 239   | 135            | 175  | 215  |
| EER                          | 4.83                         | 4.80 | 4.70  | 4.71  | Not Applicable |      |      |
| ESEER                        | 5.35                         | 5.69 | 5.71  | 5.72  |                |      |      |
| Sound power level (dBA)      | 88                           | 89   | 90    | 91    | 88             | 89   | 90   |
| Length / Width / Height (mm) | Base 1 378 max / 806 / 1 681 |      |       |       |                |      |      |
| Operating weight (kg)        | 860                          | 950  | 1 040 | 1 075 | 765            | 835  | 900  |

\* YCSE: At 35°C leaving condenser liquid temperature and 7°C leaving chilled liquid temperature according to EUROVENT calculation EN14511:2011

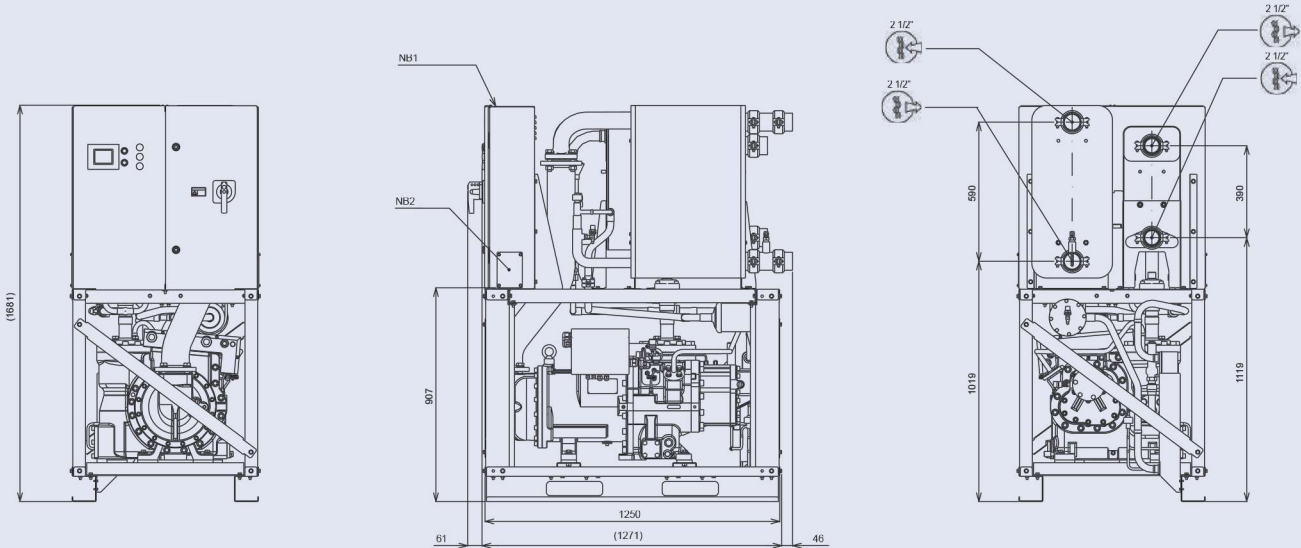
\* YCRE: At 45°C condensing temperature and 7°C leaving chilled liquid temperature



# Dimensions and hydraulic connections

## YCSE 0141 to 0241

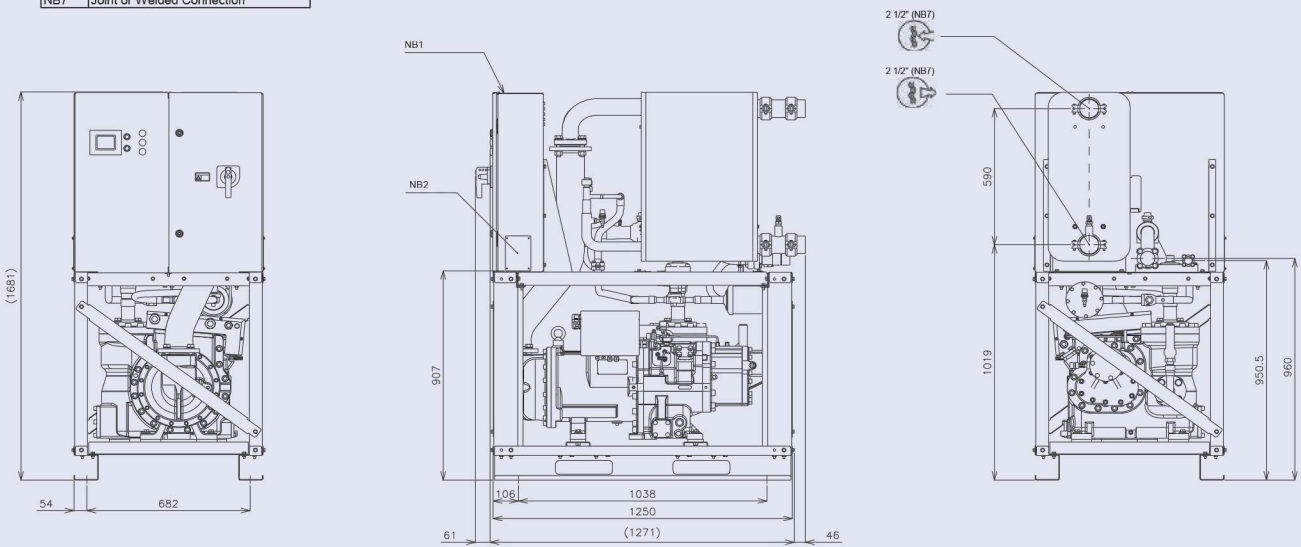
|     |                                    |
|-----|------------------------------------|
| NB1 | Electrical Box                     |
| NB2 | Customer Wiring Entry (both sides) |
| NB3 | 2 1/2" Victaulic Connection        |
| NB4 | 76.1 mm Welded Connection          |



All dimensions in mm. Drawings not a scale.

## YCRE 0141 to 0221

|     |                                    |
|-----|------------------------------------|
| NB1 | Electrical Box                     |
| NB2 | Customer Wiring Entry (both sides) |
| NB3 | 28.58 mm Brazing Connection        |
| NB4 | 53.98 mm Brazing Connection        |
| NB5 | 2 1/2" Joint Connection            |
| NB6 | 76.1 mm Welded Connection          |
| NB7 | Joint or Welded Connection         |



All dimensions in mm. Drawings not a scale.



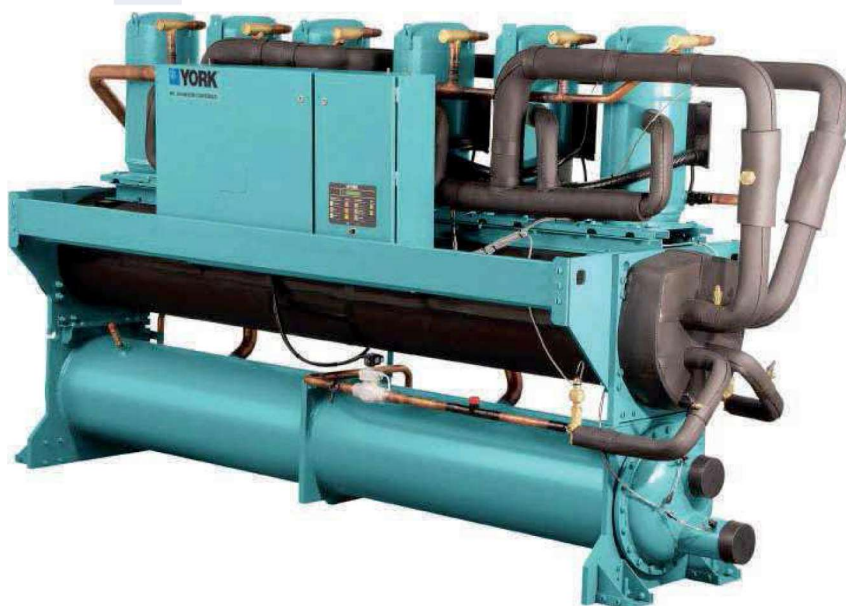
Manufacturer reserves the rights to change specifications without prior notice.

# YCWL / YCRL

## Water-cooled or remote air-cooled scroll compressor chiller

Cooling capacities from 178 kW to 596 kW

Available configurations that meet A Class energy efficiency levels at Eurovent Standard Conditions.



### Features

The **YCWL** series was designed to produce the greatest cooling capacity with the lowest sound levels. The use of scroll compressors provides optimum efficiency at part load, up to an ESEER of 7.25. Its dimensions have been optimized to pass through a doorway 2 m high by 90 cm wide.

The **YCWL** is designed for all air conditioning applications. It is equipped with two independent cooling circuits and regulated by a micro-processor that optimizes chiller performance.

The **YCWL** is designed for indoor installation and each **YCWL** is fully tested before leaving our factories.

### Options

- Leaving Chilled Liquid from -12 to +15°C
- Leaving Condenser Liquid from +18 to +50°C
- Compressor acoustic blankets
- Flow switch or pressure differential switch
- Soft starters
- Neoprene pads or spring isolators
- Dual relief valves kit
- Electronic regulators
- Vibration isolators

# Water-cooled or remote air-cooled scroll compressor chiller

YCWL / YCRL 0200 to 0611



## Nominal capacity

| YCWL-SE                             | 0241 |  | 0292 |  | 0343 |  | 0396 |  |
|-------------------------------------|------|--|------|--|------|--|------|--|
| Cooling capacity (kW) <sup>1</sup>  | 223  |  | 294  |  | 334  |  | 371  |  |
| EER <sup>1</sup>                    | 4.38 |  | 4.72 |  | 4.69 |  | 4.71 |  |
| Energy class <sup>1</sup>           | C    |  | B    |  | B    |  | B    |  |
| ESEER <sup>1</sup>                  | 6.34 |  | 6.48 |  | 6.59 |  | 6.49 |  |
| Sound Pressure (dB(A)) <sup>2</sup> | 72   |  | 72   |  | 74   |  | 76   |  |

| YCWL-HE                             | 0201 | 0231 | 0261 | 0302 | 0347 | 0386 | 0426 | 0447 | 0532 | 0611 |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Cooling capacity (kW) <sup>1</sup>  | 191  | 219  | 244  | 308  | 353  | 391  | 411  | 444  | 498  | 595  |
| EER <sup>1</sup>                    | 4.94 | 4.92 | 5.03 | 4.95 | 5.00 | 5.12 | 5.07 | 4.98 | 5.01 | 4.90 |
| Energy class <sup>1</sup>           | B    | B    | B    | B    | B    | A    | A    | B    | B    | B    |
| ESEER <sup>1</sup>                  | 5.97 | 6.33 | 7.25 | 6.79 | 6.54 | 7.09 | 6.70 | 6.28 | 6.80 | 6.57 |
| Sound Pressure (dB(A)) <sup>2</sup> | 68   | 70   | 72   | 72   | 74   | 74   | 76   | 74   | 71   | 72   |

| YCRL-HE                             | 0200 | 0230 | 0260 | 0300 | 0345 | 0385 | 0445 | 0530 | 0610 |
|-------------------------------------|------|------|------|------|------|------|------|------|------|
| Cooling capacity (kW) <sup>3</sup>  | 178  | 207  | 233  | 273  | 325  | 356  | 415  | 485  | 556  |
| EER <sup>3</sup>                    | 4.00 | 4.00 | 4.12 | 4.20 | 4.16 | 4.11 | 4.17 | 4.06 | 3.99 |
| Sound Pressure (dB(A)) <sup>2</sup> | 64   | 65   | 67   | 67   | 70   | 68   | 69   | 71   | 73   |

1: Cooling capacity and efficiencies @ Eurovent conditions evaporator entering/leaving tempreature 12C/7C condenser entering/leaving tempreature 30/35C EN14511:2011.  
2: EN 292-1991 Sound pressure is mesured 1 meter away from the control panel and 1.5 meters above the floor.  
3: Cooling capacity and efficiencies @ Eurovent conditions evaporator entering/leaving tempreature 12C/7C saturated discharge tempreature 45C EN14511:2007.

## Technical data

| YCWL-SE          |        |    | 0241 |  | 0292 |  | 0343 |  | 0396 |  |  |
|------------------|--------|----|------|--|------|--|------|--|------|--|--|
| Dimensions       | Length | mm | 3193 |  | 3161 |  | 3169 |  | 3159 |  |  |
|                  | Width  | mm | 859  |  |      |  |      |  |      |  |  |
|                  | Height | mm | 1752 |  | 1830 |  | 1819 |  |      |  |  |
| Operating weight |        | kg | 2085 |  | 2481 |  | 2494 |  | 2716 |  |  |

| YCWL-HE          |        |    | 0201 | 0231 | 0261 | 0302 | 0347 | 0386 | 0426 | 0447 | 0532 | 0611 |
|------------------|--------|----|------|------|------|------|------|------|------|------|------|------|
| Dimensions       | Length | mm | 3161 | 3098 | 3154 | 3169 | 3132 | 3704 | 3133 | 3643 |      |      |
|                  | Width  | mm | 859  | 857  | 844  | 859  |      | 885  | 859  | 885  |      |      |
|                  | Height | mm | 1670 | 1914 | 1820 | 1819 | 1889 | 1974 | 1889 | 1946 | 1965 |      |
| Operating weight |        | kg | 2218 | 2512 | 2463 | 2481 | 2808 | 3343 | 2824 | 3632 | 3838 | 3999 |

| YCRL-HE          |        |    | 0200 | 0230 | 0260 | 0300 | 0345 | 0385 | 0445 | 0530 | 0610 |
|------------------|--------|----|------|------|------|------|------|------|------|------|------|
| Dimensions       | Length | mm | 3086 | 3061 | 3076 |      | 3061 | 3617 | 3576 |      |      |
|                  | Width  | mm | 826  | 856  | 843  |      | 856  | 965  |      |      | 902  |
|                  | Height | mm | 1438 | 1481 | 1471 | 1593 | 1683 | 1641 | 1638 | 1641 |      |
| Operating weight |        | kg | 1309 | 1481 | 1471 | 1593 | 1682 | 1947 | 2266 | 2264 | 2263 |

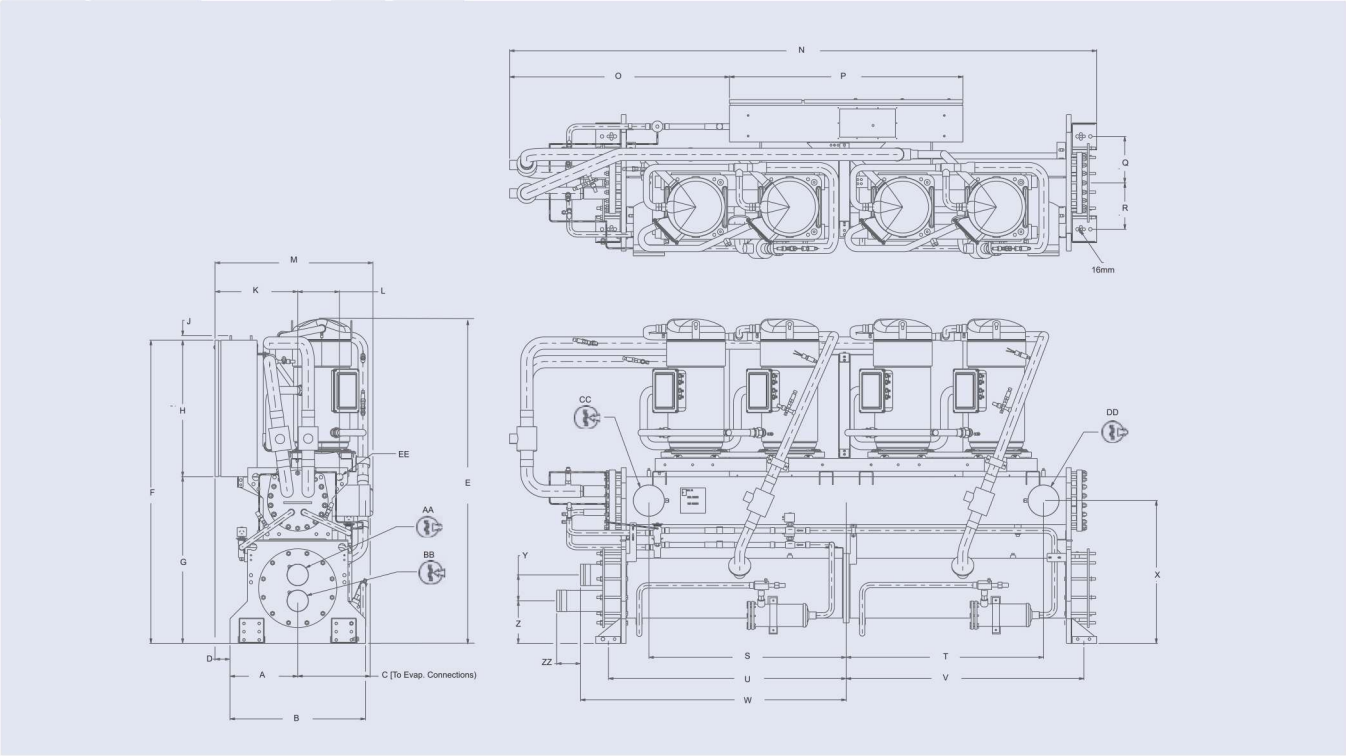


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# Dimensions and hydraulic connections

YCWL0241SE, YCWL0292SE, YCWL0343SE, YCWL0396SE, YCWL0201HE, YCWL0231HE, YCWL0261HE, YCWL0302HE, YCWL0347HE, YCWL0426HE, YCWL0447HE



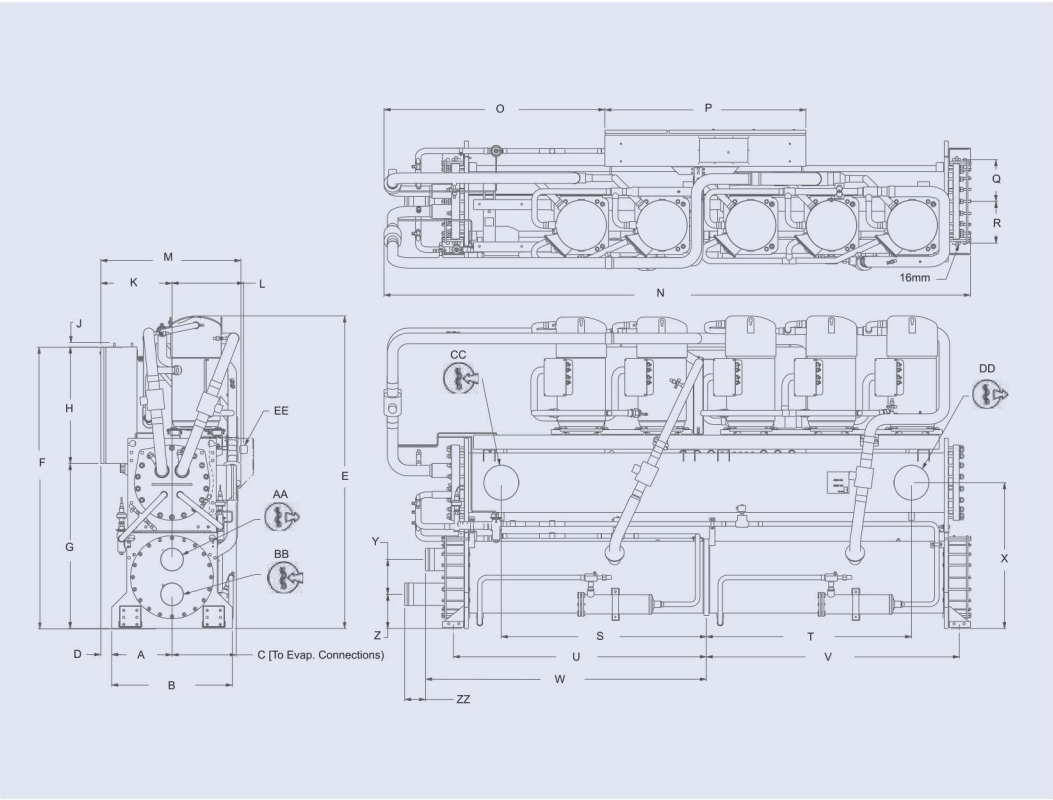
| YCWL      | 0241SE | 0292SE | 0343SE | 0396SE | 0201HE | 0231HE | 0261HE | 0302HE | 0347HE | 0426HE | 0447HE |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Dimension | mm     | mm     | mm     | mm     | mm     | mm     | mm     | mm     | mm     | mm     | mm     |
| A         | 368    | 368    | 368    | 368    | 368    | 368    | 368    | 368    | 368    | 368    | 381    |
| B         | 737    | 737    | 737    | 737    | 737    | 737    | 737    | 737    | 737    | 737    | 762    |
| C         | 394    | 299    | 394    | 394    | 299    | 407    | 394    | 394    | 406    | 406    | 406    |
| D         | 81     | 81     | 81     | 81     | 81     | 81     | 81     | 81     | 81     | 81     | 69     |
| E         | 1752   | 1830   | 1819   | 1819   | 1670   | 1914   | 1820   | 1819   | 1889   | 1889   | 1946   |
| F         | 1638   | 1638   | 1714   | 1714   | 1638   | 1753   | 1714   | 1714   | 1753   | 1753   | 1778   |
| G         | 901    | 901    | 977    | 978    | 901    | 1016   | 977    | 977    | 1016   | 1016   | 1041   |
| H         | 737    | 737    | 737    | 737    | 737    | 737    | 737    | 737    | 737    | 737    | 737    |
| J         | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     |
| K         | 450    | 450    | 450    | 450    | 311    | 450    | 450    | 450    | 450    | 450    | 450    |
| L         | 227    | 311    | 311    | 311    | 311    | 324    | 311    | 311    | 324    | 324    | 452    |
| M         | 859    | 859    | 859    | 859    | 859    | 857    | 844    | 859    | 859    | 859    | 885    |
| N         | 3194   | 3161   | 3169   | 3159   | 3161   | 3098   | 3154   | 3169   | 3132   | 3133   | 3643   |
| O         | 1196   | 1163   | 1171   | 1155   | 1163   | 1100   | 1156   | 1171   | 1134   | 1133   | 1334   |
| P         | 1270   | 1270   | 1270   | 1270   | 1270   | 1270   | 1270   | 1270   | 1270   | 1270   | 1270   |
| Q         | 251    | 251    | 251    | 251    | 251    | 251    | 251    | 251    | 251    | 251    | 264    |
| R         | 251    | 251    | 251    | 251    | 251    | 251    | 251    | 251    | 251    | 251    | 264    |
| S         | 1073   | 1080   | 1080   | 1080   | 1080   | 1054   | 1080   | 1080   | 1054   | 1054   | 1295   |
| T         | 1073   | 1080   | 1080   | 1080   | 1080   | 1054   | 1080   | 1080   | 1054   | 1054   | 1295   |
| U         | 1293   | 1293   | 1293   | 1293   | 1293   | 1293   | 1293   | 1293   | 1293   | 1293   | 1598   |
| V         | 1293   | 1293   | 1293   | 1293   | 1293   | 1293   | 1293   | 1293   | 1293   | 1293   | 1598   |
| W         | 1445   | 1445   | 1445   | 1455   | 1445   | 1445   | 1445   | 1445   | 1455   | 1455   | 1774   |
| X         | 772    | 813    | 813    | 813    | 813    | 845    | 813    | 813    | 845    | 845    | 921    |
| Y         | 140    | 181    | 181    | 207    | 181    | 181    | 181    | 181    | 207    | 207    | 219    |
| Z         | 230    | 210    | 210    | 197    | 210    | 210    | 210    | 210    | 197    | 197    | 216    |
| ZZ        | 130    | 130    | 130    | 133    | 130    | 130    | 130    | 130    | 133    | 133    | 132    |
| EE Ø      | 38     | 38     | 38     | 38     | 38     | 38     | 38     | 38     | 38     | 38     | 51     |

All dimensions in mm. Drawings not a scale.

| YCWL              | 0241SE | 0292SE | 0343SE | 0396SE | 0201HE | 0231HE | 0261HE | 0302HE | 0347HE | 0426HE | 0447HE |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Water Connections | in     | in     | in     | in     | in     | in     | in     | in     | in     | in     | in     |
| AA Ø              | 4      | 4      | 4      | 5      | 4      | 4      | 4      | 4      | 5      | 5      | 5      |
| BB Ø              | 4      | 4      | 4      | 5      | 4      | 4      | 4      | 4      | 5      | 5      | 5      |
| CC Ø              | 6      | 6      | 6      | 6      | 6      | 8      | 6      | 6      | 8      | 8      | 8      |
| DD Ø              | 6      | 6      | 6      | 6      | 6      | 8      | 6      | 6      | 8      | 8      | 8      |

# Dimensions and hydraulic connections

YCWL0386HE, YCWL0532HE

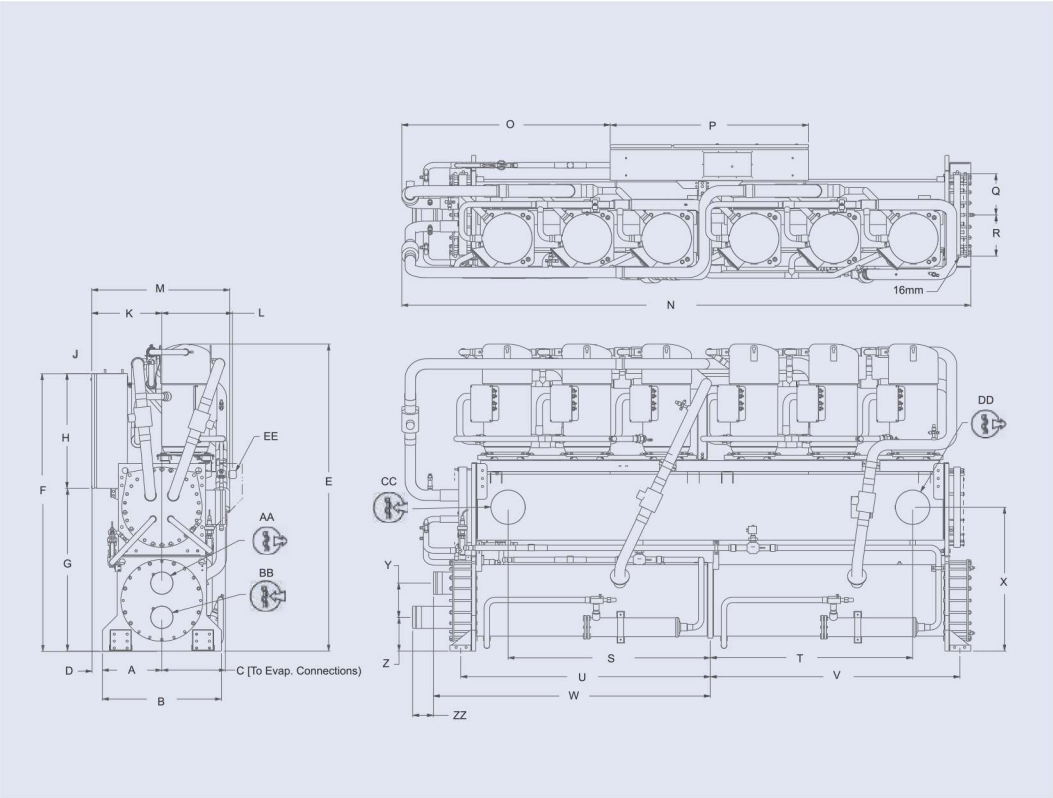


| YCWL      | 0386HE | 0532HE |
|-----------|--------|--------|
| Dimension | mm     | mm     |
| A         | 381    | 381    |
| B         | 762    | 762    |
| C         | 406    | 406    |
| D         | 69     | 69     |
| E         | 1974   | 1965   |
| F         | 1778   | 1778   |
| G         | 1041   | 1041   |
| H         | 737    | 737    |
| J         | 25     | 25     |
| K         | 450    | 450    |
| L         | 452    | 452    |
| M         | 885    | 885    |
| N         | 3704   | 3643   |
| O         | 1395   | 1334   |
| P         | 1270   | 1270   |
| Q         | 263    | 263    |
| R         | 263    | 263    |
| S         | 1295   | 1295   |
| T         | 1295   | 1295   |
| U         | 1598   | 1598   |
| V         | 1598   | 1598   |
| W         | 1774   | 1774   |
| X         | 921    | 921    |
| Y         | 219    | 219    |
| Z         | 216    | 216    |
| ZZ        | 132    | 132    |
| EE Ø      | 51     | 51     |

All dimensions in mm.

| YCWL              | 0386HE | 0532HE |
|-------------------|--------|--------|
| Water Connections | in     | in     |
| AA Ø              | 5      | 5      |
| BB Ø              | 5      | 5      |
| CC Ø              | 8      | 8      |
| DD Ø              | 8      | 8      |

YCWL0532HE



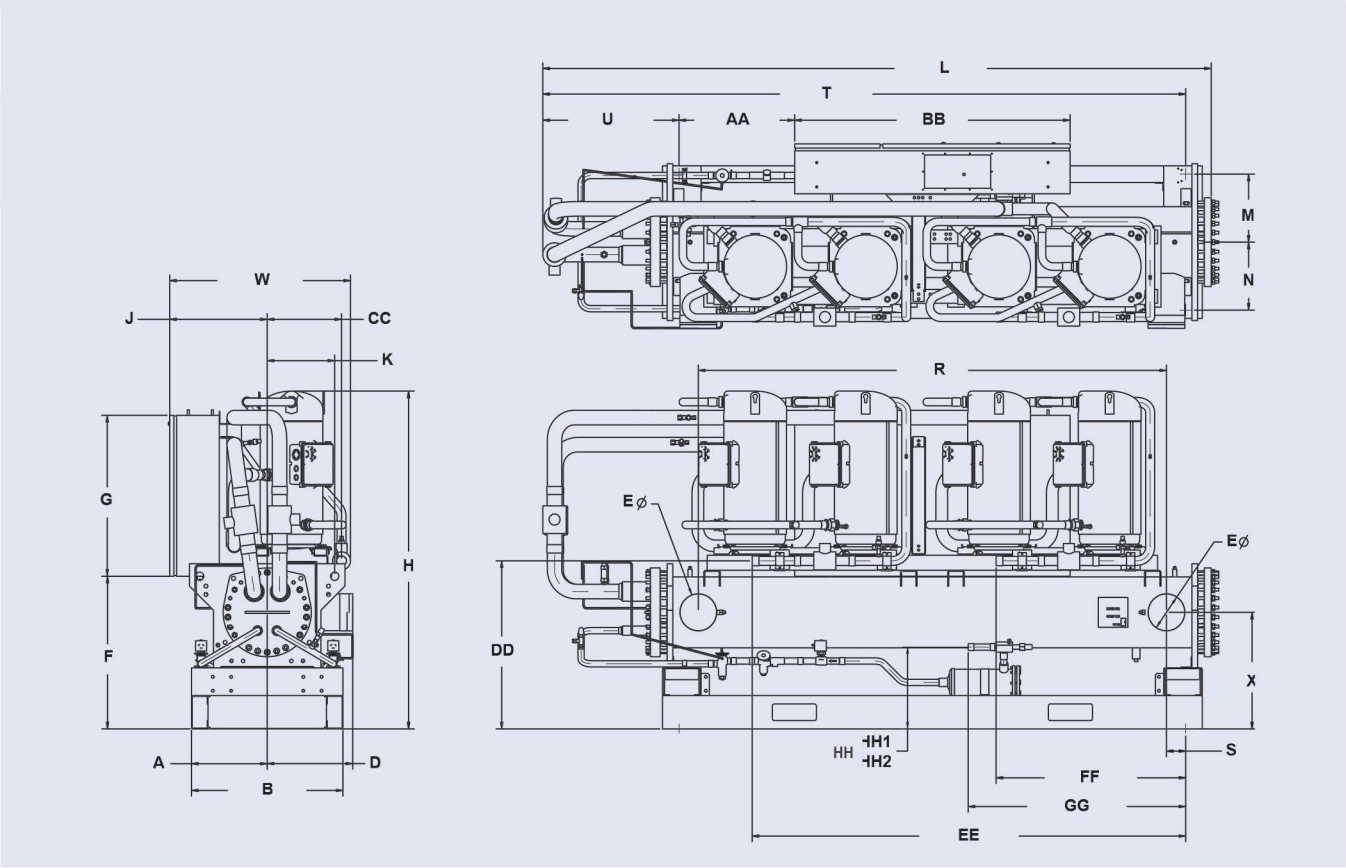
| YCWL      | 0611HE |
|-----------|--------|
| Dimension | mm     |
| A         | 381    |
| B         | 762    |
| C         | 406    |
| D         | 69     |
| E         | 1965   |
| F         | 1778   |
| G         | 1041   |
| H         | 737    |
| J         | 25     |
| K         | 450    |
| L         | 452    |
| M         | 885    |
| N         | 3643   |
| O         | 1334   |
| P         | 1270   |
| Q         | 264    |
| R         | 264    |
| S         | 1295   |
| T         | 1295   |
| U         | 1598   |
| V         | 1598   |
| W         | 1774   |
| X         | 921    |
| Y         | 219    |
| Z         | 216    |
| ZZ        | 132    |
| EE Ø      | 51     |

All dimensions in mm.

| YCWL              | 0532HE |
|-------------------|--------|
| Water Connections | in     |
| AA Ø              | 5      |
| BB Ø              | 5      |
| CC Ø              | 8      |
| DD Ø              | 8      |

# Dimensions and hydraulic connections

YCRL 0200 HE to YCRL 0345 HE



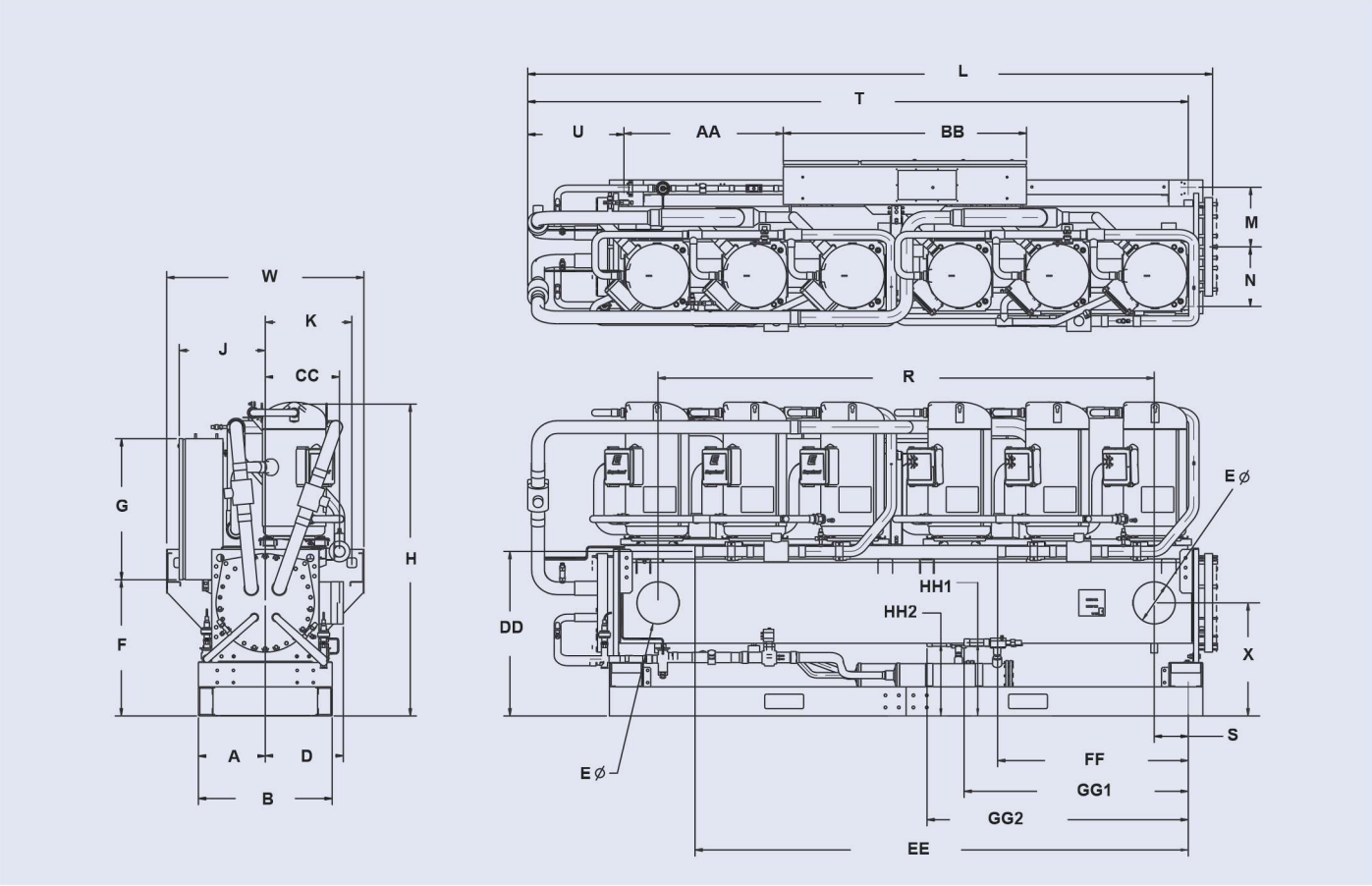
| YCRL | 0200 HE | 0230 HE | 0260 HE | 0300 HE | 0345 HE |
|------|---------|---------|---------|---------|---------|
| W    | 824     | 834     | 834     | 834     | 846     |
| H    | 1437    | 1616    | 1546    | 1544    | 1613    |
| L    | 3085    | 3062    | 3082    | 3082    | 3062    |
| A    | 349     | 349     | 349     | 349     | 349     |
| B    | 699     | 692     | 699     | 699     | 699     |
| D    | 299     | 407     | 394     | 394     | 407     |
| E    | 219     | 219     | 168     | 168     | 219     |
| F    | 622     | 737     | 699     | 699     | 737     |
| G    | 737     | 737     | 737     | 737     | 737     |
| J    | 450     | 450     | 450     | 450     | 450     |
| K    | 311     | 324     | 311     | 311     | 324     |
| M    | 311     | 311     | 311     | 311     | 311     |
| N    | 311     | 311     | 311     | 311     | 311     |
| R    | 2159    | 2108    | 2159    | 2159    | 2108    |
| S    | 89      | 114     | 89      | 89      | 114     |
| T    | 2965    | 2938    | 2965    | 2965    | 2938    |
| U    | 628     | 601     | 628     | 628     | 601     |
| X    | 533     | 565     | 533     | 533     | 565     |
| AA   | 533     | 533     | 533     | 533     | 533     |
| BB   | 1270    | 1270    | 1270    | 1270    | 1270    |
| CC   | 343     | 343     | 343     | 343     | 356     |
| DD   | 780     | 838     | 769     | 769     | 838     |
| EE   | 2059    | 2085    | 1999    | 1999    | 2008    |
| FF   | 947     | 886     | 875     | 875     | 883     |
| GG   | 1003    | 1003    | 1003    | 965     | 1040    |
| HH   | 466     | 375     | 375     | 375     | 378     |

All dimensions in mm. Drawings not a scale.



# Dimensions and hydraulic connections

YCRL 0385 HE to YCRL 0610 HE



| YCRL | 0385 HE | 0445 HE | 0530 HE | 0610 HE |
|------|---------|---------|---------|---------|
| W    | 1030    | 1030    | 965     | 902     |
| H    | 1641    | 1628    | 1641    | 1641    |
| L    | 3633    | 3576    | 3576    | 3576    |
| A    | 349     | 349     | 349     | 349     |
| B    | 699     | 692     | 699     | 699     |
| D    | 406     | 407     | 407     | 407     |
| E    | 219     | 219     | 219     | 219     |
| F    | 711     | 711     | 711     | 711     |
| G    | 737     | 737     | 737     | 737     |
| J    | 450     | 450     | 450     | 450     |
| K    | 452     | 452     | 452     | 452     |
| M    | 311     | 311     | 311     | 311     |
| N    | 311     | 311     | 311     | 311     |
| R    | 2591    | 2591    | 2591    | 2591    |
| S    | 178     | 178     | 178     | 178     |
| T    | 3509    | 3449    | 3449    | 3449    |
| U    | 563     | 502     | 502     | 502     |
| X    | 591     | 591     | 592     | 587     |
| AA   | 832     | 832     | 832     | 832     |
| BB   | 1270    | 1270    | 1270    | 1270    |
| CC   | 387     | 387     | 387     | 387     |
| DD   | 859     | 859     | 859     | 859     |
| EE   | 2499    | 2575    | 2575    | 2575    |
| FF   | 919     | 995     | 995     | 995     |
| GG-1 | 1466    | 1171    | 1171    | 1171    |
| GG-2 | 1466    | 1364    | 1364    | 1364    |
| HH-1 | 378     | 383     | 383     | 383     |
| HH-2 | 378     | 379     | 379     | 379     |

All dimensions in mm. Drawings not a scale.

# YLCS

## Water-cooled or remote air-cooled screw compressor chiller

### Heat pump application

Cooling capacities from 342 kW to 1099 kW

Available configurations that meet A Class energy efficiency levels at Eurovent Standard Conditions.



#### Features

##### One chiller, many applications

Designed to operate with leaving liquid temperature from  $-12^{\circ}\text{C}$  to  $+15^{\circ}\text{C}$ .

##### Efficient compressors

YLCS is a dual circuit chiller with industrial type semi-hermetic screw compressors. Star delta compressor starters are incorporated to reduce the inrush current.

##### Outstanding chiller control

An advanced microprocessor controller with, a 40 character plain language display, controls and monitors temperatures, pressures, operating hours, number of starts and start stop/holiday times.

##### Fast and easy installation

Evaporator water connections can be provided in a vertical or horizontal plain. Electrical power supplies enter from the top for easy drop down wiring.

#### Options / Accessories

- Compressor suction shut-off valves
- Companion flange kits
- Multi-point power supply
- Remote leaving liquid temperature offset
- Pressure gauges
- Closed transition star delta starters
- Power factor correction capacitors
- Heat pump control up to  $60^{\circ}\text{C}$
- 90/10 cupro/nickel condenser

# Water-cooled or remote air-cooled screw compressor chiller

YLCS 0350 to 1120



## Nominal capacity

| YLCS                        | 0350  | 0415 | 0480  | 0530  | 0575  | 0620  |
|-----------------------------|-------|------|-------|-------|-------|-------|
| Cooling capacity (kW)       | 343.5 | 406  | 482.6 | 512.6 | 552.8 | 586.8 |
| EER                         | 4.01  | 4.1  | 4.14  | 4.16  | 4.14  | 4.14  |
| ESEER                       | 4.41  | 4.63 | 4.68  | 4.76  | 4.67  | 4.75  |
| Sound pressure at 1 m (dBA) | 74    | 74   | 74    | 77    | 76    | 76    |

| YLCS                        | 0670 | 0750  | 0860  | 0980  | 1120 |
|-----------------------------|------|-------|-------|-------|------|
| Cooling capacity (kW)       | 644  | 744.3 | 867.3 | 979.9 | 1122 |
| EER                         | 4.53 | 4.61  | 4.73  | 4.72  | 4.72 |
| ESEER                       | 5.05 | 5.17  | 5.17  | 5.12  | 5.06 |
| Sound pressure at 1 m (dBA) | 76   | 76    | 82    | 82    | 82   |

At 7°C leaving chilled water and 35°C leaving condenser water.

## Technical data

| YLCS                |        |    | 0350 | 0415 | 0480 | 0530 | 0575 | 0620 |
|---------------------|--------|----|------|------|------|------|------|------|
| Dimensions          | Length | mm | 3225 | 3244 | 3274 |      | 3544 | 3600 |
|                     | Width  | mm | 900  |      |      |      |      |      |
|                     | Height | mm | 2100 |      |      |      |      |      |
| Operating weight kg |        |    | 3420 | 4030 | 4170 | 4270 | 4370 | 4540 |

| YLCS                |        |    | 0670 | 0750 | 0860 | 0980 | 1120 |
|---------------------|--------|----|------|------|------|------|------|
| Dimensions          | Length | mm | 3565 | 3645 | 3830 | 3830 | 3830 |
|                     | Width  | mm | 1290 |      |      |      |      |
|                     | Height | mm | 2148 |      |      |      |      |
| Operating weight kg |        |    | 4510 | 5010 | 5620 | 6090 | 6610 |

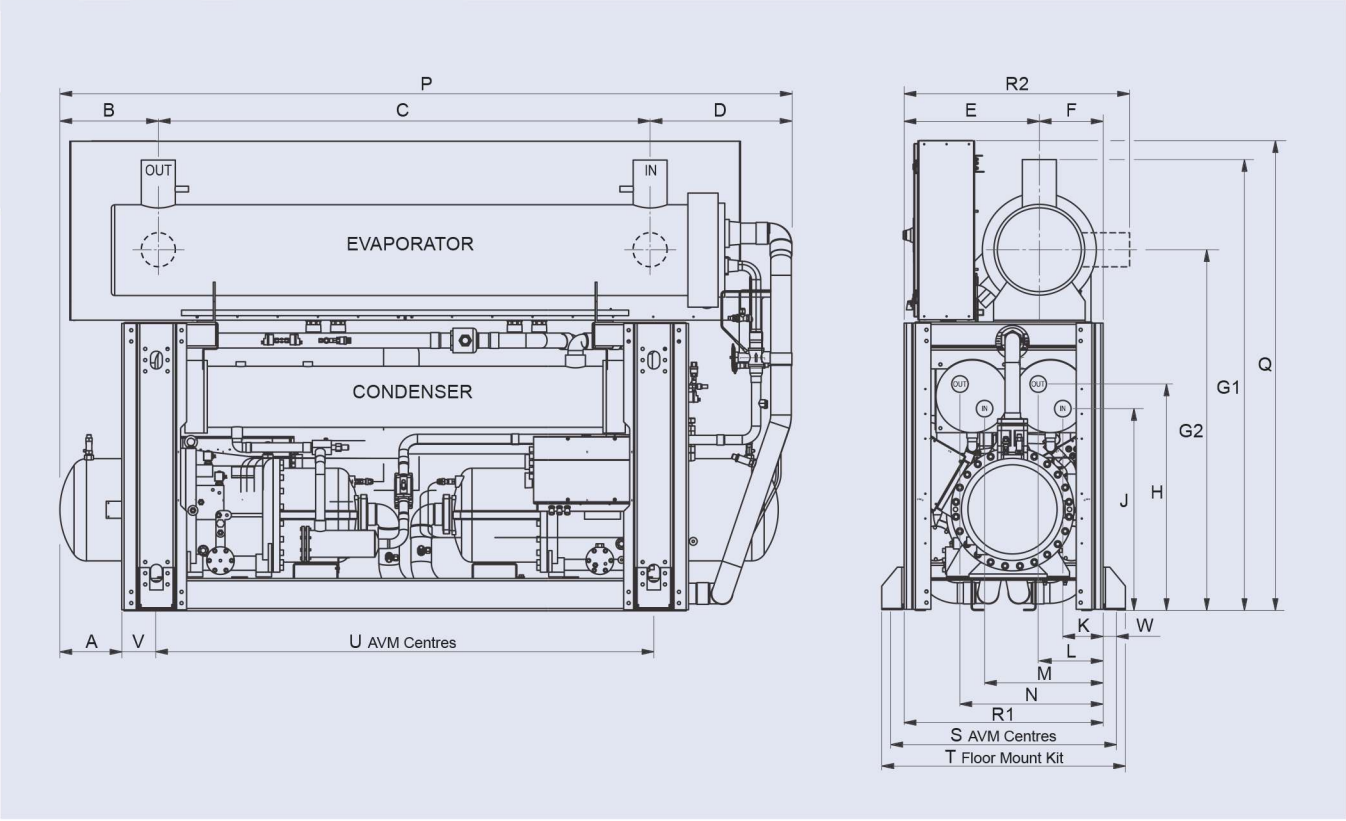


Manufacturer reserves the rights to change specifications without prior notice.



# Dimensions and hydraulic connections

YLCS 0350SA/HA to 0620SA/HA

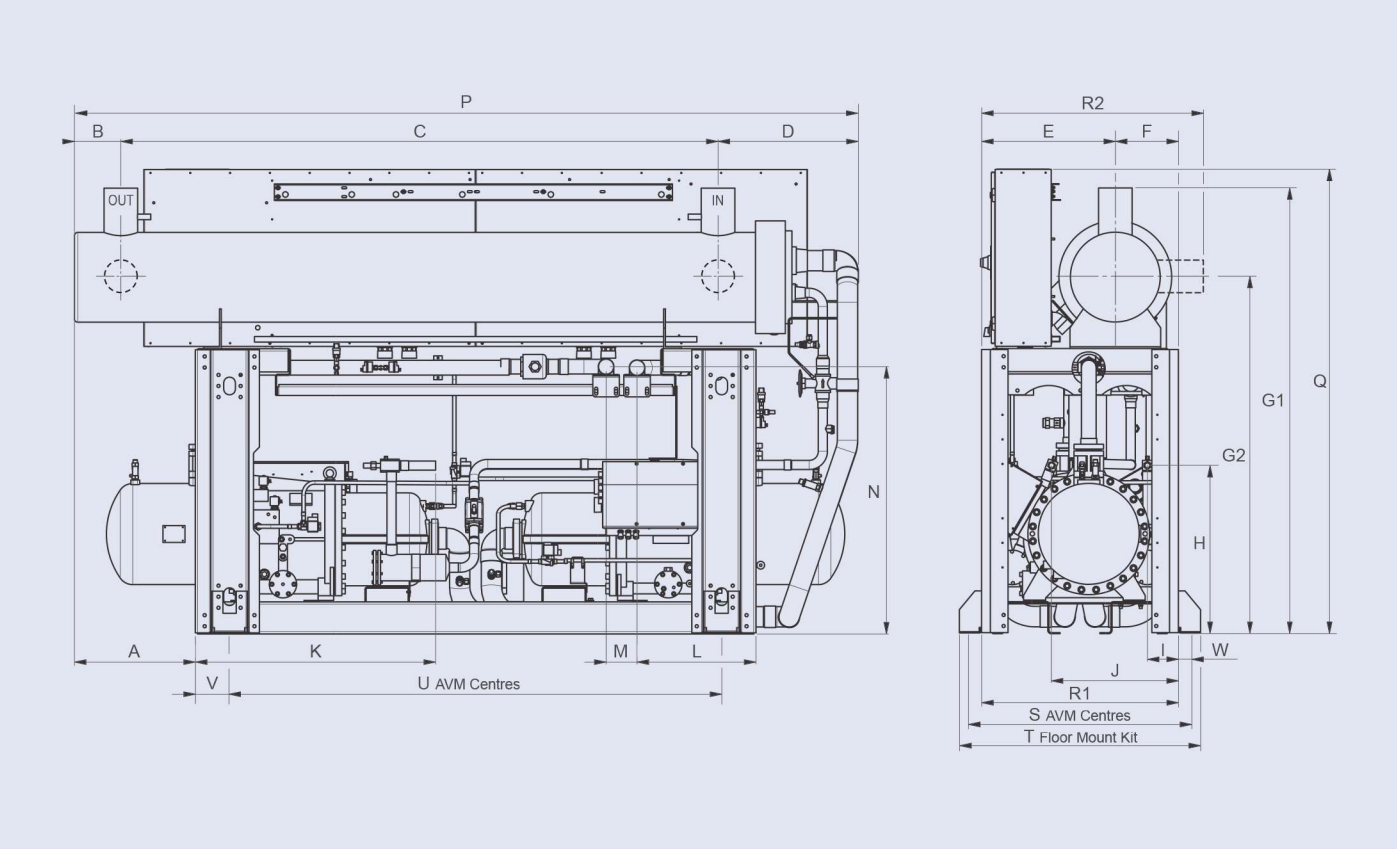


| Model           | A   | B   | C    | D   | E   | F   | G1 <sup>(1)</sup> | G2 <sup>(1)</sup> | H    | J   | K   | L   | M   | N   | P    | Q    | R1  | R2 <sup>(2)</sup> | S    | T    | U    | V   | W  |
|-----------------|-----|-----|------|-----|-----|-----|-------------------|-------------------|------|-----|-----|-----|-----|-----|------|------|-----|-------------------|------|------|------|-----|----|
| 350-SA & 350-HA | 247 | 417 | 2250 | 558 | 605 | 285 | 1914              | 1550              | 1033 | 963 | 200 | 270 | 550 | 620 | 3225 | 2100 | 890 | 967               | 1010 | 1090 | 2225 | 155 | 60 |
| 415-SA & 415-HA | 247 | 417 | 2250 | 558 | 605 | 285 | 1915              | 1550              | 1013 | 903 | 180 | 290 | 530 | 640 | 3244 | 2100 | 890 | 967               | 1010 | 1090 | 2225 | 155 | 60 |
| 480-SA & 480-HA | 277 | 440 | 2200 | 634 | 605 | 285 | 2016              | 1615              | 1013 | 903 | 180 | 290 | 530 | 640 | 3274 | 2100 | 890 | 1010              | 1010 | 1090 | 2225 | 155 | 60 |
| 530-SA & 530-HA | 277 | 440 | 2200 | 634 | 605 | 285 | 2016              | 1615              | 1013 | 903 | 180 | 290 | 530 | 640 | 3274 | 2100 | 890 | 1010              | 1010 | 1090 | 2225 | 155 | 60 |
| 575-SA & 575-HA | 550 | 210 | 2700 | 634 | 605 | 285 | 2016              | 1615              | 1013 | 903 | 180 | 290 | 530 | 640 | 3544 | 2100 | 890 | 1010              | 1010 | 1090 | 2225 | 155 | 60 |
| 620-SA & 620-HA | 550 | 210 | 2700 | 690 | 605 | 285 | 2016              | 1615              | 1013 | 903 | 180 | 290 | 530 | 640 | 3600 | 2100 | 890 | 1010              | 1010 | 1090 | 2225 | 155 | 60 |

All dimensions in mm. Drawings not a scale.  
Dimensions exclude insulation and options. Refer to Physical Data Section for connection sizes. For reference only, please refer to York Product drawing for complete drawing.  
(1) With Vertical nozzle cooler only. (2) With horizontal nozzle cooler only.

# Dimensions and hydraulic connections

YLCS 0350AA to 0620AA

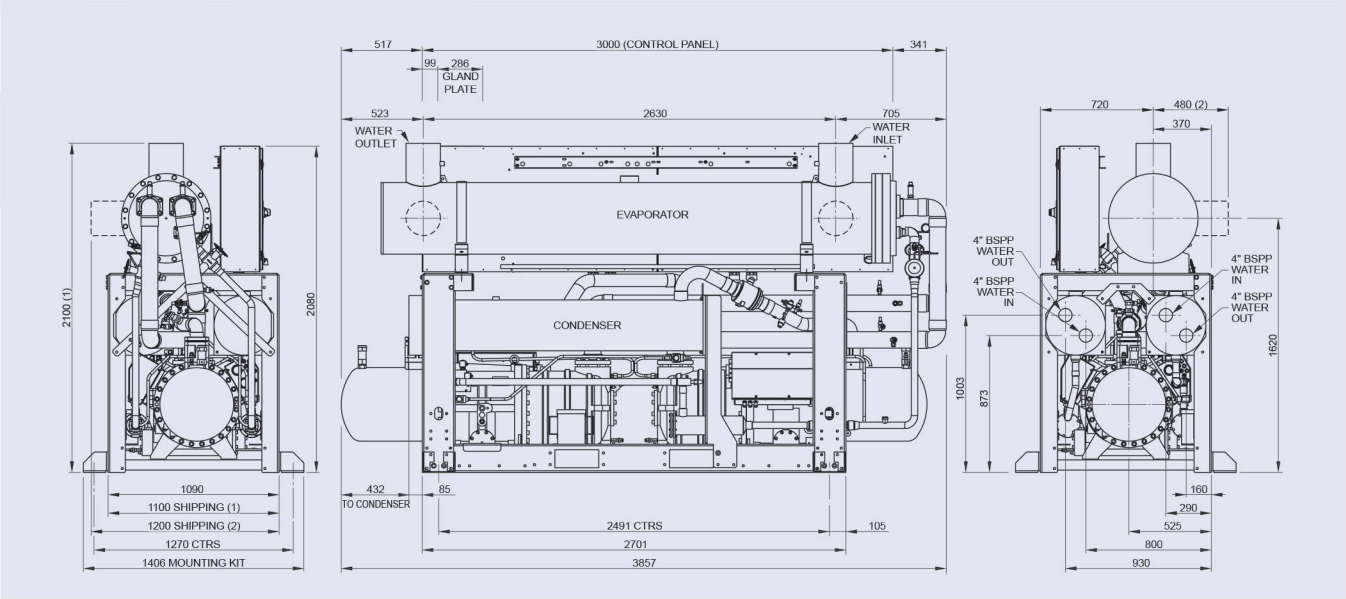


| Model  | A   | B   | C    | D   | E   | F   | G1 <sup>(1)</sup> | G2 <sup>(2)</sup> | H   | I   | J   | K    | L   | M   | N    | P    | Q    | R1  | R2 <sup>(2)</sup> | S    | T    | U    | V   | W  |
|--------|-----|-----|------|-----|-----|-----|-------------------|-------------------|-----|-----|-----|------|-----|-----|------|------|------|-----|-------------------|------|------|------|-----|----|
| 350-AA | 247 | 417 | 2250 | 558 | 605 | 285 | 1914              | 1550              | 761 | 140 | 573 | 1032 | 538 | 140 | 1200 | 3225 | 2100 | 890 | 967               | 1010 | 1090 | 2225 | 155 | 60 |
| 415-AA | 247 | 411 | 2250 | 583 | 605 | 285 | 1915              | 1550              | 761 | 140 | 573 | 1032 | 538 | 140 | 1204 | 3244 | 2100 | 890 | 967               | 1010 | 1090 | 2225 | 155 | 60 |
| 480-AA | 277 | 440 | 2200 | 634 | 605 | 285 | 2016              | 1615              | 761 | 140 | 573 | 1087 | 538 | 140 | 1204 | 3274 | 2100 | 890 | 1010              | 1010 | 1090 | 2225 | 155 | 60 |
| 530-AA | 277 | 440 | 2200 | 634 | 605 | 285 | 2016              | 1615              | 761 | 140 | 573 | 1087 | 538 | 140 | 1200 | 3274 | 2100 | 890 | 1010              | 1010 | 1090 | 2225 | 155 | 60 |
| 575-AA | 550 | 210 | 2700 | 634 | 605 | 285 | 2016              | 1615              | 761 | 140 | 573 | 1087 | 538 | 140 | 1204 | 3544 | 2100 | 890 | 1010              | 1010 | 1090 | 2225 | 155 | 60 |
| 620-AA | 550 | 210 | 2700 | 690 | 605 | 285 | 2016              | 1615              | 761 | 140 | 573 | 1087 | 538 | 140 | 1204 | 3600 | 2100 | 890 | 1010              | 1010 | 1090 | 2225 | 155 | 60 |

All dimensions in mm. Drawings not a scale.  
Dimensions exclude insulation and options. Refer to Physical Data Section for connection sizes. For reference only, please refer to York Product drawing for complete drawing.  
(1) With Vertical nozzle cooler only. (2) With horizontal nozzle cooler only.

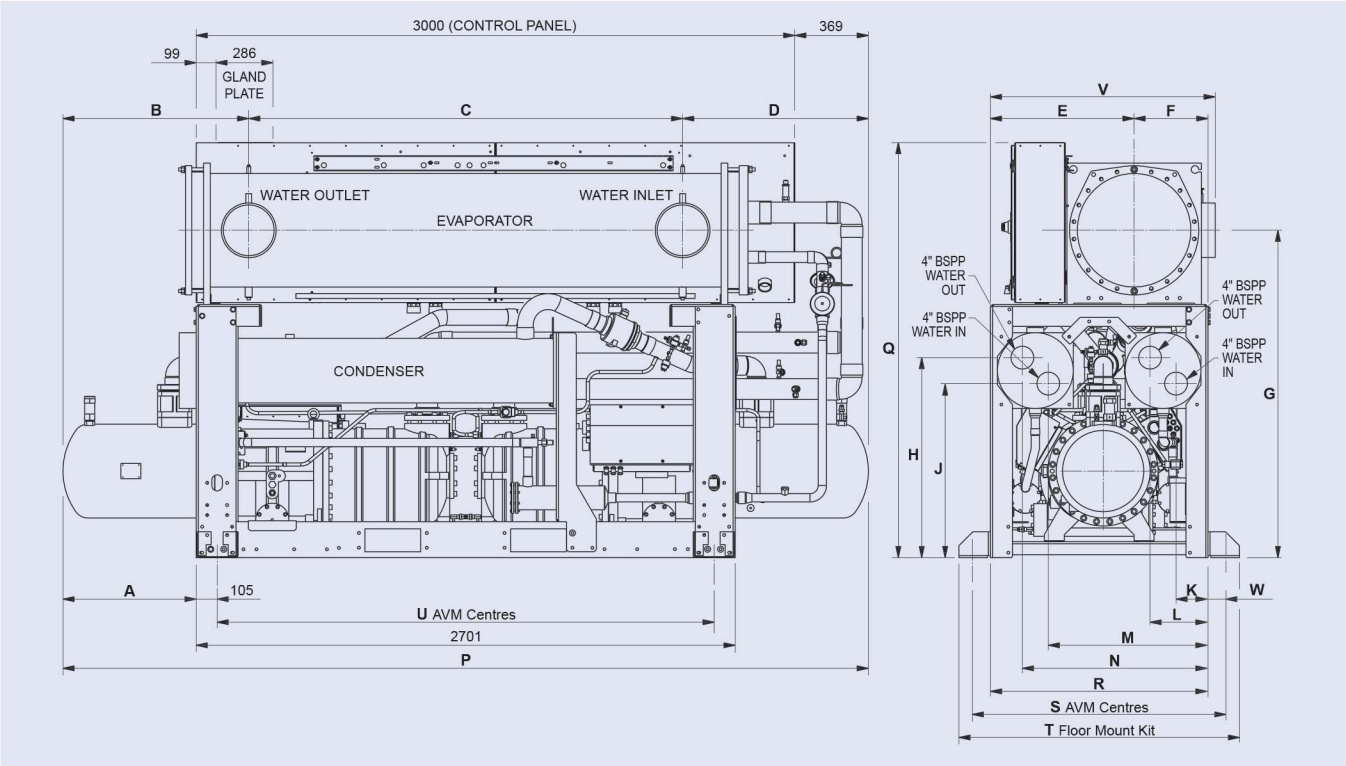
# Dimensions and hydraulic connections

## YLCS 0670SA/HA - 0750SA/HA



All dimensions in mm. Drawings not a scale.  
Dimensions exclude insulation and options. Refer to Physical Data Section for connection sizes. For reference only, please refer to York Product drawing for complete drawing.  
(1) With Vertical nozzle cooler only. (2) With horizontal nozzle cooler only.

## YLCS 0860SA/HA to 1120SA/HA



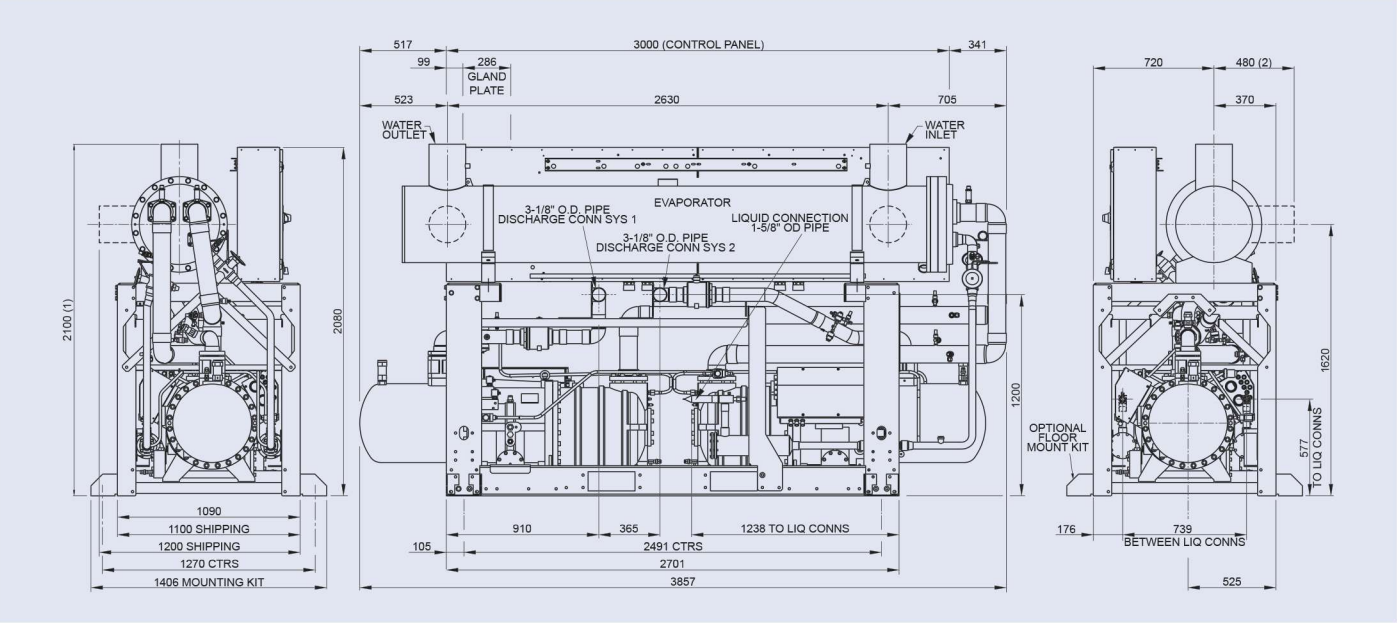
| Model             | A   | B    | C    | D    | E   | F   | G    | H    | J   | K   | L   | M   | N    | P    | Q    | R    | S    | T    | U    | V    | W  |
|-------------------|-----|------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|----|
| 860-SA & 860-HA   | 517 | 780  | 2175 | 930  | 720 | 370 | 1641 | 1003 | 873 | 160 | 290 | 800 | 930  | 3885 | 2080 | 1090 | 1270 | 1406 | 2491 | 1136 | 90 |
| 980-SA & 980-HA   | 668 | 930  | 2175 | 930  | 720 | 370 | 1641 | 1003 | 873 | 160 | 290 | 800 | 930  | 4036 | 2080 | 1090 | 1270 | 1406 | 2491 | 1126 | 90 |
| 1120-SA & 1120-HA | 668 | 1025 | 2010 | 1000 | 835 | 455 | 1721 | 1045 | 915 | 211 | 341 | 950 | 1080 | 4036 | 2144 | 1290 | 1470 | 1606 | 2491 | 1295 | 90 |

All dimensions in mm. Drawings not a scale.  
Dimensions exclude insulation and options. Refer to Physical Data Section for connection sizes. For reference only, please refer to York Product drawing for complete drawing.



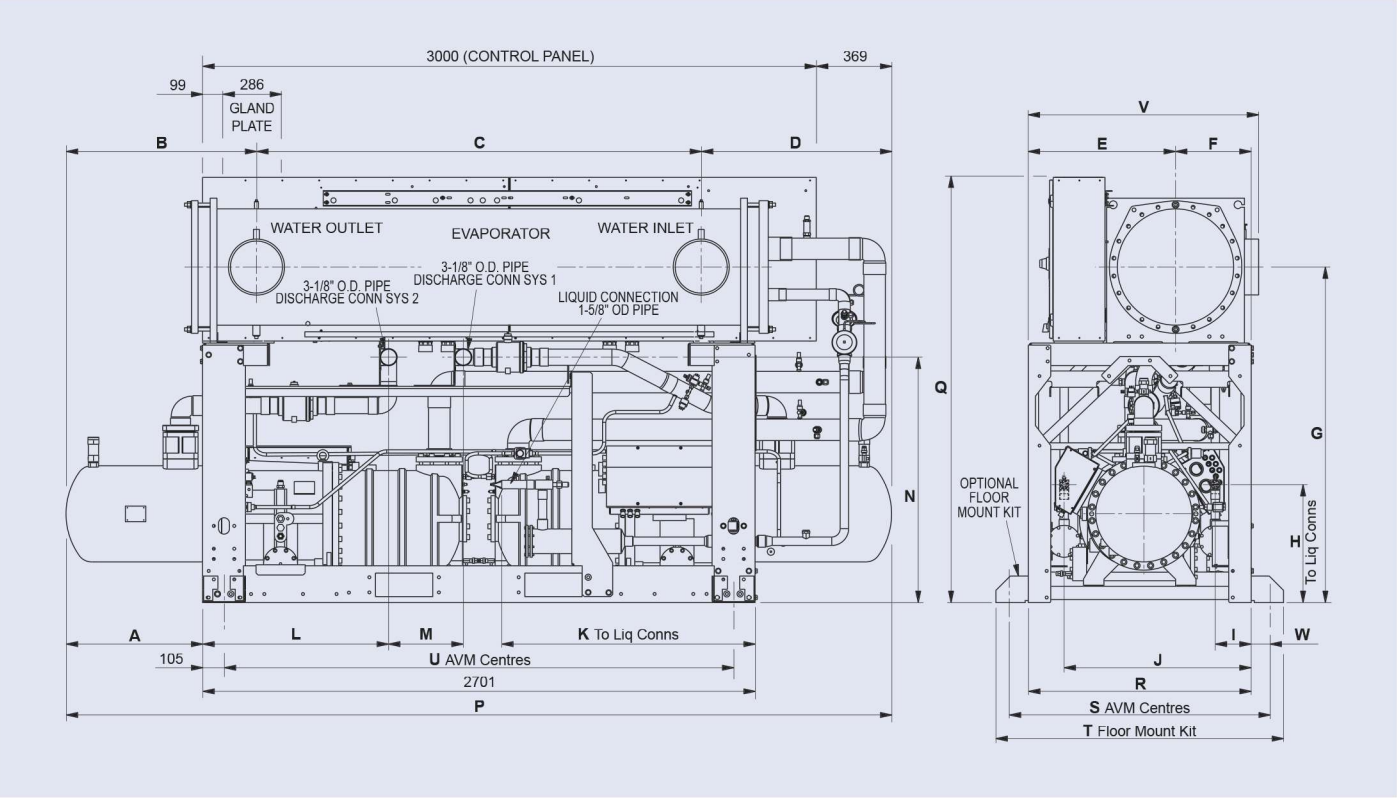
# Dimensions and hydraulic connections

## YLCS 0670AA - 0750AA



All dimensions in mm. Drawings not a scale.  
Dimensions exclude insulation and options. Refer to Physical Data Section for connection sizes. For reference only, please refer to York Product drawing for complete drawing.  
(1) With Vertical nozzle cooler only. (2) With horizontal nozzle cooler only.

## YLCS 0860AA to 1120AA



| Model   | A   | B    | C    | D    | E   | F   | G    | H   | I   | J    | K    | L   | M   | N    | P    | Q    | R    | S    | T    | U    | V    | W  |
|---------|-----|------|------|------|-----|-----|------|-----|-----|------|------|-----|-----|------|------|------|------|------|------|------|------|----|
| 860-AA  | 517 | 780  | 2175 | 930  | 720 | 370 | 1641 | 577 | 175 | 915  | 1238 | 910 | 365 | 1200 | 3885 | 2080 | 1090 | 1270 | 1406 | 2491 | 1136 | 90 |
| 980-AA  | 668 | 930  | 2175 | 930  | 720 | 370 | 1641 | 577 | 175 | 915  | 1238 | 910 | 365 | 1200 | 4036 | 2080 | 1090 | 1270 | 1406 | 2491 | 1126 | 90 |
| 1120-AA | 668 | 1025 | 2010 | 1000 | 835 | 455 | 1721 | 577 | 275 | 1015 | 1407 | 785 | 246 | 963  | 4036 | 2144 | 1290 | 1470 | 1606 | 2491 | 1295 | 90 |

All dimensions in mm. Drawings not a scale.  
Dimensions exclude insulation and options. Refer to Physical Data Section for connection sizes. For reference only, please refer to York Product drawing for complete drawing.

# YVWA

## Water-cooled variable speed screw chiller

Cooling capacities from 435 kW to 1055 kW

At Eurovent Standard Conditions this equipment meets A Class energy efficiency levels.



### Features

Our newest water-cooled chiller offers the following benefits:

#### Premium efficiency

The **YVWA** reduces operating expenses with the application of a standard variable speed drive.

#### Application flexibility

Tailor and tune flexibility makes the **YVWA** ideal for any application from thermal storage to heat pump duty.

#### Enhanced sustainability

Achieved through high efficiency operation and low refrigerant charges.

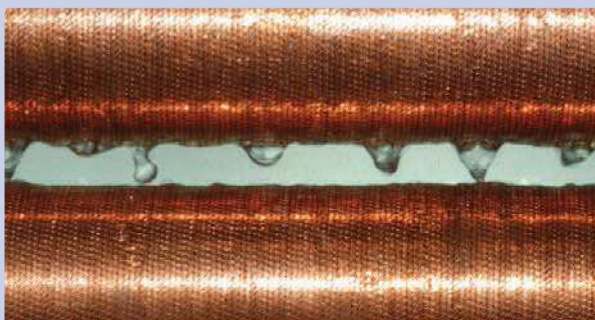
#### Product confidence

Improve your peace of mind knowing our experience stands behind every chiller.

### Options / Accessories

- BMS Interfacing options
- Different options of tubes and nozzle arrangements for the heat exchangers.
- Dual pressure relief valve
- Several options for flow switches
- Thermal insulation options
- Anti-vibration mounts options

Photo courtesy of the ITCM lab of the Ecole Polytechnique Fédérale de Lausanne, Switzerland



Reduce refrigerant charges by up to 15% beyond traditional chiller designs with the YVWA's falling film evaporator design.



The YVWA chiller can efficiently handle the high condenser pressure required for dry cooling.

Photo courtesy of Baltimore Air Coil

# Water-cooled variable speed screw chiller

YVWA



## Nominal capacity

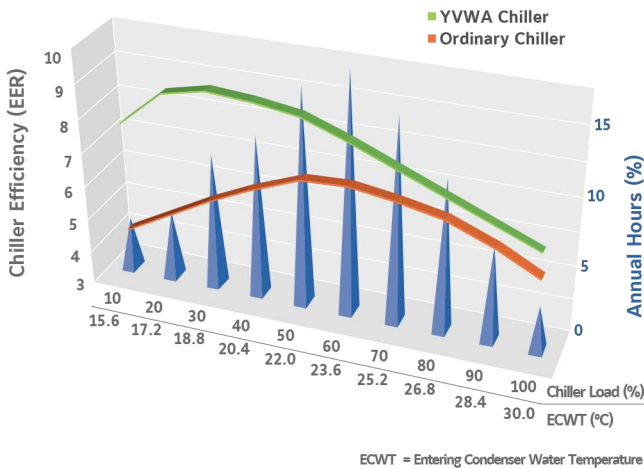
| YVWA                  | BBBFX | CDCFX | BBBGX | CDCGX | M2MCEE | MBMCEE | MDMDFE | MEMEFF |
|-----------------------|-------|-------|-------|-------|--------|--------|--------|--------|
| Cooling capacity (kW) | 435   | 500   | 575   | 650   | 700    | 800    | 900    | 1000   |
| EER 100%              | 5.23  | 5.52  | 4.89  | 5.24  | 5.2    | 5.29   | 5.35   | 5.31   |
| ESEER                 | 6.8   | 7.08  | 6.73  | 7.06  | 6.72   | 6.79   | 6.88   | 6.98   |

Cooling Capacity at Eurovent Conditions, entering / leaving chilled water temperature 12 / 7 °C condenser water 30 / 35 °C  
Capacities are rounded nominal values across the product range.  
The taylor and tune models allow over 7000 component combinations in stepless selection capacities / operating conditions.  
Specific selections may achieve an operating envelope of -10 to + 16 °C evaporator liquid and from 18 to 65 °C condenser liquid.  
Models are using selected components from the quick ship program.

## Technical data

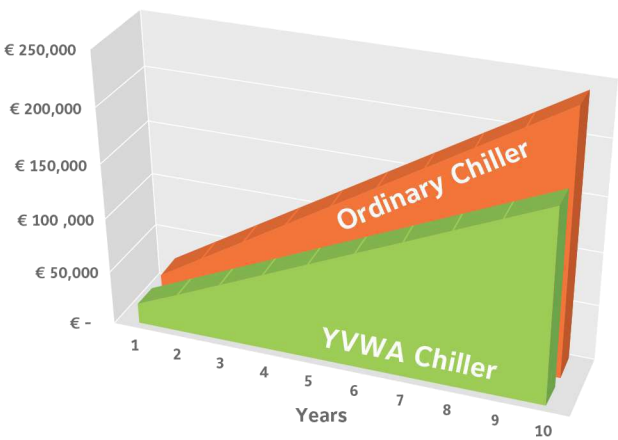
| YVWA                      | BBBFX  | CDCFX | BBBGX | CDCGX | M2MCEE | MBMCEE | MDMDFE | MEMEFF |
|---------------------------|--------|-------|-------|-------|--------|--------|--------|--------|
| Compressors / Circuite(s) | 1      | 1     | 1     | 1     | 2      | 2      | 2      | 2      |
| Dimensions                | Length | mm    | 3 002 | 3 612 | 4 223  |        |        |        |
|                           | Width  | mm    | 1 413 |       |        |        | 1 405  |        |
|                           | Height | mm    | 1 846 |       |        |        | 1 824  |        |
| Operating weight (kg)     | 3 692  | 4 169 | 3 822 | 4 299 | 5 884  | 6 032  | 6 315  | 6 540  |
| Refrigerant charge (kg)   | 127    | 153   | 137   | 163   | 250    | 250    | 255    | 260    |

### YVWA Efficiency vs. Ordinary Chiller



The YVWA chiller delivers superior energy performance at all operating hours.

### YVWA Energy Cost vs. Ordinary Chiller



Note: 3,500 operating hours, 0.10 EUR/kWh energy rate, 800 kW design cooling load

An investment in an optimized YVWA chiller reduces energy costs by 25%.

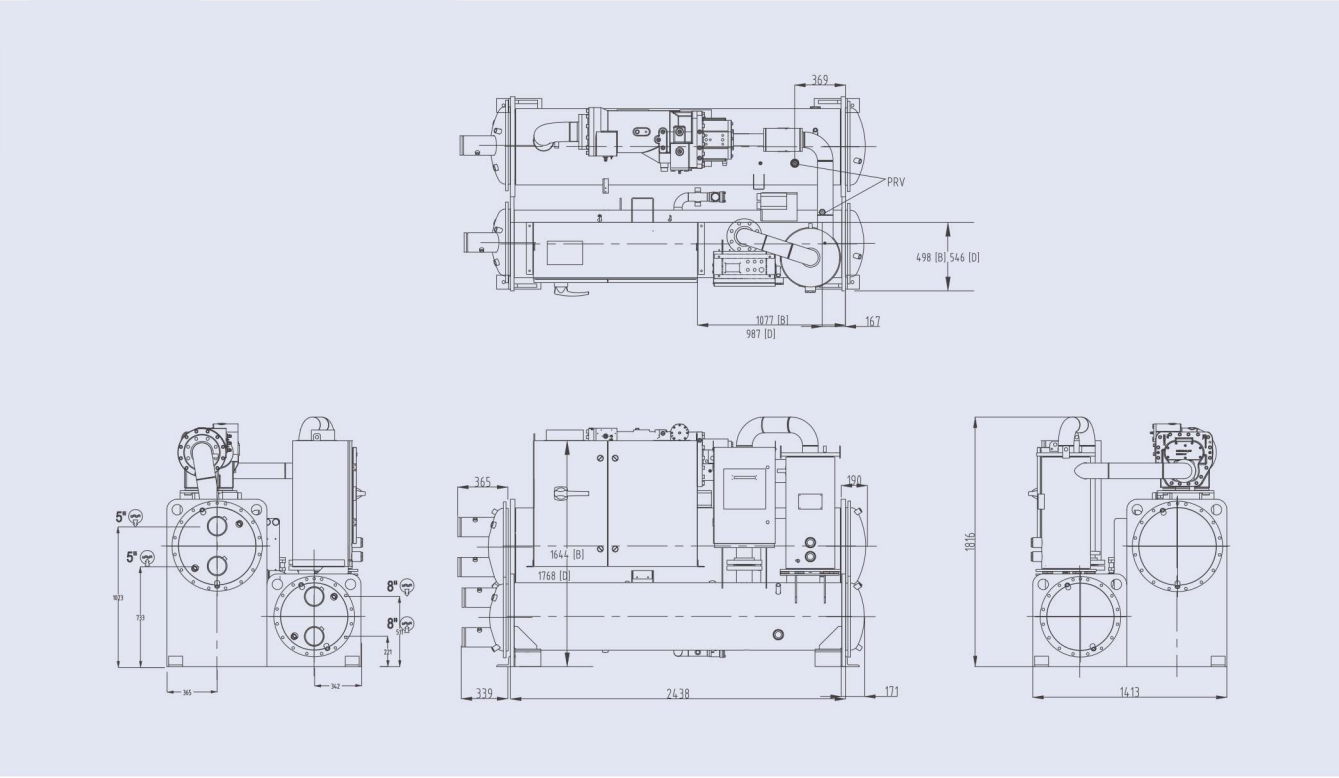


Manufacturer reserves the rights to change specifications without prior notice.

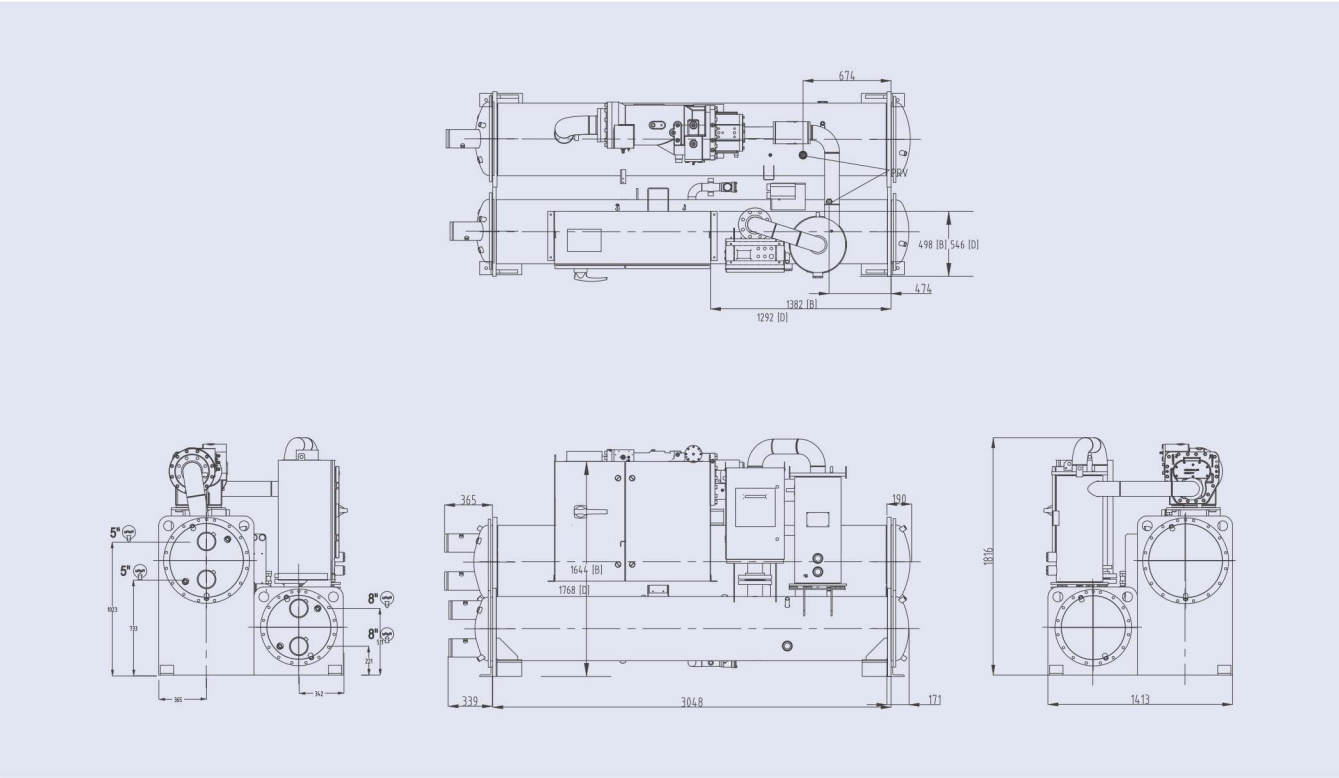


# Dimensions and hydraulic connections

## YVWA B models

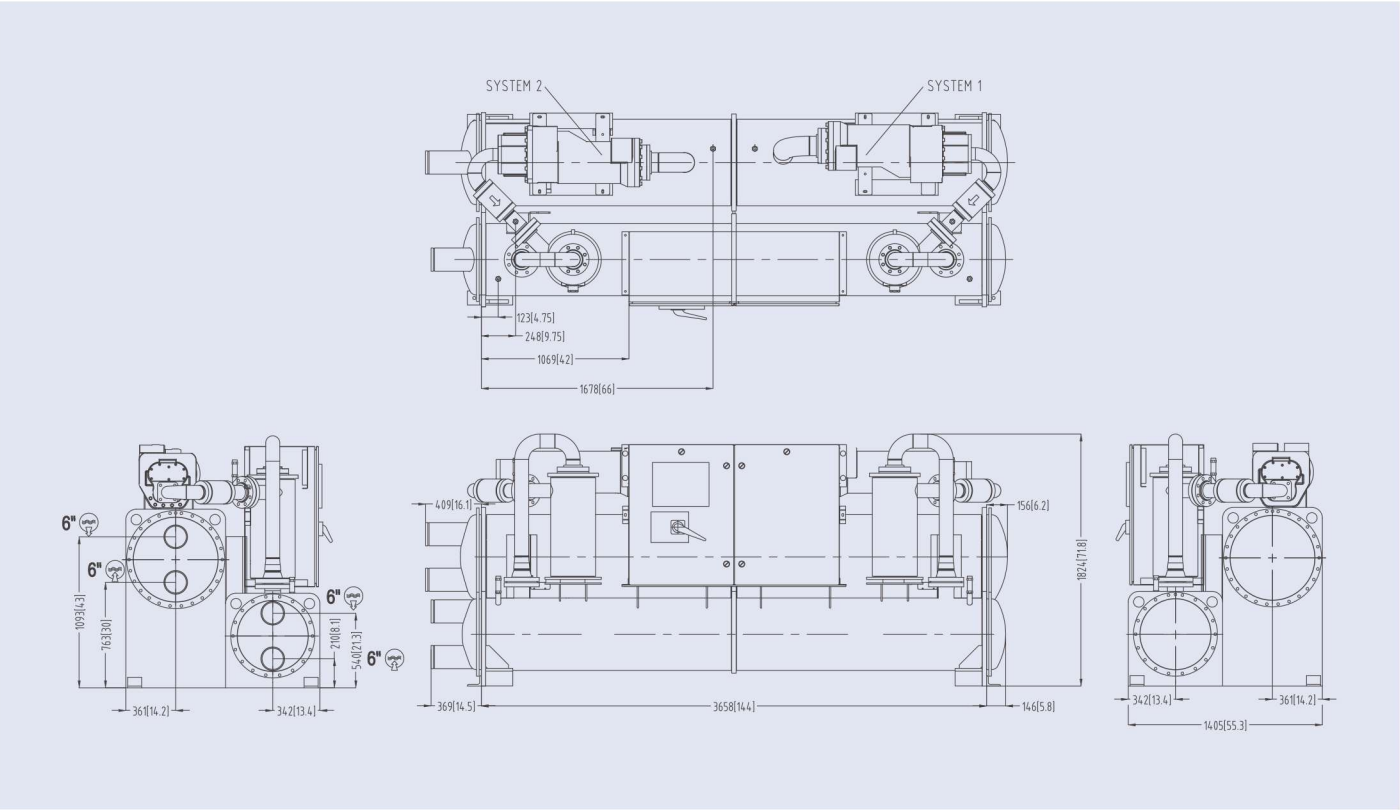


## YVWA C models

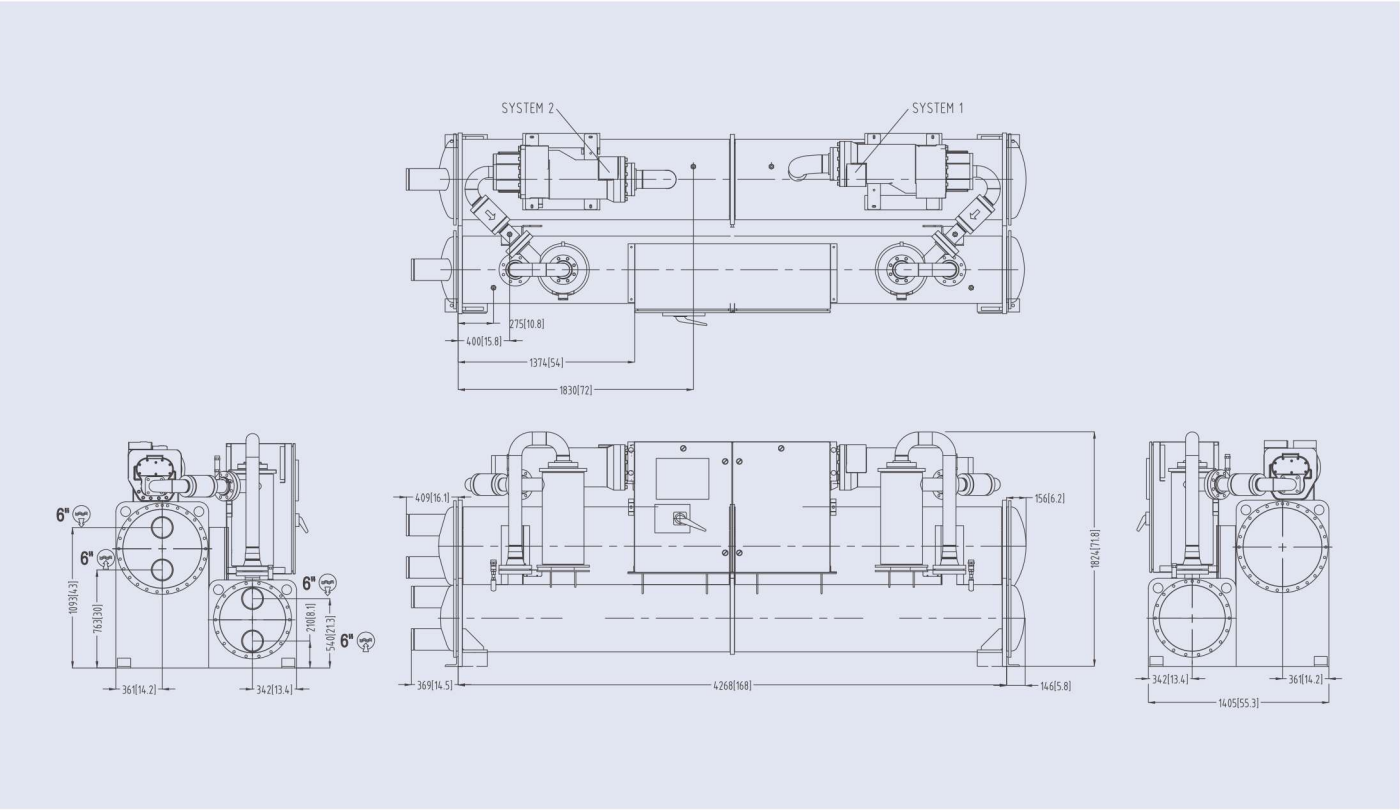


# Dimensions and hydraulic connections

## YVWA M models



## YVWA N models



# YMC<sup>2</sup> Water-cooled magnetic centrifugal chiller

Cooling capacities from 755 kW to 1970 kW

At Eurovent Standard Conditions this equipment meets A Class energy efficiency levels.



## Features

Our most advanced water-cooled chiller offers the following benefits:

### Enhanced efficiency

Achieved through application of active magnetic bearing technology with variable speed drive.

### Enhanced sustainability

Achieved by leak free refrigerant design, lower refrigerant charge and falling film evaporator.

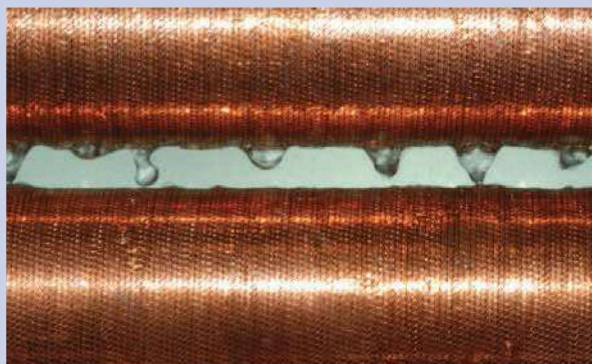
### Low sound levels

Advanced technology results in sound levels as low as 73dBA.

### Superior reliability

Use of active magnetic bearing technology removes friction and the need for oil resulting in a quieter and more reliable chiller.

Photo courtesy of the LTCM lab of the Ecole Polytechnique Fédérale de Lausanne, Switzerland



A falling-film evaporator is more efficient because refrigerant is sprayed over the tubes, offering improved heat transfer and reducing refrigerant charge by 30%.



To eliminate mechanical-contact losses in the driveline, the YMC2 chiller utilises a permanent-magnet motor and active magnetic-bearing technology.



# Water-cooled magnetic centrifugal chiller

YMC<sup>2</sup> S0900AA to S1900AB



## Nominal capacity (\*)

| YMC <sup>2</sup>            | S0900AA | S1000AA | S1100AA | S1200AA | S1300AB | S1400AB | S1500AB | S1600AB | S1700AB | S1800AB | S1900AB |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Cooling capacity (kW)       | 900     | 1000    | 1100    | 1200    | 1300    | 1400    | 1500    | 1600    | 1700    | 1800    | 1900    |
| EER                         | 6.39    | 6.44    | 6.42    | 6.33    | 6.4     | 6.4     | 6.4     | 4.42    | 6.64    | 6.6     | 6.55    |
| ESEER                       | 8.32    | 8.83    | 9.15    | 9.40    | 9.42    | 9.5     | 9.7     | 9.83    | 10.2    | 10.3    | 10.5    |
| Sound pressure at 1 m (dBA) | 73      | 73      | 73      | 73      | 73      | 73      | 73      | 73      | 73      | 73      | 73      |

Cooling Capacity at Eurovent Conditions, entering/leaving chilled water temperature 12°C/7°C, entering/leaving condenser water temperature 30°C/35°C

(\*) YMC<sup>2</sup> is a tailor and tune chiller. Its performance will be factory-adjusted to match the exact site requirements based on the specific project operating

## Technical data

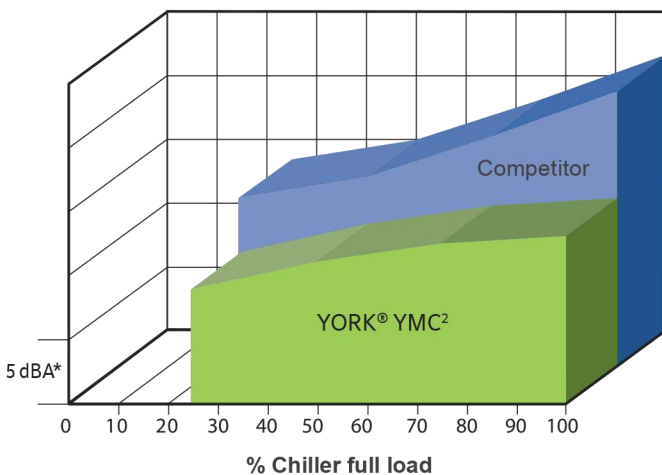
| YMC <sup>2</sup>        |        |    | S0900AA | S1000AA | S1100AA | S1200AA | S1300AB | S1400AB | S1500AB | S1600AB | S1700AB | S1800AB | S1900AB |
|-------------------------|--------|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Dimensions              | Length | mm | 4267    |         |         |         | 3918    | 3943    |         |         | 5163    |         |         |
|                         | Width  | mm | 1651    |         |         |         | 1791    | 2007    |         |         |         |         |         |
|                         | Height | mm | 2362    |         |         |         | 2118    | 2573    |         |         |         |         |         |
| Shipping weight (kg)    |        |    | 5340    | 5800    | 5810    | 5810    | 6579    | 7809    | 7809    | 7944    | 9442    | 9942    | 9942    |
| Refrigerant charge (kg) |        |    | 255     | 280     | 280     | 390     | 397     | 443     | 442     | 452     | 639     | 639     | 639     |

### NOTES:

1. All dimensions are approximate. Certified dimensions are available on request.
2. Refrigerant charge quantity and shipping weights will vary based on tube count.
3. Shipping weights are based on fully assembled and charged units.
4. Refer to product drawings for detailed weight information.

## Superior sound reduction

A-Weighted sound pressure level (dBA (re: 20μPa))  
Measured in accordance with AHRI-575



The YMC<sup>2</sup> chiller is so much quieter than competitive magnetic-bearing chillers, it sounds about half as loud. \*Note: each segment on the Y axis = 5 dBA.

## Compact design

Ideal for retrofits, additional YMC2 8 ft options (2.44 m) now available.

For more information please contact your Johnson Controls Sales representative.

## OptiView control centre



The OptiView control centre provides complete diagnostics to speed troubleshooting.



Manufacturer reserves the rights to change specifications without prior notice.

# YK Water-cooled centrifugal chiller

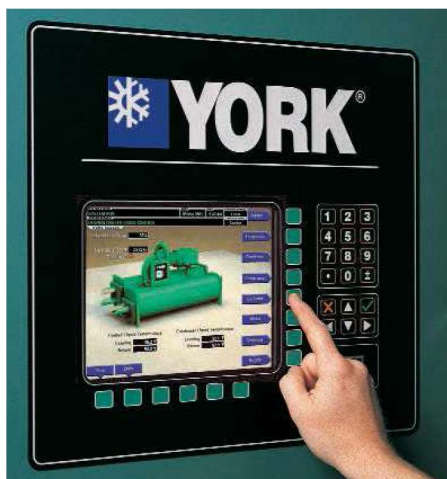
Cooling capacities from 800 kW to 11250 kW

Available configurations that meet A Class energy efficiency levels at Eurovent Standard Conditions.

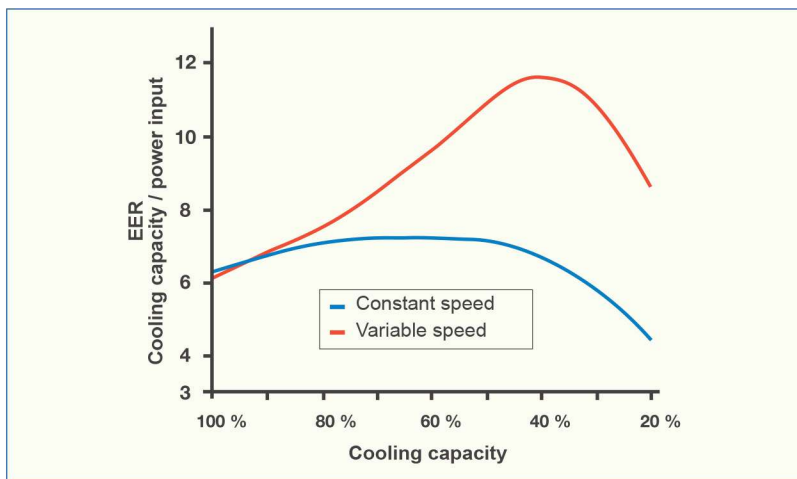


## Features

- The YORK YK chiller is designed for air conditioning and process applications.
- The high efficiency single-stage centrifugal compressor is powered by an open-drive motor. This provides flexibility to operate the chiller with electricity, steam, or gas depending on utility rates.
- The YK utilizes a falling film evaporator to increase chiller efficiency and reduce refrigerant charges, which makes it ideal for LEED® building applications.
- This chiller is designed for indoor mechanical room installation and it requires a cooling tower for heat dissipation
- The inherent design flexibility of this chiller allows it to be precisely selected for any building load profile.



OptiView panel



Speed comparison

# Water-cooled centrifugal chiller

YK



## Nominal capacity

| Model | Code    | Cooling capacity kW |
|-------|---------|---------------------|
| YK    | Q3 - Q7 | 800 - 2100          |
|       | P7 - P9 | 1750 - 2800         |
|       | H9      | 2400 - 3800         |
|       | K1 - K7 | 3200 - 9850         |
| YK-EP | K7 & Q3 | 8800 - 11250        |

Cooling capacities at 7°C leaving chilled water and 30 °C entering condensed water.

## Heat Recovery

The YK Heat Recovery option can be used for domestic hot water preheat, process heat, facility air reheat, and humidity control. Heat recovery delivers operational savings, CO2 reductions, and reduced water consumption.



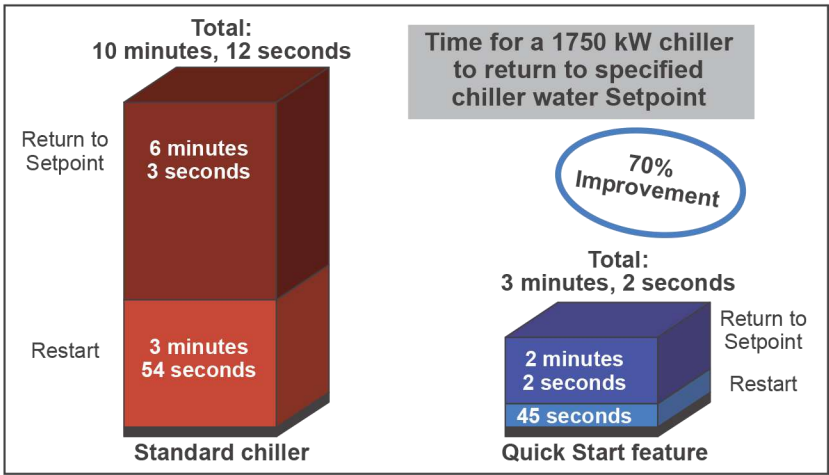
## Medium Voltage Variable Speed Drive

YORK has a full line of unit mounted and floor mounted Variable Speed Drives, from 380V to 11,000V, to maximize operational savings at off design conditions; which typically occur 99% of the time!



## Quick Start (only available for VSD units)

Utilize Quick Start technology to improve chiller starting times and get back to setpoint up to 70% faster than standard chiller designs!



Manufacturer reserves the rights to change specifications without prior notice.



# YHAU CL

## Single stage hot water driven absorption chiller

Cooling capacities from 105 kW to 6153 kW



### Features

#### Flexible Operating Envelope

The **YORK YHAU-CL** Single Effect Hot Water absorption chiller provides efficiency and reliability through the use of innovative technology that is optimized to use low temperature waste heat – as low as 70°C where competitive offerings cannot operate. Common applications include comfort or industrial process cooling that use or recover waste heat from combined heat and power (CHP) systems, industrial process or other available heat sources. The **YHAU-CL** cooling capacity ranges from 105–6,153 kW / 30–1,750 TR.

The **YHAU-CL** has the unique ability to be used for applications where the

- Chilled water leaving temperature as low as 4C.
- Cooling water temperature entering temperature as high as 37C.
- Hot water temperature, driving heat source, entering temperature as low as 70C.

#### Refrigerant cycle

The **YORK YHAU CL** high efficiency single-stage absorption refrigeration cycle uses water as the refrigerant and lithium bromide as the absorbent. It is the strong affinity and ease of separation that these two substances have for each other that makes the cycle work. The entire process occurs in hermetic vessels in a near complete vacuum.

# Single stage hot water driven absorption chiller

## YHAU CL



### Two Step Evaporator and Absorber Design

#### Efficiency, Reliability, Cost of Ownership

The innovative 2-step evaporator and absorber design is more efficient than a conventional cycle. This ingenious design splits the absorption process into two steps, similar to how a series-counter-flow arrangement splits the work between two chillers. The result of the design allows the **YHAU-CL** to perform the absorption function with lower solution concentrations than conventional designs, increasing efficiency and reliability, and decreasing cost of ownership.

Reliability is enhanced because the solution concentrations are lower leaving the absorber, which allows the entire cycle to operate at lower concentrations virtually eliminating the possibility of crystallization. Efficiency is enhanced because the **YHAU-CL** can take advantage of lower than normal hot water temperatures in the generator. This is because at lower concentrations the solution will boil at a lower temperature in the generator.

Lastly, total operating cost decreases because of the lower concentration of the solution entering the generator, a wider temperature range of hot water can be used, reducing pumping horsepower.

#### Full Automatic Purging System

As a standard feature, the unit has a fully automatic purging system comprising of electronic vacuum transmitter, solenoid valves and trending capability that ensures design performance and improves reliability. The operator does not have to worry about the sequence of purging for removing the non-condensable gases.

#### Chiller control

The **YHAU Control Center**, standard on each chiller, provides the ultimate in efficiency, monitoring, data recording, chiller protection and operating ease.

The LCD display allows graphic animated display of the chiller, chiller sub-systems and system parameters; this allows the presentation of several operating parameters at once. In addition, the operator may view a graphical representation of the historical operation of the chiller as well as the present operation. The panel is capable of communication with building management systems and is available in multiple languages.

### Nominal capacity

| YHAU CL Model                   | 30EXE | 40EXE | 50EXE | 65EXE | 80EXE | 100EXE | 130EXE | 160EXE | 200EXE | 255EXE | 320EXE | 400EXE | 500EXE |
|---------------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| Cooling Capacity kW             | 105   | 141   | 179   | 222   | 271   | 352    | 443    | 563    | 721    | 869    | 1125   | 1407   | 1758   |
| COP (low temperature hot water) | 0,78  | 0,78  | 0,78  | 0,78  | 0,78  | 0,76   | 0,78   | 0,78   | 0,78   | 0,78   | 0,78   | 0,78   | 0,78   |

| YHAU CL Model                   | 630EXW | 700EXW | 800EXW | 900EXW | 1000EXW | 1120EXW | 1250EXW | 1400EXW | 1500EXW | 1600EXW | 1680EXW | 1800EXW | 1900EXW | 2000EXW |
|---------------------------------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Cooling Capacity kW             | 1934   | 211    | 2461   | 2708   | 3024    | 3411    | 3938    | 4431    | 4852    | 5134    | 5274    | 5626    | 5943    | 6153    |
| COP (low temperature hot water) | 0,78   | 0,78   | 0,78   | 0,78   | 0,78    | 0,78    | 0,78    | 0,78    | 0,78    | 0,78    | 0,78    | 0,78    | 0,78    | 0,78    |

At 6°C leaving chilled water, 90°C entering generator water, and 27°C entering condenser water.

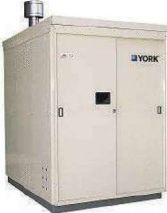
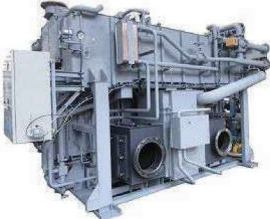
### Technical data

| YHAU CL Model       |        |    | 30EXE | 40EXE | 50EXE | 65EXE | 80EXE | 100EXE | 130EXE | 160EXE | 200EXE | 255EXE | 320EXE | 400EXE | 500EXE |
|---------------------|--------|----|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| Dimensions          | Length | mm | 1900  | 2200  | 2500  | 3100  | 2200  | 2600   | 3200   | 3800   | 4600   | 3300   | 3900   | 4700   | 5700   |
|                     | Width  | mm | 1500  |       |       |       | 1800  |        |        |        | 2200   |        |        |        |        |
|                     | Height | mm | 2100  |       |       |       | 2500  |        |        |        | 3200   |        |        |        |        |
| Operating weight kg |        |    | 2700  | 3100  | 3600  | 4200  | 4400  | 5100   | 6100   | 7200   | 8500   | 10300  | 12200  | 14400  | 17400  |

| YHAU CL Model       |        |    | 630EXW | 700EXW | 800EXW | 900EXW | 1000EXW | 1120EXW | 1250EXW | 1400EXW | 1500EXW | 1600EXW | 1680EXW | 1800EXW | 1900EXW | 2000EXW |
|---------------------|--------|----|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Dimensions          | Length | mm | 5500   | 6000   | 6700   | 7300   | 8000    | 6700    | 7300    | 8000    | 8500    | 9000    | 9500    | 10000   | 10500   | 11000   |
|                     | Width  | mm | 2650   |        |        |        | 3300    |         |         |         |         |         |         |         |         |         |
|                     | Height | mm | 3300   |        |        |        | 3900    |         |         |         |         |         |         |         |         |         |
| Operating weight kg |        |    | 25800  | 27600  | 29500  | 32300  | 34700   | 43900   | 46400   | 49000   | 51200   | 53500   | 55800   | 58600   | 61300   | 64100   |

# YORK® absorption chillers and heat pumps

With innovative 2-step evaporation and absorption-cycle technology

| DRIVING HEAT SOURCE   | MODEL AND DESCRIPTION                                                                                                                                                                                               |                                                                                       |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| HOT WATER             | <b>Single Effect Hot Water</b><br><b>Model:</b> YHAU-CL<br><b>Capacity:</b> 105 – 6,153 kW / 30 – 1,750 TR<br><b>Application:</b> Combined heat and power (CHP), commercial cooling, industrial process cooling     |    |
| LOW PRESSURE STEAM    | <b>Single Effect Steam Fired</b><br><b>Model:</b> YHAU-C<br><b>Capacity:</b> 422 – 5,275 kW / 120 – 1,500 TR<br><b>Application:</b> Combined heat and power (CHP), commercial cooling, industrial process cooling   |    |
| MEDIUM PRESSURE STEAM | <b>Double Effect Steam Fired</b><br><b>Model:</b> YHAU-CW<br><b>Capacity:</b> 422 – 14,065 kW / 120 – 4,000 TR<br><b>Application:</b> Combined heat and power (CHP), commercial cooling, industrial process cooling |  |
| DIRECT FIRED          | <b>Small Double Effect Natural Gas or Light Oil *</b><br><b>Model:</b> YHAU-F<br><b>Capacity:</b> 105 – 352 kW / 30 – 100 TR<br><b>Application:</b> Commercial cooling                                              |  |
| DIRECT FIRED          | <b>Large Double Effect Natural Gas or Light Oil</b><br><b>Model:</b> YHAU-CG<br><b>Capacity:</b> 422 – 4,395 kW / 120 – 1,250 TR<br><b>Application:</b> Commercial cooling, industrial process cooling              |  |
| EXHAUST GAS           | <b>Double Effect Direct Exhaust Gas</b><br><b>Model:</b> YHAU-CE<br><b>Capacity:</b> 527 – 3,516 kW / 150 – 1,000 TR<br><b>Application:</b> Combined heat and power (CHP)                                           |  |

\* Utilizes standard cycle



# YORK® absorption chillers and heat pumps

With innovative 2-step evaporation and absorption-cycle technology

| DRIVING HEAT SOURCE                                             | MODEL AND DESCRIPTION                                                                                                                                                                      |                                                                                       |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| EXHAUST GAS AND LOW TEMPERATURE HOT WATER                       | <b>Multi Energy</b><br><b>Model:</b> YHAU-CE-J<br><b>Capacity:</b> 527 – 3,516 kW / 150 – 1,000 TR<br><b>Application:</b> Combined heat and power (CHP)                                    |    |
| EXHAUST GAS AND LOW TEMPERATURE HOT WATER AND DIRECT FIRED      | <b>Multi Energy</b><br><b>Model:</b> YHAU-CGE-J<br><b>Capacity:</b> Custom<br><b>Application:</b> Combined heat and power (CHP), commercial cooling                                        |    |
| NATURAL GAS AND LOW TEMPERATURE HOT WATER                       | <b>Gas Gene-Link</b><br><b>Model:</b> YHAU-CG-J<br><b>Capacity:</b> 422 – 4,395 kW / 120 – 1,250 TR<br><b>Application:</b> Combined heat and power (CHP), commercial cooling               |   |
| MEDIUM PRESSURE STEAM AND LOW TEMPERATURE HOT WATER             | <b>Steam Gene-Link</b><br><b>Model:</b> YHAU-CW-J<br><b>Capacity:</b> 422 – 14,065 kW / 120 – 4,000 TR<br><b>Application:</b> Combined heat and power (CHP), industrial process cooling    |  |
| MEDIUM PRESSURE STEAM, DIRECT FIRED, HIGH TEMPERATURE HOT WATER | <b>Double Effect Low Temperature (-5°C)</b><br><b>Model:</b> YHAU-C-L<br><b>Capacity:</b> 176 – 1,758 kW / 50 – 500 TR<br><b>Application:</b> Industrial process cooling (food & beverage) |  |
| LOW PRESSURE STEAM, MEDIUM PRESSURE STEAM, DIRECT FIRED         | <b>Single Effect Absorption Heat Pump (Up to 90°C)</b><br><b>Model:</b> YHAP-C<br><b>Capacity:</b> 900 – 40,000 kW<br><b>Application:</b> District heating, industrial process heating     |  |

# WFC SC Single stage hot water absorption chiller

Cooling capacities from 17.6 kW to 175.8 kW

# CH K & CH MG Natural gas-fired chiller/heaters

Cooling capacities from 105 kW to 703 kW

Heating capacities from 86 kW to 572 kW



## Features WFC SC

**WFC SC** chillers from **Yazaki** are single stage hot water driven chillers. Compared to electrically driven chillers the **WFC SC** series can dramatically lower system operating costs when using waste heat. Applications particularly well suited to the **Yazaki WFC SC** absorption chiller include waste heat recovery from cogeneration or biomass, waste heat from district power station or industry as well as solar thermal. This makes absorption cooling an environmentally friendly and cost-saving alternative to conventional air-conditioning systems. A low electrical energy consumption results in low CO<sub>2</sub> emissions and provide a relief for electricity grids by replacing conventional cooling demand peaks. All chillers are pre-filled and ready for "plug & chill".

### Driving heat source hot water

WFC SC units can operate with entering hot water temperature from 70 to 95°C.

### Refrigerant cycle

The **Yazaki WFC SC** high efficiency single-stage absorption refrigeration cycle uses water as the refrigerant and lithium bromide (non-flammable, non-toxic, ecologically benign and ozone-friendly) as the absorbent. It is the strong affinity and ease of separation that these two substances have for each other that makes the cycle work. The entire process occurs in hermetic vessels in a near complete vacuum.

## Features CH K & CH MG

Natural gas-fired chiller/heaters **CH K & CH MG** from **Yazaki** work with double effect thermo-cycle and may be used for both cooling or heating distribution. Compared to electrically driven chillers **CH K & CH MG** chillers can dramatically lower system operating costs.

A low electrical energy consumption results in low CO<sub>2</sub> emissions and provide a relief for electricity grids by replacing conventional cooling demand peaks. All chillers are pre-filled and ready for "plug & chill".

### Direct fired chiller

Driving energy is provided by natural gas. Typically a COP of 1.0 or above is achievable.

### Refrigerant cycle

The **Yazaki CH K & CH MG** high efficiency double-effect absorption refrigeration cycle uses water as the refrigerant and lithium bromide (non-flammable, non-toxic, ecologically benign and ozone-friendly) as the absorbent. It is the strong affinity and ease of separation that these two substances have for each other that makes the cycle work. The entire process occurs in hermetic vessels in a near complete vacuum.

# Single stage hot water absorption chiller

## WFC SC

# Natural gas-fired chiller/heaters

## CH K & CH MG



### Nominal capacity WFC SC

| Model                 |                     |        |    | WFC SC 05 | WFC SC 10 | WFC SC 20 | WFC SC 30 | WFC SC 50 |
|-----------------------|---------------------|--------|----|-----------|-----------|-----------|-----------|-----------|
| Cooling Capacity      |                     | kW     |    | 17.6      | 35        | 70        | 105       | 175.8     |
| Sound pressure at 1 m |                     | dB(A)  |    | 46        | 46        | 49        | 52        | 52        |
| Cold water            | Temperature         | Inlet  | °C | 12.5      | 12.5      | 12.5      | 12.5      | 12.5      |
|                       |                     | Outlet | °C | 7         | 7         | 7         | 7         | 7         |
| Cooling water         | Cooling performance |        | kW | 42.7      | 85.5      | 171       | 256       | 427       |
|                       | Temperature         | Inlet  | °C | 31        | 31        | 31        | 31        | 31        |
|                       |                     | Outlet | °C | 35        | 35        | 35        | 35        | 35        |
| Hot water             | Power consumption   |        | kW | 25.1      | 50.2      | 100.4     | 150.6     | 251       |
|                       | Temperature         | Inlet  | °C | 88        | 88        | 88        | 88        | 88        |
|                       |                     | Outlet | °C | 83        | 83        | 83        | 83        | 83        |

### Technical data WFC SC

| Model            |                              |    | WFC SC 05 | WFC SC 10 | WFC SC 20 | WFC SC 30 | WFC SC 50 |
|------------------|------------------------------|----|-----------|-----------|-----------|-----------|-----------|
| Dimensions       | Length                       | mm | 594       | 760       | 1060      | 1380      | 1785      |
|                  | Width                        | mm | 744       | 970       | 1300      | 1545      | 1960      |
|                  | Height (with mounting plate) | mm | 1756      | 1920      | 2030      | 2065      | 2085      |
| Operating weight |                              | kg | 420       | 604       | 1156      | 1801      | 2650      |

### Nominal capacity CH K & CH MG

| Model            |             |        | CHK 30 | CHK 40 | CHK 50 | CHK 60 | CHK 80 | CHK 100 | CHMG 150 | CHMG 200 |
|------------------|-------------|--------|--------|--------|--------|--------|--------|---------|----------|----------|
| Cooling Capacity |             | kW     | 105    | 141    | 176    | 211    | 281    | 352     | 527      | 703      |
| Heating Capacity |             | kW     | 86     | 115    | 143    | 172    | 229    | 286     | 429      | 572      |
| Chilled water    | Temperature | Inlet  | °C     | 12.5   | 12.5   | 12.5   | 12.5   | 12.5    | 12       | 12       |
|                  |             | Outlet | °C     | 7      | 7      | 7      | 7      | 7       | 7        | 7        |
| Cooling water    | Temperature | Inlet  | °C     | 29.5   | 29.5   | 29.5   | 29.5   | 29.5    | 29.5     | 29.5     |
|                  |             | Outlet | °C     | 35.5   | 35.5   | 35.5   | 35.5   | 35.5    | 34.6     | 34.6     |
| Hot water        | Temperature | Inlet  | °C     | 50.5   | 50.5   | 50.5   | 50.5   | 50.5    | 56       | 56       |
|                  |             | Outlet | °C     | 55     | 55     | 55     | 55     | 55      | 60       | 60       |

### Technical data CH K & CH MG

| Model            |                                        |    | CHK 30 | CHK 40 | CHK 50 | CHK 60 | CHK 80 | CHK 100 | CHMG 150 | CHMG 200 |
|------------------|----------------------------------------|----|--------|--------|--------|--------|--------|---------|----------|----------|
| Dimensions       | Length                                 | mm | 1635   | 1635   | 1875   | 1875   | 1995   | 1995    | 3663     | 3735     |
|                  | Width                                  | mm | 1460   | 1460   | 1780   | 1780   | 1840   | 1840    | 1951     | 2051     |
|                  | Height (with fixed plate and vent cap) | mm | 2440   | 2440   | 2440   | 2440   | 2820   | 2820    | 2763     | 3003     |
| Operating weight |                                        | kg | 1720   | 1970   | 2510   | 2770   | 4060   | 4540    | 6210     | 7340     |

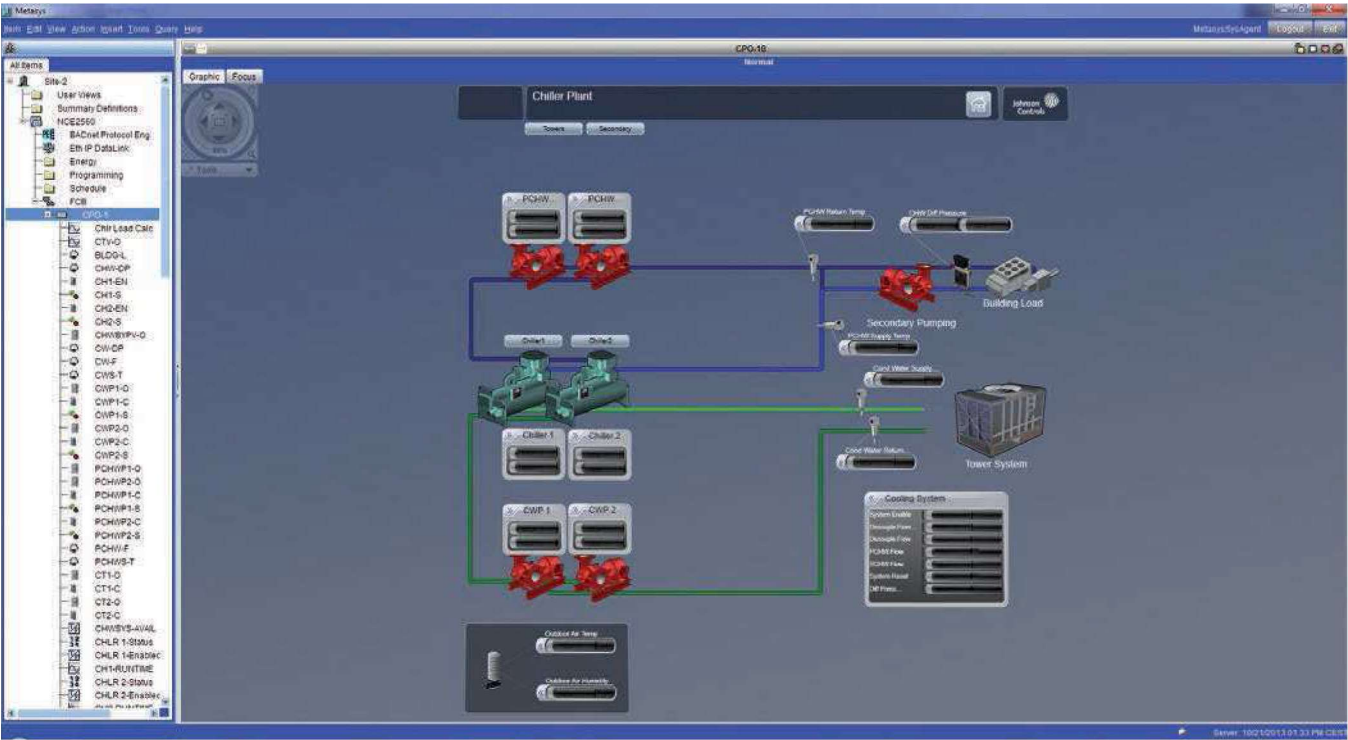


# Central Plant Optimization™ 10

A facility's central chiller plant typically uses 20% of the building's total energy. Managing this load, while still maintaining occupant comfort, is a primary strategy for overall energy management.

Johnson Controls® Central Plant Optimization™ 10 (CPO 10) provides such a strategy combining expertise from designing YORK® chillers and Metasys® controls to save energy and improve reliability in the facility.

The application uses tested best practices to select the most efficient combination of chillers, pumps and cooling towers to match the building load. It then commands the selected devices providing the necessary sequencing of pumps, isolation valves and main equipment, while observing safety and stability operation requirements.



## Creating a complex program without programming

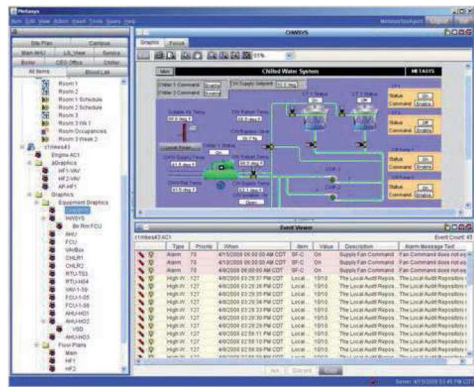
The System Selection Tool (SST) is a control program generator that relies on defining the characteristics of the chiller plant and its control strategies. The tool supports **selection and sequencing** of

- up to eight chillers of different sizes, compressor types and fixed or variable speed
- up to eight (each) primary and secondary chilled water pumps of varying pumping capacities
- up to eight condenser water pump
- of cooling towers and bypass valve, including single speed, multi-speed, and vernier control (one variable speed fan with all other tower fans at constant speed)
- up to four heat exchangers (Waterside Economizers)
- both water-cooled and air-cooled chillers

Furthermore, **control definition** for the chiller plant in a single Field Equipment Controller (FEC)/Network Controller Engine (NCE), if supported by available memory and point Input/Output (I/O), or split across multiple FECs/NCEs, is offered.

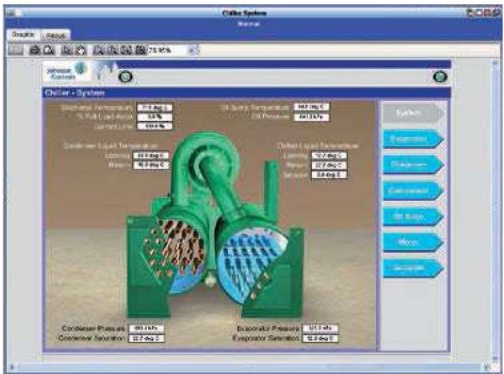


Flexibility, ready for use



After making the selections, SST **generates a complete program** by linking together appropriate software modules. This process removes the variability commonly found in totally custom-generated programs using a traditional software program editor.

Once the software modules are linked, the tool allows the entry of all equipment parameters. The resulting program can also be run in a simulator mode to verify proper operation before downloading it into Metasys®.



A **variety of primary control strategies** are also available, including

- measuring building chilled-water flow and differential temperature
- chiller load (kW)
- flow through a decoupler pipe in a primary/secondary system
- differential temperature only, in a constant speed chilled water pump system

It is also possible to select **dozens of secondary strategies**, such as

- open loop control of the cooling towers (as defined by the American Society of Heating, Refrigerating and Air-Conditioning Engineers)
- closed loop control of condenser-water setpoint



# Heat Pump Solutions

According to the Environmental Protection Agency (EPA), it is estimated that 5% of the world's daily energy consumption is expended on fuel for heating water. Additionally, in Western European countries, 25 % of primary energy used is for cooling and heating applications. As pressure continues on natural resources and energy bills continue to rise, we must seek new, environmentally friendly solutions.

One smart option is to improve the energy utilization of your facility's heating and cooling system by recycling heat energy that would otherwise be rejected. This can be accomplished with a Johnson Controls heat pump.

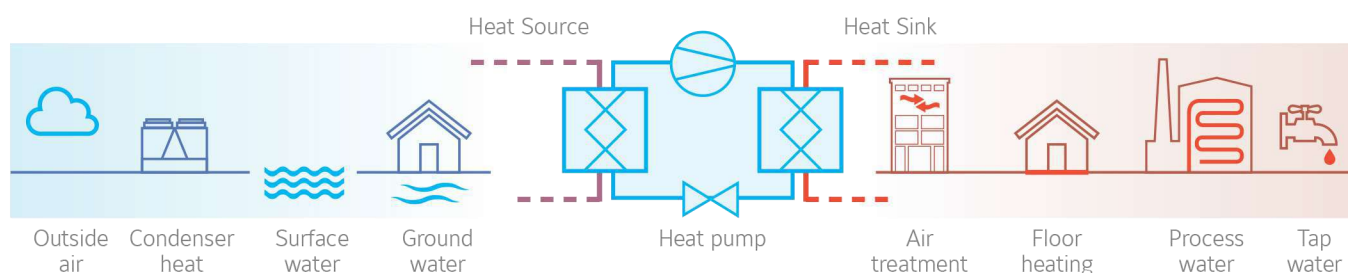
At Johnson Controls we set standards without compromising our core principles: and when passion and innovation come together, great things happen!

## What is a Heat Pump?

Heat pumps are designed to produce hot water at a specified temperature. Heat is extracted from a low-temperature source such as air, ground water, or waste process heat, and its temperature is raised to a level where it can be used in alternative processes.

There are 4 primary system designs for heat pumps:

- 1) **Air-source** – An example of this is the heat pump you may have in your home.
- 2) **Ground-source** – This system uses the ground as the heat source, often used in residential or light commercial applications.
- 3) **Water-source** – This system uses a building's water supply to transfer heat. This is the most commonly used system.
- 4) **Cascade-source** – The system uses heat from existing refrigerant systems or any available waste heat source.



Traditionally, chillers are used to provide a building's required cooling load (rejecting heat to atmosphere via cooling towers) and boilers supply hot water to meet the building's heating needs. Using a Heat Pump gives increased system efficiency and lowers operating expense as they can supplement or even replace existing heating systems, and can also operate in reverse cycle to provide cooling during the summer. There are also processes in which cooling and heating functions perform simultaneously. Again, heat pumps are an ideal solution to this challenge.



## Benefits of using heat pumps

Traditional systems used to heat water for hydronic heating and domestic hot water are not energy efficient. Heat pumps offer a number of advantages when compared to fossil-fuel water heaters:

- Higher COPs offer **energy cost-savings above 50%**.
- Thanks to their efficiency and short amortization period, they represent an environmentally compatible and economically attractive alternative to conventional heating systems. **Potential payback of the heat pump can be less than 2 years.**
- Low operating-cost supplement** to water heaters where total heating requirement exceeds heat pump capacity.
- Heat pumps can also be used as water chillers**, which means lower first-costs, as one item of equipment performs cooling and heating.
- Life cycle of over 20 years.**

Johnson Controls heat pumps offer additional benefits by using environmentally friendly HFC and natural refrigerants, with **zero ozone depletion potential, and low global warming potential.**

## Reduced operating costs

The best way to compare the efficiency of a heat pump and a water heater is to do a COP analysis. COP equals the energy output (useful heat generated) divided by the energy input (energy supplied to the equipment).

**Accordingly, the higher the COP, the more efficient the system – and the lower your running costs!**

As an example we can take a 1800 kW water-cooled heat pump as the one showed in chart and compare it to a natural gas boiler. When you compare the efficiency of a boiler to a heat pump, the heat pump comes out way ahead.

**In the example given it's possible to save up to 53% in the energy bill vs the traditional natural gas boiler!**

| Hot Water Requirement                                                                        | Energy Source                                                                                                 | Efficiency                    | Energy Consumption                                                                                               | Cost of Source*                              | Cost of Hot Water Requirement          | HP Saving vs Gas Boiler |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------|-------------------------|
| 1 kWh<br>   | Natural Gas Boiler<br>       | Average efficiency<br>COP=0.9 | <br>1 kWh / 0.9<br>1.11 kWh   | European Avg. Gas Cost<br>0.041 €/kWh        | 1.11 kWh<br>x<br>0.041€/ kWh<br>4.5 c€ | -                       |
| 1 kWh<br>  | Air cooled Heat Pump<br>    | Average efficiency<br>COP=3.2 | <br>1 kWh / 3.2<br>0.31 kWh  | European Avg. Electricity Cost<br>0.12 €/kWh | 0.31 kWh<br>x<br>0.12€/ kWh<br>3.7 c€  | 18%                     |
| 1 kWh<br> | Water cooled Heat Pump<br> | Average efficiency<br>COP=5.5 | <br>1 kWh / 5.5<br>0.18 kWh | European Avg. Electricity Cost<br>0.12 €/kWh | 0.18 kWh<br>x<br>0.12€/ kWh<br>2.1 c€  | 53%                     |

\* Cost of Source: Eurostat Statistics web site.

## CO<sub>2</sub> footprint reductions

Another benefit that offers heat pump technology is the reduction in CO<sub>2</sub> emissions from fossil fuel use. Heat pumps are a highly efficient electric alternative.

If we refer to the same example with a 1800 kW water-cooled heat pump and compare it to a natural gas boiler, the reduction in CO<sub>2</sub> emissions is impressive.

**In fact 1322 tons of CO<sub>2</sub> annually can be saved, which is the equivalent of removing about 278 cars\* from the road!**

\* [www.epa.gov/cleanrgy/energy-resources/calculator.html](http://www.epa.gov/cleanrgy/energy-resources/calculator.html)

| Hot Water Requirem.                                                                          | Energy Source                                                                                                 | Efficiency                    | Energy Consumption                                                                                               | CO <sub>2</sub> Source Emissions*                        | Carbon Footprint                                                 | HP CO <sub>2</sub> footprint reduction vs Gas Boiler |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------|
| 1 kWh<br> | Natural Gas Boiler<br>     | Average efficiency<br>COP=0.9 | <br>1 kWh / 0.9<br>1.11 kWh | CO <sub>2</sub> Emissions<br>204 g CO <sub>2</sub> / kWh | 1.11 kWh x<br>204g CO <sub>2</sub> /kWh<br>226 g CO <sub>2</sub> | -                                                    |
| 1 kWh<br> | Air cooled Heat Pump<br>   | Average efficiency<br>COP=3.2 | <br>1 kWh / 3.2<br>0.31 kWh | CO <sub>2</sub> Emissions<br>541 g CO <sub>2</sub> / kWh | 0.31 kWh x<br>541g CO <sub>2</sub> /kWh<br>167 g CO <sub>2</sub> | 26%                                                  |
| 1 kWh<br> | Water cooled Heat Pump<br> | Average efficiency<br>COP=5.5 | <br>1 kWh / 5.5<br>0.18 kWh | CO <sub>2</sub> Emissions<br>541 g CO <sub>2</sub> / kWh | 0.18 kWh x<br>541g CO <sub>2</sub> /kWh<br>97 g CO <sub>2</sub>  | 57%                                                  |

\* CO<sub>2</sub> Source Emissions: UK Department of Energy, Food and Rural Affairs and carbonindependent web site

## Reduced water and chemical consumption

When a heat pump is operating we are keeping heat within the building and not rejecting heat to the atmosphere. In other words, we're saving condenser water from evaporating.

**So when we look at our same 1800 kW water-cooled heat pump example again, how much water are we saving by not expelling heat to the atmosphere from the cooling tower?**

**Over 26 million litres anually!**

## LEED points

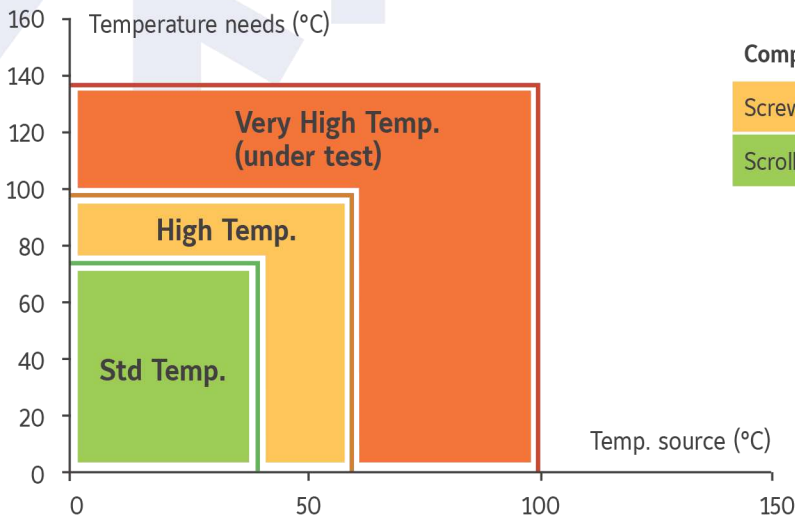
Heat pumps will help you and your customers get LEED points. LEED is one of the most recognizable bodies that certifies building designs to demonstrate leadership in environmental impact.

The use of a heat pump also helps accreditation for BREEAM and other similar schemes.



# Heat Pumps solutions

We do have a wide range of industrial heat pumps for several capacities and at different temperature levels.



| Compressor type              | Refrigerant        |
|------------------------------|--------------------|
| Screw, centrifugal           | R717, R245fa       |
| Scroll, reciprocating, screw | R717, R134a, R410A |

## Heat pumps with standard temperature



**YLHA**  
Air to water heat pump  
**Scroll compressor / R410A**  
Hot water up to **50°C**  
Heating capacity: 12 to 150 kW



**YLHD**  
Air to water heat pump  
**Scroll compressor / R410A**  
Hot water up to **50°C**  
Heating capacity: 23 to 160 kW



**YCAE-R**  
Air to water heat pump  
**Scroll compressor / R410A**  
Hot water up to **52°C**  
Heating capacity: 70 to 100 kW



**YLRA**  
Air to water heat pump  
**Scroll compressor / R410A**  
Hot water up to **55°C**  
Heating capacity: 200 to 327 kW



**YMWA**  
Water to water heat pump  
**Scroll compressor / R410A**  
Hot water up to **55°C**  
Heating capacity: 25 to 210 kW



**YCSE**  
Water to water heat pump  
**Screw compressor / R134a**  
Hot water up to **55°C**  
Heating capacity: 170 to 300 kW



**YCWL**  
Water to water heat pump  
**Scroll compressor / R410A**  
Hot water up to **52°C**  
Heating capacity: 210 to 675 kW



**YLCS**  
Water to water heat pump  
**Twin screw comp. / R134a**  
Hot water up to **70°C**  
Heating cap.: 400 to 2000 kW

**YVWA**

Water to water heat pump

**Screw compressor / R134a**Hot water up to **65°C**

Heating cap.: 650 to 1250 kW

**YMC²**

Water to water heat pump

**Variable speed centrif. compr. / R134a**Hot water up to **65°C**

Heating cap.: 1600 to 2800 kW

**HeatPAC recip**

Variable-Speed Drive

**Reciprocating compr. / R717**Hot water up to **70°C**

Heating capacity up to 1200 kW at 40°C source

**YK HP**

Water to water heat pump

**Centrifugal compr. / R134a**Hot water up to **50°C (Std) & 70°C (HP)**

Heating cap.: 1000 to 9000 kW

## Heat pumps with high temperature

**HeatPAC HPX recip**

Variable-Speed Drive

**Reciprocating compr. / R717**Hot water up to **90°C**

Heating capacity up to 600 kW at 40°C source

**HeatPAC**

Variable-Speed Drive

**Screw compressor / R717**Hot water up to **90°C**

Heating capacity up to 1600 kW at 40°C source

**SHP**

Water to water heat pump

**Screw VSD compr. / R134a**Hot water up to **80°C**

Heating cap.: 700 to 3000 kW

**YHAP-C**

Single stage absorption

**Steam, Gas or Hot Water driven / R718**Hot water up to **95°C**

Heating cap.: 900 to 40000 kW

## Customized Heat Pumps

**Oil Free Centrifugal HP**

Water to water heat pump

**Magnetic centrifugal compressor****R134a** Hot water up to **70°C****R245fa** Hot water up to **105°C**

Heating capacity from 700 to 1800 kW

**HeatPAC Custom**

Two-stage cascade VSD

**Screw compressor / R717**Hot water up to **90°C****Reciprocating compressor / R717**Hot water up to **70°C**

Heating cap. up to +3000 kW at 40°C source

**CYK HP / Titan OM HP**

Water to water heat pump

**Centrifugal compressor / R134a**CYK HP: Hot water up to **70°C**

Heating capacity from 2500 to 7000 kW

Titan OM HP: Hot water up to **90°C**

Heating capacity from 5000 to 20000 kW





# Air Handling Systems & Terminal Devices

AIR HANDLING UNITS

FAN COIL UNITS

CLOSE CONTROL UNITS

SMARTPAC – FACTORY PACKAGED CONTROLS



# So why choose YORK® Air Handling Units?

We recognise that your reputation depends on the quality of the products you choose and how well they are installed. That's why we work hard to make selecting, installing and operating our products as easy as possible. Our comprehensive range includes a number of additional options that make YORK® Air Handling Units the professional's choice.

## Factory Packaged controls

Save money and time avoiding to mount controls on-site. Johnson Controls offers YORK® Air Handling Units complete with Metasys® factory packaged controls so it is ready connect to the site network when it arrives.

Our Factory Packaged controls undergo a detailed testing process at the factory to ensure that all wiring is installed correctly, and that all control panels and end devices work appropriately before the AHU is shipped.



### Factory Packaged Controls option

- AHUs Metasys® factory packaged controls specified option available.
- Panel Power wiring, Controls wiring and the Variable Speed Drive are included. The pre-engineered controller and required peripheral devices are all supplied factory fitted and tested.
- Guaranteed compliance with European installation regulations.
- Simplified final commissioning through the units' keypad and display.

## Energy recovery options

The exhaust air stream from an AHU represents another opportunity to save energy. A **heat recovery 'thermal' wheel** can economically transfer heat and moisture between the exhaust-air and outside-air paths, reducing the cost of conditioning the supply air.

For the simplest form of heat recovery, you can take advantage of **"free" cooling** with mixing box sections. During spring and autumn operation, cool/dry outside air cools and dehumidifies the facility, reducing the need for mechanical cooling.

Alternatively, you can use **recuperative plate heat exchangers**. These also allow free cooling in summer by use of face and bypass dampers which by-pass the air around the exchanger so that it is not warmed by the extracted air.

We can also offer **refrigerant heat pipe** and **heat recovery coils** on your AHU to maximise energy savings. All heat recovery devices installed are compliant with latest ErP regulations.



*Heat-recovery wheels reduce the cost of conditioning supply air.*

## Reduce fan operating costs

In an AHU, the fan is traditionally the largest source of energy consumption. We can help reduce this by offering a range of **energy-saving options**.

- High- or premium-efficiency motors can be specified.
- Direct-drive plenum fans eliminate belt-and-pulley energy losses.
- If the air system is designed for variable-air volume (VAV), YORK® AHUs fitted with variable speed drives offer the most efficient method of VAV fan control.
- Factory-mounting a variable speed drive reduce jobsite labour costs, unit energy consumption and unit Life Cycle Costs.



# Introducing the YMA range of Air Handling Units



The YORK® YMA range encompasses our extensive knowledge of air-handling, offering a highly reliable, economical and energy efficient product capable of addressing all of your needs.

## Features

The YMA family of air handling units consists of a range of models having air volumes ranging from 0.25 m³/s to 50 m³/s and total static pressures as high as 2000 Pascal: to ensure maximum flexibility and the best solution for your application, units are available in increments of 40mm in height and 50mm in width.

YMA Air Handling Units can be manufactured in varied configurations, with a wide selection of components, to meet customer requirements. Units are also available in line with the requirements of hospital sector specifications.

**Dimensional flexibility.** Space constraints are a reality on most construction projects. YORK® AHU's design is based on variable aspect ratios, so the unit can be specified to fit the application and space.

**Material flexibility.** Different environments require different materials so we offer a number of construction materials, including galvanized steel, pre-coated steel, stainless steel, and aluminium.

**Component flexibility.** To meet any AHU requirement, our units offer every available air-handling component. And as applicable technology creates new capabilities, Johnson Controls will apply this to our product range.

Over the past 50 years we have supplied air handling units for:

- **Commercial space:** office buildings, cinemas, concert halls
- **Institutional space:** schools, universities, churches
- **Industrial manufacturing:** automotive, aerospace, chemical, petrochemical
- **Hygienic systems:** hospitals, life sciences, R&D facilities, food processing, clean rooms
- **Process manufacturing:** pharmaceutical, electronics, semiconductor

# YMA Custom Air Handling Units

A complete range from 0.25 m<sup>3</sup>/s to 50 m<sup>3</sup>/s



## Features

The YMA family of air handling units consists of a range of models having air volumes ranging from 0.25 m<sup>3</sup>/s to 50 m<sup>3</sup>/s and total static pressures as high as 2000 Pascal: to ensure maximum flexibility and the best solution for your application, units are available in increments of 40mm in height and 50mm in width.

YMA Air Handling Units can be manufactured in varied configurations, with a wide selection of components, to meet customer requirements.

Units are also available in line with the requirements of hospital sector specifications.



### Units may include combinations of any of the following:

- Single or double decked units.
- Indoor or outdoor applications - Outdoor units are available with a flat or sloping roof, louvres, rainhoods, birdscreens and special finishes.
- Site assembled units.  
Where space constraints restrict the size of a single item modules can easily be aligned and locked together by gaskets and stainless steel bolts inserted into factory predrilled assembly holes.
- Air mixing boxes and various filter options.
- Gas fired burners.
- Cooling and heating coils.
- Humidifiers
- Heat recovery systems.
- UV sterilising lamps.
- Dessicant and thermal wheels.
- Sound attenuation.
- ATEX Certification.
- Factory fitted controls and sensors with YORK SmartPAC Factory Packaged Controls.  
These include all necessary piping, wiring, controls and refrigeration equipment to provide a complete central air conditioning plant.



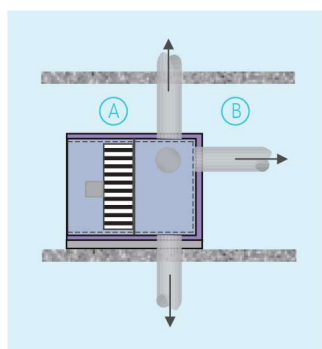
Manufacturer reserves the rights to change specifications without prior notice.



## Fans (\*)

- One or two double inlet, double width forward or backward curved centrifugal fans
- Aerodynamic inlets design, with static and dynamic balancing of the wheels according to airflow and speed
- Sealed for life bearings for smaller fans , whereas larger versions have block type self aligning ball journals and split blocks with grease points
- Removable fan guards dedicated to vee belt fan drives
- Motors protection is ensured by an enclosed fan cooled type class F insulation to IP55 (Category 2 Zone 1 ATEX certified motors available as an option)
- Total fan assembly installed on a separate frame isolated from the unit structure by spring anti-vibration mounts
- Plenum type fans available for applications where plant space is a premium. The plenum fan pressurises an acoustically lined fan chamber and circular or rectangular discharge duct connections can be located on the external faces of the chamber. This reduces the length of the air handling plant by eliminating the need for external attenuators or complicated duct transformation pieces.

### Plenum Fan Configuration



- (A) Acoustically Lined Fan Section
- (B) Supply Air Ducts

## Cooling and Heating Coils

Cooling and heating coils are computer selected to achieve the optimum thermal and psychrometric efficiency with low air and water pressure drops.

## Gas Burners

- Indirect gas fired burners with an optional choice of on/off, staged, or fully modulating control, and are suitable for use in both draw through and blow through applications
- Burner design ensures no transition sections from the fan are necessary on draw through systems, thereby reducing fabrication cost
- Burners can be horizontally mounted on "downflow" applications, eliminating the need for turning sections and saving cost, space and weight
- Low NOx / carbon monoxide free burners also available in order to increase safety and reduce atmospheric pollution

(\*) Please contact local sales office for fan application details.



## Sound Attenuation

Standard attenuation sections comprise baffles of galvanized steel and non-hygroscopic material, with option for either perforated plate or 'melonex' liners.

## Heat Recovery

YMA air handling units are available with a range of Heat recovery devices that reduce energy usage and lower the equipment running costs...



## Factory Packaged Controls

All units can be supplied with factory fitted controls, sensors and control panels. Using YORK SmartPAC packaged control system incorporating Johnson Controls range of system controllers, units are supplied to site pre-wired, programmed and tested thus saving time and money associated with traditional site installation and commissioning methods. All installations will be compliant with the latest applicable National/ European codes.





# YORK® Fan Coil units

Driven by innovative trends and modern technology, the YORK® Fan Coil Units have been designed around a platform of models, versions and accessories, which have been independently tested and certified by Eurovent. The YORK® Fan Coil range meets today's demanding requirements of performance, size, acoustics, low energy, ease of installation and maintenance.



An extensive offering

- One of the **most versatile** ranges of fan coils on the market today. Wall and ceiling mounted units, exposed or concealed with centrifugal fan, are included, and with cooling capacities ranging from 0.6 kW to 9.5 kW.
- Dramatic **electrical consumption reduction** of up to 40% comparative to previous models. This is achieved thanks to the supply of all YORK® Fan Coil Units equipped with centrifugal fans and electric motors, and with 6 speed motors as standard to offer greater flexibility in the selection of products.
- **Energy saving brushless motor** technology option available. Its combination with a dedicated frequency inverter and unit controller to regulate the fan speed enables higher efficiencies, even at low rotational speeds, lower unit noise, constant speed characteristics and an increase in motor lifetime expectancy. In comparison to the traditional units equipped with asynchronous three-speed-motors, units with brushless motors can obtain a considerable energy saving, by reducing the power consumption by up to 70%.
- A full range of **factory fitted Johnson Controls valve and pre-configured control options** is offered. This in addition to a patented 'wireless' control option - offering greater flexibility in the installation of units, with the highest precision in monitoring and maintaining the desired comfort conditions.
- **High pressure 'Blower' units** are also available. They can offer up to 31.5 kW of cooling at External Static Pressures of up to 250Pa, and are complemented with a full range of options and accessories covering items such as electrical heating battery, air inlet/outlet diffusers and condensate pumps.



Iconography

|                           |               |          |       |              |            |            |                     |                |            |
|---------------------------|---------------|----------|-------|--------------|------------|------------|---------------------|----------------|------------|
|                           |               |          |       |              |            |            |                     |                |            |
| Infrared or Wired control | Wired control | Dry mode | Timer | Auto Restart | Sleep mode | Auto Sweep | Ducted Installation | 4 Way Air Flow | Air Filter |

# YFCN Fan Coil Unit centrifugal fan

2 & 4 pipe system

A complete range from 1.0 kW to 7.6 kW



YFCN is a range of Fan Coil Units that continues the YORK® tradition based on high reliability and low noise levels. It is the result of great commitment in terms of energy and resources to offer a more modern product from every angle, while still delivering the convenience of easy access to the filters in all models.

Moreover each version has the same internal structure, identical in both horizontal and vertical models, in order to standardise production and guarantee a greater flexibility in distribution and installation.



Selection software

## Wired controls



### JWC-3V

Remote three speeds controller

### JWC-T

JWC-3V + Electronic thermostat and Summer/Winter switch

### JWC-AU

Automatic JWC-T



### JTM-B

Digital Automatic Remote controller

### TMO 503 SV2

Digital Automatic Remote controller to be mounted in the standard light wall box



## Infrared control



### TUC03 Terminal unit controller

BacNET and N2 Metasys network compatible

## Features

- New casing, improved aesthetics, suitable for any modern indoor ambient
- Full range for all needs: 9 sizes suitable for horizontal or vertical mounting with or without casing
- Wireless control option
- Low noise operation
- 3 fan speeds (possible choice between 6 fan speeds)
- Single piece discharge grid
- Several coil choices. Single: 3 or 4 rows; Dual: 3 rows cooling & 2 rows heating
- Electrical heater optional
- Suction and discharge plenum optional
- Factory fitted valve (on/off or modulating) and controller packages
- Painted back panel option
- 4 available versions in all range:
  - VC = Vertical Discharge with Casing
  - VCB = Vertical Discharge with Casing (floor installation)
  - HC = Horizontal Discharge with Casing
  - CD = Concealed unit without Casing



# YFCN Fan Coil Unit centrifugal fan

1.0 to 7.6 kW



## Technical features

| Model                                  |        | 140              | 240  | 340  | 440  | 540  | 640   | 740   | 840   | 940   |       |
|----------------------------------------|--------|------------------|------|------|------|------|-------|-------|-------|-------|-------|
| Total cooling capacity [kW]            | (1)    | max              | 1.23 | 1.81 | 2.57 | 3.12 | 4.09  | 4.79  | 5.58  | 6.47  | 7.6   |
|                                        |        | med              | 1.02 | 1.43 | 1.89 | 2.28 | 3.25  | 3.86  | 4.64  | 5.73  | 6.54  |
|                                        |        | min              | 0.67 | 1.01 | 1.65 | 1.83 | 2.19  | 2.83  | 3.56  | 4.03  | 4.88  |
| Sensible cooling capacity [kW]         | (1)    | max              | 0.97 | 1.38 | 1.9  | 2.34 | 3.07  | 3.6   | 4.23  | 5.06  | 6.05  |
|                                        |        | med              | 0.79 | 1.07 | 1.38 | 1.68 | 2.4   | 2.86  | 3.47  | 4.43  | 5.11  |
|                                        |        | min              | 0.51 | 0.74 | 1.2  | 1.34 | 1.6   | 2.07  | 2.62  | 3.04  | 3.72  |
| Water flow in cooling [l/h]            | (1)    | max              | 212  | 311  | 442  | 537  | 703   | 824   | 960   | 1 113 | 1 307 |
|                                        |        | med              | 175  | 246  | 325  | 392  | 559   | 664   | 798   | 986   | 1 125 |
|                                        |        | min              | 115  | 174  | 284  | 315  | 377   | 487   | 612   | 693   | 839   |
| Pressure drop in cooling [kPa]         | (1)    | max              | 5.6  | 13.9 | 11.5 | 15.5 | 31.3  | 36.2  | 27.7  | 17.5  | 23.2  |
|                                        |        | med              | 4    | 9.2  | 6.7  | 9    | 20.8  | 24.8  | 20    | 14.1  | 17.8  |
|                                        |        | min              | 1.9  | 4.9  | 5.3  | 6.1  | 10.4  | 14.4  | 12.5  | 7.6   | 10.6  |
| Heating capacity 2 pipes [kW]          | (2)    | max              | 1.55 | 2.2  | 3.07 | 3.76 | 4.83  | 5.88  | 6.71  | 8.43  | 10.08 |
|                                        |        | med              | 1.27 | 1.72 | 2.23 | 2.72 | 3.81  | 4.69  | 5.55  | 7.36  | 8.53  |
|                                        |        | min              | 0.82 | 1.18 | 1.94 | 2.16 | 2.53  | 3.39  | 4.2   | 5.06  | 6.22  |
| Water flow in heating 2 pipes [l/h] *  | (2)    | max              | 212  | 311  | 442  | 537  | 703   | 824   | 960   | 1 113 | 1 307 |
|                                        |        | med              | 175  | 246  | 325  | 392  | 559   | 664   | 798   | 986   | 1 125 |
|                                        |        | min              | 115  | 174  | 284  | 315  | 377   | 487   | 612   | 693   | 839   |
| Pressure drop in heating 2 pipes [kPa] | (2)    | max              | 4.7  | 11.6 | 9.2  | 12.2 | 25.7  | 29.3  | 23.7  | 14.5  | 19.3  |
|                                        |        | med              | 3.3  | 7.5  | 5.4  | 6.9  | 17    | 19.5  | 16.9  | 11.4  | 14.8  |
|                                        |        | min              | 1.5  | 3.9  | 4.2  | 4.6  | 8.3   | 11    | 10.3  | 6.2   | 8.7   |
| Air flow [m3/h]                        |        | max              | 220  | 295  | 385  | 485  | 650   | 760   | 925   | 1 200 | 1 500 |
|                                        |        | med              | 175  | 220  | 270  | 335  | 495   | 590   | 735   | 1 020 | 1 210 |
|                                        |        | min              | 105  | 145  | 235  | 265  | 315   | 415   | 535   | 655   | 830   |
| Sound power level [dB(A)]              |        | max              | 45   | 47   | 49   | 47   | 48    | 52    | 56    | 60    | 64    |
|                                        |        | med              | 39   | 40   | 40   | 39   | 41    | 46    | 51    | 56    | 58    |
|                                        |        | min              | 32   | 30   | 36   | 33   | 31    | 37    | 42    | 45    | 50    |
| Sound pressure level [dB(A)]           | (3)    | max              | 36   | 38   | 40   | 38   | 39    | 43    | 47    | 51    | 55    |
|                                        |        | med              | 30   | 31   | 31   | 30   | 32    | 37    | 42    | 47    | 49    |
|                                        |        | min              | 23   | 21   | 27   | 24   | 22    | 28    | 33    | 36    | 41    |
| Power supply [V-ph-Hz]                 |        | 230 / 1 / 50 + E |      |      |      |      |       |       |       |       |       |
| Power input [W]                        | max    | 33               | 40   | 49   | 57   | 61   | 88    | 103   | 130   | 176   |       |
| Absorbed current [A]                   | max    | 0.16             | 0.18 | 0.23 | 0.26 | 0.27 | 0.39  | 0.47  | 0.58  | 0.78  |       |
| Dimensions **                          | Height | mm               | 530  | 530  | 530  | 530  | 530   | 530   | 530   | 530   |       |
|                                        | Width  | mm               | 670  | 770  | 985  | 985  | 1 200 | 1 200 | 1 415 | 1 415 |       |
|                                        | Depth  | mm               | 225  | 225  | 225  | 225  | 225   | 225   | 225   | 255   |       |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C.  
(2) Room temperature 20°C - Water inlet temperature: 50°C - Water flow rate as for the cooling conditions.  
(3) Sound pressure level in a 100 m² room, at 1,5 m distance and riverberating time of 0,5 s.  
\* Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397.  
\*\* Dimensions refer to the units with casing.  
Data shown is for 4 row cooling version, 2 pipe system.  
For performance of 3 row cooling version and/or 4 pipe system unit please contact your local Johnson Controls sales office.



Manufacturer reserves the rights to change specifications without prior notice.

# ECM Technology



## Running costs. Energy consumption. Life cycle.

These are 3 issues that are becoming more and more important in the choice of Fan Coil Units. With these criteria in mind, Johnson Controls offers the ECM range of FCU.

ECM technology comprises a **brushless motor** combined to a **dedicated electronic device** (inverter). In comparison to conventional units equipped with asynchronous three-speed motors, the fancoil and cassette units with brushless motors can obtain a considerable energy saving, by **reducing power consumption up to 70%**.

Air flow rate can be varied in continuous by means of a 0-10 V signal generated both by our controls or by independent controls systems. The continuous air flow control improves the **acoustic comfort** and allows a more punctual reply to the variation of the thermal loads, enhancing the **stability of ambient temperature**.

## Technology

ECM technology consists of a brushless motor combined with an inverter managed by specific regulators. The controller uses a 0-10 VDC modulating signal to regulate the fan speed.

The brushless electric motor is composed of a rotor having permanent magnets, whose magnetic fields interact with the ones produced by the stator winding. The **transfer of current is no longer by mechanical commutator** (sliding contacts) **but by an electronic commutation system**: one electronic controller (inverter) powers the motor's stator and generates rotating magnetic fields, that in turn determine the rotor's speed.

Brushless motor develop much less heat than the traditional brushed motors and they have much lower mechanical resistance than the standard asynchronous maintenance. The absence of brushes eliminates also the main source of electromagnetic noise.

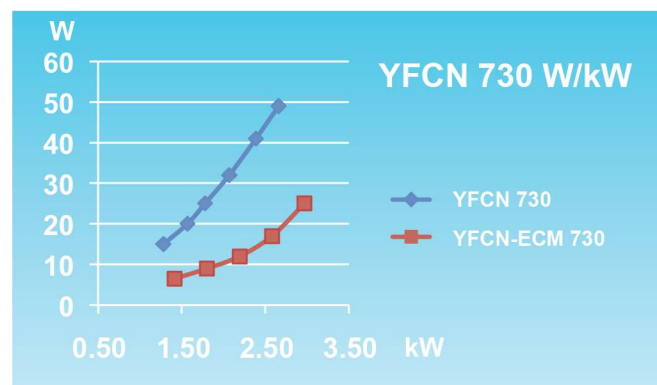
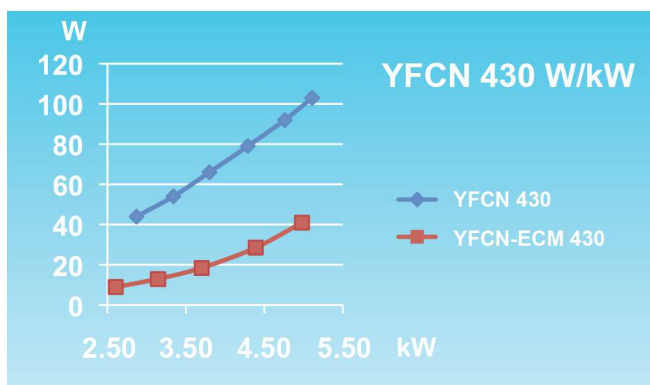
## Features

- Brushless motor with inverter.
- 0-10VDC control signal.
- Low mechanical resistance and heat gain
- Continuous regulation of the fan speed.
- Specifically designed electronic and digital regulators, also for BMS systems.
- Possibility to manually set the desired three fan speeds (MIN/MED/MAX).
- Available for fan coil and cassette units.

## Advantages (compared to traditional brushed motors)

- Energy saving: electrical absorption reduced up to 70%.
- Higher efficiency: possibility to adapt the air volume and the capacities accordingly to the actual room loads.
- Higher comfort: reduced variation of the temperature and relative humidity in the room.
- Extremely quiet operation.
- Reduced wear and higher reliability.
- Longer life expectancy of the motor.

## Power consumption: YFCN versus YFCN-ECM (W/kW)



# YFCN-ECM Fan Coil Unit Inverter with centrifugal fan

0.7 to 7.1 kW



## Technical features

| Model                                  |        |         | 230              | 240  | 430  | 440  | 630   | 640   | 730   | 740   | 930   | 940   |
|----------------------------------------|--------|---------|------------------|------|------|------|-------|-------|-------|-------|-------|-------|
| Total cooling capacity [kW]            | (1)    | max 10v | 1.61             | 1.88 | 2.97 | 3.19 | 3.99  | 4.54  | 4.98  | 5.34  | 6.36  | 7.14  |
|                                        |        | med 5v  | 1.19             | 1.33 | 2.19 | 2.28 | 2.94  | 3.2   | 3.7   | 3.84  | 4.86  | 5.25  |
|                                        |        | min 1v  | 0.74             | 0.78 | 1.42 | 1.44 | 1.97  | 2.06  | 2.61  | 2.62  | 3.47  | 3.61  |
| Sensible cooling capacity [kW]         | (1)    | max     | 1.3              | 1.44 | 2.28 | 2.41 | 3.11  | 3.41  | 3.84  | 4.03  | 5.2   | 5.63  |
|                                        |        | med     | 0.93             | 0.99 | 1.65 | 1.68 | 2.23  | 2.35  | 2.79  | 2.84  | 3.83  | 4.03  |
|                                        |        | min     | 0.56             | 0.57 | 1.04 | 1.04 | 1.47  | 1.49  | 1.93  | 1.91  | 2.65  | 2.71  |
| Water flow in cooling [l/h]            | (1)    | max     | 277              | 323  | 511  | 549  | 686   | 781   | 857   | 918   | 1 094 | 1 228 |
|                                        |        | med     | 205              | 229  | 377  | 392  | 506   | 550   | 636   | 660   | 836   | 903   |
|                                        |        | min     | 127              | 134  | 244  | 248  | 339   | 354   | 449   | 451   | 597   | 621   |
| Pressure drop in cooling [kPa]         | (1)    | max     | 8.6              | 14.8 | 28.9 | 16.1 | 19    | 33    | 32.6  | 25.6  | 25.9  | 20.8  |
|                                        |        | med     | 5                | 8    | 17   | 8.9  | 11.1  | 17.8  | 19.4  | 14.3  | 16.1  | 12.1  |
|                                        |        | min     | 2.2              | 3.2  | 7.9  | 4    | 5.5   | 8.2   | 10.5  | 7.3   | 8.9   | 6.3   |
| Heating capacity 2 pipes [kW]          | (2)    | max     | 2.13             | 2.37 | 3.74 | 3.91 | 4.95  | 5.6   | 6.09  | 6.51  | 8.69  | 9.39  |
|                                        |        | med     | 1.53             | 1.63 | 2.7  | 2.75 | 3.59  | 3.87  | 4.47  | 4.61  | 6.41  | 6.7   |
|                                        |        | min     | 0.92             | 0.94 | 1.7  | 1.7  | 2.35  | 2.43  | 3.08  | 3.09  | 4.45  | 4.5   |
| Water flow in heating 2 pipes [l/h] *  | (2)    | max     | 277              | 323  | 511  | 549  | 686   | 781   | 857   | 918   | 1 094 | 1 228 |
|                                        |        | med     | 205              | 229  | 377  | 392  | 506   | 550   | 636   | 660   | 836   | 903   |
|                                        |        | min     | 127              | 134  | 244  | 248  | 339   | 354   | 449   | 451   | 597   | 621   |
| Pressure drop in heating 2 pipes [kPa] | (2)    | max     | 8.3              | 12.6 | 23.9 | 13.5 | 15.7  | 26.9  | 26.8  | 21    | 22.5  | 17    |
|                                        |        | med     | 5.0              | 6.5  | 13.8 | 7.2  | 9.2   | 14.9  | 16.1  | 11.8  | 13.9  | 9.9   |
|                                        |        | min     | 2.0              | 2.6  | 6.6  | 3    | 4.5   | 6.5   | 8.4   | 6     | 7.7   | 5.2   |
| Heating capacity 4 pipes [kW]          | (3)    | max     | 1.63             | -    | 2.74 | -    | 3.68  | -     | 4.63  | -     | 5.98  | -     |
|                                        |        | med     | 1.23             | -    | 2.11 | -    | 2.8   | -     | 3.56  | -     | 4.62  | -     |
|                                        |        | min     | 0.81             | -    | 1.47 | -    | 2     | -     | 2.65  | -     | 3.4   | -     |
| Water flow in heating 4 pipes [l/h]    | (3)    | max     | 140              | -    | 236  | -    | 317   | -     | 398   | -     | 514   | -     |
|                                        |        | med     | 106              | -    | 181  | -    | 241   | -     | 306   | -     | 397   | -     |
|                                        |        | min     | 70               | -    | 126  | -    | 172   | -     | 228   | -     | 292   | -     |
| Pressure drop in heating 4 pipes [kPa] | (3)    | max     | 4.3              | -    | 13.6 | -    | 4.5   | -     | 7.8   | -     | 12.3  | -     |
|                                        |        | med     | 2.6              | -    | 8.5  | -    | 2.8   | -     | 4.9   | -     | 7.8   | -     |
|                                        |        | min     | 1.3              | -    | 4.5  | -    | 1.5   | -     | 2.9   | -     | 4.6   | -     |
| Air flow [m3/h]                        |        | max     | 330              | 325  | 515  | 505  | 735   | 720   | 890   | 875   | 1 395 | 1 365 |
|                                        |        | med     | 220              | 210  | 350  | 340  | 495   | 475   | 610   | 585   | 945   | 910   |
|                                        |        | min     | 120              | 115  | 210  | 200  | 305   | 290   | 400   | 380   | 605   | 575   |
| Sound power level [dB(A)]              |        | max     | 51               | 51   | 51   | 51   | 54    | 54    | 57    | 57    | 64    | 64    |
|                                        |        | med     | 41               | 41   | 42   | 42   | 44    | 44    | 48    | 48    | 55    | 55    |
|                                        |        | min     | 30               | 30   | 30   | 30   | 33    | 33    | 37    | 37    | 44    | 44    |
| Sound pressure level [dB(A)]           | (4)    | max     | 42               | 42   | 42   | 42   | 45    | 45    | 48    | 48    | 55    | 55    |
|                                        |        | med     | 32               | 32   | 33   | 33   | 35    | 35    | 39    | 39    | 46    | 46    |
|                                        |        | min     | 21               | 21   | 21   | 21   | 24    | 24    | 28    | 28    | 35    | 35    |
| Power supply [V-ph-Hz]                 |        |         | 230 / 1 / 50 + E |      |      |      |       |       |       |       |       |       |
| Power input [W]                        |        | max     | 21               | 21   | 25   | 25   | 32    | 32    | 41    | 41    | 99    | 99    |
| Absorbed current [A]                   |        | max     | 0.18             | 0.18 | 0.22 | 0.22 | 0.28  | 0.28  | 0.34  | 0.34  | 0.81  | 0.81  |
| Dimensions **                          | Height | mm      | 530              | 530  | 530  | 530  | 530   | 530   | 530   | 530   | 530   | 530   |
|                                        | Width  | mm      | 770              | 770  | 985  | 985  | 1 200 | 1 200 | 1 415 | 1 415 | 1 415 | 1 415 |
|                                        | Depth  | mm      | 225              | 225  | 225  | 225  | 225   | 225   | 225   | 225   | 255   | 255   |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C - Water flow rate as for the cooling conditions.  
(3) Room temperature 20°C - Water inlet temperature: 70/60°C  
(4) Sound pressure level in a 100 m² room, at 1,5 m distance and riverberating time of 0,5 s.  
\* Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397    \*\* Dimensions refer to the units with casing



Manufacturer reserves the rights to change specifications without prior notice.



# Options / Accessories

## Compatibility table / Codes

| Model                                                                                                                                             | YFCN AC motor + Standard control devices |                                  |                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------|--------------------------|
| Versions                                                                                                                                          | VC/VCB mod. - Vertical with casing       | HC mod. - Horizontal with casing | CD mod. - Without casing |
| <b>Controls for style VC (supplied with separate packaging)</b>                                                                                   |                                          |                                  |                          |
| Three speed control BL (1)                                                                                                                        | 9060130                                  | -                                | -                        |
| Three speed control + electronic thermostat and S/W switch TMV-S (2)                                                                              | 9060140                                  | -                                | -                        |
| Three speed control + electronic thermostat and centralized S/W - TLC (2)                                                                         | 9060133                                  | -                                | -                        |
| Automatic speed control with electronic thermostat and S/W switch ATL (2)                                                                         | 9066139                                  | -                                | -                        |
| <b>Controls for style HC/CD (supplied with separate packaging)</b>                                                                                |                                          |                                  |                          |
| Remote three speed control JWC-3V (1) (5)                                                                                                         | -                                        | 9066642                          | 9066642                  |
| Remote three speed control + electronic thermostat JWC-T and manual S/W switch (2)                                                                | -                                        | 9066630K                         | 9066630K                 |
| Remote three speed control + electronic thermostat and centralized/manual S/W switch JWC-TQR (2) (4)                                              | -                                        | 9066631K                         | 9066631K                 |
| Automatic speed control with electronic thermostat and S/W switch - JWC-AU (to be used with JPF-AU and JP-AU only) (2) (4)                        | -                                        | 9066632K                         | 9066632K                 |
| Automatic remote control with electronic thermostat, S/W switch and liquid crystall display JTM-B (to be used with JPF-AU and JP-AU only) (2) (4) | -                                        | 9066331E                         | 9066331E                 |
| Automatic speed control with electronic thermostat to be mounted in the light wall box TMO-503-SV2 (3) (5)                                        | -                                        | 9060172                          | 9060172                  |
| Electromechanical thermostat T2T (5) (6)                                                                                                          | -                                        | 9060174                          | 9060174                  |
| Power unit JPF-AU for JWC-AU and JTM-B remote controls, fitted on the unit                                                                        | 9066641                                  | 9066641                          | 9066641                  |
| Power unit JP-AU for JWC-AU and JTM-B remote controls, not fitted on the unit                                                                     | 9066640                                  | 9066640                          | 9066640                  |
| <b>Controls accessories for all versions (supplied with separate packaging)</b>                                                                   |                                          |                                  |                          |
| Low temperature cut-out for controls TLC                                                                                                          | 3021091                                  | 3021091                          | 3021091                  |
| Low temperature cut-out for controls TMV-S and JWC-T                                                                                              | 9053048                                  | 9053048                          | 9053048                  |
| Low temperature cut-out for controls ATL, JWC-TQR, JWC-AU and JTM-B                                                                               | 3021090                                  | 3021090                          | 9053049                  |
| T2 sensor to be used as Change-over for controls ATL, JWC-AU and JTM-B                                                                            | 9025310                                  | 9025310                          | 9025310                  |
| Change-over 15-25 for control TLC and JWC-TQR                                                                                                     | 9053049                                  | 9053049                          | 9053049                  |
| Receiving speed selector for centralized control (slave) style VC RECV                                                                            | 9060136                                  | 9060136                          | 9060136                  |
| Receiving speed selector for centralized control (slave) style HC/CD SEL-CR                                                                       | 9066311                                  | 9066311                          | 9066311                  |
| Terminal board adaptor kit KIT                                                                                                                    | 9060103                                  | -                                | -                        |
| <b>Controls for style VC + additional electric resistance (supplied with separate packaging)</b>                                                  |                                          |                                  |                          |
| Three speed control with electronic thermostat and S/W switch TMV-R-IAQ                                                                           | 9063006                                  | -                                | -                        |
| Automatic speed control with electronic thermostat and S/W switch JWC-AU (2)                                                                      | 9066632K                                 | -                                | -                        |
| <b>Controls for style HC/CD + additional electric resistance (supplied with separate packaging)</b>                                               |                                          |                                  |                          |
| Remote three speed control + electronic thermostat and centralized/manual S/W switch JWC-TQR (3)                                                  | -                                        | 9066631K                         | 9066631K                 |
| Automatic speed control with electronic thermostat and centralized S/W - JWC-AU (3)                                                               | -                                        | 9066632K                         | 9066632K                 |
| Automatic remote control with electronic thermostat, S/W switch and liquid crystall display JTM-B (2)                                             | -                                        | 9066331E                         | 9066331E                 |
| <b>Free wireless control system for all YFCN all versions</b>                                                                                     |                                          |                                  |                          |
| Remote Control FREE-COM                                                                                                                           | 9060572                                  | 9060572                          | 9060572                  |
| Mounted Electronic Board FREE-UPM                                                                                                                 | 9060571                                  | 9060571                          | 9060571                  |
| Not Mounted Electronic Board FREE-UPS                                                                                                             | 9060570                                  | 9060570                          | 9060570                  |
| Temperature sensor FREE-SEN                                                                                                                       | 9060573                                  | 9060573                          | 9060573                  |

**WARNING**

(1) Not to be used with valves and/or low temperature cut-out. (2) It can be used with valves and/or low temperature cut-out. (3) Low temperature cut-out included. (4) It can be used with Change Over. (5) Not suitable with -E electric heater. (6) Not to be used with low temperature cut-out.

# Options / Accessories

## Compatibility table / Codes

| Model                                                                    | YFCN AC motor + MB control devices                                                          |          |
|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------|
| Versions                                                                 | ALL VERSIONS: VC/VCB - Vertical w. casing + HC - Horizontal with casing + CD without casing |          |
|                                                                          | ALL VERSIONS: VC/VCB + HC + CD with electric heater                                         |          |
| Controls and accessories for all versions                                |                                                                                             |          |
| Mounted power unit MB-M                                                  |                                                                                             | 9066332  |
| Not mounted power unit MB-S                                              |                                                                                             | 9066333  |
| Wall control JTM-B                                                       |                                                                                             | 9066331E |
| IR remote control and mounted IR receiver RM-RT03                        |                                                                                             | 9066336  |
| IR remote control and not mounted IR receiver RS-RT03                    |                                                                                             | 9066337  |
| IR remote control RT03                                                   |                                                                                             | 3021203  |
| Mounted IR receiver RM                                                   |                                                                                             | 9066339  |
| Not mounted IR receiver RS                                               |                                                                                             | 9066338  |
| Multifunction wall control up to 60 units PSM-DI                         |                                                                                             | 3021293  |
| T2 sensor (to be used as Change-over or minimum temp. Sensor)            |                                                                                             | 9025310  |
| Management system for a network of fan coils with MB electronic board    |                                                                                             |          |
| Hardware/software supervisory system (to be used with MB board only) NET |                                                                                             | 9079118  |
| Router-S                                                                 |                                                                                             | 3021290  |
| Relay output board SIOS                                                  |                                                                                             | 3021292  |

### With T-MB wall control

One control for each unit  
(Maximum length of the connection cable = 20 m)



One control for more units (20 units max.)  
(Maximum total length of the connection cable = 800 m)



### With RT03 Infra-red remote control

One control for each unit



One control for more units (20 units max.)  
(Maximum total length of the connection cable = 800 m)

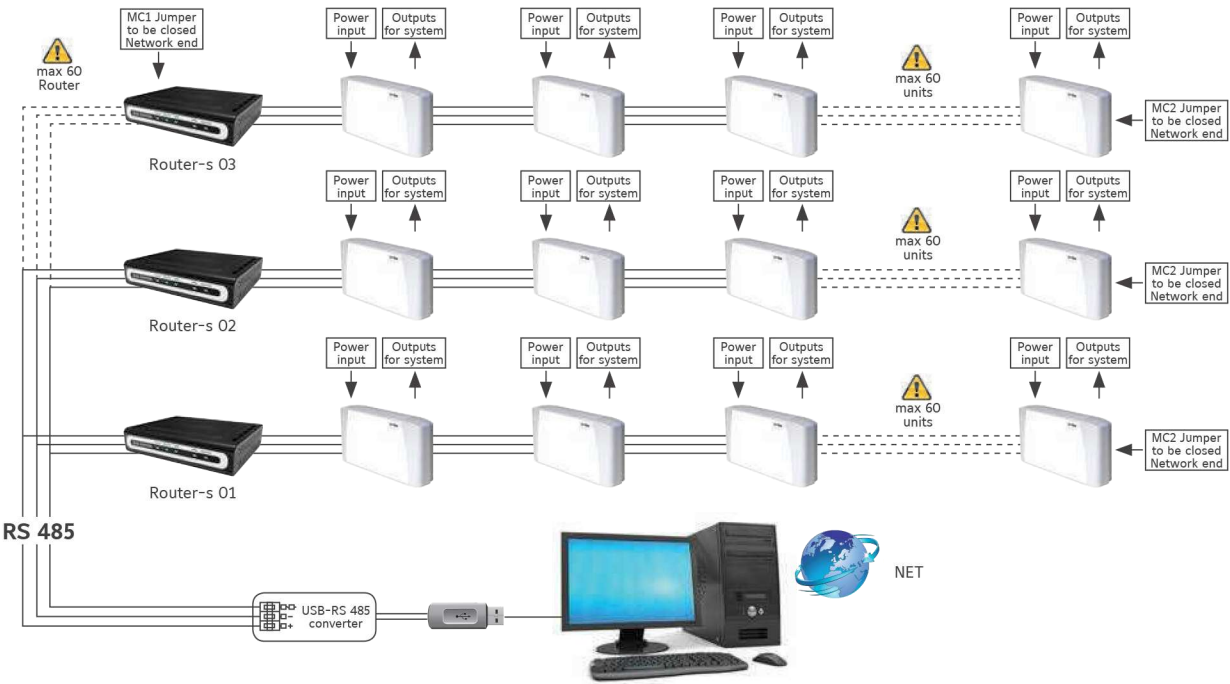


# Options / Accessories

## Compatibility table / Codes

| Model                                                                            | YFCN ECM motor + Standard control devices |                                  |                          |
|----------------------------------------------------------------------------------|-------------------------------------------|----------------------------------|--------------------------|
| Versions                                                                         | VC/VCB mod. - Vertical with casing        | HC mod. - Horizontal with casing | CD mod. - Without casing |
| Controls accessories for all versions (supplied with separate packaging)         |                                           |                                  |                          |
| Low temperature cut out NTC for control TMV-T-ECM, WM-S-ECM and JP-AU power unit |                                           | 3021090                          |                          |
| T2 sensor to be used as Change -over for JP-AU power unit                        |                                           | 9025310                          |                          |
| Change over 15-25 CH 15-25 for control TMV-T-ECM                                 |                                           | 9053049                          |                          |

| Model                                                                                             | YFCN ECM motor + MB control devices |                                  |                          |
|---------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------|--------------------------|
| Versions                                                                                          | VC/VCB mod. - Vertical with casing  | HC mod. - Horizontal with casing | CD mod. - Without casing |
| Controls for style VC (supplied with separate packaging)                                          |                                     |                                  |                          |
| Continuous fan speed control with electronic thermostat and S/W switch TMV-T-ECM                  | 9060141                             | -                                | -                        |
| Controls for style HC/CD (supplied with separate packaging)                                       |                                     |                                  |                          |
| JWC-AU Automatic speed control with electronic thermostat and centralized S/W switch              | -                                   | 9066632K                         | 9066632K                 |
| JTM-B Automatic remote control with electronic thermostat, S/W switch and liquid crystall display | -                                   | 9066331E                         | 9066331E                 |
| WM-S-ECM Continuous fan speed control with S/W switch and liquid crystall display                 | -                                   | 9066644                          | 9066644                  |
| JPF-AU power unit for JWC-AU and JTM-AU remote controls, fitted on the unit                       | 9066641                             | 9066641                          | 9066641                  |
| JP-AU power unit for JWC-AU and JTM-AU remote controls, not fitted on the unit                    | 9066640                             | 9066640                          | 9066640                  |
| Accessories of controls for VC, HC-VCB and CD models (supplied with separate packaging)           |                                     |                                  |                          |
| MB-ECM-M mounted power unit for ECM fan coil                                                      | 9066334                             | 9066334                          | 9066334                  |
| MB-ECM-S not mounted power unit for ECM fan coil                                                  | 9066335                             | 9066335                          | 9066335                  |
| Wall control JTM-B                                                                                | 9066331E                            | 9066331E                         | 9066331E                 |
| IR remote control and mounted IR receiver RM-RT03                                                 | 9066336                             | 9066336                          | 9066336                  |
| IR remote control and not mounted IR receiver RS-RT03                                             | 9066337                             | 9066337                          | 9066337                  |
| IR remote control RT03                                                                            | 3021203                             | 3021203                          | 3021203                  |
| Mounted IR receiver RM                                                                            | 9066339                             | 9066339                          | 9066339                  |
| Not mounted IR receiver RS                                                                        | 9066338                             | 9066338                          | 9066338                  |
| Multifunction wall control up to 60 units PSM-DI                                                  | 3021293                             | 3021293                          | 3021293                  |
| T2 sensor (to be used as Change-over or minimum temperature Sensor)                               | 9025310                             | 9025310                          | 9025310                  |
| Management system for a network of fan coils with MB electronic board                             |                                     |                                  |                          |
| Hardware / software supervisory system Net                                                        | 9079118                             | 9079118                          | 9079118                  |
| Router S                                                                                          | 3021290                             | 3021290                          | 3021290                  |
| Relay output board SIOS                                                                           | 3021292                             | 3021292                          | 3021292                  |





# Options / Accessories

## Compatibility table / Codes

| Model                                                                                       | YFCN General accessories |          |          |          |          |          |          |          |         |
|---------------------------------------------------------------------------------------------|--------------------------|----------|----------|----------|----------|----------|----------|----------|---------|
| Sizes                                                                                       | 130/140                  | 230/240  | 330/340  | 430/440  | 530/540  | 630/640  | 730/740  | 830/840  | 930/940 |
| Valves all versions                                                                         |                          |          |          |          |          |          |          |          |         |
| 3 way double valve kit for 4 tube installation and single coil + kit fitted on the unit     | 9066572W                 |          |          |          |          |          |          |          |         |
| 3 way double valve kit for 4 tube installation and single coil + kit not fitted on the unit | 9066562W                 |          |          |          |          |          |          |          |         |
| Kit 3 way valve mounted                                                                     | 9066561                  |          |          |          |          | 9060471  |          |          |         |
| Kit 3 way valve additional battery mounted                                                  | 9060472                  |          |          |          |          |          |          |          |         |
| Kit 3 way valve not mounted                                                                 | 9066560                  |          |          |          |          | 9060474  |          |          |         |
| Kit 3 way valve additional battery not mounted                                              | 9060475                  |          |          |          |          |          |          |          |         |
| Kit 2 way valve primary and/or additional battery mounted                                   | 9060476                  |          |          |          |          | -        |          |          |         |
| Kit 2 way valve primary battery mounted                                                     | -                        |          |          |          |          | 9060477  |          |          |         |
| Kit 2 way valve primary and/or additional battery not mounted                               | 9060478                  |          |          |          |          | -        |          |          |         |
| Kit 2 way valve primary battery not mounted                                                 | -                        |          |          |          |          | 9060479  |          |          |         |
| 2 way DN 10 balance valve for main coil + kit fitted on the unit                            | 9066660                  |          |          | -        |          |          |          |          |         |
| 2 way DN 15 balance valve for main coil + kit fitted on the unit                            | -                        |          |          | 9066661  |          |          |          | -        |         |
| 2 way DN 20 balance valve for main coil + kit fitted on the unit                            | -                        |          |          |          |          |          |          | 9066662  |         |
| 2 way DN 10 balance valve for additional coil + kit fitted on the unit                      | 9066663                  |          |          |          |          | -        |          |          |         |
| 2 way DN 15 balance valve for additional coil + kit fitted on the unit                      | -                        |          |          |          |          | 9066664  |          |          |         |
| 2 way DN 10 balance valve for main coil + kit not fitted on the unit                        | 9066650                  |          |          | -        |          |          |          |          |         |
| 2 way DN 15 balance valve for main coil + kit not fitted on the unit                        | -                        |          |          | 9066651  |          |          |          | -        |         |
| 2 way DN 20 balance valve for main coil + kit not fitted on the unit                        | -                        |          |          |          |          |          |          | 9066652  |         |
| 2 way DN 10 balance valve for additional coil + kit not fitted on the unit                  | 9066653                  |          |          |          |          | -        |          |          |         |
| 2 way DN 15 balance valve for additional coil + kit not fitted on the unit                  | -                        |          |          |          |          | 9066654  |          |          |         |
| Valves CD versions only                                                                     | 130/140                  | 230/240  | 330/340  | 430/440  | 530/540  | 630/640  | 730/740  | 830/840  | 930/940 |
| Simplified 3-way valve kit for CD version fitted                                            | 9066571                  |          |          |          |          | 9060484  |          |          |         |
| Simplified 3-way valve kit for CD version not fitted                                        | 9066570                  |          |          |          |          | 9060481  |          |          |         |
| Simplified 3-way valve kit for CD version not fitted - additional battery                   | 9060480                  |          |          |          |          |          |          |          |         |
| Electric heater VC/VCB/CH version                                                           | 130/140                  | 230/240  | 330/340  | 430/440  | 530/540  | 630/640  | 730/740  | 830/840  | 930/940 |
| El. resistance and relays fitted on the unit (650 W) VC/HC                                  | 9066491E                 | -        |          |          |          |          |          |          |         |
| El. resistance and relays fitted on the unit (400 W) VC/HC                                  | -                        | 9066472E | -        |          |          |          |          |          |         |
| El. resistance and relays fitted on the unit (600 W) VC/HC                                  | -                        | 9066482E | 9066473E |          |          | -        |          |          |         |
| El. resistance and relays fitted on the unit (750 W) VC/HC                                  | -                        |          |          |          | 9066475E |          | -        |          |         |
| El. resistance and relays fitted on the unit (900 W) VC/HC                                  | -                        | 9066483E |          |          | -        |          |          |          |         |
| El. resistance and relays fitted on the unit (1000 W) VC/HC                                 | -                        | 9066492E | -        |          |          |          | 9066477E |          |         |
| El. resistance and relays fitted on the unit (1250 W) VC/HC                                 | -                        |          |          | 9066485E |          |          | -        |          |         |
| El. resistance and relays fitted on the unit (1500 W) VC/HC                                 | -                        |          | 9066493E |          |          | -        |          | 9066487E |         |
| El. resistance and relays fitted on the unit (2000 W) VC/HC                                 | -                        |          |          | 9066495E |          |          | -        |          |         |
| El. resistance and relays fitted on the unit (2500 W) VC/HC                                 | -                        |          |          |          |          | 9066497E |          |          |         |
| Electric heater CD version                                                                  | 130/140                  | 230/240  | 330/340  | 430/440  | 530/540  | 630/640  | 730/740  | 830/840  | 930/940 |
| El. resistance and relays fitted on the unit (700 W) CD                                     | 9066611                  | -        |          |          |          |          |          |          |         |
| El. resistance and relays fitted on the unit (400 W) CD                                     | -                        | 9066592  | -        |          |          |          |          |          |         |
| El. resistance and relays fitted on the unit (600 W) CD                                     | -                        | 9066602  | 9066593  |          |          | -        |          |          |         |
| El. resistance and relays fitted on the unit (750 W) CD                                     | -                        |          |          |          | 9066595  |          | -        |          |         |
| El. resistance and relays fitted on the unit (900 W) CD                                     | -                        |          | 9066603  |          |          | -        |          |          |         |
| El. resistance and relays fitted on the unit (1000 W) CD                                    | -                        | 9066612  | -        |          |          |          | 9066597  |          |         |
| El. resistance and relays fitted on the unit (1250 W) CD                                    | -                        |          |          |          | 9066605  |          | -        |          |         |
| El. resistance and relays fitted on the unit (1500 W) CD                                    | -                        |          | 9066613  |          |          | -        |          | 9066607  |         |
| El. resistance and relays fitted on the unit (2000 W) CD                                    | -                        |          |          |          | 9066615  |          | -        |          |         |
| El. resistance and relays fitted on the unit (2500 W) CD                                    | -                        |          |          |          |          | 9066617  |          |          |         |

# Options / Accessories

## Compatibility table / Codes

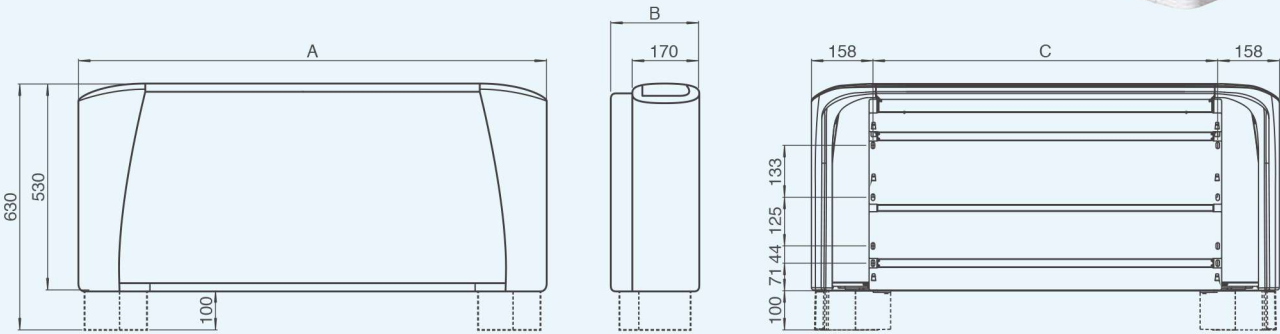
| Model                                                                                                                                   | YFCN General accessories |         |         |         |         |         |         |         |         |
|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Sizes                                                                                                                                   | 130/140                  | 230/240 | 330/340 | 430/440 | 530/540 | 630/640 | 730/740 | 830/840 | 930/940 |
| Accessories for all versions                                                                                                            | 130/140                  | 230/240 | 330/340 | 430/440 | 530/540 | 630/640 | 730/740 | 830/840 | 930/940 |
| Pair feet                                                                                                                               | 9060150                  |         |         |         |         |         |         | 9060151 |         |
| Vertical auxiliary condensate tray                                                                                                      |                          |         |         |         |         | 6060400 |         |         |         |
| Horizontal auxiliary condensate tray (left connections)                                                                                 |                          |         |         |         |         | 6060402 |         |         |         |
| Horizontal auxiliary condensate tray (right connections)                                                                                |                          |         |         |         |         | 6060403 |         |         |         |
| Condensate pump for VC - VCB - CD fitted on the unit<br>auxiliary condensate collection tray included (vertical installation)           |                          |         |         |         |         | 9066297 |         |         |         |
| Condensate pump for VC - VCB - CD not fitted on the unit<br>auxiliary condensate collection tray included (vertical installation)       |                          |         |         |         |         | 9066296 |         |         |         |
| Condensate pump for CD fitted on the unit<br>auxiliary condensate collection tray to be ordered separately<br>(horizontal installation) |                          |         |         |         |         | 9066295 |         |         |         |
| Condensate drain pipe                                                                                                                   | 6060420                  |         |         |         |         |         |         |         |         |
| Damper                                                                                                                                  | 9066531                  | 9066532 | 9066533 |         | 9066535 |         | 9066537 | 9066538 |         |
| Kit breeze                                                                                                                              | -                        | 9076452 | 9076453 |         | 9076455 |         | -       |         |         |
| Recessed box                                                                                                                            | -                        | 9076462 | 9076463 |         | 9076465 |         | -       |         |         |
| Rear closing panel VC                                                                                                                   | 9062005                  | 9060180 | 9060181 |         | 9060182 |         | 9060183 |         |         |
| Rear closing panel HC                                                                                                                   | 9060187                  | 9060190 | 9060191 |         | 9060192 |         | 9060193 | 9060194 |         |
| Frontal air intake CD mounted                                                                                                           | 9066501                  | 9066502 | 9066503 |         | 9066505 |         | 9066507 | 9066508 |         |
| Intake grid for VC                                                                                                                      | 9060229                  | 9060230 | 9060231 |         | 9060232 |         | 9060233 |         |         |
| Adaptor for terminal board VC for remote control                                                                                        | 9060103                  |         |         |         |         |         |         |         |         |
| Accessories only for concealed version CD                                                                                               | 130/140                  | 230/240 | 330/340 | 430/440 | 530/540 | 630/640 | 730/740 | 830/840 | 930/940 |
| Outlet flange 90° FM90                                                                                                                  | 9066381                  | 9066382 | 9066383 |         | 9066385 |         | 9066387 | 9066388 |         |
| Inlet flange 90° FR90                                                                                                                   | 9066441                  | 9060710 | 9060711 |         | 9060712 |         | 9060713 | 9060714 |         |
| Straight inlet flange FRD                                                                                                               | 9066451                  | 9060720 | 9060721 |         | 9060722 |         | 9060723 | 9060724 |         |
| Straight outlet flange FMD                                                                                                              | 9066371                  | 9066372 | 9066373 |         | 9066375 |         | 9066377 | 9066378 |         |
| Outlet spigot diffuser PMC                                                                                                              | 9066361                  | 9066362 | 9066363 |         | 9066365 |         | 9066367 | 9066368 |         |
| Air outlet grid BMA                                                                                                                     | 9066411                  | 9060750 | 9060751 |         | 9060752 |         | 9060753 |         |         |
| Air inlet grid GRAG                                                                                                                     | 9066431                  | 9060764 | 9060765 |         | 9060766 |         | 9060767 |         |         |
| Air inlet grid GRAP                                                                                                                     | 9066421                  | 9060760 | 9060761 |         | 9060762 |         | 9060763 |         |         |
| Air inlet spigot plenum PRC                                                                                                             | 9066461                  | 9066462 | 9066463 |         | 9066465 |         | 9066467 | 9066468 |         |
| Intake grid with filter<br>(to be used in combination with inlet flange 90°) GRAFP                                                      | 9066391                  | 9060770 | 9060771 |         | 9060772 |         | 9060773 |         |         |
| Intake grid with filter<br>(to be used in combination with straight inlet flange) GRAFG                                                 | 9066401                  | 9060774 | 9060775 |         | 9060776 |         | 9060777 |         |         |

# Dimensions

## YFCN / YFCN-ECM 130 to 940 (with casing)



VC, VCB and HC models



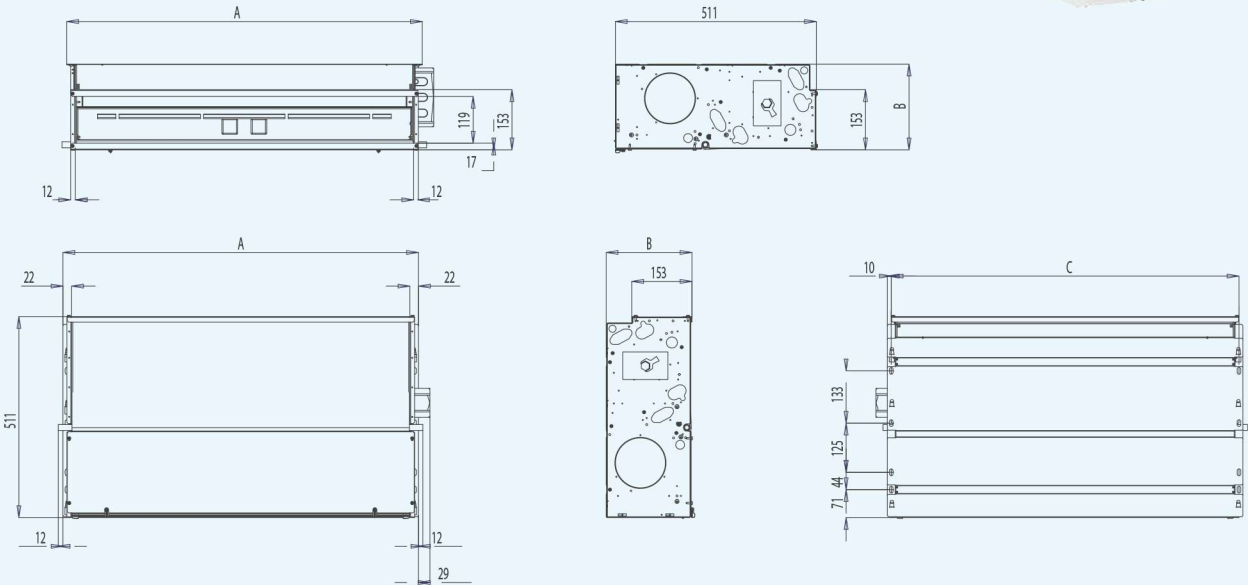
All dimensions in mm. Drawings not a scale.

| Model | 130 / 140 | 230 / 240 | 330 / 340 | 430 / 440 | 530 / 540 | 630 / 640 | 730 / 740 | 830 / 840 | 930 / 940 |
|-------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| A     | 670       | 770       | 985       | 985       | 1 200     | 1 200     | 1 415     | 1 415     | 1 415     |
| B     | 225       | 225       | 225       | 225       | 225       | 225       | 225       | 255       | 255       |
| C     | 354       | 454       | 669       | 669       | 884       | 884       | 1 099     | 1 099     | 1 099     |

## YFCN / YFCN-ECM 130 to 940 (without casing)



CD models



All dimensions in mm. Drawings not a scale.

| Model | 130 / 140 | 230 / 240 | 330 / 340 | 430 / 440 | 530 / 540 | 630 / 640 | 730 / 740 | 830 / 840 | 930 / 940 |
|-------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| A     | 374       | 474       | 689       | 689       | 904       | 904       | 1 119     | 1 119     | 1 119     |
| B     | 218       | 218       | 218       | 218       | 218       | 218       | 218       | 248       | 248       |
| C     | 354       | 454       | 669       | 669       | 884       | 884       | 1 099     | 1 099     | 1 099     |



# LASER & LOW BODY Fan Coil Units

2 & 4 pipe system

A complete range from 0.7 kW up to 9.95 kW



**TUC03 Terminal unit controller**  
BacNET and N2 Metasys network compatible



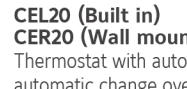
**CSL00 (Built in)  
CSR00 (Wall mounted)**  
Fan speed selector



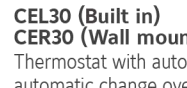
**CEL00 (Built in)  
CER00 (Wall mounted)**  
Thermostat with manual fan speed and automatic change over



**CML00 (Built in)  
CMR00 (Wall mounted)**  
Thermostat with manual fan speed and S/W change over



**CEL20 (Built in)  
CER20 (Wall mounted)**  
Thermostat with auto. fan speed and automatic change over



**CEL30 (Built in)  
CER30 (Wall mounted)**  
Thermostat with auto. fan speed and automatic change over for modulating valve

LASER fan coil units are simple and elegant, discreet in their design. High standards of quality and reliability, combined with a wide range of accessories ensure a total solution for all comfort cooling and heating requirements.

LOW BODY units are part of the LASER Fan Coils Units family. The reduced height cabinet makes them the ideal solution for new or replacement applications where dimensional limitations apply.

## Features

- 6 speed fan
- Cabinet factory fitted
- Valve factory fitted
- Electrical heater factory fitted
- Thermal or modulating valve
- Service valve
- Option front air intake (LASER)
- Optional plenum (LASER)
- ECM inverter option available



Selection software

# LASER & LOW BODY Fan Coil Units

0.7 to 9.95 kW



## Technical features

| Model                                  |        |     | LASER: YLV, YLV-AF, YLH, YLH-AF, YLIV, YLIV-AF, YLIH, YLIH-AF                        |      |      |      |      |      |      |      |      |       |
|----------------------------------------|--------|-----|--------------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|-------|
| Sizes                                  |        |     | 110                                                                                  | 112  | 114  | 216  | 218  | 220  | 222  | 224  | 226  | 328   |
| Total cooling capacity [kW]            | (1)    | max | 1.16                                                                                 | 1.64 | 2.21 | 3.36 | 3.58 | 4.53 | 5.19 | 6.57 | 7.41 | 9.95  |
|                                        |        | med | 0.99                                                                                 | 1.35 | 1.92 | 2.72 | 3.05 | 3.75 | 4.48 | 5.87 | 6.81 | 8.95  |
|                                        |        | min | 0.79                                                                                 | 1.1  | 1.61 | 2.24 | 2.5  | 2.99 | 3.91 | 4.7  | 5.61 | 6.51  |
| Sensible cooling capacity [kW]         | (1)    | max | 0.98                                                                                 | 1.37 | 1.96 | 2.52 | 3.14 | 3.62 | 4.54 | 5.2  | 5.86 | 8.27  |
|                                        |        | med | 0.82                                                                                 | 1.09 | 1.68 | 2.00 | 2.57 | 2.91 | 3.83 | 4.56 | 5.32 | 7.34  |
|                                        |        | min | 0.64                                                                                 | 0.86 | 1.36 | 1.60 | 2.04 | 2.25 | 3.27 | 3.53 | 4.26 | 5.18  |
| Water flow in cooling [l/h]            | (1)    | max | 201                                                                                  | 300  | 394  | 596  | 654  | 802  | 958  | 1167 | 1306 | 1657  |
|                                        |        | med | 173                                                                                  | 244  | 345  | 487  | 553  | 687  | 863  | 1074 | 1224 | 1491  |
|                                        |        | min | 140                                                                                  | 197  | 284  | 398  | 452  | 567  | 741  | 842  | 977  | 1084  |
| Pressure drop in cooling [kPa]         | (1)    | max | 3.4                                                                                  | 7.1  | 5.8  | 14.8 | 13.6 | 24.1 | 28.4 | 18.8 | 21   | 34.2  |
|                                        |        | med | 2.8                                                                                  | 5    | 4.6  | 12.5 | 9.8  | 17.4 | 21.8 | 15.5 | 18.1 | 28.2  |
|                                        |        | min | 2                                                                                    | 3.4  | 3.3  | 8.5  | 6.7  | 11.6 | 17.2 | 10.5 | 12.8 | 14.1  |
| Heating capacity 2 pipes [kW]          | (2)    | max | 1.57                                                                                 | 2.16 | 3.05 | 4.11 | 4.95 | 5.71 | 7.19 | 7.83 | 9.33 | 12.96 |
|                                        |        | med | 1.28                                                                                 | 1.73 | 2.43 | 3.44 | 4.16 | 4.65 | 6.08 | 6.94 | 8.51 | 11.43 |
|                                        |        | min | 1                                                                                    | 1.35 | 2    | 2.75 | 3.35 | 3.61 | 5.25 | 5.45 | 6.86 | 8.02  |
| Water flow in heating 2 pipes [l/h]    | (2)    | max | Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397 |      |      |      |      |      |      |      |      |       |
|                                        |        | med |                                                                                      |      |      |      |      |      |      |      |      |       |
|                                        |        | min |                                                                                      |      |      |      |      |      |      |      |      |       |
| Pressure drop in heating 2 pipes [kPa] | (2)    | max | 2.7                                                                                  | 6.1  | 4.8  | 11.9 | 12.5 | 20   | 23.5 | 15.5 | 20.5 | 30.4  |
|                                        |        | med | 2.3                                                                                  | 4.7  | 3.7  | 8.5  | 9.1  | 14.3 | 18   | 12.7 | 17.6 | 24.9  |
|                                        |        | min | 1.7                                                                                  | 3.1  | 2.8  | 5.7  | 6.3  | 9.5  | 14.2 | 8.7  | 12.4 | 13.8  |
| Heating capacity 4 pipes [kW]          | (3)    | max | 1.12                                                                                 | 1.46 | 2.25 | 3.10 | 3.64 | 4.92 | 5.53 | 6.92 | 7.18 | 9.10  |
|                                        |        | med | 1.02                                                                                 | 1.31 | 2.06 | 2.73 | 3.19 | 4.16 | 4.92 | 6.3  | 6.8  | 8.34  |
|                                        |        | min | 0.79                                                                                 | 1.1  | 1.68 | 2.29 | 2.7  | 3.38 | 4.36 | 5.16 | 5.71 | 6.60  |
| Water flow in heating 4 pipes [l/h]    | (3)    | max | 100                                                                                  | 163  | 199  | 307  | 346  | 445  | 499  | 608  | 642  | 756   |
|                                        |        | med | 86                                                                                   | 134  | 176  | 259  | 294  | 382  | 449  | 562  | 604  | 693   |
|                                        |        | min | 71                                                                                   | 110  | 147  | 214  | 241  | 318  | 386  | 448  | 489  | 548   |
| Pressure drop in heating 4 pipes [kPa] | (3)    | max | 2                                                                                    | 4.4  | 8.83 | 19.3 | 9.0  | 13   | 14.5 | 40.6 | 40   | 58.6  |
|                                        |        | med | 1.6                                                                                  | 3.4  | 7    | 15.2 | 7.1  | 9.7  | 11.9 | 28.8 | 36.4 | 49.9  |
|                                        |        | min | 1.07                                                                                 | 2.4  | 6.27 | 11.4 | 5.0  | 6.7  | 9.6  | 20.3 | 26.8 | 31.9  |
| Air flow [m3/h]                        |        | max | 243                                                                                  | 321  | 436  | 581  | 712  | 871  | 1081 | 1254 | 1481 | 2068  |
|                                        |        | med | 192                                                                                  | 249  | 358  | 456  | 592  | 699  | 929  | 1116 | 1352 | 1725  |
|                                        |        | min | 143                                                                                  | 194  | 289  | 338  | 474  | 538  | 739  | 798  | 999  | 1070  |
| Sound power level [dB(A)]              |        | max | 48                                                                                   | 50   | 54   | 53   | 55   | 54   | 60   | 60   | 63   | 67    |
|                                        |        | med | 42                                                                                   | 45   | 49   | 47   | 50   | 48   | 56   | 56   | 60   | 63    |
|                                        |        | min | 36                                                                                   | 38   | 42   | 40   | 43   | 41   | 50   | 47   | 53   | 52    |
| Sound pressure level [dB(A)]           | (4)    | max | 38                                                                                   | 40   | 42   | 41   | 43   | 41   | 47   | 45   | 50   | 61    |
|                                        |        | med | 33                                                                                   | 35   | 38   | 36   | 39   | 35   | 42   | 44   | 47   | 57    |
|                                        |        | min | 28                                                                                   | 29   | 32   | 29   | 32   | 29   | 38   | 37   | 41   | 46    |
| Power supply [V-ph-Hz]                 |        |     | 230 / 1 / 50 + E                                                                     |      |      |      |      |      |      |      |      |       |
| Power input [W]                        |        | max | 46                                                                                   | 48   | 57   | 61   | 86   | 90   | 117  | 140  | 162  | 213   |
| Absorbed current [A]                   |        | max | 0.22                                                                                 | 0.23 | 0.27 | 0.29 | 0.33 | 0.38 | 0.52 | 0.65 | 0.65 | 1.00  |
| Dimensions                             | Height | mm  | 538                                                                                  | 538  | 538  | 538  | 538  | 614  | 614  | 614  | 614  | 614   |
|                                        | Width  | mm  | 648                                                                                  | 773  | 898  | 1023 | 1148 | 1273 | 1273 | 1523 | 1523 | 1773  |
|                                        | Depth  | mm  | 224                                                                                  | 224  | 224  | 224  | 224  | 254  | 254  | 254  | 254  | 254   |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C  
(3) Room temperature 20°C - Water inlet temperature: 70/60°C.  
(4) Sound pressure level in a 100 m³ room, at 1.5 m distance and reverberating time of 0.3 s.  
max = speed 2, med = speed 3 min = speed 5 when using selection software



Manufacturer reserves the rights to change specifications without prior notice.

# LASER & LOW BODY Fan Coil Units

0.7 to 9.95 kW



## Technical features

| Model                                  |        |     | LOW BODY: YLVR, YLIVR                                                                |      |      |      |      |
|----------------------------------------|--------|-----|--------------------------------------------------------------------------------------|------|------|------|------|
| Sizes                                  |        |     | 110                                                                                  | 112  | 114  | 216  | 218  |
| Total cooling capacity [kW]            | (1)    | max | 0.94                                                                                 | 1.46 | 2.11 | 2.72 | 3.37 |
|                                        |        | med | 0.84                                                                                 | 1.22 | 1.77 | 2.37 | 2.95 |
|                                        |        | min | 0.69                                                                                 | 0.97 | 1.42 | 1.95 | 2.58 |
| Sensible cooling capacity [kW]         | (1)    | max | 0.83                                                                                 | 1.19 | 1.69 | 2.16 | 2.64 |
|                                        |        | med | 0.72                                                                                 | 0.97 | 1.38 | 1.86 | 2.29 |
|                                        |        | min | 0.57                                                                                 | 0.75 | 1.09 | 1.5  | 1.97 |
| Water flow in cooling [l/h]            | (1)    | max | 162                                                                                  | 251  | 364  | 467  | 580  |
|                                        |        | med | 145                                                                                  | 211  | 305  | 409  | 509  |
|                                        |        | min | 119                                                                                  | 168  | 246  | 336  | 444  |
| Pressure drop in cooling [kPa]         | (1)    | max | 2.1                                                                                  | 4    | 12.6 | 6.9  | 18.4 |
|                                        |        | med | 1.7                                                                                  | 2.9  | 9.3  | 5.5  | 14.6 |
|                                        |        | min | 1.2                                                                                  | 1.9  | 6.3  | 3.9  | 11.5 |
| Heating capacity 2 pipes [kW]          | (2)    | max | 1.39                                                                                 | 2.01 | 2.83 | 3.64 | 4.43 |
|                                        |        | med | 1.23                                                                                 | 1.69 | 2.32 | 3.13 | 3.83 |
|                                        |        | min | 0.98                                                                                 | 1.28 | 1.83 | 2.52 | 3.30 |
| Water flow in heating 2 pipes [l/h]    | (2)    | max | Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397 |      |      |      |      |
|                                        |        | med |                                                                                      |      |      |      |      |
|                                        |        | min |                                                                                      |      |      |      |      |
| Pressure drop in heating 2 pipes [kPa] | (2)    | max | 1.7                                                                                  | 3.2  | 4.3  | 5.6  | 14.9 |
|                                        |        | med | 1.4                                                                                  | 2.4  | 3    | 4.4  | 11.9 |
|                                        |        | min | 1.0                                                                                  | 1.6  | 2    | 3.1  | 9.3  |
| Heating capacity 4 pipes [kW]          | (3)    | max | 1.15                                                                                 | 1.83 | 2.43 | 3.27 | 3.65 |
|                                        |        | med | 1.02                                                                                 | 1.53 | 2.03 | 2.85 | 3.2  |
|                                        |        | min | 0.83                                                                                 | 1.22 | 1.64 | 2.34 | 2.8  |
| Water flow in heating 4 pipes [l/h]    | (3)    | max | 101                                                                                  | 161  | 213  | 286  | 320  |
|                                        |        | med | 90                                                                                   | 134  | 177  | 250  | 280  |
|                                        |        | min | 73                                                                                   | 107  | 144  | 205  | 245  |
| Pressure drop in heating 4 pipes [kPa] | (3)    | max | 2.2                                                                                  | 4.6  | 10.5 | 18.9 | 5.7  |
|                                        |        | med | 1.7                                                                                  | 3.3  | 7.6  | 14.9 | 4.5  |
|                                        |        | min | 1.2                                                                                  | 2.2  | 5.2  | 10.5 | 3.6  |
| Air flow [m3/h]                        |        | max | 243                                                                                  | 321  | 446  | 574  | 691  |
|                                        |        | med | 203                                                                                  | 246  | 343  | 470  | 570  |
|                                        |        | min | 149                                                                                  | 178  | 253  | 356  | 470  |
| Sound power level [dB(A)]              |        | max | 50                                                                                   | 51   | 54   | 54   | 56   |
|                                        |        | med | 44                                                                                   | 46   | 49   | 48   | 51   |
|                                        |        | min | 37                                                                                   | 39   | 43   | 41   | 44   |
| Sound pressure level [dB(A)]           | (4)    | max | 40                                                                                   | 41   | 44   | 44   | 46   |
|                                        |        | med | 34                                                                                   | 36   | 39   | 38   | 41   |
|                                        |        | min | 27                                                                                   | 29   | 33   | 31   | 34   |
| Power supply [V-ph-Hz]                 |        |     | 230 / 1 / 50 + E                                                                     |      |      |      |      |
| Power input [W]                        |        | max | 46                                                                                   | 48   | 57   | 81   | 86   |
| Absorbed current [A]                   |        | max | 0.22                                                                                 | 0.23 | 0.28 | 0.39 | 0.42 |
| Dimensions                             | Height | mm  | 430                                                                                  | 430  | 430  | 430  | 430  |
|                                        | Width  | mm  | 648                                                                                  | 773  | 898  | 1023 | 1148 |
|                                        | Depth  | mm  | 254                                                                                  | 254  | 254  | 254  | 224  |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C  
(3) Room temperature 20°C - Water inlet temperature: 70/60°C.  
(4) Sound pressure level in a 100 m<sup>3</sup> room, at 1.5 m distance and riverberating time of 0.3 s.  
max = speed 2, med = speed 3 min = speed 5 when using selection software



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# Options / Accessories

## Compatibility table / Codes

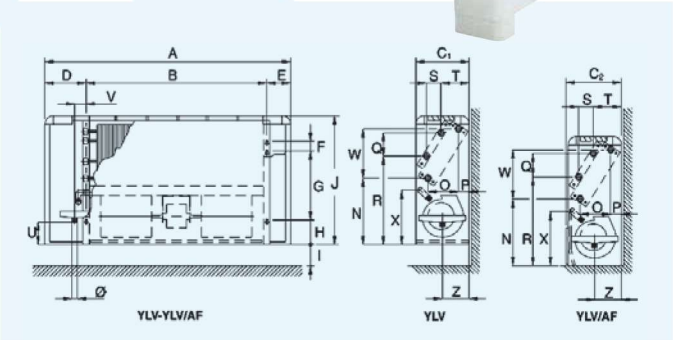
| Model                                                                                      |            | LASER |     |     |     |     |     |     |     |     |     | LOW BODY |     |     |     |     |
|--------------------------------------------------------------------------------------------|------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|-----|-----|
| Sizes                                                                                      |            | 110   | 112 | 114 | 216 | 218 | 220 | 222 | 224 | 226 | 228 | 110      | 112 | 114 | 216 | 218 |
| With Cabinet                                                                               |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| YLV-YLH                                                                                    | 2/3/4 rows | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| YLV-YLH/AF Front air intake                                                                | 2/3/4 rows | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| YLV-R                                                                                      | 2/3 rows   |       |     |     |     |     |     |     |     |     |     | •        | •   | •   | •   | •   |
| Without Cabinet                                                                            |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| YLIV-YLIH                                                                                  | 2/3/4 rows | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| YLIV-YLIH/AF Front air intake                                                              | 2/3/4 rows | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| YLIV-R                                                                                     | 2/3 rows   |       |     |     |     |     |     |     |     |     |     | •        | •   | •   | •   | •   |
| Options (Factory fitted)                                                                   |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| Coil and heaters                                                                           |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| 1 row heating                                                                              | BA1        | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   | •        | •   | •   | •   | •   |
| Kit electrical heater (with relay and safety switch)                                       | KREL       | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   | •        | •   | •   | •   | •   |
| Built in thermostat                                                                        |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| Fan speed selector                                                                         | CSL00      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Thermostat with manual fan speed and S/W change over                                       | CML00      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Thermostat with manual fan speed, dead band, automatic change over                         | CEL00      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Thermostat with automatic fan speed, dead band, automatic change over                      | CEL20      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Thermostat with automatic fan speed, dead band, automatic change over for modulating valve | CEL30      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Parallel connection                                                                        |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| For ON/OFF valve one/FCU                                                                   | CBL20      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| For modulating valve one/FCU                                                               | CBL30      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| 3 way valve factory fitted                                                                 |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| For 2 pipe systems ON/OFF                                                                  | J3A2 (2p)  |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| For 4 pipe systems ON/OFF                                                                  | J3A2 (4p)  |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| 3 way modulating valve factory fitted                                                      |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| For 2 pipe systems Modulating                                                              | J3AM (2p)  |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| For 4 pipe systems Modulating                                                              | J3AM (4p)  |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Shut off valves factory fitted                                                             |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| For 2 pipe systems                                                                         | DT (2p)    |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| For 4 pipe systems                                                                         | DT (4p)    |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Condensate pump                                                                            | PC         |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| WS sensor change over for CEL/CER                                                          | WS         |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Minimum temperature thermostat                                                             | TM         |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Accessories (Supplied loose)                                                               |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| Remote controllers and thermostat (wall mounted)                                           |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| Fan speed selector                                                                         | CSR00      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Thermostat with manual fan speed and S/W change over                                       | CMR00      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Thermostat with manual fan speed, dead band, automatic change over                         | CER00      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Thermostat with automatic fan speed, dead band, automatic change over                      | CER20      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Thermostat with automatic fan speed, dead band, automatic change over for modulating valve | CER30      |       |     |     |     |     |     |     |     | •   |     |          |     |     |     |     |
| Feet and panel (1)                                                                         |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| Set of painted feet                                                                        | CP1        | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| Set of painted feet + frontal socle                                                        | ZL1        | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| Vertical painted back panel                                                                | PPV1       | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| Horizontal painted back panel                                                              | PPH1       | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| Plenums and air intake (1)                                                                 |            |       |     |     |     |     |     |     |     |     |     |          |     |     |     |     |
| Air intake plenum                                                                          | PA         | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| Air intake plenum with collars                                                             | PAS        | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| 90° air intake plenum                                                                      | PA90       | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| Air intake duct fitting                                                                    | RCA        | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| Air delivery plenum with collars                                                           | PM         | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |
| 90° air delivery plenum                                                                    | PM90       | •     | •   | •   | •   | •   | •   | •   | •   | •   | •   |          |     |     |     |     |

(1) for check compatibility with the models of FCU see compatibility table

# Dimensions & Weights

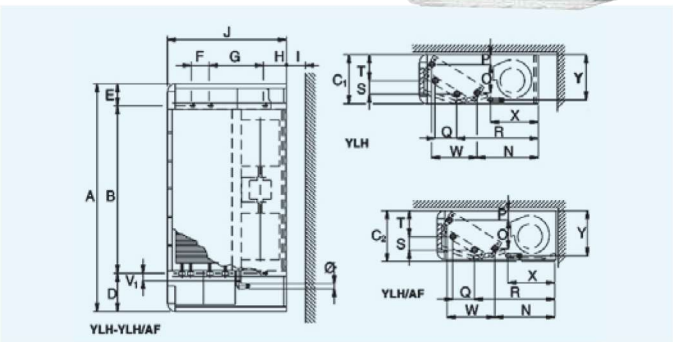
## LASER: YLV - YLV/AF

VERTICAL

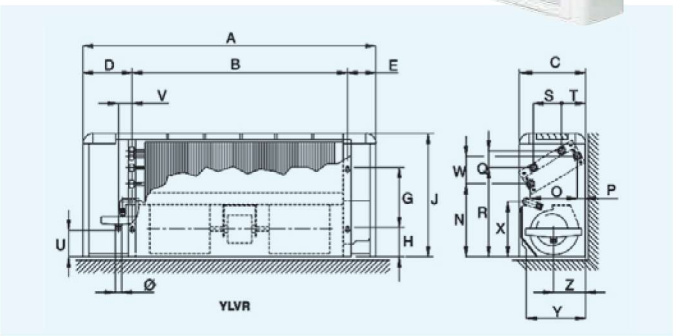


## LASER: YLH - YLH/AF

HORIZONTAL



## LOW BODY: YLVR



### YLVR

- R= low body
- V= vertical

### YLH-AF & YLV-AF

- AF= front air intake
- V= vertical
- H= horizontal

| Dim | 110 | 112 | 114 | 216  | 218  | 220  | 222  | 224  | 226  | 328  |
|-----|-----|-----|-----|------|------|------|------|------|------|------|
| A   | 648 | 773 | 898 | 1023 | 1148 | 1273 | 1273 | 1523 | 1523 | 1773 |
| B   | 374 | 499 | 624 | 749  | 874  | 999  | 999  | 1249 | 1249 | 1499 |
| C1  | 224 | 224 | 224 | 224  | 224  | 254  | 254  | 254  | 254  | 254  |
| C2  | 233 | 233 | 233 | 233  | 233  | 263  | 263  | 263  | 263  | 263  |
| D   | 174 | 174 | 174 | 174  | 174  | 174  | 174  | 174  | 174  | 174  |
| E   | 100 | 100 | 100 | 100  | 100  | 100  | 100  | 100  | 100  | 100  |
| F   | 40  | 40  | 40  | 40   | 40   | 40   | 40   | 40   | 40   | 40   |
| G   | 280 | 280 | 280 | 280  | 280  | 356  | 356  | 356  | 356  | 356  |
| H   | 101 | 101 | 101 | 101  | 101  | 101  | 101  | 101  | 101  | 101  |
| I   | 85  | 85  | 85  | 85   | 85   | 85   | 85   | 85   | 85   | 85   |
| J   | 538 | 538 | 538 | 538  | 538  | 614  | 614  | 614  | 614  | 614  |
| N   | 266 | 266 | 266 | 266  | 266  | 299  | 299  | 299  | 299  | 299  |
| O   | 113 | 113 | 113 | 113  | 113  | 138  | 138  | 138  | 138  | 138  |
| P   | 48  | 48  | 48  | 48   | 48   | 53   | 53   | 53   | 53   | 53   |
| Q   | 87  | 87  | 87  | 87   | 87   | 87   | 87   | 87   | 87   | 87   |
| R   | 355 | 355 | 355 | 355  | 355  | 409  | 409  | 409  | 409  | 409  |
| S   | 50  | 50  | 50  | 50   | 50   | 50   | 50   | 50   | 50   | 50   |
| T   | 117 | 117 | 117 | 117  | 117  | 135  | 135  | 135  | 135  | 135  |
| U   | 90  | 90  | 90  | 90   | 90   | 116  | 116  | 116  | 116  | 116  |
| V   | 47  | 47  | 47  | 47   | 47   | 47   | 47   | 47   | 47   | 47   |
| V1  | 28  | 28  | 28  | 28   | 28   | 28   | 28   | 28   | 28   | 28   |
| W   | 195 | 195 | 195 | 195  | 195  | 238  | 238  | 238  | 238  | 238  |
| X   | 219 | 219 | 219 | 219  | 219  | 252  | 252  | 252  | 252  | 252  |
| Y   | 205 | 205 | 205 | 205  | 205  | 235  | 235  | 235  | 235  | 235  |
| Z   | 109 | 109 | 109 | 109  | 109  | 122  | 122  | 122  | 122  | 122  |
| Ø   | 20  | 20  | 20  | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| kg1 | 18  | 20  | 23  | 28   | 31   | 41   | 44   | 52   | 52   | 58   |
| kg2 | 19  | 21  | 24  | 30   | 32   | 43   | 46   | 54   | 54   | 61   |

Notes: 1=YLVR / YLH - 2=YLVR/AF / YLH/AF (All dimensions in mm)

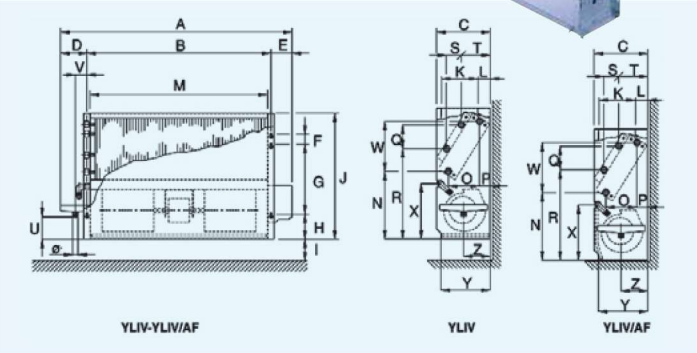
| Dim | 110 | 112 | 114 | 216  | 218  |
|-----|-----|-----|-----|------|------|
| A   | 648 | 773 | 898 | 1023 | 1148 |
| B   | 374 | 499 | 624 | 749  | 874  |
| C   | 254 | 254 | 254 | 254  | 254  |
| D   | 174 | 174 | 174 | 174  | 174  |
| E   | 100 | 100 | 100 | 100  | 100  |
| G   | 170 | 170 | 170 | 170  | 170  |
| H   | 101 | 101 | 101 | 101  | 101  |
| J   | 430 | 430 | 430 | 430  | 430  |
| N   | 245 | 245 | 245 | 245  | 245  |
| O   | 154 | 154 | 154 | 154  | 154  |
| P   | 31  | 31  | 31  | 31   | 31   |
| Q   | 47  | 47  | 47  | 47   | 47   |
| R   | 304 | 304 | 304 | 304  | 304  |
| S   | 88  | 88  | 88  | 88   | 88   |
| T   | 87  | 87  | 87  | 87   | 87   |
| U   | 65  | 65  | 65  | 65   | 65   |
| V   | 47  | 47  | 47  | 47   | 47   |
| W   | 84  | 84  | 84  | 84   | 84   |
| X   | 214 | 214 | 214 | 214  | 214  |
| Z   | 109 | 109 | 109 | 109  | 109  |
| Ø   | 20  | 20  | 20  | 20   | 20   |
| kg  | 15  | 17  | 22  | 23   | 26   |

(All dimensions in mm)

# Dimensions & Weights

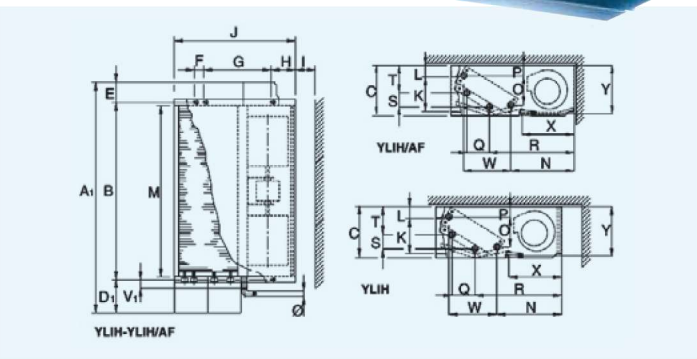
## LASER: YLIV - YLIV/AF

VERTICAL

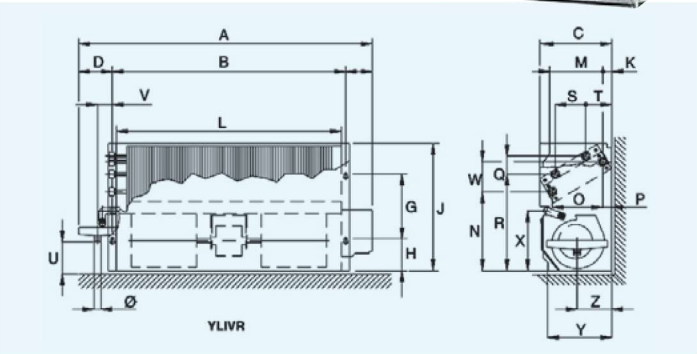


## LASER: YLIH - YLIH/AF

HORIZONTAL



## LOW BODY: YLIVR



| YLIV & YLIH          | YLIV-AF & YLIH-AF      | YLIVR                |
|----------------------|------------------------|----------------------|
| ▮ V= vertical        | ▮ AF= front air intake | ▮ R= low body        |
| ▮ H= horizontal      | ▮ V= vertical          | ▮ V= vertical        |
| ▮ I= without cabinet | ▮ H= horizontal        | ▮ I= without cabinet |
|                      | ▮ I= without cabinet   |                      |

| Dim | 110 | 112 | 114 | 216 | 218  | 220  | 222  | 224  | 226  | 328  |
|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| A   | 555 | 680 | 805 | 930 | 1055 | 1180 | 1180 | 1430 | 1430 | 1680 |
| A 1 | 574 | 699 | 824 | 949 | 1074 | 1199 | 1199 | 1449 | 1449 | 1699 |
| B   | 374 | 499 | 624 | 749 | 874  | 999  | 999  | 1249 | 1249 | 1499 |
| C   | 215 | 215 | 215 | 215 | 215  | 245  | 245  | 245  | 245  | 245  |
| D   | 109 | 109 | 109 | 109 | 109  | 109  | 109  | 109  | 109  | 109  |
| D 1 | 128 | 128 | 128 | 128 | 128  | 128  | 128  | 128  | 128  | 128  |
| E   | 72  | 72  | 72  | 72  | 72   | 72   | 72   | 72   | 72   | 72   |
| F   | 40  | 40  | 40  | 40  | 40   | 40   | 40   | 40   | 40   | 40   |
| G   | 280 | 280 | 280 | 280 | 280  | 356  | 356  | 356  | 356  | 356  |
| H   | 101 | 101 | 101 | 101 | 101  | 101  | 101  | 101  | 101  | 101  |
| I   | 85  | 85  | 85  | 85  | 85   | 85   | 85   | 85   | 85   | 85   |
| J   | 505 | 505 | 505 | 505 | 505  | 581  | 581  | 581  | 581  | 581  |
| K   | 110 | 110 | 110 | 110 | 110  | 125  | 125  | 125  | 125  | 125  |
| L   | 55  | 55  | 55  | 55  | 55   | 60   | 60   | 60   | 60   | 60   |
| M   | 349 | 474 | 599 | 724 | 849  | 974  | 974  | 1224 | 1224 | 1474 |
| N   | 266 | 266 | 266 | 266 | 266  | 299  | 299  | 299  | 299  | 299  |
| O   | 113 | 113 | 113 | 113 | 113  | 138  | 138  | 138  | 138  | 138  |
| P   | 48  | 48  | 48  | 48  | 48   | 53   | 53   | 53   | 53   | 53   |
| Q   | 87  | 87  | 87  | 87  | 87   | 87   | 87   | 87   | 87   | 87   |
| R   | 355 | 355 | 355 | 355 | 355  | 409  | 409  | 409  | 409  | 409  |
| S   | 50  | 50  | 50  | 50  | 50   | 50   | 50   | 50   | 50   | 50   |
| T   | 117 | 117 | 117 | 117 | 117  | 135  | 135  | 135  | 135  | 135  |
| U   | 90  | 90  | 90  | 90  | 90   | 116  | 116  | 116  | 116  | 116  |
| V   | 47  | 47  | 47  | 47  | 47   | 47   | 47   | 47   | 47   | 47   |
| V 1 | 28  | 28  | 28  | 28  | 28   | 28   | 28   | 28   | 28   | 28   |
| W   | 195 | 195 | 195 | 195 | 195  | 238  | 238  | 238  | 238  | 238  |
| X   | 219 | 219 | 219 | 219 | 219  | 252  | 252  | 252  | 252  | 252  |
| Y   | 200 | 200 | 200 | 200 | 200  | 230  | 230  | 230  | 230  | 230  |
| Z   | 109 | 109 | 109 | 109 | 109  | 122  | 122  | 122  | 122  | 122  |
| Ø   | 20  | 20  | 20  | 20  | 20   | 20   | 20   | 20   | 20   | 20   |
| kg  | 10  | 13  | 16  | 19  | 22   | 29   | 31   | 38   | 38   | 42   |

(All dimensions in mm)

| Dim | 110 | 112 | 114 | 216 | 218  |
|-----|-----|-----|-----|-----|------|
| A   | 555 | 680 | 805 | 930 | 1055 |
| B   | 374 | 499 | 624 | 749 | 874  |
| C   | 230 | 230 | 230 | 230 | 230  |
| D   | 108 | 108 | 108 | 108 | 108  |
| E   | 73  | 73  | 73  | 73  | 73   |
| G   | 170 | 170 | 170 | 170 | 170  |
| H   | 101 | 101 | 101 | 101 | 101  |
| J   | 395 | 395 | 395 | 395 | 395  |
| K   | 61  | 61  | 61  | 61  | 61   |
| L   | 349 | 474 | 599 | 724 | 849  |
| M   | 127 | 127 | 127 | 127 | 127  |
| N   | 245 | 245 | 245 | 245 | 245  |
| O   | 154 | 154 | 154 | 154 | 154  |
| P   | 31  | 31  | 31  | 31  | 31   |
| Q   | 47  | 47  | 47  | 47  | 47   |
| R   | 304 | 304 | 304 | 304 | 304  |
| S   | 88  | 88  | 88  | 88  | 88   |
| T   | 87  | 87  | 87  | 87  | 87   |
| U   | 65  | 65  | 65  | 65  | 65   |
| V   | 47  | 47  | 47  | 47  | 47   |
| W   | 84  | 84  | 84  | 84  | 84   |
| X   | 214 | 214 | 214 | 214 | 214  |
| Y   | 201 | 201 | 201 | 201 | 201  |
| Z   | 109 | 109 | 109 | 109 | 109  |
| Ø   | 20  | 20  | 20  | 20  | 20   |
| kg  | 9   | 11  | 14  | 16  | 19   |

(All dimensions in mm)



# LASER & LOW BODY Fan Coil Units

## Compatibility tables



**CSL00 (Built in)  
CSR00 (Wall mounted)**  
Fan speed selector



**CEL00 (Built in)  
CER00 (Wall mounted)**  
Thermostat with manual fan speed and automatic change over



**CML00 (Built in)  
CMR00 (Wall mounted)**  
Thermostat with manual fan speed and S/W change over

**CEL20 (Built in)  
CER20 (Wall mounted)**  
Thermostat with auto. fan speed and automatic change over

**CEL30 (Built in)  
CER30 (Wall mounted)**  
Thermostat with auto. fan speed and automatic change over for modulating valve

### Features CEL/CER

- Dead band for change over 5°C or 2°C (factory set 2°C)
- Manual fan speeds or automatic (models 20 and 30)
- Thermostated fan control or continuous fan running
- Option water sensor WS for change over on coil (for 2 pipes)
- Led indicated status summer, winter or dead band
- Temperature setting for 7 to 30°C (comfort 20–25°C)
- Plastic pins for limiting temperature range
- Input for window contact
- Input for Economy/ occupancy mode
- Output for remote alarm
- Filter alarm 600 or 1200 running hours (factory set 1200 hours)
- With electrical heater post ventilation
- With Air sensor in the air intake destratification function (CEL only)

## Compatibility table Thermostats / Valves / Heaters / Parallel connection / Water sensor / Minimum temperature thermostat

| Factory fitted thermostat (built in)                                                             | Valves for 2 pipes |           | Valves for 4 pipes |           | Heaters | Parallel connection |            | Water sensor | Min. Temp. Thermostat |
|--------------------------------------------------------------------------------------------------|--------------------|-----------|--------------------|-----------|---------|---------------------|------------|--------------|-----------------------|
|                                                                                                  | J3A2 (2p)          | J3AM (2p) | J3A2 (4p)          | J3AM (4p) |         | ON/OFF              | Modulating |              |                       |
| CSL00 Fan speed selector                                                                         |                    |           |                    |           |         | •                   |            |              | •                     |
| CML00 Thermostat with manual fan speed and S/W change over                                       | •                  |           | •                  |           |         | •                   |            |              | •                     |
| CEL00 Thermostat with manual fan speed, dead band, automatic change over                         | •                  |           | •                  |           | •       | •                   |            | •            | •                     |
| CEL20 Thermostat with automatic fan speed, dead band, automatic change over                      | •                  |           | •                  |           | •       | •                   |            | •            | •                     |
| CEL30 Thermostat with automatic fan speed, dead band, automatic change over for modulating valve |                    | •         |                    | •         |         |                     | •          | •            | •                     |
| Remote controllers and thermostats (wall mounted)                                                |                    |           |                    |           |         |                     |            |              |                       |
| CSR00 Fan speed selector                                                                         |                    |           |                    |           |         | •                   |            |              | •                     |
| CMR00 Thermostat with manual fan speed and S/W change over                                       | •                  |           | •                  |           |         | •                   |            |              | •                     |
| CER00 Thermostat with manual fan speed, dead band, automatic change over                         | •                  |           | •                  |           | •       | •                   |            | •            | •                     |
| CER20 Thermostat with automatic fan speed, dead band, automatic change over                      | •                  |           | •                  |           | •       | •                   |            | •            | •                     |
| CER30 Thermostat with automatic fan speed, dead band, automatic change over for modulating valve |                    | •         |                    | •         |         |                     | •          | •            | •                     |

• Compatible    ☐ Not compatible

# LASER & LOW BODY Fan Coil Units

## Compatibility tables



### Compatibility Options / Accessories / Models

|                                                                                           |                                                                                             | STANDARD                           |     |        |        |           |      |         |         | LOW BODY |       |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------|-----|--------|--------|-----------|------|---------|---------|----------|-------|
|                                                                                           |                                                                                             | LASER                              |     |        |        | CONCEALED |      |         |         |          |       |
| Code                                                                                      | Designation                                                                                 | YLV                                | YLH | YLV-AF | YLH-AF | YLIV      | YLIH | YLIV-AF | YLIH-AF | YLVR     | YLIVR |
| Coils and heaters**                                                                       |                                                                                             |                                    |     |        |        |           |      |         |         |          |       |
| BA1**                                                                                     | Additional 1 row heating                                                                    | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| KREL**                                                                                    | Kit electrical heater with safety thermostat and relay                                      | •                                  | •   | •      | •      | •         | •    | •       | •       |          |       |
| Factory fitted thermostat (built in)                                                      |                                                                                             |                                    |     |        |        |           |      |         |         |          |       |
| CSL00                                                                                     | Fan speed selector (built in)                                                               | •                                  |     | •      |        | •         |      | •       |         | •        | •     |
| CML00                                                                                     | Thermostat with manual fan speed and S/W change over                                        | •                                  |     | •      |        | •         |      | •       |         | •        | •     |
| CEL00                                                                                     | Thermostat with manual fan speed, dead band, automatic change over                          | Compatible with electrical heaters |     |        |        |           |      |         |         | •        | •     |
| CEL20                                                                                     | Thermostat with automatic fan speed, dead band, automatic change over                       | Compatible with electrical heaters |     |        |        |           |      |         |         | •        | •     |
| CEL30                                                                                     | Thermostat with automatic fan speed, dead band, automatic change over for modulating valves | •                                  |     | •      |        | •         |      | •       |         | •        | •     |
| CBL20                                                                                     | Parallel connection for ON/OFF valve                                                        | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| CBL30                                                                                     | Parallel connection for modulating valve                                                    | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| Remote controllers and thermostats (wall mounted)                                         |                                                                                             |                                    |     |        |        |           |      |         |         |          |       |
| CSR00                                                                                     | Fan speed selector (wall mounted)                                                           | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| CMR00                                                                                     | Thermostat with manual fan speed and S/W change over                                        | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| CER00                                                                                     | Thermostat with manual fan speed, dead band, automatic change over                          | Compatible with electrical heaters |     |        |        |           |      |         |         | •        | •     |
| CER20                                                                                     | Thermostat with automatic fan speed, dead band, automatic change over                       | Compatible with electrical heaters |     |        |        |           |      |         |         | •        | •     |
| CER30                                                                                     | Thermostat with automatic fan speed, dead band, automatic change over for modulating valves | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| Valves / Condensate pump / Water sensor / Minimum temperature thermostat (Factory fitted) |                                                                                             |                                    |     |        |        |           |      |         |         |          |       |
| J3A2 (2p)                                                                                 | 3-way 4-ports on/off valves for 2-pipe systems                                              | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| J3A2 (4p)                                                                                 | 3-way 4-ports on/off valves for 4-pipe systems                                              | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| J3AM (2p)                                                                                 | 3-way 4-ports modulating valves for 2-pipe systems                                          | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| J3AM (4p)                                                                                 | 3-way 4-ports modulating valves for 4-pipe systems                                          | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| DT (2p)                                                                                   | Shut-off valves for 2-pipe systems (in addition to J3A2/J3AM valves)                        | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| DT (4p)                                                                                   | Shut-off valves for 4-pipe systems (in addition to J3A2/J3AM valves)                        | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| PC                                                                                        | Condensate pump                                                                             | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| WS                                                                                        | Water sensor                                                                                | Compatible with CEL/CER            |     |        |        |           |      |         |         |          |       |
| TM                                                                                        | Minimum temperature thermostat                                                              | •                                  | •   | •      | •      | •         | •    | •       | •       | •        | •     |
| Feet and panels                                                                           |                                                                                             |                                    |     |        |        |           |      |         |         |          |       |
| CP1                                                                                       | Set of painted feet                                                                         | •                                  |     |        |        | •         |      |         |         |          |       |
| ZL1                                                                                       | Set of feet + frontal socle                                                                 | •                                  |     |        |        |           |      |         |         |          |       |
| PPV1                                                                                      | Vertical painted back panel                                                                 | •                                  |     | •      |        |           |      |         |         | •        |       |
| PPH1                                                                                      | Horizontal painted back panel                                                               |                                    | •   |        | •      |           |      |         |         |          |       |
| External air intake                                                                       |                                                                                             |                                    |     |        |        |           |      |         |         |          |       |
| PA                                                                                        | Air intake plenum                                                                           |                                    |     |        |        |           | •    |         |         |          |       |
| PAS                                                                                       | Air intake plenum collars                                                                   |                                    |     |        |        |           | •    |         |         |          |       |
| PA90                                                                                      | 90° air intake plenum                                                                       |                                    |     |        |        |           | •    |         |         |          |       |
| RCA                                                                                       | Air intake duct fitting                                                                     |                                    |     |        |        |           | •    |         |         |          |       |
| PM                                                                                        | Air delivery plenum with collars                                                            |                                    |     |        |        | •         | •    | •       | •       |          | •     |
| PM90                                                                                      | 90° air delivery plenum                                                                     |                                    |     |        |        | •         | •    | •       | •       |          | •     |

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Compatible

Compatible with conditions

Not compatible

\*\* Maximum of rows is indicated in the documentation, the maximum number of rows includes the heating row or electrical heater.

# LASER ECM and LOW BODY ECM

0.6 to 9.35 kW



## Technical features

| Model                                  |        |          | LASER ECM                                                                            |      |      |      |      |       |       | LOW BODY ECM |      |      |    |
|----------------------------------------|--------|----------|--------------------------------------------------------------------------------------|------|------|------|------|-------|-------|--------------|------|------|----|
| Sizes                                  |        | (*)      | 512                                                                                  | 514  | 516  | 520  | 522  | 524   | 528   | 112          | 114  | 216  |    |
| Total cooling capacity [kW]            |        | max ...v | 2.01                                                                                 | 2.61 | 3.85 | 5.10 | 5.89 | 7.56  | 9.35  | 1.72         | 2.41 | 2.98 |    |
|                                        |        | med ...v | 1.44                                                                                 | 1.83 | 2.54 | 3.90 | 4.45 | 5.68  | 6.99  | 1.30         | 1.89 | 2.25 |    |
|                                        |        | min ...v | 0.74                                                                                 | 0.94 | 1.51 | 2.73 | 3.06 | 4.09  | 4.91  | 0.62         | 0.93 | 1.17 |    |
| Sensible cooling capacity [kW]         | (1)    | max      | 1.68                                                                                 | 2.17 | 3.18 | 4.17 | 4.88 | 6.18  | 7.68  | 1.17         | 1.96 | 2.44 |    |
|                                        |        | med      | 1.17                                                                                 | 1.50 | 2.02 | 3.05 | 3.53 | 4.45  | 5.55  | 1.11         | 1.54 | 1.87 |    |
|                                        |        | min      | 0.55                                                                                 | 0.78 | 1.21 | 2.10 | 2.35 | 3.14  | 3.76  | 0.47         | 0.74 | 0.96 |    |
| Water flow in cooling [l/h]            | (1)    | max      | 334                                                                                  | 434  | 665  | 847  | 982  | 1258  | 1558  | 295          | 396  | 504  |    |
|                                        |        | med      | 241                                                                                  | 306  | 423  | 650  | 743  | 946   | 1164  | 224          | 324  | 387  |    |
|                                        |        | min      | 123                                                                                  | 156  | 252  | 455  | 509  | 680   | 819   | 106          | 160  | 195  |    |
| Pressure drop in cooling [kPa]         | (1)    | max      | 9.5                                                                                  | 6.5  | 14.6 | 16.9 | 22.2 | 16.8  | 31.3  | 5.6          | 14.7 | 7.8  |    |
|                                        |        | med      | 5.4                                                                                  | 3.4  | 8.5  | 10.6 | 13.5 | 10.0  | 18.5  | 3.2          | 10.2 | 4.8  |    |
|                                        |        | min      | 1.7                                                                                  | 1.1  | 3.9  | 5.6  | 6.8  | 5.5   | 9.7   | 0.9          | 2.9  | 1.4  |    |
| Heating capacity 2 pipes [kW]          | (2)    | max      | 2.79                                                                                 | 3.69 | 4.13 | 6.86 | 7.97 | 10.03 | 12.35 | 2.06         | 3.22 | 3.98 |    |
|                                        |        | med      | 2.02                                                                                 | 2.65 | 4.13 | 5.24 | 5.93 | 7.43  | 9.13  | 1.81         | 2.55 | 3.08 |    |
|                                        |        | min      | 1.06                                                                                 | 1.38 | 2.22 | 3.71 | 4.15 | 5.39  | 6.43  | 0.80         | 1.20 | 1.67 |    |
| Water flow in heating 2 pipes [l/h]    | (2)    | max      | Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397 |      |      |      |      |       |       |              |      |      |    |
|                                        |        | med      |                                                                                      |      |      |      |      |       |       |              |      |      |    |
|                                        |        | min      |                                                                                      |      |      |      |      |       |       |              |      |      |    |
| Pressure drop in heating 2 pipes [kPa] | (2)    | max      | 8.0                                                                                  | 5.4  | 12.7 | 14.6 | 19.1 | 14.9  | 26.9  | 4.5          | 12.0 | 6.4  |    |
|                                        |        | med      | 5.3                                                                                  | 3.5  | 8.7  | 17.6 | 18.2 | 10.7  | 23.0  | 2.6          | 8.3  | 2.9  |    |
|                                        |        | min      | 1.3                                                                                  | 0.9  | 3.4  | 4.7  | 5.7  | 4.9   | 8.0   | 0.7          | 2.3  | 1.1  |    |
| Heating capacity 4 pipes [kW]          | (3)    | max      | 2.03                                                                                 | 2.73 | 3.63 | 5.52 | 6.17 | 8.12  | 8.89  | 1.81         | 2.66 | 3.74 |    |
|                                        |        | med      | 1.59                                                                                 | 2.10 | 2.87 | 4.52 | 4.96 | 6.51  | 7.14  | 1.65         | 2.24 | 3.00 |    |
|                                        |        | min      | 0.97                                                                                 | 1.29 | 2.21 | 3.49 | 3.79 | 5.11  | 5.59  | 0.84         | 1.20 | 1.90 |    |
| Water flow in heating 4 pipes [l/h]    | (3)    | max      | 171                                                                                  | 228  | 352  | 466  | 518  | 683   | 742   | 159          | 230  | 330  |    |
|                                        |        | med      | 134                                                                                  | 177  | 267  | 383  | 420  | 552   | 603   | 145          | 195  | 253  |    |
|                                        |        | min      | 82                                                                                   | 109  | 189  | 297  | 322  | 434   | 475   | 74           | 105  | 167  |    |
| Pressure drop in heating 4 pipes [kPa] | (3)    | max      | 5.6                                                                                  | 10.0 | 20.5 | 21.1 | 25.9 | 45.4  | 56.9  | 4.7          | 11.5 | 23.0 |    |
|                                        |        | med      | 3.9                                                                                  | 6.4  | 13.6 | 14.3 | 17.2 | 30.3  | 38.4  | 3.7          | 8.8  | 15.8 |    |
|                                        |        | min      | 1.4                                                                                  | 2.6  | 8.4  | 8.7  | 10.2 | 19.2  | 24.2  | 1.1          | 2.9  | 6.7  |    |
| Air flow [m3/h]                        |        | max      | 456                                                                                  | 570  | 792  | 1082 | 1197 | 1567  | 2034  | 432          | 583  | 710  |    |
|                                        |        | med      | 298                                                                                  | 376  | 487  | 757  | 819  | 1080  | 1353  | 286          | 379  | 475  |    |
|                                        |        | min      | 138                                                                                  | 173  | 287  | 504  | 514  | 715   | 875   | 128          | 172  | 223  |    |
| Sound power level [dB(A)]              |        | max      | 55                                                                                   | 59   | 57   | 57   | 62   | 63    | 69    | 55           | 57   | 53   |    |
|                                        |        | med      | 44                                                                                   | 48   | 47   | 46   | 51   | 53    | 59    | 45           | 46   | 45   |    |
|                                        |        | min      | 25                                                                                   | 29   | 37   | 35   | 39   | 43    | 48    | 31           | 34   | 33   |    |
| Sound pressure level [dB(A)]           | (4)    | max      | 47                                                                                   | 52   | 51   | 50   | 56   | 56    | 63    | 47           | 50   | 47   |    |
|                                        |        | med      | 37                                                                                   | 42   | 41   | 40   | 45   | 47    | 53    | 38           | 40   | 39   |    |
|                                        |        | min      | 22                                                                                   | 23   | 31   | 28   | 33   | 37    | 42    | 28           | 28   | 27   |    |
| Power supply [V-ph-Hz]                 |        |          | 230 / 1 / 50 + E                                                                     |      |      |      |      |       |       |              |      |      |    |
| Power input [W]                        |        |          | max                                                                                  | 31   | 47   | 42   | 46   | 76    | 89    | 168          | 32   | 46   | 40 |
| Dimensions                             | Height | mm       | 623                                                                                  | 623  | 623  | 699  | 699  | 699   | 699   | 395          | 395  | 395  |    |
|                                        | Width  | mm       | 773                                                                                  | 898  | 1023 | 1273 | 1273 | 1523  | 1773  | 680          | 805  | 930  |    |
|                                        | Depth  | mm       | 224                                                                                  | 224  | 224  | 254  | 254  | 254   | 254   | 230          | 230  | 230  |    |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C  
(3) Room temperature 20°C - Water inlet temperature: 70/60°C.  
(4) Sound pressure level in a 100 m³ room, at 1.5 m distance and riverberating time of 0.3 s.  
(\*) 512 - 514 (3v-6v-9v)  
(\*) 516 (2v-5v-10v)  
(\*) 520 - 522 - 524 - 528 (3v-6v-10v)



Manufacturer reserves the rights to change specifications without prior notice.



# LASER ECM and LOW BODY ECM

## Compatibility tables



### Compatibility Options / Accessories / Models

|                                                                                           |                                                                      | STANDARD                                         |     |        |        |               |      |         |         | LOW BODY-ECM |        |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------|-----|--------|--------|---------------|------|---------|---------|--------------|--------|
|                                                                                           |                                                                      | LASER-ECM                                        |     |        |        | CONCEALED-ECM |      |         |         |              |        |
| Code                                                                                      | Designation                                                          | YLV                                              | YLH | YLV-AF | YLH-AF | YLIV          | YLIH | YLIV-AF | YLIH-AF | YLV-R        | YLIV-R |
| Coils and heaters**                                                                       |                                                                      |                                                  |     |        |        |               |      |         |         |              |        |
| BA1**                                                                                     | Additional 1 row heating                                             | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| KREL**                                                                                    | Kit electrical heater with safety thermostat and relay               | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       |              |        |
| Factory fitted thermostat (built in)                                                      |                                                                      |                                                  |     |        |        |               |      |         |         |              |        |
| EDCL                                                                                      | Microprocessor control for ECM units                                 | ●                                                |     | ●      |        | ●             |      | ●       |         | ●            | ●      |
| OBV11-ODC711                                                                              | Omnibus control for ECM units + Analogue Plus console                | ●                                                |     | ●      |        | ●             |      | ●       |         | ●            | ●      |
| OBV11-ODC211                                                                              | Omnibus control for ECM units + Display console                      | ●                                                |     | ●      |        | ●             |      | ●       |         | ●            | ●      |
| Remote controllers and thermostats (wall mounted)                                         |                                                                      |                                                  |     |        |        |               |      |         |         |              |        |
| EDCR                                                                                      | Microprocessor control for ECM units, for wall installation          | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| OBV10+ODC716                                                                              | Omnibus control for ECM units + Remote Analogue Plus console         | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| OBV10+ODC216                                                                              | Omnibus control for ECM units + Remote Display console               | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| Valves / Condensate pump / Water sensor / Minimum temperature thermostat (Factory fitted) |                                                                      |                                                  |     |        |        |               |      |         |         |              |        |
| J3A2 (2p)                                                                                 | 3-way 4-ports on/off valves for 2-pipe systems                       | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| J3A2 (4p)                                                                                 | 3-way 4-ports on/off valves for 4-pipe systems                       | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| J3AM (2p)                                                                                 | 3-way 4-ports modulating valves for 2-pipe systems                   | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| J3AM (4p)                                                                                 | 3-way 4-ports modulating valves for 4-pipe systems                   | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| DT (2p)                                                                                   | Shut-off valves for 2-pipe systems (in addition to J3A2/J3AM valves) | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| DT (4p)                                                                                   | Shut-off valves for 4-pipe systems (in addition to J3A2/J3AM valves) | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| PC                                                                                        | Condensate pump                                                      | ●                                                | ●   | ●      | ●      | ●             | ●    | ●       | ●       | ●            | ●      |
| WS                                                                                        | Water sensor                                                         | Compatible with all the above listed controllers |     |        |        |               |      |         |         |              |        |
| Feet and panels                                                                           |                                                                      |                                                  |     |        |        |               |      |         |         |              |        |
| CP1                                                                                       | Set of painted feet                                                  | ●                                                |     |        |        | ●             |      |         |         |              |        |
| ZL1                                                                                       | Set of feet + frontal socle                                          | ●                                                |     |        |        |               |      |         |         |              |        |
| PPV1                                                                                      | Vertical painted back panel                                          | ●                                                |     | ●      |        |               |      |         |         | ●            |        |
| PPH1                                                                                      | Horizontal painted back panel                                        |                                                  | ●   |        | ●      |               |      |         |         |              |        |
| External air intake                                                                       |                                                                      |                                                  |     |        |        |               |      |         |         |              |        |
| PA                                                                                        | Air intake plenum                                                    |                                                  |     |        |        |               | ●    |         |         |              |        |
| PAS                                                                                       | Air intake plenum collars                                            |                                                  |     |        |        |               | ●    |         |         |              |        |
| PA90                                                                                      | 90° air intake plenum                                                |                                                  |     |        |        |               | ●    |         |         |              |        |
| RCA                                                                                       | Air intake duct fitting                                              |                                                  |     |        |        |               | ●    |         |         |              |        |
| PM                                                                                        | Air delivery plenum with collars                                     |                                                  |     |        |        | ●             | ●    | ●       | ●       |              | ●      |
| PM90                                                                                      | 90° air delivery plenum                                              |                                                  |     |        |        | ●             | ●    | ●       | ●       |              | ●      |

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Compatible

Compatible with conditions

Not compatible

\*\* Maximum of rows is indicated in the documentation, the maximum number of rows includes the heating row or electrical heater.

# YEFB Hydro Blower

2 & 4 pipe system

A complete range from 2.8 kW up to 31.5 kW



**CSR00 (Wall mounted)**  
Fan speed selector



**CMR00 (Wall mounted)**  
Thermostat with manual fan speed and S/W change over



**CER00 (Wall mounted)**  
Thermostat with manual fan speed and automatic change over

**CER20 (Wall mounted)**  
Thermostat with auto. fan speed and automatic change over

**CER30 (Wall mounted)**  
Thermostat with auto. fan speed and automatic change over for modulating valve



**TUC03 Terminal unit controller**  
BacNET and N2 Metasys network compatible

YEFB Blower units are available in 6 sizes for horizontal concealed installations: thanks to their high ESP fans that can handle up to 250Pa, they are the ideal solution for air conditioning large spaces.



Selection software

## Features

- 6 unit sizes for horizontal mounting
- Handles high external static pressure up to 250Pa
- Choice of 2 or 4 pipe systems
- Twin centrifugal fans
- Horizontal air return
- Air distribution plenum
- Electric heater option
- Optional paint finish
- F5 grade filter option
- 5 Row cooling coil option on sizes 060, 070

# YEFB Hydro Blower

2.8 to 31.5 kW



## Unit performance at 50 Pa external static pressure, with 4 row cooling coil

| Model YEFB                             |        |      | 020-4                                                                                | 030-4 | 040-4   | 050-4   | 060-4   | 070-4   |
|----------------------------------------|--------|------|--------------------------------------------------------------------------------------|-------|---------|---------|---------|---------|
| Total cooling capacity [kW]            | (1)    | max  | 7.14                                                                                 | 10.12 | 12.84   | 15.02   | 19.92   | 24.31   |
|                                        |        | med  | 5.40                                                                                 | 8.29  | 10.82   | 13.04   | 16.31   | 19.72   |
|                                        |        | min  | 3.33                                                                                 | 7.00  | 8.98    | 11.66   | 13.53   | 18.11   |
| Sensible cooling capacity [kW]         | (1)    | max  | 5.90                                                                                 | 8.62  | 11.31   | 13.51   | 17.17   | 22.14   |
|                                        |        | med  | 4.23                                                                                 | 6.53  | 8.94    | 11.42   | 13.67   | 19.05   |
|                                        |        | min  | 2.42                                                                                 | 5.27  | 7.03    | 7.90    | 11.08   | 17.11   |
| Water flow in cooling [l/h]            | (1)    | max  | 1 225                                                                                | 1 736 | 2 204   | 2 577   | 3 418   | 4 171   |
|                                        |        | med  | 927                                                                                  | 1 422 | 1 856   | 2 238   | 2 799   | 3 384   |
|                                        |        | min  | 571                                                                                  | 1 201 | 1 541   | 2 000   | 2 321   | 3 107   |
| Pressure drop in cooling [kPa]         | (1)    | max  | 27.9                                                                                 | 35.0  | 38.3    | 52.4    | 19.1    | 27.6    |
|                                        |        | med  | 17.7                                                                                 | 24.0  | 27.9    | 39.9    | 13.2    | 23.4    |
|                                        |        | min  | 8.1                                                                                  | 17.6  | 19.6    | 32.1    | 9.4     | 20.1    |
| Heating capacity 2 pipes [kW]          | (2)    | max  | 9.93                                                                                 | 14.24 | 18.43   | 21.47   | 28.24   | 36.11   |
|                                        |        | med  | 7.40                                                                                 | 11.11 | 15.55   | 18.51   | 23.55   | 33.19   |
|                                        |        | min  | 4.01                                                                                 | 9.13  | 12.03   | 16.24   | 19.36   | 31.31   |
| Water flow in heating 2 pipes [l/h]    | (2)    | max  | Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397 |       |         |         |         |         |
|                                        |        | med  |                                                                                      |       |         |         |         |         |
|                                        |        | min  |                                                                                      |       |         |         |         |         |
| Pressure drop in heating 2 pipes [kPa] | (2)    | max  | 15.5                                                                                 | 31.1  | 34.7    | 47.6    | 17.0    | 28.2    |
|                                        |        | med  | 8.8                                                                                  | 21.5  | 25.2    | 36.3    | 11.6    | 25.1    |
|                                        |        | min  | 2.0                                                                                  | 15.6  | 17.9    | 29.7    | 8.3     | 21.1    |
| Heating capacity 2 pipes [kW]          | (3)    | max  | 16.78                                                                                | 24.42 | 31.16   | 36.33   | 48.45   | 62.46   |
|                                        |        | med  | 12.49                                                                                | 18.93 | 26.2    | 31.24   | 39.13   | 56.49   |
|                                        |        | min  | 6.75                                                                                 | 15.47 | 20.23   | 27.39   | 32.07   | 53.22   |
| Water flow in heating 2 pipes [l/h]    | (3)    | max  | 1 349                                                                                | 2 145 | 2 467   | 2 927   | 3 917   | 5 392   |
|                                        |        | med  | 1 102                                                                                | 1 662 | 2 059   | 2 511   | 3 222   | 5 092   |
|                                        |        | min  | 591                                                                                  | 1 359 | 1 695   | 2 216   | 2 638   | 4 618   |
| Pressure drop in heating 2 pipes [kPa] | (3)    | max  | 17.8                                                                                 | 37.1  | 38.9    | 55      | 19.4    | 34.1    |
|                                        |        | med  | 9.9                                                                                  | 24.8  | 27.6    | 41      | 13.7    | 30.3    |
|                                        |        | min  | 2.3                                                                                  | 17.5  | 19.2    | 32.7    | 9.6     | 25.3    |
| Air flow [m3/h]                        |        | max  | 1 387                                                                                | 2 160 | 2 760   | 3 513   | 4 118   | 5 541   |
|                                        |        | med  | 928                                                                                  | 1 450 | 2 076   | 2 746   | 3 176   | 4 928   |
|                                        |        | min  | 491                                                                                  | 1 115 | 1 545   | 2 320   | 2 548   | 4 340   |
| Sound power level [dB(A)]              |        | max  | 63.8                                                                                 | 65.4  | 70.1    | 70.4    | 76.6    | 78.4    |
|                                        |        | med  | 53.5                                                                                 | 59.7  | 63.0    | 67.1    | 69.3    | 75.6    |
|                                        |        | min  | 47.2                                                                                 | 54.9  | 56.4    | 63.2    | 64.2    | 72.9    |
| Sound pressure level [dB(A)]           | (4)    | max  | 53.2                                                                                 | 54.8  | 59.5    | 61.9    | 66.0    | 69.1    |
|                                        |        | med  | 42.9                                                                                 | 49.1  | 52.4    | 56.4    | 58.8    | 66.4    |
|                                        |        | min  | 33.1                                                                                 | 44.3  | 45.8    | 52.6    | 53.6    | 63.8    |
| Power supply [V-ph-Hz]                 |        |      | 230 / 1 / 50                                                                         |       |         |         |         |         |
| Power input [W]                        | max    | 187  | 392                                                                                  | 508   | 703     | 1 056   | 1 794   |         |
| Absorbed current [A]                   | max    | 0.82 | 1.90                                                                                 | 2.24  | 3.08    | 4.85    | 8.05    |         |
| Dimensions                             | Height | mm   | 407.6                                                                                | 407.6 | 407.6   | 407.6   | 517.6   | 517.6   |
|                                        | Width  | mm   | 902                                                                                  | 902   | 902     | 902     | 1 160   | 1 160   |
|                                        | Depth  | mm   | 989.6                                                                                | 989.6 | 1 239.6 | 1 239.6 | 1 634.6 | 1 634.6 |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C  
(3) Room temperature 20°C - Water inlet temperature: 70/60°C  
(4) Sound pressure level in a 100 m³ room, at 1 m distance and riverberating time of 0.3 s.  
4 pipe system not available with 4R coil  
4 pipe system not available with 4R heating coil



Manufacturer reserves the rights to change specifications without prior notice.



# YGFC Fan Coil Unit

2 & 4 pipe system

A complete range from 1.4 kW to 14.1 kW



Commercial Fan Coil Unit range, the YGFC Series is designed specially to meet the varied requirements of zone cooling or heating using chilled water or hot water. However in order to meet the growing demand in city centres where loads are high and space at a premium, YGFC units have a coil option suitable for use in 'district cooling' systems, thus helping reduce pumping power while increasing the overall system efficiency.

## Features

- 10 unit sizes, suitable for horizontal or vertical mounting
- Models with or without casing
- 3 speed 'whisper quiet' fans
- District cooling coil option allows reduction in pump power and increase in system efficiency
- Single coil 3, or 4 rows
- Double coil 3 or 4 rows (cooling) & 1 row (heating)
- Electric heating option
- Blue Hydrophilic coated coil protection for increased product life
- Units are suitable for external static pressures of up to 60 Pa



Selection software

# YGFC Fan Coil Unit

1.4 to 14.1 kW



## Technical features

| Model for YGFC MOD B           |         |     | 02 ST CB         | 03 ST CB | 04 ST CB | 05 ST CB | 06 ST CB | 07 ST CB | 08 ST CB | 10 ST CB | 12 T CB | 14 ST CB |
|--------------------------------|---------|-----|------------------|----------|----------|----------|----------|----------|----------|----------|---------|----------|
| Total cooling capacity [kW]    | (1) (2) | max | 2.39             | 3.47     | 3.88     | 4.86     | 6.3      | 6.66     | 8.32     | 9.11     | 11.69   | 14.16    |
|                                |         | med | 2.07             | 3.03     | 3.46     | 4.48     | 5.66     | 6.02     | 7.68     | 8.36     | 10.31   | 13.24    |
|                                |         | min | 1.42             | 2.14     | 2.64     | 3.48     | 4.18     | 4.61     | 5.88     | 6.64     | 7.9     | 10.23    |
| Sensible cooling capacity [kW] | (1) (2) | max | 1.61             | 2.35     | 2.64     | 3.34     | 4.39     | 4.64     | 5.8      | 6.43     | 8.13    | 9.82     |
|                                |         | med | 1.4              | 2.04     | 2.34     | 3.06     | 3.89     | 4.16     | 5.31     | 5.86     | 7.1     | 9.05     |
|                                |         | min | 0.91             | 1.41     | 1.76     | 2.37     | 2.89     | 3.16     | 4.06     | 4.55     | 5.36    | 6.88     |
| Water flow in cooling [l/h] *  | (1) (2) | max | 410              | 598      | 666      | 839      | 1 084    | 1 148    | 1 433    | 1 570    | 2 012   | 2 441    |
|                                |         | med | 356              | 522      | 598      | 770      | 976      | 1 037    | 1 321    | 1 440    | 1 775   | 2 282    |
|                                |         | min | 270              | 382      | 461      | 598      | 720      | 792      | 1 012    | 1 141    | 1 361   | 1 760    |
| Pressure drop in cooling [kPa] | (1) (2) | max | 33               | 40.4     | 46.1     | 50.5     | 38.1     | 39.9     | 41.9     | 36.3     | 52.6    | 80.9     |
|                                |         | med | 25.8             | 32       | 37       | 46.5     | 31.2     | 34.1     | 37.2     | 30.5     | 44.3    | 75.1     |
|                                |         | min | 13.9             | 19.3     | 22.3     | 38.5     | 20.2     | 23.5     | 25.8     | 20.2     | 29.1    | 49.3     |
| Air flow [m3/h]                |         | max | 323              | 458      | 535      | 708      | 959      | 995      | 1 244    | 1 436    | 1 798   | 2 162    |
|                                |         | med | 274              | 392      | 460      | 626      | 827      | 862      | 1 121    | 1 281    | 1 505   | 1 909    |
|                                |         | min | 178              | 278      | 347      | 489      | 579      | 646      | 848      | 954      | 1 102   | 1 398    |
| Sound power level [dB(A)]      |         | max | 38.5             | 40.3     | 42       | 45.5     | 47       | 47       | 47.5     | 48.5     | 51      | 52.5     |
|                                |         | med | 37               | 38       | 41       | 44.5     | 45       | 45       | 46.5     | 47       | 48      | 50       |
|                                |         | min | 31.5             | 34.1     | 37.5     | 38.9     | 39.4     | 39.8     | 40.6     | 42.4     | 41.2    | 43.9     |
| Power supply [V-ph-Hz]         |         |     | 220 V/1 Ph/50 Hz |          |          |          |          |          |          |          |         |          |
| Power input [W]                |         | max | 41               | 53       | 57       | 78       | 112      | 104      | 151      | 158      | 217     | 277      |
|                                |         | med | 37               | 48       | 52       | 72       | 103      | 94       | 136      | 149      | 199     | 248      |
|                                |         | min | 30               | 41       | 45       | 80       | 87       | 93       | 123      | 143      | 174     | 207      |
| Dimensions                     | Height  | mm  | 630              | 780      | 880      | 930      | 1 030    | 1 200    | 1 400    | 1 450    | 1 700   | 1 950    |
|                                | Width   | mm  | 541              | 541      | 541      | 541      | 541      | 541      | 541      | 541      | 541     | 541      |
|                                | Depth   | mm  | 233              | 233      | 233      | 233      | 233      | 233      | 233      | 233      | 233     | 233      |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) The above data is based on 4 Rows with nylon filter  
(3) ESP @ 30 pa  
\* Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397



Manufacturer reserves the rights to change specifications without prior notice.

# YHK Hydro Cassette

2 & 4 pipe system

A complete range from 1.3 kW to 11.1 kW



Coloured versions available as an option

YHK Hydro Cassette units are simple and elegant, discreet in their design. High standards of quality and reliability, combined with a wide range of accessories ensure a total solution for all comfort cooling and heating requirements.



Selection software

## Wired controls



### JWC-3V

Remote three speeds controller

### JWC-T

JWC-3V + Electronic thermostat and Summer/Winter switch

### JWC-AU

Automatic JWC-T



### JTM-B

Digital Automatic Remote controller

### TMO 503 SV2

Digital Automatic Remote controller to be mounted in the standard light wall box



## Infrared control



### TUC03 Terminal unit controller

BacNET and N2 Metasys network compatible

## Features

- Cooling duty from 1.3 to 11.1 kW
- 2 & 4 pipes systems in all range
- 2 sizes: 600 x 600 & 800 x 800
- Possible choice between 6 fan speeds
- Condensate pump integrated in all range
- 2/3 way valves fitted or supplied loose in all range
- Coloured versions, possible to change the colour of the grill and the frame
- Possible to select a complete range of controls
- Electric heater fitted as an option for all range (2 pipe only)
- All metal parts insulated to avoid condensations



# YHK Hydro Cassette

1.3 to 11.1 kW



## Technical features

| Model -2 pipes                         |        |     | YHK 20-2      | YHK 25-2 | YHK 40-2 | YHK 50-2 | YHK 65-2 | YHK 95-2 | YHK 110-2 |
|----------------------------------------|--------|-----|---------------|----------|----------|----------|----------|----------|-----------|
| Total cooling capacity 2 Pipes [kW]    | (1)    | max | 2.0           | 2.7      | 4.3      | 5.0      | 6.2      | 9.5      | 11.1      |
|                                        |        | med | 1.6           | 2.3      | 3.3      | 3.9      | 4.9      | 6.8      | 8.5       |
|                                        |        | min | 1.3           | 1.8      | 2.3      | 2.9      | 4.2      | 5.3      | 5.3       |
| Sensible cooling capacity 2 Pipes [kW] | (1)    | max | 1.6           | 2.0      | 3.2      | 3.7      | 4.6      | 6.5      | 8.3       |
|                                        |        | med | 1.3           | 1.8      | 2.4      | 2.8      | 3.6      | 4.5      | 6.1       |
|                                        |        | min | 1.0           | 1.4      | 1.6      | 2.1      | 3.0      | 3.5      | 3.7       |
| Water flow in cooling 2 Pipes [l/h]    | (1)    | max | 340           | 461      | 745      | 863      | 1 060    | 1 636    | 1 909     |
|                                        |        | med | 280           | 402      | 574      | 667      | 845      | 1 166    | 1 453     |
|                                        |        | min | 219           | 316      | 387      | 506      | 724      | 913      | 913       |
| Pressure drop in cooling 2 Pipes [kPa] | (1)    | max | 10            | 9.7      | 15.1     | 19.7     | 21.6     | 26.9     | 35.6      |
|                                        |        | med | 7             | 7.6      | 9.4      | 12.4     | 14.3     | 14.7     | 21.8      |
|                                        |        | min | 4.5           | 4.9      | 4.6      | 7.5      | 10.9     | 9.4      | 9.4       |
| Heating capacity 2 pipes [kW]          | (2)    | max | 2.6           | 3.4      | 5.2      | 6.2      | 7.8      | 10.71    | 14.0      |
|                                        |        | med | 2.1           | 2.9      | 3.9      | 4.6      | 6.0      | 7.34     | 10.3      |
|                                        |        | min | 1.6           | 2.2      | 2.6      | 3.4      | 5.1      | 5.61     | 6.1       |
| Water flow in heating 2 pipes [l/h] *  | (2)    | max | 340           | 461      | 745      | 863      | 1 060    | 1 636    | 1 909     |
|                                        |        | med | 280           | 402      | 574      | 667      | 845      | 1 166    | 1 453     |
|                                        |        | min | 219           | 316      | 387      | 506      | 724      | 913      | 913       |
| Pressure drop in heating 2 pipes [kPa] | (2)    | max | 9             | 8.2      | 11.4     | 17.7     | 15.1     | 23       | 30.6      |
|                                        |        | med | 6             | 6.3      | 7.3      | 11.2     | 9.9      | 12.4     | 18.6      |
|                                        |        | min | 4             | 4.1      | 3.5      | 6.7      | 6.7      | 7.9      | 7.9       |
| Heating capacity 2 pipes [kW]          | (3)    | max | 4.6           | 5.7      | 9.3      | 10.6     | 13.1     | 19.8     | 23.7      |
|                                        |        | med | 3.7           | 4.9      | 7        | 8.3      | 10.7     | 13.4     | 17.3      |
|                                        |        | min | 2.8           | 4.2      | 4.9      | 6.1      | 8.6      | 10.3     | 10.3      |
| Water flow in heating 2 pipes [l/h]    | (3)    | max | 393           | 488      | 795      | 914      | 1 130    | 1 699    | 2 037     |
|                                        |        | med | 315           | 422      | 598      | 709      | 874      | 1 155    | 1 484     |
|                                        |        | min | 240           | 360      | 415      | 524      | 741      | 882      | 882       |
| Pressure drop in heating 2 pipes [kPa] | (3)    | max | 9.9           | 8.4      | 12.5     | 16       | 17.5     | 20.9     | 28.9      |
|                                        |        | med | 6.5           | 6.4      | 7.6      | 10       | 11.3     | 10.6     | 16        |
|                                        |        | min | 4             | 4.8      | 4        | 5.9      | 8.4      | 6.7      | 6.7       |
| Model -4 pipes                         |        |     | YHK 20-4      | YHK 25-4 | YHK 40-4 | YHK 50-4 | YHK 65-4 | YHK 95-4 | YHK 110-4 |
| Total cooling capacity 4 Pipes [kW]    | (1)    | max | 2.3           | 2.7      | 3.3      | 3.8      | 6.3      | 7.7      | 8.9       |
|                                        |        | med | 2.0           | 2.4      | 2.7      | 3.0      | 5.0      | 5.7      | 6.9       |
|                                        |        | min | 1.5           | 1.9      | 1.9      | 2.4      | 4.1      | 4.5      | 4.5       |
| Sensible cooling capacity 4 Pipes [kW] | (1)    | max | 1.9           | 2.0      | 2.6      | 3.0      | 4.7      | 5.8      | 6.8       |
|                                        |        | med | 1.6           | 1.7      | 2.0      | 2.3      | 3.7      | 4.2      | 5.2       |
|                                        |        | min | 1.2           | 1.3      | 1.3      | 1.8      | 3.0      | 3.3      | 3.3       |
| Water flow in cooling 4 pipes [l/h]    | (1)    | max | 401           | 464      | 574      | 655      | 1 090    | 1 326    | 1 529     |
|                                        |        | med | 337           | 406      | 456      | 519      | 865      | 974      | 1 192     |
|                                        |        | min | 260           | 318      | 318      | 406      | 712      | 777      | 777       |
| Pressure drop in cooling 4 pipes [kPa] | (1)    | max | 13.5          | 8.8      | 13.4     | 17       | 18.9     | 26.9     | 34.7      |
|                                        |        | med | 10            | 6.9      | 8.8      | 11.2     | 12.5     | 15.4     | 22.1      |
|                                        |        | min | 6             | 4.6      | 4.6      | 7.2      | 8.8      | 10.3     | 10.3      |
| Heating capacity 4 pipes [kW]          | (3)    | max | 3.0           | 3.5      | 4.4      | 5.0      | 9.1      | 11.0     | 12.7      |
|                                        |        | med | 2.5           | 3.0      | 3.5      | 4.0      | 7.2      | 8.1      | 10.0      |
|                                        |        | min | 2.0           | 2.4      | 2.4      | 3.1      | 5.9      | 6.5      | 6.5       |
| Water flow in heating 4 pipes [l/h]    | (3)    | max | 261           | 298      | 378      | 426      | 783      | 946      | 1 092     |
|                                        |        | med | 219           | 260      | 298      | 341      | 618      | 697      | 858       |
|                                        |        | min | 169           | 209      | 209      | 267      | 508      | 555      | 555       |
| Pressure drop in heating 4 pipes [kPa] | (3)    | max | 14.5          | 10.8     | 16.6     | 20.5     | 21.4     | 29.9     | 38.8      |
|                                        |        | med | 10.5          | 8.5      | 10.8     | 13.8     | 14       | 17.4     | 25.3      |
|                                        |        | min | 6.5           | 5.7      | 5.7      | 8.8      | 9.8      | 11.5     | 11.5      |
| Air flow [m3/h]                        |        | max | 610           | 520      | 710      | 880      | 1140     | 1500     | 1 820     |
|                                        |        | med | 420           | 420      | 500      | 610      | 820      | 970      | 1 280     |
|                                        |        | min | 310           | 310      | 320      | 430      | 630      | 710      | 710       |
| Sound power level [dB(A)]              |        | max | 49            | 45       | 53       | 59       | 48       | 53       | 58        |
|                                        |        | med | 40            | 40       | 45       | 49       | 40       | 40       | 48        |
|                                        |        | min | 33            | 33       | 33       | 41       | 33       | 34       | 34        |
| Sound pressure level [dB(A)]           | (4)    | max | 40            | 36       | 44       | 50       | 39       | 44       | 49        |
|                                        |        | med | 31            | 31       | 36       | 40       | 31       | 31       | 39        |
|                                        |        | min | 24            | 24       | 24       | 32       | 24       | 25       | 25        |
| Power supply [V-ph-Hz]                 |        |     | 230V/1ph/50hZ |          |          |          |          |          |           |
| Power input [W]                        |        | max | 57            | 44       | 68       | 90       | 77       | 120      | 170       |
| Absorbed current [A]                   |        | max | 0.27          | 0.20     | 0.32     | 0.45     | 0.36     | 0.53     | 0.74      |
| Water content (2 pipes) [l]            |        |     | 8.0           | 1.4      | 2.1      | 2.1      | 3.0      | 4.0      | 4.0       |
| Dimensions                             | Height | mm  | 275           | 275      | 275      | 275      | 303      | 303      | 303       |
|                                        | Width  | mm  | 575           | 575      | 575      | 575      | 820      | 820      | 820       |
|                                        | Depth  | mm  | 575           | 575      | 575      | 575      | 820      | 820      | 820       |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C - Water flow rate as for the cooling conditions.  
(3) Room temperature 20°C - Water inlet temperature: 70/60°C  
(4) Sound pressure level in a 100 m² room, at 1,5 m distance and riverberating time of 0,3 s.  
\* Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397



Manufacturer reserves the rights to change specifications without prior notice.

# YHK-ECM Inverter Hydro Cassette

2 & 4 pipe system

A complete range from 1.8 kW to 10.8 kW



Coloured versions available as an option

## Wired control

### JTM-B

Wall control with display that allows controlling one or more units in Master/Slave mode. The control is equipped with internal sensor to detect the room temperature, which can be defined as a priority compared to the return air sensor on the fan coil.



## Infrared control



**TUC03 Terminal unit controller**  
BacNET and N2 Metasys network compatible

YHK ECM water cassette is the result of significant technical and design research focused on providing an avant-garde product in terms of performance, low noise and control flexibility. YHK ECM series uses an innovative brushless electric motor controlled by an inverter card that varies the air flow continuously by means of a 0-10 V signal. The extreme efficiency, also at a low speed, makes it possible to greatly reduce electrical consumption (more than 75% less in comparison to a traditional motor) with absorption values, under normal operating conditions, that are no greater than 10 Watt in the entire range.

## Features

- Cooling duty from 1.8 to 10.8 kW
- YHK: models with infrared control (standard)
- YHK-MP: models with wired control (accessory)
- 2 (-2) & 4 (-4 or -6) pipes systems
- 2 sizes: 600 x 600 & 800 x 800
- Condensate pump integrated in all range
- 2/3 way valves fitted or supplied loose in all range
- Coloured versions, possible to change the colour of the grid and the frame
- All metal parts insulated to avoid condensations
- Inverter fan motor for a very quiet operation
- Electrical consumption reduced by up to 75%
- Specific range of controllers with master-slave function



Selection software

# YHK-ECM Inverter Hydro Cassette

1.8 to 10.8 kW



## Technical features

| Model -2 pipes                         |     |         | YHK-ECM 25-2 | YHK-ECM 40-2 | YHK-ECM 50-2 | YHK-ECM 65-2 | YHK-ECM 95-2 |
|----------------------------------------|-----|---------|--------------|--------------|--------------|--------------|--------------|
| Total cooling capacity 2 Pipes [kW]    | (1) | max 10v | 2.8          | 4.3          | 5.0          | 6.3          | 10.8         |
|                                        |     | med 5v  | 2.2          | 3.1          | 3.9          | 5.2          | 7.7          |
|                                        |     | min 1v  | 1.8          | 2.2          | 2.6          | 4.2          | 5.3          |
| Sensible cooling capacity 2 Pipes [kW] | (1) | max     | 2.1          | 3.2          | 3.7          | 4.7          | 7.9          |
|                                        |     | med     | 1.6          | 2.2          | 2.8          | 3.8          | 5.5          |
|                                        |     | min     | 1.4          | 1.6          | 1.8          | 3.0          | 3.7          |
| Water flow in cooling 2 Pipes [l/h]    | (1) | max     | 473          | 744          | 864          | 1 089        | 1 848        |
|                                        |     | med     | 373          | 524          | 666          | 885          | 1 328        |
|                                        |     | min     | 317          | 385          | 441          | 723          | 909          |
| Pressure drop in cooling 2 Pipes [kPa] | (1) | max     | 10.1         | 15.1         | 19.7         | 22.7         | 33.6         |
|                                        |     | med     | 6.6          | 9.4          | 12.4         | 15.6         | 18.5         |
|                                        |     | min     | 4.9          | 4.6          | 5.9          | 10.9         | 9.4          |
| Heating capacity 2 pipes [kW]          | (2) | max     | 3.4          | 5.2          | 6.2          | 8.0          | 12.7         |
|                                        |     | med     | 2.7          | 3.6          | 4.6          | 6.4          | 8.8          |
|                                        |     | min     | 2.2          | 2.6          | 3.0          | 5.1          | 5.9          |
| Pressure drop in heating 2 pipes [kPa] | (2) | max     | 8.7          | 13.1         | 17.7         | 19.5         | 28.8         |
|                                        |     | med     | 5.5          | 6.6          | 10.5         | 12.8         | 14.9         |
|                                        |     | min     | 4.0          | 3.6          | 4.7          | 8.7          | 7.2          |

| Model -4 pipes                         |        |     | YHK-ECM 25-4  | YHK-ECM 40-6 | YHK-ECM 50-6 | YHK-ECM 65-4 | YHK-ECM 95-6 |
|----------------------------------------|--------|-----|---------------|--------------|--------------|--------------|--------------|
| Total cooling capacity 4 Pipes [kW]    | (1)    | max | 2.8           | 3.9          | 4.5          | 6.5          | 9.9          |
|                                        |        | med | 2.2           | 2.8          | 3.5          | 5.3          | 7.2          |
|                                        |        | min | 1.9           | 2.1          | 2.4          | 4.3          | 5.0          |
| Sensible cooling capacity 4 Pipes [kW] | (1)    | max | 2.1           | 3.0          | 3.5          | 4.8          | 7.4          |
|                                        |        | med | 1.6           | 2.0          | 2.6          | 3.8          | 5.2          |
|                                        |        | min | 1.3           | 1.5          | 1.7          | 3.1          | 3.5          |
| Water flow in cooling 4 pipes [l/h]    | (1)    | max | 476           | 676          | 779          | 1 120        | 1 697        |
|                                        |        | med | 375           | 483          | 608          | 908          | 1 233        |
|                                        |        | min | 318           | 359          | 409          | 740          | 856          |
| Pressure drop in cooling 4 pipes [kPa] | (1)    | max | 9.5           | 10.5         | 13.1         | 19.8         | 30.1         |
|                                        |        | med | 6.2           | 5.7          | 8.4          | 13.6         | 17.0         |
|                                        |        | min | 4.6           | 3.5          | 4.1          | 9.4          | 8.8          |
| Heating capacity 4 pipes [kW]          | (3)    | max | 3.6           | 3.4          | 3.8          | 9.4          | 9.5          |
|                                        |        | med | 2.9           | 2.5          | 3.1          | 7.5          | 7.2          |
|                                        |        | min | 2.4           | 2.0          | 2.2          | 6.1          | 5.2          |
| Water flow in heating 4 pipes [l/h]    | (3)    | max | 311           | 288          | 326          | 805          | 818          |
|                                        |        | med | 245           | 217          | 263          | 649          | 616          |
|                                        |        | min | 209           | 170          | 189          | 528          | 449          |
| Pressure drop in heating 4 pipes [kPa] | (3)    | max | 11.7          | 9.0          | 11.0         | 22.5         | 18.0         |
|                                        |        | med | 7.6           | 5.5          | 7.5          | 15.5         | 11.0         |
|                                        |        | min | 5.7           | 3.5          | 4.5          | 10.5         | 6.5          |
| Air flow [m3/h]                        |        | max | 535           | 710          | 880          | 1 165        | 1 770        |
|                                        |        | med | 380           | 445          | 610          | 870          | 1 130        |
|                                        |        | min | 310           | 310          | 360          | 630          | 710          |
| Sound power level [dB(A)]              |        | max | 47            | 54           | 60           | 48           | 57           |
|                                        |        | med | 39            | 43           | 50           | 39           | 47           |
|                                        |        | min | 33            | 33           | 37           | 33           | 34           |
| Sound pressure level [dB(A)]           | (4)    | max | 38            | 45           | 51           | 39           | 48           |
|                                        |        | med | 30            | 34           | 41           | 30           | 38           |
|                                        |        | min | 24            | 24           | 28           | 24           | 25           |
| Power supply [V-ph-Hz]                 |        |     | 230V/1ph/50hZ |              |              |              |              |
| Power input [W]                        |        | max | 16            | 31           | 62           | 33           | 108          |
| Water content (2 pipes) [l]            |        |     | 1.4           | 2.1          | 2.1          | 3.0          | 4.0          |
| Absorbed current [A]                   |        | max | 0.15          | 0.27         | 0.52         | 0.28         | 0.92         |
| Dimensions                             | Height | mm  | 275           | 275          | 275          | 303          | 303          |
|                                        | Width  | mm  | 575           | 575          | 575          | 820          | 820          |
|                                        | Depth  | mm  | 575           | 575          | 575          | 820          | 820          |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C - Water flow rate as for the cooling conditions.  
(3) Room temperature 20°C - Water inlet temperature: 70/60°C  
(4) Sound pressure level in a 100 m² room, at 1,5 m distance and riverberating time of 0,3 s.  
\* Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397



Condensate pump integrated in all sizes



Metal parts insulated to avoid condensation



2 or 3 way valves fitted or supplied loose in all sizes



Outer casing as an option to integrate the water cassette into any enviroment



Manufacturer reserves the rights to change specifications without prior notice.



## Compatibility table / Codes

| Model with AC motor (without air diffuser)                                                                                 |               | YHKY 20                  | YHKY 25  | YHKY 40  | YHKY 50  | YHKY 65  | YHKY 95  | YHKY 110 |
|----------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------|----------|----------|----------|----------|----------|----------|
| Cassette YHKY                                                                                                              | 2 pipe system | 0079100K                 | 0079000K | 0079001K | 0079002K | 0079003K | 0079004K | 0079005K |
|                                                                                                                            | 4 pipe system | 0079110K                 | 0079010K | 0079011K | 0079012K | 0079013K | 0079014K | 0079015K |
| Cassette YHKY-MP<br>(IR remote control and sensor NOT included)                                                            | 2 pipe system | 0079170K                 | 0079171K | 0079172K | 0079173K | 0079174K | 0079175K | 0079176K |
|                                                                                                                            | 4 pipe system | 0079180K                 | 0079181K | 0079182K | 0079183K | 0079184K | 0079185K | 0079186K |
| Cassette YHKY-E - with electric resistance                                                                                 | 2 pipe system | -                        | 0079060K | 0079061K | 0079062K | 0079063K | 0079064K | 0079065K |
| Cassette YHKY-MP-E - with electric resistance                                                                              | 2 pipe system | -                        | 0079191K | 0079192K | 0079193K | 0079194K | 0079195K | 0079196K |
| Cassette YHKY-REB with remote electric board                                                                               | 2 pipe system | 0079120K                 | 0079020K | 0079021K | 0079022K | 0079023K | 0079024K | 0079025K |
|                                                                                                                            | 4 pipe system | 0079130K                 | 0079030K | 0079031K | 0079032K | 0079033K | 0079034K | 0079035K |
| Model with ECM motor (without air diffuser)                                                                                |               | -                        | YHKY 25  | YHKY 40  | YHKY 50  | YHKY 65  | YHKY 95  | -        |
| Cassette YHKY-ECM - basic model                                                                                            | 2 pipe system | -                        | 0079801K | 0079802K | 0079803K | 0079804K | 0079805K | -        |
|                                                                                                                            | 4 pipe system | -                        | 0079811K | 0079812K | 0079813K | 0079814K | 0079815K | -        |
| Cassette YHKY-MP- ECM<br>(IR remote control and sensor NOT included)                                                       | 2 pipe system | -                        | 0079911K | 0079912K | 0079913K | 0079914K | 0079915K | -        |
|                                                                                                                            | 4 pipe system | -                        | 0079921K | 0079922K | 0079923K | 0079924K | 0079925K | -        |
| Cassette YHKY-ECM-E - with electric resistance                                                                             | 2 pipe system | -                        | 0079841K | 0079842K | 0079843K | 0079844K | 0079845K | -        |
| Cassette YHKY-ECM-MP-E - with electric resistance                                                                          | 2 pipe system | -                        | 0079901K | 0079902K | 0079903K | 0079904K | 0079905K | -        |
| Mandatory accessories (units cannot work without them)                                                                     |               |                          |          |          |          |          |          |          |
| Air diffuser - intake grid, frame and louvres in RAL 9003 white colour                                                     |               | AKPA 600                 |          |          |          | AKPA 800 |          |          |
| Accessories (factory fitted)                                                                                               |               |                          |          |          |          |          |          |          |
| Valves (220V On/Off)                                                                                                       |               |                          |          |          |          |          |          |          |
| 3 way valve + mounting kit for 2 pipe models (factory fitted)                                                              |               | 9079510                  |          |          |          | 9079511  |          |          |
| 3 way valve + mounting kit for 4 pipe models (factory fitted)                                                              |               | 9079512                  |          |          |          | 9079513  |          |          |
| 2 way valve + mounting kit for 2 pipe models (factory fitted)                                                              |               | 9079515                  |          |          |          | 9079516  |          |          |
| 2 way valve + mounting kit for 4 pipe models (factory fitted)                                                              |               | 9079517                  |          |          |          | 9079518  |          |          |
| 2 way DN 15 balance valve for main coil + connection kit (fact. fitted) *                                                  |               | 9079771                  |          |          |          | 9079791  | -        |          |
| 2 way DN 20 balance valve for main coil + connection kit (fact. fitted) *                                                  |               | -                        |          |          |          | 9079792  |          |          |
| 2 way DN 15 balance valve for additional coil + connection kit (fact. fitted) *                                            |               | 9079773                  |          |          |          | 9079793  |          |          |
| Accessories (supplied loose)                                                                                               |               |                          |          |          |          |          |          |          |
| Air diffusers / Panels                                                                                                     |               |                          |          |          |          |          |          |          |
| Air diffuser - other colours (*)                                                                                           |               | Contact Johnson Controls |          |          |          |          |          |          |
| Valves (220V On/Off)                                                                                                       |               |                          |          |          |          |          |          |          |
| 3 way valve + mounting kit for 2 pipe models (not fitted)                                                                  |               | 9079500                  |          |          |          | 9079501  |          |          |
| 3 way valve + mounting kit for 4 pipe models (not fitted)                                                                  |               | 9079502                  |          |          |          | 9079503  |          |          |
| 2 way valve + mounting kit for 2 pipe models (not fitted)                                                                  |               | 9079505                  |          |          |          | 9079506  |          |          |
| 2 way valve + mounting kit for 4 pipe models (not fitted)                                                                  |               | 9079507                  |          |          |          | 9079508  |          |          |
| 2 way DN 15 balance valve for main coil + connection kit (not fitted) *                                                    |               | 9079761                  |          |          |          | 9079781  | -        |          |
| 2 way DN 20 balance valve for main coil + connection kit (not fitted) *                                                    |               | -                        |          |          |          | 9079782  |          |          |
| 2 way DN 15 balance valve for additional coil + connection kit (not fitted) *                                              |               | 9079763                  |          |          |          | 9079783  |          |          |
| Other type of valves                                                                                                       |               | Contact Johnson Controls |          |          |          |          |          |          |
| Other Accessories                                                                                                          |               |                          |          |          |          |          |          |          |
| Outer casing OCA 600                                                                                                       |               | 9079240                  |          |          |          | -        |          |          |
| Outer casing OCA 800                                                                                                       |               | -                        |          |          |          | 9079250  |          |          |
| 3 way valve + mounting kit for units with outer casing OCA (not fitted)                                                    |               | 9079155                  |          |          |          | 9079156  |          |          |
| Fresh air duct FAD                                                                                                         |               |                          |          |          |          | 6078005  |          |          |
| Fresh air kit 1 way not suitable for units with outer casing OCA - FAK 600                                                 |               | 9079230                  |          |          |          | -        |          |          |
| Fresh air kit 1 way not suitable for units with outer casing OCA - FAK 800                                                 |               | -                        |          |          |          | 9079231  |          |          |
| FREE wireless control system for YHKY basic model                                                                          |               |                          |          |          |          |          |          |          |
| Remote Control FREE-COM                                                                                                    |               |                          |          |          |          | 9060572  |          |          |
| Power unit fitted FREE-USM                                                                                                 |               |                          |          |          |          | 9079107  |          |          |
| Not Mounted Electronic Board FREE-UPS                                                                                      |               |                          |          |          |          | 9060570  |          |          |
| Temperature sensor FREE-SEN                                                                                                |               |                          |          |          |          | 9060573  |          |          |
| Low temperature cut out FREE-NTC                                                                                           |               |                          |          |          |          | 3021090  |          |          |
| CONTROLS for YHKY (AC versions)                                                                                            |               |                          |          |          |          |          |          |          |
| Remote three speed control JWC-3V (1) (5)                                                                                  |               | 9066642                  |          |          |          | 9066642  |          |          |
| Remote three speed control + electronic thermostat and manual S/W switch JWC-T (2)                                         |               | 9066630K                 |          |          |          | 9066630K |          |          |
| Remote three speed control + electronic thermostat and centralized/ manual S/W switch JWC-TQR (2) (4)                      |               | 9066632K                 |          |          |          | 9066632K |          |          |
| Automatic speed control with electronic thermostat and S/W switch - JWC-AU (to be used with JPF-AU and JP-AU only) (2) (4) |               | 9066331E                 |          |          |          | 9066331E |          |          |
| Automatic speed control with electronic thermostat to be mounted in the light wall box TMO-503-SV2 (3) (5)                 |               | 9060172                  |          |          |          | 9060172  |          |          |
| Electromechanical thermostat T2T (5) (6)                                                                                   |               | 9060174                  |          |          |          | 9060174  |          |          |
| Power unit JPF-AU for JWC-AU and JTM-B remote controls, fitted on the unit                                                 |               |                          |          |          |          | 9066641  |          |          |
| Power unit JP-AU for JWC-AU and JTM-B remote controls, not fitted on the unit                                              |               |                          |          |          |          | 9066640  |          |          |
| Control accessories for all versions (supplied with separate packaging)                                                    |               |                          |          |          |          |          |          |          |
| Low temperature cut-out for controls JWC-T                                                                                 |               |                          |          |          |          | 9053048  |          |          |
| Low temperature cut-out for controls JWC-TQR, JWC-AU and JTM-B                                                             |               |                          |          |          |          | 3021090  |          |          |
| T2 sensor to be used as Change-over for controls JWC-AU and JTM-B                                                          |               |                          |          |          |          | 9025310  |          |          |
| Change-over 15-25 for control JWC-TQR                                                                                      |               |                          |          |          |          | 9053049  |          |          |
| Receiver SEL2M                                                                                                             |               |                          |          |          |          | 9079109  |          |          |

\* For 4 pipes unit must consider both the valve for main coil than the valve for additional coil.

(1) Not to be used with valves and/or low temperature cut-out. (2) It can be used with valves and/or low temperature cut-out. (3) Low temperature cut-out included.

(4) It can be used with Change Over. (5) Not suitable with -E electric heater. (6) Not to be used with low temperature cut-out.



# YFCC Coanda Hydro Cassette

2 & 4 pipe system

A complete range from 0.9 kW to 4.0 kW



Thanks to its unique diffuser, YFCC cassette units generate an airflow with a "coanda" effect. The unit is suitable for installation in a suspended ceiling. Air intake is from the bottom while the air is supplied parallel to the ceiling.

The resulting "coanda" effect creates excellent draft free distribution of the air inside the room. Units can be supplied with 1 coil (2 pipe system) with optional electric heating element, or with 2 coils (4 pipe system) with one or two rows.



Coanda effect

## Wired controls



### JWC-3V

Remote three speeds controller

### JWC-T

JWC-3V + Electronic thermostat and Summer/Winter switch

### JWC-AU

Automatic JWC-T



### JTM-B

Digital Automatic Remote controller

### TMO 503 SV2

Digital Automatic Remote controller to be mounted in the standard light wall box



## Infrared control

## Features

- Coanda effect units, allowing easier and cheaper installation
- Cooling duty from 0.9 to 4.0 kW
- 2 & 4 pipes systems in all range
- 3 sizes: 600 x 600, 600 x 1000 & 600 x 1200
- 2/3 way valves fitted or supplied loose in all range
- Left and right hand (optional) water connections
- 6 fan speeds (3 pre-wired)
- Air throw till 7.6m (cooling) and 9.5m (heating)



Selection software



# YFCC Coanda Hydro Cassette

0.9 to 4.0 kW



## Technical features

| Model -2 pipes                         |        |               | YFCC 130 | YFCC 140 | YFCC 230 | YFCC 240 | YFCC 330 | YFCC 340 |
|----------------------------------------|--------|---------------|----------|----------|----------|----------|----------|----------|
| Total cooling capacity 2 Pipes [kW]    | (1)    | max           | 1.5      | 1.74     | 2.37     | 2.57     | 3.34     | 4.02     |
|                                        |        | med           | 1.06     | 1.19     | 1.62     | 1.72     | 2.84     | 3.56     |
|                                        |        | min           | 0.88     | 0.97     | 1.37     | 1.44     | 1.97     | 2.49     |
| Sensible cooling capacity 2 Pipes [kW] | (1)    | max           | 1.18     | 1.31     | 1.77     | 1.88     | 2.51     | 2.98     |
|                                        |        | med           | 0.81     | 0.88     | 1.19     | 1.24     | 2.11     | 2.63     |
|                                        |        | min           | 0.66     | 0.71     | 1.0      | 1.04     | 1.44     | 1.81     |
| Pressure drop in cooling 2 Pipes [kPa] | (1)    | max           | 6.1      | 12.9     | 7.6      | 12.1     | 16.2     | 15.5     |
|                                        |        | med           | 3.3      | 6.7      | 3.9      | 6.0      | 12.1     | 12.6     |
|                                        |        | min           | 2.4      | 4.7      | 2.9      | 4.4      | 6.4      | 6.7      |
| Heating capacity 2 pipes [kW]          | (2)    | max           | 1.93     | 2.1      | 2.86     | 3.12     | 4.02     | 4.77     |
|                                        |        | med           | 1.33     | 1.42     | 1.91     | 2.03     | 3.37     | 4.2      |
|                                        |        | min           | 1.08     | 1.1      | 1.6      | 1.69     | 2.3      | 2.9      |
| Pressure drop in heating 2 pipes [kPa] | (2)    | max           | 4.9      | 10.7     | 6.3      | 10.2     | 13.4     | 12.6     |
|                                        |        | med           | 2.6      | 5.4      | 3.1      | 4.8      | 9.8      | 10.0     |
|                                        |        | min           | 1.8      | 3.7      | 2.3      | 3.5      | 5.2      | 5.5      |
| Air flow [m3/h]                        |        | max           | 280      | 280      | 380      | 380      | 540      | 620      |
|                                        |        | med           | 180      | 180      | 240      | 240      | 440      | 540      |
|                                        |        | min           | 140      | 140      | 200      | 200      | 290      | 360      |
| Sound power level [dB(A)]              |        | max           | 52       | 52       | 48       | 48       | 52       | 55       |
|                                        |        | med           | 41       | 41       | 36       | 36       | 46       | 52       |
|                                        |        | min           | 35       | 35       | 33       | 33       | 35       | 41       |
| Sound pressure level [dB(A)]           | (4)    | max           | 43       | 43       | 39       | 39       | 43       | 46       |
|                                        |        | med           | 32       | 32       | 27       | 27       | 37       | 43       |
|                                        |        | min           | 26       | 26       | 24       | 24       | 26       | 32       |
| Power supply [V-ph-Hz]                 |        | 230V/1ph/50Hz |          |          |          |          |          |          |
| Power input [W]                        | max    | 66            | 66       | 71       | 71       | 84       | 84       |          |
| Absorbed current [A]                   | max    | 0.30          | 0.30     | 0.32     | 0.32     | 0.38     | 0.38     |          |
| Dimensions                             | Height | mm            | 309      | 309      | 309      | 309      | 309      |          |
|                                        | Width  | mm            | 592      | 592      | 592      | 592      | 592      |          |
|                                        | Depth  | mm            | 592      | 592      | 970      | 970      | 1 192    | 1 192    |

| Model -4 pipes                         |        |     | YFCC 130+1    | YFCC 230+1 | YFCC 330+1 |
|----------------------------------------|--------|-----|---------------|------------|------------|
| Total cooling capacity 4 Pipes [kW]    | (1)    | max | 1.5           | 2.37       | 3.34       |
|                                        |        | med | 1.06          | 1.62       | 2.84       |
|                                        |        | min | 0.88          | 1.37       | 1.97       |
| Sensible cooling capacity 4 Pipes [kW] | (1)    | max | 1.18          | 1.77       | 2.51       |
|                                        |        | med | 0.81          | 1.19       | 2.11       |
|                                        |        | min | 0.66          | 1.0        | 1.44       |
| Pressure drop in cooling 4 pipes [kPa] | (1)    | max | 6.1           | 7.6        | 16.2       |
|                                        |        | med | 3.3           | 3.9        | 12.1       |
|                                        |        | min | 2.4           | 2.9        | 6.4        |
| Heating capacity 4 pipes [kW]          | (3)    | max | 1.47          | 2.35       | 3.3        |
|                                        |        | med | 1.08          | 1.71       | 2.87       |
|                                        |        | min | 0.92          | 1.49       | 2.12       |
| Pressure drop in heating 4 pipes [kPa] | (3)    | max | 3.6           | 2.0        | 4.3        |
|                                        |        | med | 2.1           | 1.2        | 3.4        |
|                                        |        | min | 1.6           | 0.9        | 2.0        |
| Air flow [m3/h]                        |        | max | 280           | 380        | 540        |
|                                        |        | med | 180           | 240        | 440        |
|                                        |        | min | 140           | 200        | 290        |
| Sound power level [dB(A)]              |        | max | 52            | 48         | 52         |
|                                        |        | med | 41            | 36         | 46         |
|                                        |        | min | 35            | 33         | 35         |
| Sound pressure level [dB(A)]           | (4)    | max | 43            | 39         | 43         |
|                                        |        | med | 32            | 27         | 37         |
|                                        |        | min | 26            | 24         | 26         |
| Power supply [V-ph-Hz]                 |        |     | 230V/1ph/50Hz |            |            |
| Power input [W]                        |        | max | 66            | 71         | 84         |
| Absorbed current [A]                   |        | max | 0.30          | 0.32       | 0.38       |
| Dimensions                             | Height | mm  | 309           | 309        | 309        |
|                                        | Width  | mm  | 592           | 592        | 592        |
|                                        | Depth  | mm  | 592           | 970        | 1 192      |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C - Water flow rate as for the cooling conditions.  
(3) Room temperature 20°C - Water inlet temperature: 70/60°C  
(4) Sound pressure level in a 100 m² room, at 1,5 m distance and riverberating time of 0,3 s.  
\* Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397



Manufacturer reserves the rights to change specifications without prior notice.

# YFCC-ECM Coanda Hydro Cassette

2 & 4 pipe system

A complete range from 0.8 kW to 4.0 kW



## Wired controls

### JWC-AU

Automatic remote controller



### T-MB

Wall control with display that allows controlling one or more units in Master/Slave mode. The control is equipped with internal sensor to detect the room temperature, which can be defined as a priority compared to the return air sensor on the fan coil.



### WM-S-ECM

Continuous fan speed control with electronic thermostat and s/w switch



## Infrared control



Thanks to its unique diffuser, YFCC cassette units generate an airflow with a "coanda" effect. The unit is suitable for installation in a suspended ceiling. Air intake is from the bottom while the air is supplied parallel to the ceiling.

The resulting "coanda" effect creates excellent draft free distribution of the air inside the room. Units can be supplied with 1 coil (2 pipe system) with optional electric heating element, or with 2 coils (4 pipe system) with one or two rows.



Coanda effect

## Features

- Coanda effect units, allowing easier and cheaper installation
- Cooling duty from 0.8 to 4.0 kW
- 2 & 4 pipes systems in all range
- 3 sizes: 600 x 600, 600 x 1000 & 600 x 1200
- 2/3 way valves fitted or supplied loose in all range
- Left and right hand (optional) water connections
- 6 fan speeds (3 pre-wired)
- Air throw till 7.6m (cooling) and 9.5m (heating)
- ECM variable speed motor



Selection software

# YFCC-ECM Coanda Hydro Cassette

0.8 to 4.0 kW



## Technical features

| Model -2 pipes                         |        | YFCC-ECM 130  | YFCC-ECM 140 | YFCC-ECM 230 | YFCC-ECM 240 | YFCC-ECM 330 | YFCC-ECM 340 |       |
|----------------------------------------|--------|---------------|--------------|--------------|--------------|--------------|--------------|-------|
| Total cooling capacity 2 Pipes [kW]    | (1)    | max 10v       | 1.56         | 1.81         | 3.16         | 3.5          | 3.75         | 4.02  |
|                                        |        | med 5v        | 1.18         | 1.34         | 2.31         | 2.51         | 2.78         | 2.94  |
|                                        |        | min 1v        | 0.82         | 0.91         | 1.46         | 1.55         | 1.87         | 1.95  |
| Sensible cooling capacity 2 Pipes [kW] | (1)    | max           | 1.24         | 1.38         | 2.41         | 2.6          | 2.83         | 2.98  |
|                                        |        | med           | 0.91         | 0.99         | 1.73         | 1.84         | 2.06         | 2.15  |
|                                        |        | min           | 0.62         | 0.66         | 1.07         | 1.11         | 1.37         | 1.41  |
| Pressure drop in cooling 2 Pipes [kPa] | (1)    | max           | 6.5          | 13.9         | 12.6         | 20.8         | 19.8         | 15.5  |
|                                        |        | med           | 4            | 8.1          | 7.3          | 11.6         | 11.7         | 8.9   |
|                                        |        | min           | 2.1          | 4.1          | 3.2          | 5            | 5.8          | 4.3   |
| Heating capacity 2 pipes [kW]          | (2)    | max           | 2.02         | 2.2          | 3.85         | 4.32         | 4.54         | 4.78  |
|                                        |        | med           | 1.5          | 1.6          | 2.79         | 3.03         | 3.3          | 3.44  |
|                                        |        | min           | 1.02         | 1.07         | 1.72         | 1.82         | 2.19         | 2.25  |
| Pressure drop in heating 2 pipes [kPa] | (2)    | max           | 5.3          | 11.6         | 10.4         | 17.1         | 16.6         | 13    |
|                                        |        | med           | 3.3          | 6.6          | 6            | 9.4          | 9.4          | 7.4   |
|                                        |        | min           | 1.7          | 3.3          | 2.6          | 4.1          | 4.7          | 3.5   |
| Air flow [m3/h]                        |        | max           | 295          | 295          | 540          | 540          | 620          | 620   |
|                                        |        | med           | 205          | 205          | 370          | 370          | 430          | 430   |
|                                        |        | min           | 130          | 130          | 215          | 215          | 275          | 275   |
| Sound power level [dB(A)]              |        | max           | 55           | 55           | 56           | 56           | 58           | 58    |
|                                        |        | med           | 46           | 46           | 46           | 46           | 48           | 48    |
|                                        |        | min           | 35           | 35           | 34           | 34           | 36           | 36    |
| Sound pressure level [dB(A)]           | (4)    | max           | 46           | 46           | 47           | 47           | 49           | 49    |
|                                        |        | med           | 37           | 37           | 37           | 37           | 39           | 39    |
|                                        |        | min           | 26           | 26           | 25           | 25           | 27           | 27    |
| Power supply [V-ph-Hz]                 |        | 230V/1ph/50Hz |              |              |              |              |              |       |
| Power input [W]                        |        | max           | 29           | 29           | 37           | 37           | 42           | 42    |
| Absorbed current [A]                   |        | max           | 0.24         | 0.24         | 0.29         | 0.29         | 0.35         | 0.35  |
| Dimensions                             | Height | mm            | 309          | 309          | 309          | 309          | 309          | 309   |
|                                        | Width  | mm            | 592          | 592          | 592          | 592          | 592          | 592   |
|                                        | Depth  | mm            | 592          | 592          | 970          | 970          | 1 192        | 1 192 |

| Model -4 pipes                         |        | YFCC-ECM 130+1 |      | YFCC-ECM 230+1 |      | YFCC-ECM 330+1 |       |
|----------------------------------------|--------|----------------|------|----------------|------|----------------|-------|
| Total cooling capacity 4 Pipes [kW]    | (1)    | max 10v        | 1.56 |                | 3.16 |                | 3.75  |
|                                        |        | med 5v         | 1.18 |                | 2.31 |                | 2.78  |
|                                        |        | min 1v         | 0.82 |                | 1.46 |                | 1.87  |
| Sensible cooling capacity 4 Pipes [kW] | (1)    | max            | 1.24 |                | 2.41 |                | 2.83  |
|                                        |        | med            | 0.91 |                | 1.73 |                | 2.06  |
|                                        |        | min            | 0.62 |                | 1.07 |                | 1.37  |
| Pressure drop in cooling 4 pipes [kPa] | (1)    | max            | 6.5  |                | 12.6 |                | 19.8  |
|                                        |        | med            | 4    |                | 7.3  |                | 11.7  |
|                                        |        | min            | 2.1  |                | 3.2  |                | 5.8   |
| Heating capacity 4 pipes [kW]          | (3)    | max            | 1.52 |                | 3.01 |                | 3.64  |
|                                        |        | med            | 1.18 |                | 2.31 |                | 2.82  |
|                                        |        | min            | 0.87 |                | 1.58 |                | 2.04  |
| Pressure drop in heating 4 pipes [kPa] | (3)    | max            | 3.8  |                | 3.1  |                | 5.1   |
|                                        |        | med            | 2.5  |                | 2    |                | 3.3   |
|                                        |        | min            | 1.4  |                | 1    |                | 1.8   |
| Air flow [m3/h]                        |        | max            | 295  |                | 540  |                | 620   |
|                                        |        | med            | 205  |                | 370  |                | 430   |
|                                        |        | min            | 130  |                | 215  |                | 275   |
| Sound power level [dB(A)]              |        | max            | 55   |                | 56   |                | 58    |
|                                        |        | med            | 46   |                | 46   |                | 48    |
|                                        |        | min            | 35   |                | 34   |                | 36    |
| Sound pressure level [dB(A)]           | (4)    | max            | 46   |                | 47   |                | 49    |
|                                        |        | med            | 37   |                | 37   |                | 39    |
|                                        |        | min            | 26   |                | 25   |                | 27    |
| Power supply [V-ph-Hz]                 |        | 230V/1ph/50Hz  |      |                |      |                |       |
| Power input [W]                        |        | max            | 29   |                | 37   |                | 42    |
| Absorbed current [A]                   |        | max            | 0.24 |                | 0.29 |                | 0.35  |
| Dimensions                             | Height | mm             | 309  |                | 309  |                | 309   |
|                                        | Width  | mm             | 592  |                | 592  |                | 592   |
|                                        | Depth  | mm             | 592  |                | 970  |                | 1 192 |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C - Water flow rate as for the cooling conditions.  
(3) Room temperature 20°C - Water inlet temperature: 70/60°C  
(4) Sound pressure level in a 100 m² room, at 1,5 m distance and riverberating time of 0,3 s.  
\* Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397



Manufacturer reserves the rights to change specifications without prior notice.



# Options & Accessories YFCC / YFCC-ECM

## Compatibility table / Codes

| Model with AC motor                                                                                                           |                    | YFCC 130                 | YFCC 140 | YFCC 230 | YFCC 240 | YFCC 330 | YFCC 340 |
|-------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------|----------|----------|----------|----------|----------|
| Cassette YFCC                                                                                                                 | 2 pipe system      | 0064001K                 | 0064011K | 0064002K | 0064012K | 0064003K | 0064013K |
|                                                                                                                               | 4 pipe system (+1) | 0064021K                 | 0064031K | 0064022K | 0064032K | 0064023K | 0064033K |
|                                                                                                                               | 4 pipe system (+2) | 0064041K                 | -        | 0064042K | -        | 0064043K | -        |
| Model with ECM motor                                                                                                          |                    |                          |          |          |          |          |          |
| Cassette YFCC-ECM                                                                                                             | 2 pipe system      | 0064201K                 | 0064211K | 0064202K | 0064212K | 0064203K | 0064213K |
|                                                                                                                               | 4 pipe system (+1) | 0064221K                 | 0064231K | 0064222K | 0064232K | 0064223K | 0064233K |
|                                                                                                                               | 4 pipe system (+2) | 0064241K                 | -        | 0064242K | -        | 0064243K | -        |
| Options (Factory fitted)                                                                                                      |                    |                          |          |          |          |          |          |
| Right hand connection                                                                                                         |                    | Contact Johnson Controls |          |          |          |          |          |
| Valves (220V On/Off) (factory fitted)                                                                                         |                    |                          |          |          |          |          |          |
| Kit 3 way valve size 1-5 mounted MBVM-JC 1-5 V.220 (YFCC size 1-2)                                                            |                    | 9066561                  |          |          |          | -        |          |
| Kit 3 way valve size 6-9 mounted MBVM-JC 6-9 V.220 (YFCC size 3)                                                              |                    | -                        |          |          |          | 9060471  |          |
| Kit 3 way valve additional battery size 1-9 mounted ABVM-JC 1-7 V.220 (YFCC 4 pipes all sizes)                                |                    | 9060472                  |          |          |          |          |          |
| Kit 2 way valve size 1-5 and additional battery mounted V2M-JC 1-5 V.220 (YFCC size 1-2)                                      |                    | 9060476                  |          |          |          | -        |          |
| Kit 2 way valve size 6-9 primary battery mounted V2M-JC 6-9 V.220 (YFCC size 3)                                               |                    | -                        |          |          |          | 9060477  |          |
| Kit 2 way valve all sizes 4 pipes to be used for the additional battery not mounted V2L-JC 1-5 V.220                          |                    | 9060476                  |          |          |          |          |          |
| Simplified kit for 3 way valve for CD version fitted (sizes 1-5) VSDM-JC G1-5 V.220 (YFCC size 1-2)                           |                    | 9066571                  |          |          |          | -        |          |
| Simplified kit for 3 way valve for CD version fitted (sizes 6-9) VSDM-JC G6-9 V.220 (YFCC size 3)                             |                    | -                        |          |          |          | 9060484  |          |
| Simplified kit for 3 way valve for CD version fitted - additional battery (all sizes) VSAM-JC G1-9 V.220 (YFCC all sizes)     |                    | 9060483                  |          |          |          |          |          |
| 3 way double valve kit for 4 tube installation and single coil + kit fitted on the unit (YFCC all sizes)                      |                    | 9066572W                 |          |          |          |          |          |
| 2 way DN 10 balance for main coil + kit fitted on the unit (YFCC size 1)                                                      |                    | 9066660                  | -        |          |          |          |          |
| 2 way DN 15 balance for main coil + kit fitted on the unit (YFCC sizes 2-3)                                                   |                    | -                        | 9066661  |          |          |          |          |
| 2 way DN 10 balance for additional coil + kit fitted on the unit (all sizes)                                                  |                    | 9066663                  |          |          |          |          |          |
| Accessories (supplied loose)                                                                                                  |                    |                          |          |          |          |          |          |
| Valves 220V On/Off (supplied loose)                                                                                           |                    |                          |          |          |          |          |          |
| Kit 3 way valve size 1-5 not mounted MBVL-JC 1-5 V.220 (YFCC size 1-2)                                                        |                    | 9066560                  |          |          |          | -        |          |
| Kit 3 way valve size 6-9 not mounted MBVL-JC 6-9 V.220 (YFCC size 3)                                                          |                    | -                        |          |          |          | 9060474  |          |
| Kit 3 way valve additional battery size 1-9 not mounted ABVL-JC 1-7 V.220 (YFCC all sizes)                                    |                    | 9060475                  |          |          |          |          |          |
| Kit 2 way valve size 1-5 and additional battery not mounted V2L-JC 1-5 V.220 (YFCC size 1-2)                                  |                    | 9060478                  |          |          |          | -        |          |
| Kit 2 way valve size 6-9 primary battery not mounted V2L-JC 4-7 V.220 (YFCC size 3)                                           |                    | -                        |          |          |          | 9060479  |          |
| Kit 2 way valve size 1-5 and to be used for the additional battery not mounted V2L-JC 1-5 V.220                               |                    | 9060478                  |          |          |          |          |          |
| Simplified kit for 3 way valve for CD version not fitted (sizes 1-5) VSDS-JC G1-5 V.220 (YFCC size 1-2)                       |                    | 9066570                  |          |          |          | -        |          |
| Simplified kit for 3 way valve for CD version not fitted (sizes 6-9) VSDS-JC G6-9 V.220 (YFCC size 3)                         |                    | -                        |          |          |          | 9060481  |          |
| Simplified kit for 3 way valve for CD version not fitted - additional battery (all sizes) VSAS-JC G1-9 V.220 (YFCC all sizes) |                    | 9060480                  |          |          |          |          |          |
| 3 way double valve kit for 4 tube installation and single coil + kit not fitted on the unit (YFCC all sizes)                  |                    | 9066562W                 |          |          |          |          |          |
| 2 way DN 10 balance for main coil + kit not fitted (YFCC size 1)                                                              |                    | 9066650                  | -        |          |          |          |          |
| 2 way DN 15 balance for main coil + kit not fitted (YFCC sizes 2-3)                                                           |                    | -                        | 9066651  |          |          |          |          |
| 2 way DN 10 balance for additional coil + kit not fitted (all sizes)                                                          |                    | 9066653                  |          |          |          |          |          |
| Other type of valves                                                                                                          |                    | Contact Johnson Controls |          |          |          |          |          |
| Accessories                                                                                                                   |                    |                          |          |          |          |          |          |
| Electrical heater and relays fitted on the unit - 350 W - size 1 - BEL-CCN 1/4 (note 1)                                       |                    | 9064051                  | -        |          |          | -        |          |
| Electrical heater and relays fitted on the unit - 550 W - size 1 - BEL-CCN 1/6 (note 1)                                       |                    | 9064031                  | -        |          |          | -        |          |
| Electrical heater and relays fitted on the unit - 700 W - size 2 - BEL-CCN 2/7 (note 1)                                       |                    | -                        | 9064052  |          |          | -        |          |
| Electrical heater and relays fitted on the unit - 1150 W - size 1 - BEL-CCN 2/12 (note 1)                                     |                    | -                        | 9064032  |          |          | -        |          |
| Electrical heater and relays fitted on the unit - 900 W - size 3 - BEL-CCN 3/9 (note 1)                                       |                    | -                        | -        |          |          | 9064053  |          |
| Electrical heater and relays fitted on the unit - 1400 W - size 1 - BEL-CCN 3/14 (note 1)                                     |                    | -                        | -        |          |          | 9064033  |          |
| Horizontal auxiliary condensate tray HC ACTH-SX (for units with LEFT hydraulic connectons)                                    |                    | 6060402                  |          |          |          |          |          |
| Horizontal auxiliary condensate tray HC ACTH-DX (for units with RIGHT hydraulic connections)                                  |                    | 6060403                  |          |          |          |          |          |
| Condensate drain pipe SCR                                                                                                     |                    | 6060420                  |          |          |          |          |          |
| Drain condensate pump not fitted PCC-S                                                                                        |                    | 9064010                  |          |          |          |          |          |
| Drain condensate pump fitted PCC-M                                                                                            |                    | 9064011                  |          |          |          |          |          |
| Fresh air spigot 100dia - FCR 100                                                                                             |                    | 6064191                  |          |          |          |          |          |
| Fresh air spigot 120dia - FCR 120                                                                                             |                    | 6064192                  |          |          |          |          |          |

Compatibility table / Codes

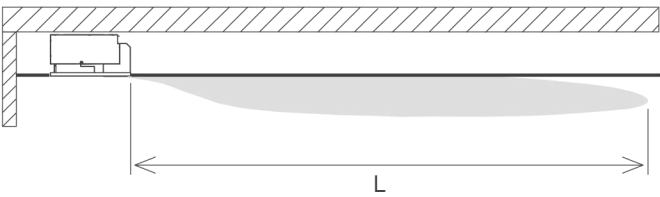
| CONTROLS for YFCC (AC versions)                                                                                                                  | YFCC 130 | YFCC 140 | YFCC 230 | YFCC 240 | YFCC 330 | YFCC 340 |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|
| Remote three speed control JWC-3V (1) (5)                                                                                                        |          |          | 9066642  |          |          |          |
| Remote three speed control + electronic thermostat and manual S/W switch JWC-T (2)                                                               |          |          | 9066330K |          |          |          |
| Remote three speed control + electronic thermostat and centralized/ manual S/W switch JWC-TQR (2) (4)                                            |          |          | 9066632K |          |          |          |
| Automatic speed control with electronic thermostat and S/W switch - JWC-AU (to be used with JPF-AU and JP-AU only) (2) (4)                       |          |          | 9066331E |          |          |          |
| Automatic speed control with electronic thermostat to be mounted in the light wall box TMO-503-SV2 (3) (5)                                       |          |          | 9060172  |          |          |          |
| Electromechanical thermostat T2T (5) (6)                                                                                                         |          |          | 9060174  |          |          |          |
| Power unit JPF-AU for JWC-AU and JTM-B remote controls, fitted on the unit                                                                       |          |          | 9066641  |          |          |          |
| Power unit JP-AU for JWC-AU and JTM-B remote controls, not fitted on the unit                                                                    |          |          | 9066640  |          |          |          |
| Control accessories for all versions (supplied with separate packaging)                                                                          |          |          |          |          |          |          |
| Low temperature cut-out for control JWC-T                                                                                                        |          |          | 9053048  |          |          |          |
| Low temperature cut-out for controls JWC-TQR, JWC-AU and JTM-B                                                                                   |          |          | 3021090  |          |          |          |
| T2 sensor to be used as Change-over for controls JWC-AU and JTM-B                                                                                |          |          | 9025310  |          |          |          |
| Change-over 15-25 for control JWC-TQR                                                                                                            |          |          | 9053049  |          |          |          |
| Receiver SEL2M                                                                                                                                   |          |          | 9079109  |          |          |          |
| CONTROLS for YFCC (AC versions) + MB                                                                                                             |          |          |          |          |          |          |
| Mounted power unit MB-M                                                                                                                          |          |          | 9066332  |          |          |          |
| Not mounted power unit MB-S                                                                                                                      |          |          | 9066333  |          |          |          |
| IR remote control and not mounted IR receiver RS-RT03                                                                                            |          |          | 9066337  |          |          |          |
| Not mounted IR receiver RS                                                                                                                       |          |          | 9066338  |          |          |          |
| IR remote control RT03                                                                                                                           |          |          | 3021203  |          |          |          |
| Wall control JTM-B                                                                                                                               |          |          | 9066331E |          |          |          |
| Multifunction control PSM-DI                                                                                                                     |          |          | 3021293  |          |          |          |
| T2 sensor (to be used as change over or min.temp. sensor) T2                                                                                     |          |          | 9025310  |          |          |          |
| CONTROLS for YFCC-ECM                                                                                                                            |          |          |          |          |          |          |
| Automatic speed control with electronic thermostat and S/W switch - JWC-AU (to be used with JPF-AU and JP-AU only) (2) (4)                       |          |          | 9066632K |          |          |          |
| Automatic remote control with electronic thermostat, S/W switch and liquid crystal display JTM-B (to be used with JPF-AU and JP-AU only) (2) (4) |          |          | 9066331E |          |          |          |
| WM-S-ECM Continuous fan speed control with electronic thermostat, summer/winter switch and LCD display                                           |          |          | 9066644  |          |          |          |
| Power unit JPF-AU for JWC-AU and JTM-B remote controls, fitted on the unit                                                                       |          |          | 9066641  |          |          |          |
| Power unit JP-AU for JWC-AU and JTM-B remote controls, not fitted on the unit                                                                    |          |          | 9066640  |          |          |          |
| CONTROLS for YFCC-ECM + MB                                                                                                                       |          |          |          |          |          |          |
| Mounted power unit MB-M                                                                                                                          |          |          | 9066332  |          |          |          |
| Not mounted power unit MB-S                                                                                                                      |          |          | 9066333  |          |          |          |
| IR remote control and not mounted IR receiver RS-RT03                                                                                            |          |          | 9066337  |          |          |          |
| Not mounted IR receiver RS                                                                                                                       |          |          | 9066338  |          |          |          |
| IR remote control RT03                                                                                                                           |          |          | 3021203  |          |          |          |
| Wall control JTM-B                                                                                                                               |          |          | 9066331E |          |          |          |
| Multifunction control PSM-DI                                                                                                                     |          |          | 3021293  |          |          |          |
| T2 sensor (to be used as change over or min.temp. sensor) T2                                                                                     |          |          | 9025310  |          |          |          |
| Management system for a network of fan coils with MB electronic board (std. Motor and EC motor)                                                  |          |          |          |          |          |          |
| Hardware / software supervisory system Net                                                                                                       |          |          | 9079118  |          |          |          |
| Router S                                                                                                                                         |          |          | 3021290  |          |          |          |
| Relay output board SIOS                                                                                                                          |          |          | 3021292  |          |          |          |
| FREE wireless control system for YHKY basic model (AC motor)                                                                                     |          |          |          |          |          |          |
| Remote Control FREE-COM                                                                                                                          |          |          | 9060572  |          |          |          |
| Mounted Electronic Board FREE-UPM                                                                                                                |          |          | 9060571  |          |          |          |
| Not Mounted Electronic Board FREE-UPS                                                                                                            |          |          | 9060570  |          |          |          |
| Temperature sensor FREE-SEN                                                                                                                      |          |          | 9060573  |          |          |          |
| Low temperature cut out FREE-NTC                                                                                                                 |          |          | 3021090  |          |          |          |

WARNING

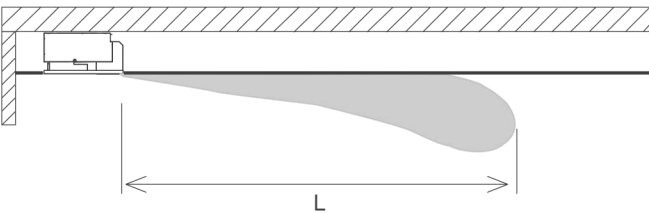
(1) Not to be used with valves and/or low temperature cut-out. (2) It can be used with valves and/or low temperature cut-out. (3) Low temperature cut-out included.  
(4) It can be used with Change Over. (5) Not suitable with -E electric heater. (6) Not to be used with low temperature cut-out.  
Note 1. Electric heaters must be factory supplied only - in ECM range the above controls can control the electric heater only if there is no hot water supply to the exchanger.

Air Throw

C1 - Heating



C2 - Cooling



|                    |    | YFCC 1 |     |     |     |     |     | YFCC 2 |   |     |     |     |     | YFCC 3 |     |     |     |     |     |
|--------------------|----|--------|-----|-----|-----|-----|-----|--------|---|-----|-----|-----|-----|--------|-----|-----|-----|-----|-----|
| Model              |    | 1      | 2   | 3   | 4   | 5   | 6   | 1      | 2 | 3   | 4   | 5   | 6   | 1      | 2   | 3   | 4   | 5   | 6   |
| Air throw<br>L (m) | C1 | 3.8    | 4.5 | 5.8 | 6.3 | 6.8 | 7.2 | 4      | 5 | 6.1 | 7   | 8   | 9   | 4.5    | 5.2 | 6.3 | 7.5 | 8.8 | 9.5 |
|                    | C2 | 3      | 3.6 | 4.6 | 5   | 5.4 | 5.7 | 3.2    | 4 | 4.8 | 5.6 | 6.4 | 7.2 | 3.6    | 4.1 | 5   | 6   | 7   | 7.6 |

# YHVP & YHVP-ECM Hydro High Wall

2 pipe system

A range from 1.17 to 3.81 kW



## JWC-T. Wired Control

Remote three speeds controller, electronic thermostat and Summer/Winter switch

## JWC-AU. Wired Control

Automatic JWC-T



## Electronic Infrared Control



## TUC03 Terminal unit controller

BacNET and N2 Metasys network compatible

## Features

- Available with standard AC motors or low energy EC motors
- Wired control or infrared control
- Automatic air sweep (-T and -MB variants only)
- Choice of 2 or 3 way valves fitted
- Condensate collection tray
- Air filter included
- Heat exchange coil



## 2 Way Valve ON/OFF

with thermoelectric actuator.  
Suitable for the connection with Ø 12 mm pipes

## Wired control (YHVP)

- 4 operation modes (Cool/Heat/Auto/Fan)
- Room temperature and setting
- Fan speed selector (Auto, low, medium and high)

## Infrared control (YHVP-T)

- Wireless
- 5 operation modes (Cool/Heat/Auto/Dry/Fan)
- Sleep Mode
- Room Temperature setting
- Fan speed selection
- Timer
- Air flow direction setting
- LCD display

**Note:** model shown is -T variant with automatic air sweep function



# YHVP & YHVP-ECM Hydro High Wall

1.17 to 3.81 kW



## Technical features

| Model                          |        |     | YHVP 1        | YHVP 2 | YHVP 3 | YHVP 4 |
|--------------------------------|--------|-----|---------------|--------|--------|--------|
| Total cooling capacity [kW]    | (1)    | max | 1.87          | 2.18   | 3.03   | 3.81   |
|                                |        | med | 1.5           | 1.84   | 2.32   | 3.26   |
|                                |        | min | 1.24          | 1.43   | 1.89   | 2.62   |
| Sensible cooling capacity [kW] | (1)    | max | 1.46          | 1.75   | 2.27   | 2.98   |
|                                |        | med | 1.14          | 1.43   | 1.69   | 2.47   |
|                                |        | min | 0.92          | 1.07   | 1.35   | 1.93   |
| Heating capacity [kW]          | (2)    | max | 2.58          | 3.09   | 3.86   | 5.07   |
|                                |        | med | 2             | 2.39   | 2.84   | 4.20   |
|                                |        | min | 1.6           | 1.88   | 2.26   | 3.26   |
| Air flow [m3/h]                |        | max | 375           | 480    | 545    | 790    |
|                                |        | med | 270           | 365    | 375    | 610    |
|                                |        | min | 205           | 250    | 280    | 440    |
| Sound power level [dB(A)]      |        | max | 48            | 53     | 48     | 57     |
|                                |        | med | 41            | 47     | 40     | 51     |
|                                |        | min | 35            | 39     | 35     | 43     |
| Sound pressure level [dB(A)]   | (3)    | max | 39            | 44     | 39     | 48     |
|                                |        | med | 32            | 38     | 31     | 42     |
|                                |        | min | 26            | 30     | 26     | 34     |
| Power supply [V-ph-Hz]         |        |     | 230V/1ph/50Hz |        |        |        |
| Power input [W]                |        | max | 30            | 32     | 46     | 48     |
| Absorbed current [A]           |        | max | 0.16          | 0.16   | 0.23   | 0.23   |
| Dimensions                     | Height | mm  | 322           | 322    | 322    | 322    |
|                                | Width  | mm  | 880           | 880    | 1 185  | 1 185  |
|                                | Depth  | mm  | 212           | 212    | 212    | 212    |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C - Water flow rate as for the cooling conditions.  
(3) Sound pressure level in a 100 m² room, at 1,5 m distance and riverberating time of 0,3 s.  
\* Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397

## Technical features

| Model                          |        |               | YHVP-ECM 1 | YHVP-ECM 2 | YHVP-ECM 3 | YHVP-ECM 4 |
|--------------------------------|--------|---------------|------------|------------|------------|------------|
| Total cooling capacity [kW]    | (1)    | max 10v       | 2.00       | 2.26       | 3.29       | 3.75       |
|                                |        | med 5v        | 1.58       | 1.87       | 2.53       | 3.05       |
|                                |        | min 1v        | 1.17       | 1.47       | 1.83       | 2.34       |
| Sensible cooling capacity [kW] | (1)    | max           | 1.57       | 1.83       | 2.50       | 2.92       |
|                                |        | med           | 1.20       | 1.46       | 1.86       | 2.29       |
|                                |        | min           | 0.86       | 1.10       | 1.31       | 1.70       |
| Heating capacity [kW]          | (2)    | max           | 2.78       | 3.23       | 4.25       | 4.99       |
|                                |        | med           | 2.12       | 2.58       | 3.15       | 3.88       |
|                                |        | min           | 1.50       | 1.94       | 2.20       | 2.87       |
| Air flow [m3/h]                |        | max           | 415        | 510        | 620        | 770        |
|                                |        | med           | 290        | 375        | 420        | 550        |
|                                |        | min           | 190        | 260        | 270        | 375        |
| Sound power level [dB(A)]      |        | max           | 52         | 55         | 53         | 57         |
|                                |        | med           | 46         | 47         | 45         | 49         |
|                                |        | min           | 37         | 40         | 37         | 43         |
| Sound pressure level [dB(A)]   | (3)    | max           | 43         | 46         | 44         | 48         |
|                                |        | med           | 37         | 38         | 36         | 40         |
|                                |        | min           | 28         | 31         | 28         | 34         |
| Power supply [V-ph-Hz]         |        | 230V/1ph/50Hz |            |            |            |            |
| Power input [W]                | max    | 15            | 21         | 20         | 30         |            |
| Absorbed current [A]           | max    | 0.14          | 0.19       | 0.18       | 0.26       |            |
| Dimensions                     | Height | mm            | 322        | 322        | 322        | 322        |
|                                | Width  | mm            | 880        | 880        | 1 185      | 1 185      |
|                                | Depth  | mm            | 212        | 212        | 212        | 212        |

(1) Room temperature 27°C d.b., 19°C w.b. - Water temperature 7/12 °C  
(2) Room temperature 20°C - Water inlet temperature: 50°C - Water flow rate as for the cooling conditions.  
(3) Sound pressure level in a 100 m² room, at 1,5 m distance and riverberating time of 0,3 s.  
\* Water flow values as Cooling, accordingly to the EUROVENT standards and UNI ENV 1397



Manufacturer reserves the rights to change specifications without prior notice.

# Options & Accessories

## Codes high wall fan coil units YHVP

|                                                                      |                       |                       |                       |                       |
|----------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Unit without IR control without valve</b>                         | <b>YHVP 1</b>         | <b>YHVP 2</b>         | <b>YHVP 3</b>         | <b>YHVP 4</b>         |
| Unit codes                                                           | 0025001K              | 0025002K              | 0025003K              | 0025004K              |
| <b>Unit without IR control with 2 way valve</b>                      | <b>YHVP-2V 1</b>      | <b>YHVP-2V 2</b>      | <b>YHVP-2V 3</b>      | <b>YHVP-2V 4</b>      |
| Unit codes                                                           | 0025101K              | 0025102K              | 0025103K              | 0025104K              |
| <b>Unit without IR control with 3 way valve</b>                      | <b>YHVP-3V 1</b>      | <b>YHVP-3V 2</b>      | <b>YHVP-3V 3</b>      | <b>YHVP-3V 4</b>      |
| Unit codes                                                           | 0025201K              | 0025202K              | 0025203K              | 0025204K              |
| <b>Unit with IR control without valve</b>                            | <b>YHVP-T 1</b>       | <b>YHVP-T 2</b>       | <b>YHVP-T 3</b>       | <b>YHVP-T 4</b>       |
| Unit codes                                                           | 0025021K              | 0025022K              | 0025023K              | 0025024K              |
| <b>Unit with IR control with 2 way valve</b>                         | <b>YHVP-T-2V 1</b>    | <b>YHVP-T-2V 2</b>    | <b>YHVP-T-2V 3</b>    | <b>YHVP-T-2V 4</b>    |
| Unit codes                                                           | 0025121K              | 0025122K              | 0025123K              | 0025124K              |
| <b>Unit with IR control with 3 way valve</b>                         | <b>YHVP-T-3V 1</b>    | <b>YHVP-T-3V 2</b>    | <b>YHVP-T-3V 3</b>    | <b>YHVP-T-3V 4</b>    |
| Unit codes                                                           | 0025221K              | 0025222K              | 0025223K              | 0025224K              |
| <b>Unit with MB board without valve</b>                              | <b>YHVP-MB 1</b>      | <b>YHVP-MB 2</b>      | <b>YHVP-MB 3</b>      | <b>YHVP-MB 4</b>      |
| Unit codes                                                           | 0025011K              | 0025012K              | 0025013K              | 0025014K              |
| <b>Unit with MB board with 2 way valve</b>                           | <b>YHVP-MB-2V 1</b>   | <b>YHVP-MB-2V 2</b>   | <b>YHVP-MB-2V 3</b>   | <b>YHVP-MB-2V 4</b>   |
| Unit codes                                                           | 0025111K              | 0025112K              | 0025113K              | 0025114K              |
| <b>Unit with MB board with 3 way valve</b>                           | <b>YHVP-MB-3V 1</b>   | <b>YHVP-MB-3V 2</b>   | <b>YHVP-MB-3V 3</b>   | <b>YHVP-MB-3V 4</b>   |
| Unit codes                                                           | 0025211K              | 0025212K              | 0025213K              | 0025214K              |
| <b>Unit without IR control without valve with electrical coil</b>    | <b>YHVP-E 1</b>       | <b>YHVP-E 2</b>       | <b>YHVP-E 3</b>       | <b>YHVP-E 4</b>       |
| Unit codes                                                           | 0025031K              | 0025032K              | 0025033K              | 0025034K              |
| <b>Unit without IR control with 2 way valve with electrical coil</b> | <b>YHVP-E-2V 1</b>    | <b>YHVP-E-2V 2</b>    | <b>YHVP-E-2V 3</b>    | <b>YHVP-E-2V 4</b>    |
| Unit codes                                                           | 0025131K              | 0025132K              | 0025133K              | 0025134K              |
| <b>Unit without IR control with 3 way valve with electrical coil</b> | <b>YHVP-E-3V 1</b>    | <b>YHVP-E-3V 2</b>    | <b>YHVP-E-3V 3</b>    | <b>YHVP-E-3V 4</b>    |
| Unit codes                                                           | 0025231K              | 0025232K              | 0025233K              | 0025234K              |
| <b>Unit with IR control without valve with electrical coil</b>       | <b>YHVP-T-E 1</b>     | <b>YHVP-T-E 2</b>     | <b>YHVP-T-E 3</b>     | <b>YHVP-T-E 4</b>     |
| Unit codes                                                           | 0025041K              | 0025042K              | 0025043K              | 0025044K              |
| <b>Unit with IR control with 2 way valve with electrical coil</b>    | <b>YHVP-T-E-2V 1</b>  | <b>YHVP-T-E-2V 2</b>  | <b>YHVP-T-E-2V 3</b>  | <b>YHVP-T-E-2V 4</b>  |
| Unit codes                                                           | 0025141K              | 0025142K              | 0025143K              | 0025144K              |
| <b>Unit with IR control with 3 way valve with electrical coil</b>    | <b>YHVP-T-E-3V 1</b>  | <b>YHVP-T-E-3V 2</b>  | <b>YHVP-T-E-3V 3</b>  | <b>YHVP-T-E-3V 4</b>  |
| Unit codes                                                           | 0025241K              | 0025242K              | 0025243K              | 0025244K              |
| <b>Unit with MB board without valve with electrical coil</b>         | <b>YHVP-MB-E 1</b>    | <b>YHVP-MB-E 2</b>    | <b>YHVP-MB-E 3</b>    | <b>YHVP-MB-E 4</b>    |
| Unit codes                                                           | 0025051K              | 0025052K              | 0025053K              | 0025054K              |
| <b>Unit with MB board with 2 way valve with electrical coil</b>      | <b>YHVP-MB-E-2V 1</b> | <b>YHVP-MB-E-2V 2</b> | <b>YHVP-MB-E-2V 3</b> | <b>YHVP-MB-E-2V 4</b> |
| Unit codes                                                           | 0025151K              | 0025152K              | 0025153K              | 0025154K              |
| <b>Unit with MB board with 3 way valve with electrical coil</b>      | <b>YHVP-MB-E-3V 1</b> | <b>YHVP-MB-E-3V 2</b> | <b>YHVP-MB-E-3V 3</b> | <b>YHVP-MB-E-3V 4</b> |
| Unit codes                                                           | 0025251K              | 0025252K              | 0025253K              | 0025254K              |

## Controls

|                                                                                                              |          |
|--------------------------------------------------------------------------------------------------------------|----------|
| JWM-3V Wall control                                                                                          | 9066642  |
| JWC-T Wall control                                                                                           | 9066630K |
| JWC-TQR Wall control                                                                                         | 9066631K |
| TMO-503-SV2 Wall control                                                                                     | 9060172  |
| T2T Wall control                                                                                             | 9060174  |
| JTM-B Wall control (to be used with MB board only)                                                           | 9066331E |
| RT03 infra-red remote control with receiver supplied with separate packaging (to be used with MB board only) | 9025301  |
| RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)               | 3021203  |
| Receiver for RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)  | 9025300  |
| PSM-DI Multifunction control (to be used with MB board only)                                                 | 3021293  |
| SEL-CVP Speed switch for controls: JWC-T, JWC-TQR and TMO-503-SV2.                                           | 9025302  |

### Electronic control accessories

|                                                                                |         |
|--------------------------------------------------------------------------------|---------|
| NTC low temperature cut-out thermostat for control JWC-TQR                     | 3021090 |
| TMM low temperature cut-out thermostat for control JWC-T                       | 9053048 |
| Change-Over CH 15-25 for control JWC-TQR                                       | 9053049 |
| T2 Sensor (to be used as change-over or low temperature cut-out - for MB only) | 9025310 |

# Options & Accessories

## Codes high wall fan coil units YHVP-ECM

|                                                                      |                           |                           |                           |                           |
|----------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| <b>Unit without IR control without valve</b>                         | <b>YHVP-ECM 1</b>         | <b>YHVP-ECM 2</b>         | <b>YHVP-ECM 3</b>         | <b>YHVP-ECM 4</b>         |
| Unit codes                                                           | 0025501K                  | 0025502K                  | 0025503K                  | 0025504K                  |
| <b>Unit without IR control with 2 way valve</b>                      | <b>YHVP-ECM-2V 1</b>      | <b>YHVP-ECM-2V 2</b>      | <b>YHVP-ECM-2V 3</b>      | <b>YHVP-ECM-2V 4</b>      |
| Unit codes                                                           | 0025601K                  | 0025602K                  | 0025603K                  | 0025604K                  |
| <b>Unit without IR control with 3 way valve</b>                      | <b>YHVP-ECM-3V 1</b>      | <b>YHVP-ECM-3V 2</b>      | <b>YHVP-ECM-3V 3</b>      | <b>YHVP-ECM-3V 4</b>      |
| Unit codes                                                           | 0025701K                  | 0025702K                  | 0025703K                  | 0025704K                  |
| <b>Unit with IR control without valve</b>                            | <b>YHVP-ECM-T 1</b>       | <b>YHVP-ECM-T 2</b>       | <b>YHVP-ECM-T 3</b>       | <b>YHVP-ECM-T 4</b>       |
| Unit codes                                                           | 0025521K                  | 0025522K                  | 0025523K                  | 0025524K                  |
| <b>Unit with IR control with 2 way valve</b>                         | <b>YHVP-ECM-T-2V 1</b>    | <b>YHVP-ECM-T-2V 2</b>    | <b>YHVP-ECM-T-2V 3</b>    | <b>YHVP-ECM-T-2V 4</b>    |
| Unit codes                                                           | 0025621K                  | 0025622K                  | 0025623K                  | 0025624K                  |
| <b>Unit with IR control with 3 way valve</b>                         | <b>YHVP-ECM-T-3V 1</b>    | <b>YHVP-ECM-T-3V 2</b>    | <b>YHVP-ECM-T-3V 3</b>    | <b>YHVP-ECM-T-3V 4</b>    |
| Unit codes                                                           | 0025721K                  | 0025722K                  | 0025723K                  | 0025724K                  |
| <b>Unit with MB board without valve</b>                              | <b>YHVP-ECM-MB 1</b>      | <b>YHVP-ECM-MB 2</b>      | <b>YHVP-ECM-MB 3</b>      | <b>YHVP-ECM-MB 4</b>      |
| Unit codes                                                           | 0025511K                  | 0025512K                  | 0025513K                  | 0025514K                  |
| <b>Unit with MB board with 2 way valve</b>                           | <b>YHVP-ECM-MB-2V 1</b>   | <b>YHVP-ECM-MB-2V 2</b>   | <b>YHVP-ECM-MB-2V 3</b>   | <b>YHVP-ECM-MB-2V 4</b>   |
| Unit codes                                                           | 0025611K                  | 0025612K                  | 0025613K                  | 0025614K                  |
| <b>Unit with MB board with 3 way valve</b>                           | <b>YHVP-ECM-MB-3V 1</b>   | <b>YHVP-ECM-MB-3V 2</b>   | <b>YHVP-ECM-MB-3V 3</b>   | <b>YHVP-ECM-MB-3V 4</b>   |
| Unit codes                                                           | 0025711K                  | 0025712K                  | 0025713K                  | 0025714K                  |
| <b>Unit without IR control without valve with electrical coil</b>    | <b>YHVP-ECM-E 1</b>       | <b>YHVP-ECM-E 2</b>       | <b>YHVP-ECM-E 3</b>       | <b>YHVP-ECM-E 4</b>       |
| Unit codes                                                           | 0025531K                  | 0025532K                  | 0025533K                  | 0025534K                  |
| <b>Unit without IR control with 2 way valve with electrical coil</b> | <b>YHVP-ECM-E-2V 1</b>    | <b>YHVP-ECM-E-2V 2</b>    | <b>YHVP-ECM-E-2V 3</b>    | <b>YHVP-ECM-E-2V 4</b>    |
| Unit codes                                                           | 0025631K                  | 0025632K                  | 0025633K                  | 0025634K                  |
| <b>Unit without IR control with 3 way valve with electrical coil</b> | <b>YHVP-ECM-E-3V 1</b>    | <b>YHVP-ECM-E-3V 2</b>    | <b>YHVP-ECM-E-3V 3</b>    | <b>YHVP-ECM-E-3V 4</b>    |
| Unit codes                                                           | 0025731K                  | 0025732K                  | 0025733K                  | 0025734K                  |
| <b>Unit with IR control without valve with electrical coil</b>       | <b>YHVP-ECM-T-E 1</b>     | <b>YHVP-ECM-T-E 2</b>     | <b>YHVP-ECM-T-E 3</b>     | <b>YHVP-ECM-T-E 4</b>     |
| Unit codes                                                           | 0025541K                  | 0025542K                  | 0025543K                  | 0025544K                  |
| <b>Unit with IR control with 2 way valve with electrical coil</b>    | <b>YHVP-ECM-T-E-2V 1</b>  | <b>YHVP-ECM-T-E-2V 2</b>  | <b>YHVP-ECM-T-E-2V 3</b>  | <b>YHVP-ECM-T-E-2V 4</b>  |
| Unit codes                                                           | 0025641K                  | 0025642K                  | 0025643K                  | 0025644K                  |
| <b>Unit with IR control with 3 way valve with electrical coil</b>    | <b>YHVP-ECM-T-E-3V 1</b>  | <b>YHVP-ECM-T-E-3V 2</b>  | <b>YHVP-ECM-T-E-3V 3</b>  | <b>YHVP-ECM-T-E-3V 4</b>  |
| Unit codes                                                           | 0025741K                  | 0025742K                  | 0025743K                  | 0025744K                  |
| <b>Unit with MB board without valve with electrical coil</b>         | <b>YHVP-ECM-MB-E 1</b>    | <b>YHVP-ECM-MB-E 2</b>    | <b>YHVP-ECM-MB-E 3</b>    | <b>YHVP-ECM-MB-E 4</b>    |
| Unit codes                                                           | 0025551K                  | 0025552K                  | 0025553K                  | 0025554K                  |
| <b>Unit with MB board with 2 way valve with electrical coil</b>      | <b>YHVP-ECM-MB-E-2V 1</b> | <b>YHVP-ECM-MB-E-2V 2</b> | <b>YHVP-ECM-MB-E-2V 3</b> | <b>YHVP-ECM-MB-E-2V 4</b> |
| Unit codes                                                           | 0025651K                  | 0025652K                  | 0025653K                  | 0025654K                  |
| <b>Unit with MB board with 3 way valve with electrical coil</b>      | <b>YHVP-ECM-MB-E-3V 1</b> | <b>YHVP-ECM-MB-E-3V 2</b> | <b>YHVP-ECM-MB-E-3V 3</b> | <b>YHVP-ECM-MB-E-3V 4</b> |
| Unit codes                                                           | 0025751K                  | 0025752K                  | 0025753K                  | 0025754K                  |

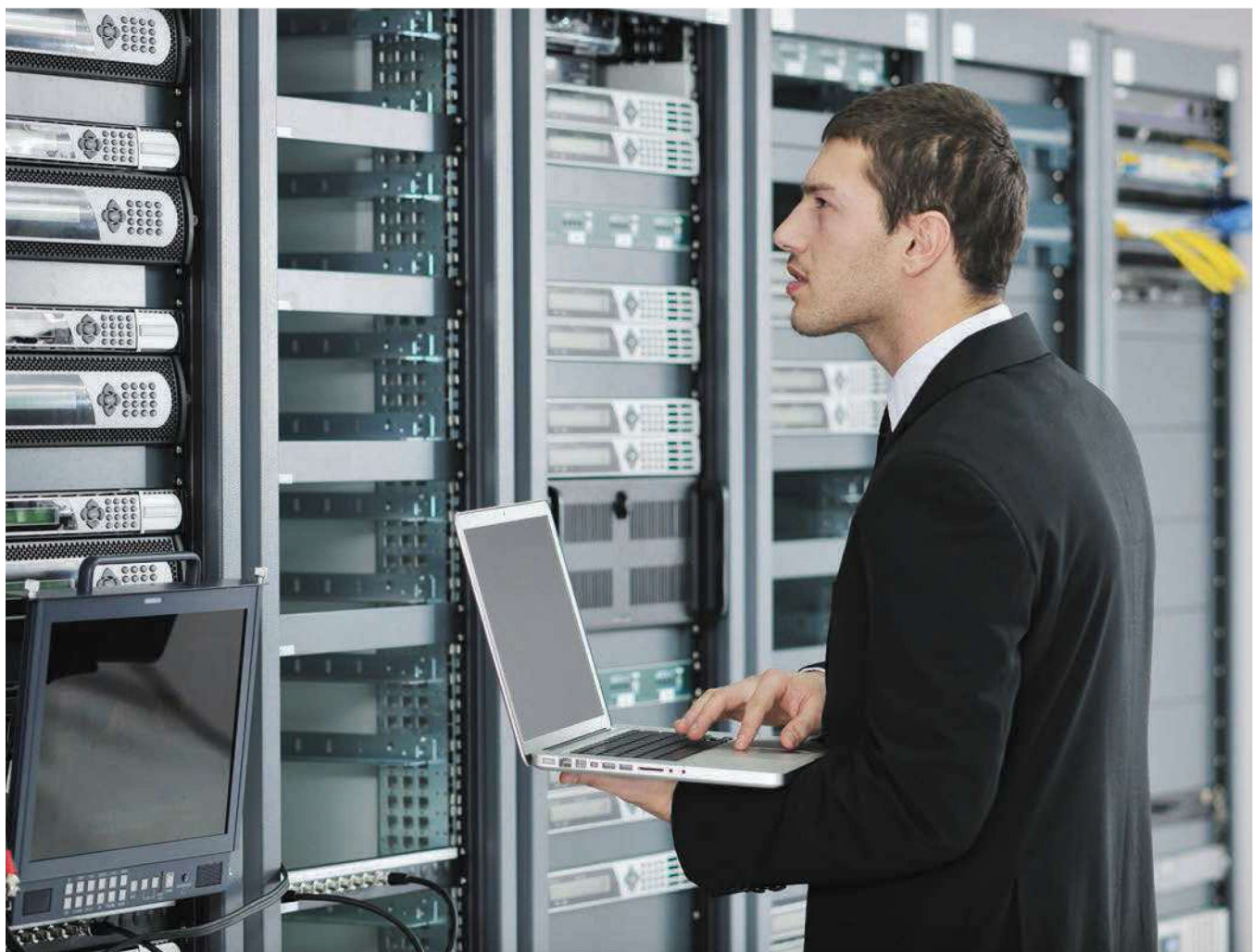
## Controls

|                                                                                                              |          |
|--------------------------------------------------------------------------------------------------------------|----------|
| JTM-B Wall control (to be used with MB board only)                                                           | 9066331E |
| RT03 infra-red remote control with receiver supplied with separate packaging (to be used with MB board only) | 9025301  |
| RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)               | 3021203  |
| Receiver for RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)  | 9025300  |
| PSM-DI Multifunction control (to be used with MB board only)                                                 | 3021293  |
| SEL-CVP Speed switch for controls: JWC-T, JWC-TQR and TMO-503-SV2.                                           | 9025302  |
| <b>Electronic control accessories</b>                                                                        |          |
| T2 Sensor (to be used as change-over or low temperature cut-out - for MB only)                               | 9025310  |



## YORK® Close Control units

Maintaining a constant temperature, purity and humidity of air is essential for ensuring a stable environment for critical electronic and computer equipment, this is why there is the need for close control air conditioning. Unlike comfort air conditioning, close control systems must operate constantly 24/7 requiring high reliability and minimal power consumption. Johnson Controls knows that no two close control requirements are the same, this is why the YORK® range of custom close control units offers quiet, compact and energy efficient equipment that can be configured to needed requirements.



## An extensive offering

- cooling capacities of **up to 160kw (chilled water) or 94kw (direct expansion)** with optional free cooling models. Up flow or down flow configuration, either as self-contained packaged units or suitable for connection to remote condensers, are also available
- **optional direct expansion units** fitted with scroll compressors, which have much lower noise and energy consumption than reciprocating compressors
- **R410a** refrigerant units available
- optional **Free Cooling coil** to reduce energy consumption required through use of mechanical cooling
- plug fan with **Electronically Commuted 'EC' fans** option, to allow fully modulating control of airflow
- **low component face velocities**, for a lower total pressure drop and reduced energy consumption
- **minimised dimensions**, enabling one of the market's greatest ratios between sensible cooling capacity and base foot print





# YORK® YC-P Series Close Control Air Conditioners

A complete range from 7.7 kW up to 160 kW



## High energy efficiency and minimum environmental impact

**"P" Series** air conditioners for close control applications are specialised machines with design and operating features which clearly differentiate them from standard air conditioning units.

The **"P" Series** air conditioners offer very high energy efficiency values in all operating conditions which translates into less CO<sub>2</sub> emissions and particularly low running costs. Though optimised for use in data centers and telephone exchanges, they are equally valid in special applications such as measurement laboratories, TV recording studios, museums, control rooms for electricity power stations and railway junctions and other areas where there are prevalent sensible thermal loads and crowding is negligible.

Their application is also ideal in widely varied industrial sectors: optics, electronics, electromedical equipment, electronic equipment production, musical instrument production etc.

## Optimal efficiency

Johnson Controls' **"P" Series** design offers the highest sensible cooling capacity with the minimum footprint possible, which translates into optimal ratio levels of cooling capacity to footprint area. This is an important feature in reducing the space needed by machinery, allowing more room in the space for IT equipment. This advantage is especially important given the progressive increases in capacity required by data centers and other computer applications which, over time, need the addition of extra air conditioners.

Clean efficiency is also ensured by the use of the R-410A refrigerant, respectful to the ozone layer.

**"P" Series** units are also available in configurations 'PG' for perimeter installation, or 'PR' for in row installation in large data centres.



## Features and performance

### Brushless DC compressors with inverter technology

- Adapting cooling capacity to the real requirements of the plant is one of the principal conditions of guaranteeing the flexibility required by the most advanced systems. By incorporating **BRUSHLESS DC INVERTER** technology into the compressors it is possible to maximize the performance of the motor, especially at partial loads, the control of which is integrated in the microprocessor.
- The cooling coils of the downflow units (**YC-UP**), both in chilled water and direct expansion versions, have aluminium fins with a hydrophylic treatment that alleviates the risk of condensation and the coil face being covered with water, which would compromise the thermal performance and therefore the air conditioning capacity.
- The use of the environmentally friendly refrigerant HFC R410A does not contribute to the depletion of the ozone layer (R134a available on request).
- Thanks to its larger surface area, the filter on the coil allows lower face velocity, which results in lower pressure drop.
- The lower energy consumption of these air conditioners, at the same efficiency, results in a much reduced TEWI (Total Equivalent Warming Impact). The application of EC plug fans reduces both energy consumption and noise levels.



Downflow unit with 2 fans and side compartment; full front access for both fans (covered) and technical compartment



Downflow unit with 2 fans and side compartment; full front access for both fans (not covered) and technical compartment on the side. No side maintenance space is required for accessing components

### Microprocessor regulation

The Standard digital microprocessor

- allows management of all typical air-conditioning functions: cooling, heating, humidification, dehumidification and filtering
- ensures a regular and optimised operation as to both performance and consumption, providing as well alarm management and self-diagnosis
- in case of need to install any component requiring analogue control (modulating valve or electronic hot-gas by-pass valve), an optional modulating controller, with semigraphic display, shall be installed in lieu of standard. This alternative controller is also installed as standard microprocessor on special versions such as "Free cooling", "Two Sources" and "Fresh air" units.

### Local network management or remote control

**YORK® YC-P Series** air conditioners are capable of standalone operation, local private network with multiple units (up to 12) or fully integrated with Metasys® Building Management System from Johnson Controls.

In local network applications, one machine is the master, and the remaining slaves follow the same algorithm. The slave units are rotated at predetermined intervals and switch to the master role to balance the number of working hours of the compressors.

In remote applications, the machines can be controlled from remote positions interfacing with common Building Management Protocols such as BacNET, LON and Modbus, either via GSM Modem or TCP/IP Internet Protocol.

For total integration with Johnson Control Metasys® Building Management Systems (BMS) the units can be equipped with an RS485 card working with BacNET MS/TP protocol.

### Cooling circuit

The air conditioners with direct expansion coil have a frigorific circuit equipped with: scroll compressor with all necessary protective devices, high pressure (manual reset) and low pressure (automatic reset) switches, thermal expansion valve, dehydrating filter with refrigerant sight glass.

**YC-OPA, YC-UPA** models for pairing with remote condensers, are already equipped with a pressurisation nitrogen charge. The refrigerant charge, and the oil top-up (if required), shall be made by the installer on site.

**YC-OPA** and **YC-UPA** air conditioners in self-contained packaged format with built-in water-cooled condensers (accessory), are supplied with full refrigerant and oil charge.

## Electronic expansion valve (\*)

Electronic expansion valves are one of the most recent pieces of equipment that enable us to improve the energy efficiency at partial loads of direct expansion machines. These valves are installed at the inlet of the evaporator, substituting the traditional thermostatic expansion ones: this allows more precise control of the quantity of refrigerant entering the evaporator, and guarantees good capacity regulation, typically between 100% and 50%. Electronic expansion valves also allows control of the amount of overheated gas at the outlet of the evaporator, thus allowing a significant reduction of the condensation pressure during winter or night-time operation whilst maintaining the evaporation pressure unchanged. Adoption of the electronic expansion valve (optional) guarantees a significant increase of the EER values.

## One or two completely independent compressors

Models with "1" as the last digit of the unit model number have a single circuit and a single compressor. Those with "2" as the last digit on the other hand have two completely independent refrigerant circuits and two compressors.

The circuits are fitted with all the safety and regulation devices necessary for efficient and reliable operation.

The evaporator coil can be single or double circuit depending on the number of compressors.

## Hydraulic circuit

Air conditioners with chilled water coil, **YC-OPU** and **YC-UPU**, include a finned coil and a three-way throttling motorised valve for water flow regulation. The hydraulic circuit is provided with copper tubes with anti-condensate insulation. The coils are optimised for both water with a temperature of 7/12 and for higher ones such as 15/20.

The standard throttling valve (3 points) allows good modulation of the cooling capacity as a function of the environmental conditions, especially with constant thermal loads.

## Modulating regulation of the cooling capacity (\*\*)

If a very precise regulation and high response speed are required, a modulating valve (optional) can be installed in lieu of the throttling one. The installation of this valve is recommended in case of functionment with a lot of fresh air. However, the modulating valve needs an analogue signal, not digital, so the installation of the optional modulating controller is necessary.

(\*) units equipped with frigorific circuit

(\*\*) units equipped with chilled water coil

## Control Panel

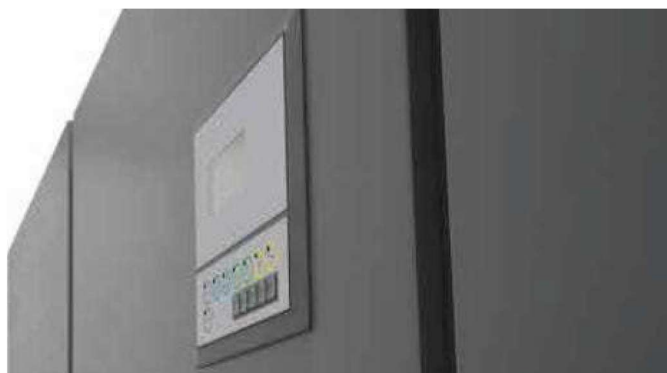
All the units are equipped with a complete control panel with main isolator switch. Magnetothermic switches, contactors, and all necessary protection is provided, as required by legal codes and standards.



The control panel of the units equipped with compressors ("A" as third letter of the identification code) has as standard a phase sequencer, which prevents the compressor from getting damaged when counter running. Also, the control panel has two spare terminals for remote indication of a cumulative alarm, as well as two terminals for starting up and stopping the unit from remote position.

The control panel does not include the fan speed controller(s) for the fans of the air cooled remote condensers (winter control). This device is included as standard in the CEA and CEA/LN air cooled condensers from Johnson Controls.

Should you decide to match the unit with a condenser from another manufacturer, the controller(s) can be ordered as accessory.



Modulating controller display and keypad

## Large surface filters

The units are equipped with self-extinguishing media class G4 filters. The filters are installed inclined before the cooling coil in order to offer a larger surface and allow lower air crossing speeds, with lower energy consumption.

A 450 mm high duct (accessory) can be installed for holding a F7 class filter, vertically on supply air discharge.

## Design suitable to civil environments

**YORK® YC-P Series** air conditioners have a pleasant and functional design, suitable for installation in civil environments. Their structure consists of aluminium profiles and closing panels hinged on them. Both panels and profiles are coated with a dark grey PVC layer (anthracites), thermoacoustically insulated by polyurethane layer, and further coated with an anti scratch plastic film.

Two versions are available for up flow units (**YC-OP**): front grille & top air discharge (standard), or blind front panel, suction from the bottom and top discharge (optional).

## Fan section

### New generation of electronic fans

The ever-growing necessity to save energy has made the use of high-performance EC Plug Fans indispensable in reducing plant costs. The fans installed in **YC-P** close control air conditioners are fitted with **BRUSHLESS EC** (Electronically Commutated) **MOTORS** and a composite-material impeller to maximize performance.

Important advantages obtained as a result include:

- Power drawn by the fans is reduced by over 25% compared to fans using traditional AC technology.
- Power drawn by the fans is reduced by about 15% compared to the previous generation of EC fans.
- Noise levels are reduced by over 5 dB(A) at partial loads.
- Risk to the plant is reduced as the mechanical parts are subjected to less use.

Thanks to integration with the microprocessor, the EC fans can be controlled to:

- Reduce rotation speed and therefore air quantity as the cooling capacity requirement decreases, thus making possible a 50% energy saving, operating at partial loads, compared to a constant velocity system.
- Maintain constant air quantity controlled in real time by differential pressure sensors, optimal control if F7 filters are installed.
- Maintain constant air pressure in the raised floor or in the compartmented areas in order to optimize air distribution avoiding hot spots and guarantee maximum modularity of the plant plant.

### Regulation Options

Johnson Controls provides four different alternatives for the regulation of the airflow of the EC fans depending on the requirements of the installation:

1. Constant fan rotation speed. The available high static pressure is ideal for most applications. The effective air flow depends on the real pressure drop of the aerodynamic system of the installation, however it can be calculated through Johnson Controls computerised selection program.
2. Constant airflow independent of the pressure drop of the filters. In order to maintain a constant airflow, an internal sensor guides the microprocessor management system to vary the airflow handled by the fan, depending on the degree of clogging of the filters. This ensures that insufficient cooling does not occur due to reduced airflow arising from dirty filters.
3. Variable airflow depending on the cooling capacity required by the installation. This is the classic VAV (Variable Air Volume) plant arrangement which responds to increased demand by a proportionate increase in airflow and vice versa. This type of plant offers interesting energy advantages at partial loads, which occur extensively throughout the year, especially at night.
4. Airflow as a function of pressure in the raised floor. This regulation alternative is envisaged for plants with raised floors where the air is distributed under the floor itself. The microprocessor management system maintains constant under-floor pressure. In particular, in very large areas subdivided into multiple local zones with partition dampers driven by individual thermostats, constant regulation of the pressure is necessary to avoid imbalances in the distribution of the air.



## Special versions

### “Water to air free cooling”: using renewable energy sources

**YC-OPW.../FC, YC-UPW.../FC** air conditioners are equipped with a “Free cooling” system consisting of an additional chilled-water cooling coil integrated in the aluminium fins of the unit’s direct expansion one, with a three-way modulating valve controlled by the modulating controller. As long as the outside conditions allow the water to respond totally or partially to the cooling request, the controller cuts out or minimises the compressors’ intervention, so reducing substantially the energy consumption.

The water cooled condensers of the frigorific circuit are equipped with a pressostatic system for the regulation of the condensing pressure (flooding valves).

The pumps and the expansion tank are not included in Johnson Control’s supply. Units in “free cooling” version cannot install the optional hot water heating coil, only the electric one, and have as standard the analogue modulating controller. The system widely uses the outdoor air—a renewable energy source—in lieu of or in addition to the mechanical cooling.

### ‘Two Sources’ option utilising excess energy from building HVAC systems

This system consists of the same chilled-water cooling coil as the “Free cooling”, but fed by the building water chiller. A built in frigorific circuit enters in operation in case of lack of chilled water. The result is the maximum security or a remarkable reduction of both consumption and running costs. This system can also use the direct-expansion coil circuit as primary cooling source and, in case of an emergency, the chilled-water coil connected with the tap water network.

The “Two Sources” version is available for units with direct expansion circuit **YC-OPA.../TS, YC-UPA.../TS** as well as units with built in water cooled condenser (accessory) and with double chilled water coil **YC-OPU.../TS, YC-UPU.../TS**: one for district water and the other for tap water or water from a chiller (emergency).

Units in “Two Sources” cannot install the optional hot water heating coil, only the electric one, and have as standard the analogue modulating controller.



50 kW upflow 2 circuits direct expansion air conditioner

## Fittings and accessories

Numerous accessories and options are available for the **"P" Series** air conditioners to personalise the installation depending on the requirements of the plant and its design. Divided by function, they include:

### Free cooling or two sources

- Additional Free cooling circuit.
- Additional Two sources circuit.

### Alarms

- Water alarm (supplied loose).
- Out-of-range air discharge temperature alarm.
- Smoke/fire alarm terminals.

### Water cooled condensers and pressostatic valves

- Welded stainless steel water cooled plate condenser.
- 2 way pressostatic valve (only if the water condenser is selected).

### Sound proofing devices

- Sound damped duct for air suction or discharge (h=550 mm). Allows a reduction of approx 4 dB(A) of the SPL of the unit.
- Double layer sound damping panels. Reduces SPL by approx 2 dB(A) in upflow units (OP series), and approx.4 dB(A) in downflow units ((UP series).
- Double-layer "sandwich" thermo-acoustic insulation panels.

### Panels and base

- Blind front panel (OP) and open base for bottom air intake.
- Front panel with grille in the lower part (UP) and closed base.

### Plenum

- Plenum (h=550 mm) for air discharge or intake with front grille.
- Plenum (h=550 mm) for air discharge or intake with front and side grilles.

### Direct expansion unit cooling capacity regulation

- Electronic expansion valve.
- Electronic hot-gas injection system for the regulation of cooling capacity (100-10%).

### Heating, reheating and humidification

- Single-step or double-step low thermal inertia electrical heating/reheating coil.
- Immersed-electrode modulating humidifier and dehumidification control.
- Humidity sensor for the single control of dehumidification.

### Boards and sensors

- Humidity sensor and board for external humidification control not supplied by Johnson Controls.
- RS 485 communication board.

### Dampers

- Gravity-operated overpressure dampers on the air outlet (OP series).
- Motorised overpressure dampers on the air intake (UP series).

### Under bases

- Adjustable under base (OP only). (*Precise height to be specified with order*).
- Adjustable under base with air deflector (UP only). (*Precise height to be specified with order*).

### Fans and filters

- Electronic EC fans with incorporated inverter for constant rotation speed regulation.
- Electronic EC fans with incorporated inverter for the regulation of air flow in relation to the required cooling capacity.
- Electronic EC fans with incorporated inverter for the regulation of constant pressure in the raised floor.
- Electronic two-speed AC fans.
- F7 filter to be installed on the air intake as substitute for the standard G4.
- Monophase condenser-fan rotation speed variator

# Performance at JOHNSON CONTROLS test conditions\*

## Technical Characteristics

| YC-OPA: direct expansion air conditioners with air cooled or water condensers and up-flow air supply |       |       |       |       |       |       |       |       |        |       |        |        |        |        |        |        |        |        |
|------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| Models                                                                                               |       | 71    | 111   | 141   | 211   | 251   | 301   | 302   | 361    | 372   | 422    | 461    | 491    | 512    | 612    | 662    | 852    | 932    |
| Performances                                                                                         |       |       |       |       |       |       |       |       |        |       |        |        |        |        |        |        |        |        |
| Total cooling capacity                                                                               | kW    | 7.7   | 11.1  | 14.5  | 20.8  | 25.3  | 31.2  | 30.6  | 36.6   | 38.8  | 42.7   | 46.9   | 52.3   | 51.6   | 63.2   | 67.7   | 87.3   | 94.2   |
| Sensible cooling capacity                                                                            | kW    | 7.4   | 11.1  | 12.8  | 20.8  | 22.7  | 30.3  | 30.1  | 36.6   | 33.6  | 42.7   | 45.3   | 52.3   | 47.4   | 62.6   | 64.5   | 73.2   | 85.4   |
| Airflow                                                                                              | m³/h  | 2 200 | 3 200 | 3 200 | 7 000 | 7 000 | 8 700 | 8 700 | 14 500 | 8 700 | 14 500 | 14 500 | 17 900 | 14 500 | 17 900 | 17 900 | 17 900 | 20 700 |
| EER                                                                                                  |       | 3.69  | 3.26  | 3.36  | 3.12  | 3.06  | 3.13  | 3.20  | 3.24   | 3.03  | 3.22   | 3.37   | 3.47   | 3.14   | 3.21   | 3.17   | 3.29   | 3.59   |
| Sound pressure level                                                                                 | dB(A) | 51    | 57    | 57    | 62    | 62    | 60    | 60    | 65     | 65    | 65     | 65     | 62     | 65     | 62     | 62     | 62     | 60     |
| Dimensions & weight                                                                                  |       |       |       |       |       |       |       |       |        |       |        |        |        |        |        |        |        |        |
| Lenght                                                                                               | mm    | 750   | 750   | 750   | 860   | 860   | 1 410 | 1 410 | 1 750  | 1 410 | 1 750  | 1 750  | 2 300  | 1 750  | 2 300  | 2 300  | 2 300  | 2 640  |
| Depth                                                                                                | mm    | 601   | 601   | 601   | 880   | 880   | 880   | 880   | 880    | 880   | 880    | 880    | 880    | 880    | 880    | 880    | 880    | 880    |
| Height                                                                                               | mm    | 1 990 | 1 990 | 1 990 | 1 990 | 1 990 | 1 990 | 1 990 | 1 990  | 1 990 | 1 990  | 1 990  | 1 990  | 1 990  | 1 990  | 1 990  | 1 990  | 1 990  |
| Net weight                                                                                           | kg    | 180   | 200   | 210   | 270   | 270   | 320   | 340   | 440    | 350   | 450    | 450    | 540    | 500    | 640    | 640    | 660    | 860    |
| Free Cooling                                                                                         |       | ○     | ○     | ○     | ○     | ○     | ●     | ●     | ○      | ●     | ○      | ○      | ●      | ○      | ●      | ●      | ●      | ○      |
| Two Sources                                                                                          |       | ○     | ○     | ○     | ○     | ○     | ●     | ●     | ○      | ●     | ○      | ○      | ●      | ○      | ●      | ●      | ●      | ○      |

\* Performance refers to: R410a refrigerant; condensing temperature 45°C; incoming air 24°C-45%Rh; water 7/12°C; external static pressure 30 Pa. The declared performance does not take into account the heat generated by fans, which must be added to the system thermal load.  
EER (Energy Efficiency Ratio) = total cooling capacity / compressors power consumption + fans power consumption (air cooled condensers excluded).  
Sound levels at a 2 m distance, in a free field, as per UNI EN ISO 3744:2010.

## Technical Characteristics

| YC-UPA: direct expansion air conditioners with air cooled or water condensers and down-flow air supply |       |       |       |       |       |       |       |       |        |       |        |        |        |        |        |        |        |        |
|--------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| Models                                                                                                 |       | 71    | 111   | 141   | 211   | 251   | 301   | 302   | 361    | 372   | 422    | 461    | 491    | 512    | 612    | 662    | 852    | 932    |
| Performances                                                                                           |       |       |       |       |       |       |       |       |        |       |        |        |        |        |        |        |        |        |
| Total cooling capacity                                                                                 | kW    | 7.7   | 11.1  | 14.5  | 20.8  | 25.3  | 31.2  | 30.6  | 36.6   | 38.8  | 42.7   | 46.9   | 52.3   | 51.6   | 63.2   | 67.7   | 87.3   | 94.2   |
| Sensible cooling capacity                                                                              | kW    | 7.4   | 11.1  | 12.8  | 20.8  | 22.7  | 30.3  | 30.1  | 36.6   | 33.6  | 42.7   | 45.3   | 52.3   | 47.4   | 62.6   | 64.5   | 73.2   | 85.4   |
| Airflow                                                                                                | m³/h  | 2 200 | 3 200 | 3 200 | 7 000 | 7 000 | 8 700 | 8 700 | 14 500 | 8 700 | 14 500 | 14 500 | 17 900 | 14 500 | 17 900 | 17 900 | 17 900 | 20 700 |
| EER                                                                                                    |       | 3.69  | 3.25  | 3.36  | 3.12  | 3.06  | 3.13  | 3.20  | 3.24   | 3.03  | 3.22   | 3.37   | 3.47   | 3.14   | 3.21   | 3.17   | 3.29   | 3.59   |
| Sound pressure level                                                                                   | dB(A) | 51    | 57    | 57    | 62    | 62    | 60    | 60    | 65     | 60    | 65     | 65     | 62     | 65     | 62     | 62     | 62     | 60     |
| Dimensions & weight                                                                                    |       |       |       |       |       |       |       |       |        |       |        |        |        |        |        |        |        |        |
| Lenght                                                                                                 | mm    | 750   | 750   | 750   | 860   | 860   | 1 410 | 1 410 | 1 750  | 1 410 | 1 750  | 1 750  | 2 300  | 1 750  | 2 300  | 2 300  | 2 300  | 2 640  |
| Depth                                                                                                  | mm    | 601   | 601   | 601   | 880   | 880   | 880   | 880   | 880    | 880   | 880    | 880    | 880    | 880    | 880    | 880    | 880    | 880    |
| Height                                                                                                 | mm    | 1 990 | 1 990 | 1 990 | 1 990 | 1 990 | 1 990 | 1 990 | 1 990  | 1 990 | 1 990  | 1 990  | 1 990  | 1 990  | 1 990  | 1 990  | 1 990  | 1 990  |
| Net weight                                                                                             | kg    | 180   | 200   | 210   | 270   | 270   | 320   | 340   | 440    | 350   | 450    | 450    | 540    | 500    | 640    | 640    | 660    | 860    |
| Free Cooling                                                                                           |       | ○     | ○     | ○     | ○     | ○     | ●     | ●     | ○      | ●     | ○      | ○      | ●      | ○      | ●      | ●      | ●      | ○      |
| Two Sources                                                                                            |       | ○     | ○     | ○     | ○     | ○     | ●     | ●     | ○      | ●     | ○      | ○      | ●      | ○      | ●      | ●      | ●      | ○      |

\* Performance refers to: R410a refrigerant; condensing temperature 45°C; incoming air 24°C-45%Rh; water 7/12°C; external static pressure 30 Pa. The declared performance does not take into account the heat generated by fans, which must be added to the system thermal load.  
EER (Energy Efficiency Ratio) = total cooling capacity / compressors power consumption + fans power consumption (air cooled condensers excluded).  
Sound levels at a 2 m distance, in a free field, as per UNI EN ISO 3744:2010.



# Performance at JOHNSON CONTROLS test conditions\*

## Technical Characteristics

| YC-OPU: with chilled water coil and up-flow air supply |       |       |       |       |       |        |        |        |        |
|--------------------------------------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| Models                                                 |       | 10a   | 20a   | 30    | 50    | 80     | 110    | 160    | 220    |
| Performances                                           |       |       |       |       |       |        |        |        |        |
| Total cooling capacity                                 | kW    | 10.0  | 18.0  | 32.4  | 43.6  | 66.8   | 80.2   | 121.9  | 160.3  |
| Sensible cooling capacity                              | kW    | 9.2   | 15.4  | 29.8  | 38.1  | 62.1   | 72.0   | 109.7  | 144.0  |
| Airflow                                                | m³/h  | 2 200 | 3 200 | 7 400 | 8 200 | 15 400 | 17 000 | 26 000 | 34 000 |
| EER                                                    |       | 34.42 | 29.24 | 22.83 | 21.48 | 23.94  | 24.30  | 23.62  | 24.29  |
| Sound pressure level                                   | dB(A) | 51    | 57    | 63    | 59    | 66     | 61     | 63     | 64     |
| Dimensions & weight                                    |       |       |       |       |       |        |        |        |        |
| Lenght                                                 | mm    | 750   | 750   | 860   | 860   | 1 750  | 1 750  | 2 640  | 3 495  |
| Depth                                                  | mm    | 601   | 601   | 880   | 880   | 880    | 880    | 880    | 880    |
| Height                                                 | mm    | 1 990 | 1 990 | 1 990 | 1 990 | 1 990  | 1 990  | 1 990  | 1 990  |
| Net weight                                             | kg    | 155   | 160   | 220   | 240   | 340    | 360    | 540    | 700    |
| Free Cooling                                           |       | ○     | ○     | ○     | ●     | ○      | ●      | ●      | ○      |
| Two Sources                                            |       | ○     | ○     | ○     | ●     | ○      | ●      | ●      | ○      |

\* Performance refers to: R410a refrigerant; condensing temperature 45°C; incoming air 24°C-45%Rh; water 7/12°C; external static pressure 30 Pa. The declared performance does not take into account the heat generated by fans, which must be added to the system thermal load.  
EER (Energy Efficiency Ratio) = total cooling capacity / compressors power consumption + fans power consumption (air cooled condensers excluded).  
Sound levels at a 2 m distance, in a free field, as per UNI EN ISO 3744:2010.

## Technical Characteristics

| YC-UPU: with chilled water coil and down-flow air supply |       |       |       |       |       |        |        |        |        |
|----------------------------------------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| Models                                                   |       | 10    | 20    | 30    | 50    | 80     | 110    | 160    | 220    |
| Performances                                             |       |       |       |       |       |        |        |        |        |
| Total cooling capacity                                   | kW    | 10.2  | 18.0  | 32.4  | 43.6  | 66.8   | 80.2   | 121.9  | 160.3  |
| Sensible cooling capacity                                | kW    | 9.2   | 15.4  | 29.8  | 38.1  | 62.1   | 72.0   | 109.7  | 144.0  |
| Airflow                                                  | m³/h  | 2 200 | 3 200 | 7 400 | 8 200 | 15 400 | 17 000 | 26 000 | 34 000 |
| EER                                                      |       | 34.42 | 28.98 | 22.82 | 21.48 | 23.95  | 24.29  | 23.62  | 24.29  |
| Sound pressure level                                     | dB(A) | 51    | 57    | 63    | 59    | 66     | 61     | 63     | 64     |
| Dimensions & weight                                      |       |       |       |       |       |        |        |        |        |
| Lenght                                                   | mm    | 750   | 750   | 860   | 860   | 1 750  | 1 750  | 2 640  | 3 495  |
| Depth                                                    | mm    | 601   | 601   | 880   | 880   | 880    | 880    | 880    | 880    |
| Height                                                   | mm    | 1 990 | 1 990 | 1 990 | 1 990 | 1 990  | 1 990  | 1 990  | 1 990  |
| Net weight                                               | kg    | 155   | 160   | 220   | 240   | 340    | 360    | 540    | 700    |
| Free Cooling                                             |       | ○     | ○     | ○     | ●     | ○      | ●      | ●      | ○      |
| Two Sources                                              |       | ○     | ○     | ○     | ●     | ○      | ●      | ●      | ○      |

\* Performance refers to: R410a refrigerant; condensing temperature 45°C; incoming air 24°C-45%Rh; water 7/12°C; external static pressure 30 Pa. The declared performance does not take into account the heat generated by fans, which must be added to the system thermal load.  
EER (Energy Efficiency Ratio) = total cooling capacity / compressors power consumption + fans power consumption (air cooled condensers excluded).  
Sound levels at a 2 m distance, in a free field, as per UNI EN ISO 3744:2010.

# YORK® YC-G Series Close Control Air Conditioners

A complete range from 43 kW up to 183.5 kW



## Applications

**"G" Series** YORK air conditioners consist of a family of units specially designed to exploit the plant characteristics of the latest generation of large Data Centres.

In the design of air conditioning equipment for large Data Centres, the necessities of cable housing and for the distribution of the enormous quantities of air required to cool the servers have made it necessary to raise the height of the false floor to now reach the current 600-800 millimetres. This creates an ample space below the air conditioner destined to the installation of the plinth. This large space under the raised floor was therefore considered as the housing for the discharge fans. The air conditioners are supplied in two separate sections: the under-base containing the discharge fans to be installed under the floating floor, and the treatment unit with the exchanger coil, filters and the electrical panel.

This large space under the raised floor is used to house the supply air fans. The air conditioners are therefore supplied in two separate sections:

- The treatment unit with enlarged heat exchanger coil, filters and electrical panel.
- The plinth containing the supply air fans, to be installed under the raised floor. The plinth with the fans is supplied to match the height indicated in the order from the customer.

The two sections, shipped separately, are easy to install on-site as they require only electrical connection of the two junction boxes in the air conditioner and the plinth.

## Downflow supply



Standard version for perimeteral installation inside the Data Centre: the height of the raised floor must be minimum 550 mm.



Version for perimeteral installation inside the Data Centre with raised floor height less than 550 mm. In this case, the plinth with fixed height of 550 mm is supplied with lateral closure panels and must be installed above the floor. It is essential to check that the height of the ceiling is sufficient to ensure good air suction.



Version for installation outside the Data Centre, without raised floor, rear air supply. In this case the plinth (fixed height 550 mm) is supplied with side closure panels and rear supply air grilles. Installation of the plenum with rear re-intake system is optional, if there is no ductwork.

## Technical Characteristics

| YC-UGA: direct expansion air conditioners with air-cooled or water-cooled condensers and downflow air supply |       |       |        |        |
|--------------------------------------------------------------------------------------------------------------|-------|-------|--------|--------|
| Models                                                                                                       |       | 461   | 612    | 932    |
| Total cooling capacity (1)                                                                                   | kW    | 43.0  | 54.9   | 91.7   |
| Sensible cooling capacity (1)                                                                                | kW    | 35.9  | 42.1   | 79.4   |
| EER (3)                                                                                                      |       | 3.39  | 2.86   | 3.60   |
| Total cooling capacity (2)                                                                                   | kW    | 46.6  | 58.8   | 99.6   |
| Sensible cooling capacity (2)                                                                                | kW    | 46.6  | 53.1   | 99.6   |
| EER (3)                                                                                                      |       | 3.67  | 3.07   | 3.92   |
| Airflow                                                                                                      | m³/h  | 9 500 | 10 000 | 19 000 |
| Sound pressure level (4)                                                                                     | dB(A) | 57    | 58     | 59     |
| Lenght                                                                                                       | mm    | 1 490 | 1 490  | 2 390  |
| Depth                                                                                                        | mm    | 921   | 921    | 921    |
| Height                                                                                                       | mm    | 1 990 | 1 990  | 1 990  |
| Net weight                                                                                                   | kg    | 630   | 680    | 870    |

| YC-UGU: chilled water coil air conditioners with downflow air supply |       |       |        |        |        |
|----------------------------------------------------------------------|-------|-------|--------|--------|--------|
| Models                                                               |       | 70    | 150    | 230    | 300    |
| Total cooling capacity (1)                                           | kW    | 47.7  | 91.7   | 128.3  | 183.5  |
| Sensible cooling capacity (1)                                        | kW    | 42.1  | 82.6   | 119.9  | 165.3  |
| EER (3)                                                              |       | 32.89 | 33.97  | 35.15  | 40.77  |
| Total cooling capacity (2)                                           | kW    | 38.5  | 74.9   | 106.7  | 149.8  |
| Sensible cooling capacity (2)                                        | kW    | 38.5  | 74.9   | 106.7  | 149.8  |
| EER (3)                                                              |       | 27.7  | 28.69  | 29.81  | 34.51  |
| Airflow                                                              | m³/h  | 9 500 | 19 000 | 28 500 | 38 000 |
| Sound pressure level (4)                                             | dB(A) | 57    | 59     | 61     | 60     |
| Lenght                                                               | mm    | 1 320 | 2 220  | 3 120  | 4 020  |
| Depth                                                                | mm    | 921   | 921    | 921    | 921    |
| Height                                                               | mm    | 1 990 | 1 990  | 1 990  | 1 990  |
| Net weight                                                           | kg    | 610   | 750    | 930    | 1 250  |

(1) Performance refers to: R410a refrigerant; condensing temperature 45°C; incoming air 24°C-45%Rh; water 7/12°C; external static pressure 30 Pa, ventilated plenum, height 1000 mm.  
The declared performance does not take into account the heat generated by fans, which must be added to the system thermal load.

(2) Performance refers to: R410a refrigerant; condensing temperature 45°C; incoming air 30°C-30%Rh; water 14/20°C; external static pressure 30 Pa, ventilated plenum, height 1000 mm.  
The declared performance does not take into account the heat generated by fans, which must be added to the system thermal load.

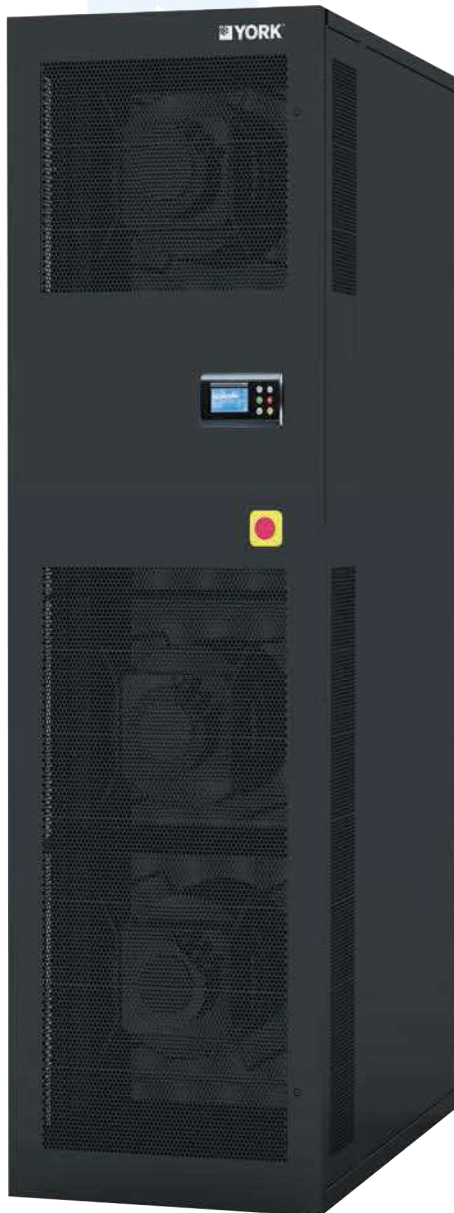
(3) EER (Energy Efficiency Ratio) = total cooling capacity / compressors power consumption + fans power consumption (air cooled condensers excluded).

(4) Sound levels at a 2 m distance, in a free field, as per UNI EN ISO 3744:2010.



# YORK® YC-R Series Close Control Air Conditioners

A complete range from 20.6 kW up to 36.2 kW



## Applications

**"R" Series** YORK air conditioners consist of a family of units specially designed and constructed to have the same dimensions as the racks.

In the design of air conditioning plant for large Data Centres, the reduction of energy consumption is of ever increasing importance. For this reason the following concepts have become consolidated international standard practice:

- The racks containing the servers are more often positioned according to the "hot corridor aisle" and "cold corridor/aisle" layout.
- The working air temperatures are now allowed to go up to 30–35°C in the hot corridor and 20–25°C in the cold one, with very low humidity (never above 30%). Consequently, also the water temperature is allowed to rise up to 20–28°C, using the Free Cooling system to the best effect.
- Server capacities keep going up while their dimensions keep going down. This means that more servers can be installed in a rack so that some of these racks, remaining empty, can be removed. At the same time the heat dissipated rises and more capacity is required from the air conditioners.
- The servers work day and night albeit with a night time reduction of their capacity. It is therefore essential for the air conditioning installation to have an efficient modulating cooling capacity control and to be designed for minimum energy consumption and minimum environmental impact.

Horizontal supply



Version for in-row installation with front and lateral air supply.

Technical Characteristics

| YC-HRA: direct expansion air conditioners with air-cooled or water-cooled condensers and horizontal air supply |       |       |       |
|----------------------------------------------------------------------------------------------------------------|-------|-------|-------|
| Models                                                                                                         |       | 231   | 361   |
| Total cooling capacity (1)                                                                                     | kW    | 20.6  | 36.2  |
| Sensible cooling capacity (1)                                                                                  | kW    | 20.6  | 35.6  |
| EER (2)                                                                                                        |       | 3.31  | 3.65  |
| Airflow                                                                                                        | m³/h  | 6 500 | 7 500 |
| Sound pressure level (3)                                                                                       | dB(A) | 52    | 54    |
| Lenght                                                                                                         | mm    | 600   | 600   |
| Depth                                                                                                          | mm    | 1 180 | 1 180 |
| Height                                                                                                         | mm    | 2 000 | 2 000 |
| Net weight                                                                                                     | kg    | 215   | 215   |
| Free Cooling                                                                                                   |       | ●     | ○     |
| Two Sources                                                                                                    |       | ●     | ○     |

| YC-HRU: chilled water coil air conditioners with horizontal air supply |       |
|------------------------------------------------------------------------|-------|
| Models                                                                 | 40    |
| Total cooling capacity (1)                                             | 31.6  |
| Sensible cooling capacity (1)                                          | 31.6  |
| EER (3)                                                                | 26.58 |
| Airflow                                                                | 9 000 |
| Sound pressure level                                                   | 61    |
| Lenght                                                                 | 600   |
| Depth                                                                  | 1 180 |
| Height                                                                 | 2 000 |
| Net weight                                                             | 190   |
| Free Cooling                                                           | ●     |
| Two Sources                                                            | ●     |

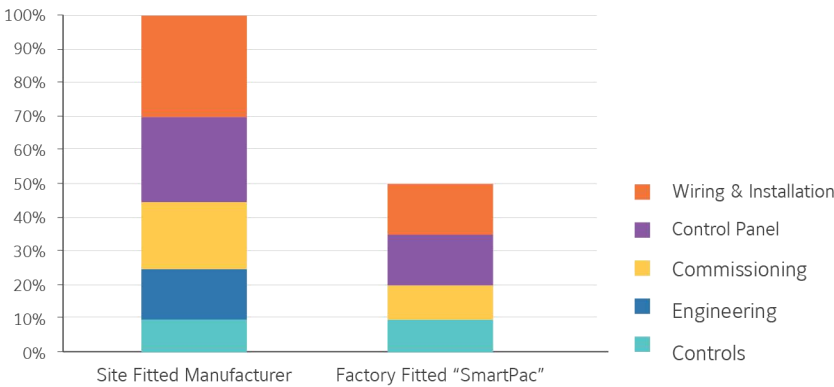
(1) Performance refers to: R410a refrigerant; condensing temperature 45°C; incoming air 30°C-30%Rh; water 14/20°C; external static pressure 30 Pa. The declared performance does not take into account the heat generated by fans, which must be added to the system thermal load.  
(2) EER (Energy Efficiency Ratio) = total cooling capacity / compressors power consumption + fans power consumption (air cooled condensers excluded).  
(3) Sound levels at a 2 m distance, in a free field, as per UNI EN ISO 3744:2010.

# SmartPac

SmartPac from Johnson Controls offers factory packaged control solutions that reduce cost, enhance quality and optimise site time.

Once on site, the equipment can be started immediately. Commissioning time is dramatically reduced, allowing to better control the project costs through simplifying equipment installation and commissioning.

Quality is ensured through application and testing to European Installation regulations at the factory. Pre-installed software is configured to deliver air at the specified volume, temperature and humidity.





## SmartPac and YORK® Air Handling units

The Air Handling Unit arrives on site **ready to connect** to the site network, and final commissioning is simplified through the unit's keypad and display.

Panel Power wiring, controls wiring, Variable Speed Drive, pre-engineered controller and required peripheral devices are all supplied, factory fitted and tested.



## SmartPac and YORK® Fan Coil units

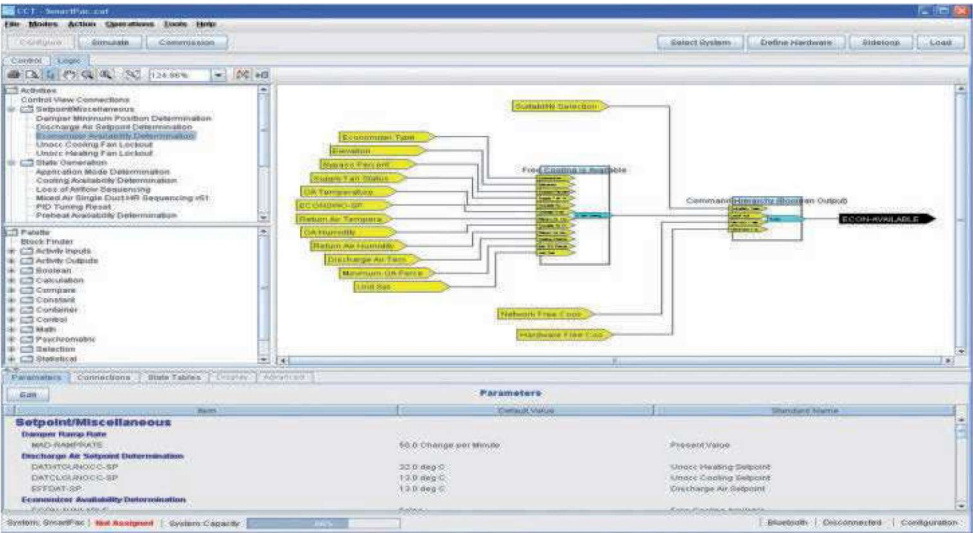
YORK® Fan Coil Units are available with factory packaged controls and numerous options for controllers and valves **to allow reduced installation time on site.**

A range of standard configurable or fully programmable controllers are offered along with a choice of Industry standard protocols. Valve requirements can also be met with a wide range of modulating and on/off actuators and isolation valves available and factory fitted.



## SmartPac and YORK® Roof Top & Close Control units

Factory packaged controls' solution enable, to **dramatically reduce on-site commissioning costs.** Both are delivered to site with pre-installed controls, factory tested and ready to apply the power.



## SmartPac and YORK® Standard Control panel

Furthermore, Variable Speed Drives give **extra efficiency communicating** with the Johnson controller using industry standard protocols and providing for seamless communications with existing BAS control systems.





# Packaged Equipment & Large Split Systems

ROOMTOP

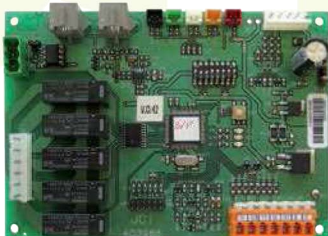
ROOFTOP

LARGE SPLIT



# Control System

## YKN2open



The YKN2open is a controller regulating all components and accessories. It will pro actively manage cool and heat stages to maintain a stable room temperature maximizing the efficiency.

Additionally, the benefits are:

- Redundancy on cool and heat stages (if one step is locked out, the PCB starts another one automatically).
- Random start between units to minimise electrical tariff.
- All stages will start in sequence to reduce peak inrush.
- Reduces nuisance calls by using 3 times "you are out" on all safeties before a hard lockout occurs.
- Automatic restart after power failure. Compressors run time priority.
- Alarm output relay and led diagnostic code. No parameters to check before starting.
- Lockout and incident level of protection. Last 10 lockouts stored in a non-volatile memory.
- 4 heating stages on hot water heating.
- **BMS connection (N2 Open protocol).**



## YKtool N2open

The Yktool is the perfect tool to use on a regular basis for comissioning and service on site. For comissioning, it will override the thermostat and start the cooling or heating stages. Being a plug and play device, you will have direct access to all sensors and status of each components and accessories installed (lockout & incidents, temperatures, defrost test...).

Code: S613786031



### Thermostat DPC-1

- Day (normal), night (economy) and unoccupied (stand by).
  - Lockout code on screen gives direct diagnostics.
  - ON/OFF or programmable from dip switch setting.
  - Day or night programmable state avoids wide internal temperature variation.
  - 3 preset and 3 programmable profiles.
- Temperature override.
  - Select the control sensor you want to use (integrated in the thermostat, return air in duct or room sensor).
  - Turbo, normal or economy logic from dip switch setting.
  - From -3°C to +3°C sensor offset.
  - Average temperature with room or duct sensors.

### Thermostats with integrated sensors

| Thermostat models |             | DPC-1      | DPC-1R     |
|-------------------|-------------|------------|------------|
|                   | Code        | S603786044 | S603786045 |
| Roomtop           | RTC and RTH | X          | 0          |
| Rooftop           | All models  | 0          | 0          |
| Split system      | VAC and VAH | X          | 0          |
|                   | VCH         | X          | 0          |

| Main features                    |                           |   |               |
|----------------------------------|---------------------------|---|---------------|
| Strategy                         | Turbo, normal or economy  |   |               |
| Auto restart after power failure | •                         |   | •             |
| Number of cool stages            | 2                         | 1 | 2             |
| Number of heat stages            | 2                         | 1 | 2             |
| Auxiliary Heat                   | •                         |   | •             |
| Automatic Heat/Cool change over  | •                         |   | •             |
| Continuous or auto indoor fan    | •                         |   | •             |
| Manual setback (Day/Night key)   | Day, night and unoccupied |   |               |
| Override possibility             | •                         |   | •             |
| Compressor anti short cycle      | •                         |   | •             |
| °C Range cooling / heating       | 10 to 32°C / 9 to 32°C    |   |               |
| Programmable, 7-day              | •                         |   | •             |
| Lockout codes                    | •                         |   | •             |
| Outdoor air temperature          | •                         |   | with YKN2Open |
| Sensor selection                 | •                         |   | •             |

X : Delivered as standard with the unit.  
 O : Optional.    • : Function available.



RS-1

### Room sensor

Indoor remote probe to provide close control of the ambient temperature at a location away from the DPC-1 and DPC-1R thermostats.  
 Code: S603786042



AS-1

### Ambiance sensor

Digital remote probe to provide close control of the ambient temperature at a location away from DPC-1 and DPC-1R thermostats. Up to 4 remote probes can be connected to make an average of the room conditioned.  
 Code: S603786049



DS-1

### Duct sensor

Remote probe to provide close control of the return air temperature in the duct, at a location away from DPC-1 and DPC-1R thermostats. The use of this probe is recommended when an indoor remote probe cannot be installed in the area where temperature is to be controlled.  
 Code: S603786047



# BMS Connection



IP Network



**METASYS**  
COMPATIBLE



BACnet

DPC-1



DPC-1



**YKN2open**



**YKN2open**



Light control,  
Power station...

AHU



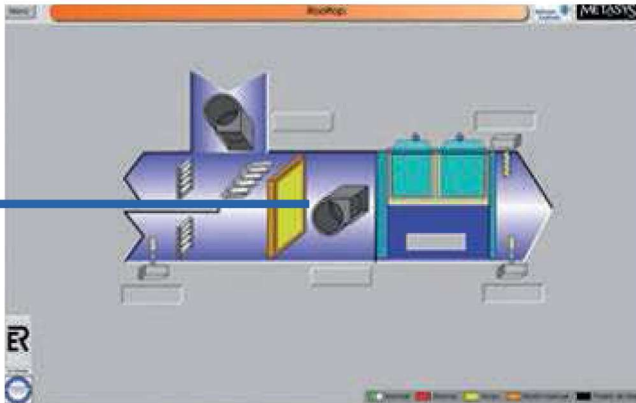
VRF



CHILLER

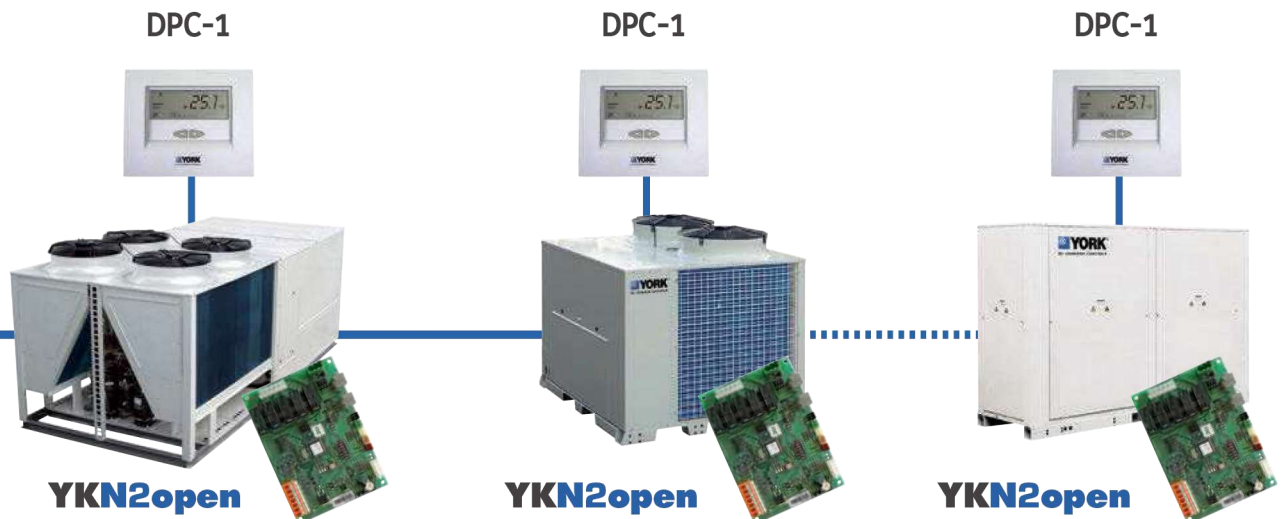






Sample screen

- BMS communication through new board YKN2Open delivered as standard (N2Open protocol)
- Possibility to fully control the unit and monitor more than 160 variables per unit.
- Can be integrated with other systems like lighting, fire&security or other HVAC equipment.
- Fully tailored solutions available (ask JCI sales office)



## ACCESS CONTROL

FIRE

TVCC



Fire &amp; Security

## FAN COILS



HVAC application

# Roomtop

RTC-RTH - L

A complete range from 14.6 kW up to 27.0 kW



**YKN2open**

### Features

- New YKN2open board
- Possibility to be installed outdoor
- Scroll Compressors
- High COP and EER
- 1/4 turn on electrical panel
- Expansion valves for models 20, 25 and 30
- High external static pressure on evaporator and condenser
- Digital thermostat DPC-1 and indoor air filter included

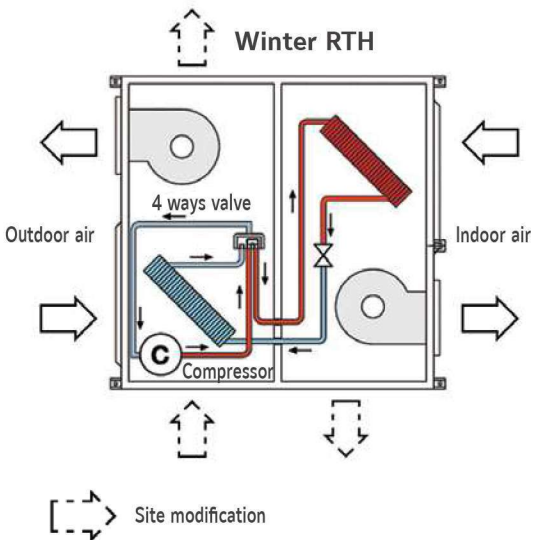
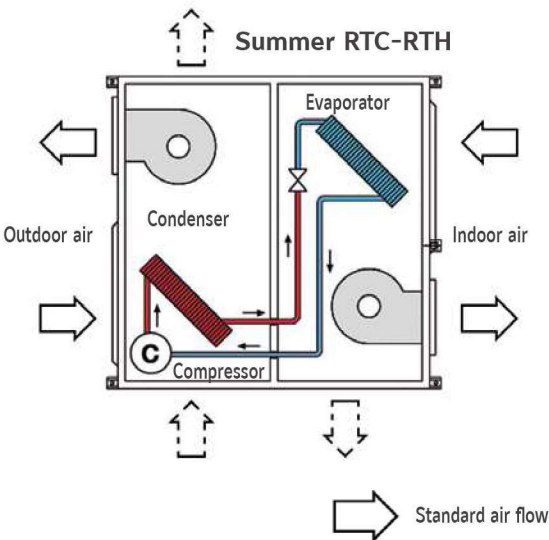
**RTC 15 L**

### Nomenclature

L = version

**Capacity range:**  
15 = 15 kW

**Product category:**  
RTC = Cooling only  
RTH = Heat pump



# Roomtop

## RTC-RTH 15 to 30 - L



### Technical features

| Cooling only models                    |                      |                   | RTC 15 L    | RTC 20 L | RTC 25 L | RTC 30 L |
|----------------------------------------|----------------------|-------------------|-------------|----------|----------|----------|
| Cooling capacities                     | kW                   |                   | 14.60       | 19.90    | 22.20    | 27.00    |
| Power input in cooling                 | kW                   |                   | 5.50        | 8.60     | 10.00    | 12.00    |
| In duct outdoor side sound power level | dB(A)                |                   | 72          | 74       | 77       | 81       |
| In duct indoor side sound power level  | dB(A)                |                   | 71          | 73       | 75       | 75       |
| Heat pump models                       |                      |                   | RTH 15 L    | RTH 20 L | RTH 25 L | RTH 30 L |
| Cooling capacities                     | kW                   |                   | 14.10       | 19.90    | 22.20    | 26.80    |
| Power input in cooling                 | kW                   |                   | 5.40        | 8.32     | 10.04    | 11.63    |
| Heating capacities                     | kW                   |                   | 13.80       | 17.80    | 20.80    | 25.40    |
| Power input in heating                 | kW                   |                   | 4.84        | 7.15     | 7.89     | 9.67     |
| In duct outdoor side sound power level | dB(A)                |                   | 74          | 74       | 81       | 81       |
| In duct indoor side sound power level  | dB(A)                |                   | 73          | 73       | 81       | 81       |
| Common characteristics                 |                      |                   |             |          |          |          |
| Power supply                           |                      | 400V/3 + N/ 50Hz  |             |          |          |          |
| Nominal current RTC / RTH              | A                    |                   | 11.6 / 11.5 | 19 / 19  | 21 / 21  | 23 / 23  |
| Starting current                       | A                    |                   | 64          | 95       | 111      | 118      |
| Main switch (1)                        | A                    |                   | 20          | 25       | 25       | 32       |
| Main cable (1)                         | Nbr.xmm <sup>2</sup> |                   | 5 x 4       | 5 x 4    | 5 x 4    | 5 x 6    |
| Cable to standard thermostat (2)       | Nbr.xmm <sup>2</sup> |                   | 10 x 0.22   |          |          |          |
| Evaporator fan at nominal airflow      | Airflow              | m <sup>3</sup> /h | 3 580       | 4 100    | 5 060    | 5 300    |
|                                        | Standard ESP         | Pa                | 50          | 50       | 62       | 62       |
| Condenser fan at nominal airflow       | Airflow              | m <sup>3</sup> /h | 3 890       | 4 810    | 5 640    | 7 450    |
|                                        | Standard ESP         | Pa                | 50          | 50       | 50       | 50       |
| Nett dimensions                        | Height               | mm                | 557         | 585      | 650      | 650      |
|                                        | Length               | mm                | 1 312       | 1 575    | 1 750    | 1 770    |
|                                        | Depth                | mm                | 1 312       | 1 575    | 1 656    | 2 056    |
| Nett weight                            | RTC                  | kg                | 235         | 305      | 358      | 420      |
| Nett weight                            | RTH                  | kg                | 243         | 317      | 379      | 434      |

(1) For information only. These should be checked for compliance with local regulations depending also on installation and cable type

(2) Shield type cable only

All the data are at EUROVENT conditions with 400V/3+N/50Hz.

Cooling : Entering indoor coil temp. 27°C / 19°C WB and outdoor temperature 35°C

Heating : Entering indoor coil temp. 20°C and outdoor temperature 7°C / 6°C WB

### Compatibility table / Codes

| Cooling only models |  |  | RTC 15 L   | RTC 20 L   | RTC 25 L   | RTC 30 L   |
|---------------------|--|--|------------|------------|------------|------------|
|                     |  |  | S661211545 | S661212081 | S661212545 | S661213045 |
| Heat pump models    |  |  | RTH 15 L   | RTH 20 L   | RTH 25 L   | RTH 30 L   |
|                     |  |  | S662051544 | S662052054 | S662052545 | S662053045 |

| Thermostat                                              |            |  |       |   |   |   |
|---------------------------------------------------------|------------|--|-------|---|---|---|
| Delivered as standard with the unit                     |            |  | DPC-1 |   |   |   |
| YNK2Open Gateway<br>BACnet / IP - JCI Metasys N2 **     | S606791244 |  | A     | A | A | A |
| YNK2Open Gateway<br>Modbus TCP / IP - JCI Metasys N2 ** | S606791245 |  | A     | A | A | A |

| Accessories or options            | Remarks      | Code         | RTC 15 L | RTC 20 L | RTC 25 L | RTC 30 L |
|-----------------------------------|--------------|--------------|----------|----------|----------|----------|
|                                   |              |              | RTH 15 L | RTH 20 L | RTH 25 L | RTH 30 L |
| Electrical Heaters *<br>(in duct) | 5 kW / 3ph.  | S611765653   | A        | A        | A        | A        |
|                                   | 10 kW / 3ph. | S611765583   | A        | A        | A        | A        |
|                                   | 15 kW / 3ph. | S611765513   | A        | A        | A        | A        |
| Low ambient regulation            |              | S613113087 * | O (1)    | O        | O        | O        |
| Alarm relay board                 |              | S606791243   | O/A      | O/A      | O/A      | O/A      |
| Copper-copper coils unit          |              | Contact us   | O        | O        | O        | O        |

A= Accessory (supplied loose). O= Option (factory fitted). O/A=If you want this item factory fitted, precise it in the order form.

\* Not protected against external conditions. \*\* To be released in 2016 - Ask JCI for availability

(1) Special reference - please ask JCI



Manufacturer reserves the rights to change specifications without prior notice.



A complete range from 17 kW up to 40 kW



# ACTIVA Rooftop

## ARC-ARG-ARH-ARD 017 to 040 AB



### Technical features

| Cooling only models                      |           |            | ARC 017 AB                  | ARC 022 AB | ARC 032 AB              | ARC 040 AB |
|------------------------------------------|-----------|------------|-----------------------------|------------|-------------------------|------------|
| Net cooling capacities                   |           | kW         | 18.2                        | 23.2       | 31                      | 39.9       |
| Power input                              |           | kW         | 5.5                         | 7.4        | 9.9                     | 14.2       |
| EER                                      |           |            | 3.42                        | 3.31       | 3.23                    | 2.9        |
| Working range (full load / partial load) |           | °C         | 7°C ~ 46°C / -10°C ~ 52°C   |            |                         |            |
| Heat pump models                         |           |            | ARH 017 AB                  | ARH 022 AB | ARH 032 AB              | ARH 040 AB |
| Net cooling capacities                   |           | kW         | 18.2                        | 22.2       | 31                      | 39.9       |
| Power input in cooling                   |           | kW         | 5.5                         | 7.4        | 9.9                     | 14.2       |
| EER                                      |           |            | 3.42                        | 3.15       | 3.23                    | 2.9        |
| Heating capacities (1)                   |           | kW         | 16.5                        | 22.1       | 30.9                    | 39.0       |
| Power input in heating                   |           | kW         | 5.4                         | 6.9        | 9.8                     | 13.5       |
| COP                                      |           |            | 3.2                         | 3.36       | 3.23                    | 3.0        |
| Working range (full load / partial load) |           | °C         | -10°C ~ 46°C / -10°C ~ 52°C |            |                         |            |
| Cooling only + Gas heating models        |           |            | ARG 017 AB                  | ARG 022 AB | ARG 032 AB              | ARG 040 AB |
| Net cooling capacities                   |           | kW         | 18.2                        | 23.2       | 31                      | 39.9       |
| Cooling power input                      |           | kW         | 5.5                         | 7.4        | 9.9                     | 14.2       |
| Standard Heating capacities (1) NET      |           | kW         | 23                          | 23         | 41                      | 41         |
| Natural gas 2ND-H, G20                   |           | m³/h       | 2.5                         | 2.5        | 4.5                     | 4.5        |
| Working range (full load / partial load) |           | °C         | -15°C ~ 46°C / -15°C ~ 52°C |            |                         |            |
| Heat pump + Gas heating models           |           |            | ARD 017 AB                  | ARD 022 AB | ARD 032 AB              | ARD 040 AB |
| Net cooling capacities                   |           | kW         | 18.2                        | 22.2       | 31                      | 39.9       |
| Power input in cooling                   |           | kW         | 5.5                         | 7.4        | 9.9                     | 14.2       |
| Heating capacities (1)                   |           | kW         | 18.1                        | 22.1       | 30.9                    | 39.0       |
| Power input in heating                   |           | kW         | 5.7                         | 6.9        | 9.8                     | 13.5       |
| Standard Heating capacities (1) NET      |           | kW         | 23                          | 23         | 41                      | 41         |
| Natural gas 2ND-H, G20                   |           | m³/h       | 2.5                         | 2.5        | 4.5                     | 4.5        |
| Working range (full load / partial load) |           | °C         | -15°C ~ 46°C / -15°C ~ 52°C |            |                         |            |
| Common characteristics                   |           |            |                             |            |                         |            |
| Power supply                             |           |            | 400V/3 + N/ 50Hz            |            |                         |            |
| Main switch                              |           | A          | 20                          | 25         | 40                      | 50         |
| Main cable                               |           | Nbr. x mm² | 5 x 4                       | 5 x 6      | 5 x 10                  | 5 x 16     |
| Cable to thermostat                      |           | Nbr. x mm² | 10 x 0.22                   |            |                         |            |
| Number of circuits / Compressor type     |           |            | 1 / 1 x Scroll              |            | 1 (Tandem) / 2 x Scroll |            |
| Evaporator fan at nominal airflow        | Airflow   | m³/h       | 3400                        | 4300       | 5700                    | 7400       |
|                                          | ASP       | Pa         | 600                         | 600        | 600                     | 600        |
| Nett dimensions                          | Height    | mm         | 1 420                       | 1 420      | 1 420                   | 1 420      |
|                                          | Length    | mm         | 1 866                       | 1 866      | 2 135                   | 2 135      |
|                                          | Depth     | mm         | 1 540                       | 1 540      | 1 850                   | 1 850      |
| Nett weight                              | ARC / ARG | kg         | 420 / 462                   | 440 / 482  | 581 / 642               | 585 / 646  |
| Nett weight                              | ARH / ARD | kg         | 425 / 467                   | 445 / 487  | 587 / 648               | 591 / 652  |

All the data are at EUROVENT conditions with 400V/3+N/50Hz.  
Cooling : Entering indoor coil temp. 27°C / 19°C WB and outdoor temperature 35°C - Heating : Entering indoor coil temp. 20°C and outdoor temperature 7°C / 6°C WB  
(1) Add indoor fan motor consumption to know total heating capacity.

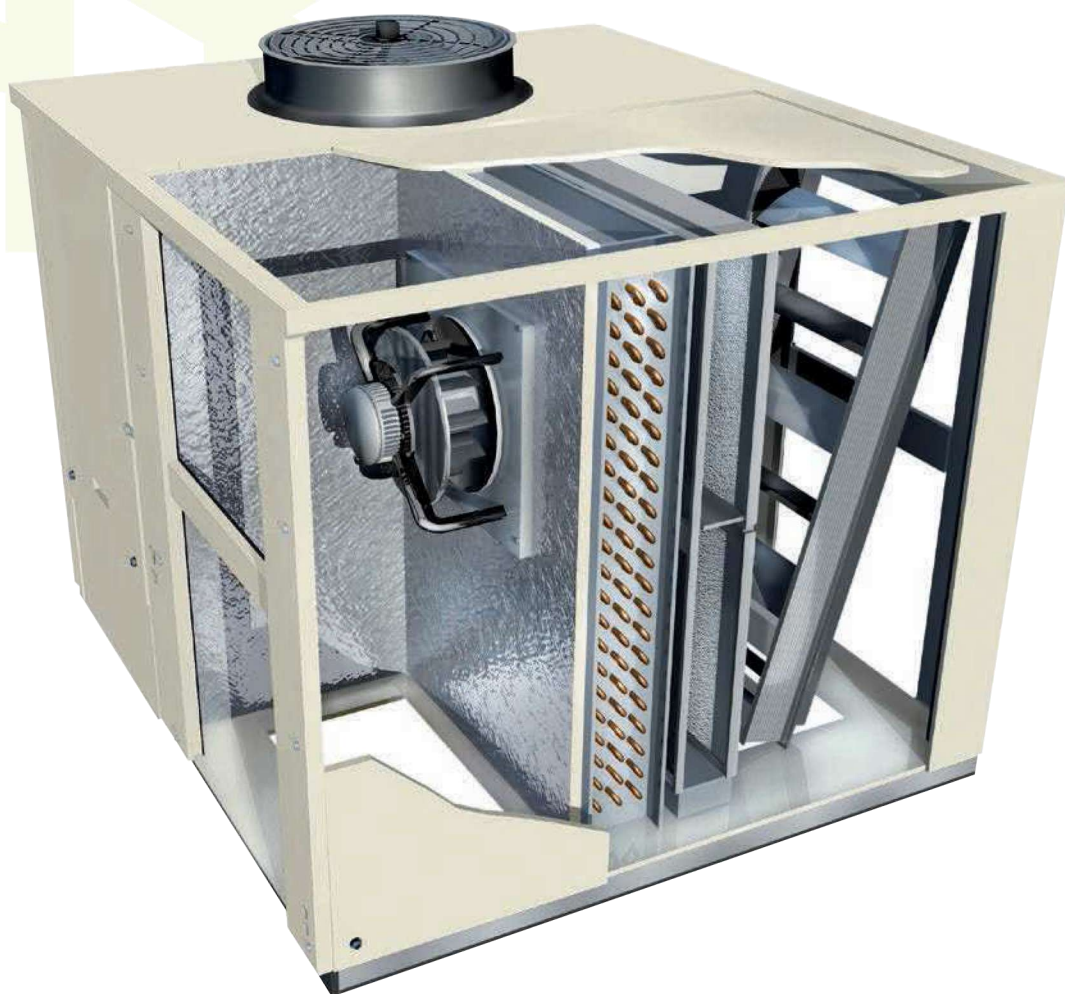
### Codes

| Cooling only models               | ARC 017 AB | ARC 022 AB | ARC 032 AB | ARC 040 AB |
|-----------------------------------|------------|------------|------------|------------|
|                                   | S661752110 | S661752120 | S661752130 | S661752150 |
| Heat pump models                  | ARH 017 AB | ARH 022 AB | ARH 032 AB | ARH 040 AB |
|                                   | S661752113 | S661752123 | S661752133 | S661752153 |
| Cooling only + Gas heating models | ARG 017 AB | ARG 022 AB | ARG 032 AB | ARG 040 AB |
|                                   | S661752111 | S661752121 | S661752131 | S661752151 |
| Heat pump + Gas heating models    | ARD 017 AB | ARD 022 AB | ARD 032 AB | ARD 040 AB |
|                                   | S661752112 | S661752122 | S661752132 | S661752152 |
| Thermostat                        |            |            |            |            |
| to be ordered separately          |            | DPC-1      |            |            |



Manufacturer reserves the rights to change specifications without prior notice.

# Activa rooftop details & features



## **High Efficiency**

High efficiency compressor and fans managed by an smart control allows the unit to achieve and maintain the level of comfort required in the most efficient way, reducing therefore the energy bill.



## **Low Noise**

Ultra quiet fans and optimized airflow reduces the noise level increasing the comfort. Compressors are mounted on shock absorbers and anti-vibration springs are available to avoid vibration transmissions into de building.



## **Easy Installation and Maintenance**

The high level of usability of the control, the internal solutions adopted (like direct driven fans with variable speed) and the easy access to components simplify and reduce the need of external interventions. Full information on commissioning and maintenance plan are provided to help to ensure unit keeps running always in optimal conditions.



## **Compact Design**

The refrigerant circuit layout has been redesigned and high efficiency exchangers been used to reduce the footprint and improve the transport and handling. Transition roofcurbs are available to fit in existing installations.



# Accessories & options

|                                                                            |       | Code       | Cooling only |     |     |     | Heat pump |     |     |     | Cooling + gas heating |     |     |     | Heat pump + gas heating |     |     |     |
|----------------------------------------------------------------------------|-------|------------|--------------|-----|-----|-----|-----------|-----|-----|-----|-----------------------|-----|-----|-----|-------------------------|-----|-----|-----|
|                                                                            |       |            | 017          | 022 | 032 | 040 | 017       | 022 | 032 | 040 | 017                   | 022 | 032 | 040 | 017                     | 022 | 032 | 040 |
| Thermostat DPC-1                                                           |       | S603786044 | A            | A   | A   | A   | A         | A   | A   | A   | A                     | A   | A   | A   | A                       | A   | A   | A   |
| YNK2Open Gateway<br>BACnet / IP - JCI Metasys N2 *                         |       | S606791244 | A            | A   | A   | A   | A         | A   | A   | A   | A                     | A   | A   | A   | A                       | A   | A   | A   |
| YNK2Open Gateway<br>Modbus TCP / IP - JCI Metasys N2 *                     |       | S606791245 | A            | A   | A   | A   | A         | A   | A   | A   | A                     | A   | A   | A   | A                       | A   | A   | A   |
| Dry bulb triple input economizer or<br>motorized air damper with rain hood |       | S611752301 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |       | S611752311 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Enthalpy probes                                                            |       | S613990081 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Indoor air quality sensor                                                  |       | S606819964 | O/A          | O/A | O/A | O/A | O/A       | O/A | O/A | O/A | O/A                   | O/A | O/A | O/A | O/A                     | O/A | O/A | O/A |
| Power Exhaust                                                              |       | S611752302 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |       | S611752312 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Barometric relief damper and rain<br>hood                                  |       | S611752472 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |       | S611752473 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Fresh air damper and rain hood (2)                                         |       | S611752303 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |       | S611752313 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Low ambient kit                                                            |       | S611752381 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Roofcurb adapter (3)                                                       |       | S611752886 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |       | S611752887 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Fixed roof curb                                                            |       | S611752881 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |       | S611752882 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Adjustable roof curb                                                       |       | S611752883 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |       | S611752884 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Dirty filter switch                                                        |       | S613990085 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Smoke detector                                                             |       | S613995382 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Fire detection thermostat                                                  |       | S613903003 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Hot water coil                                                             |       | S611752351 | O            | O   |     |     | O         | O   |     |     |                       |     |     |     |                         |     |     |     |
|                                                                            |       | S611752352 |              |     | O   | O   |           |     | O   | O   |                       |     |     |     |                         |     |     |     |
| Electric heaters                                                           | 16 kW | S611752516 | O            | O   |     |     | O         | O   |     |     |                       |     |     |     |                         |     |     |     |
|                                                                            | 16 kW | S611752616 |              |     | O   | O   |           |     | O   | O   |                       |     |     |     |                         |     |     |     |
|                                                                            | 25 kW | S611752525 | O            | O   |     |     | O         | O   |     |     |                       |     |     |     |                         |     |     |     |
|                                                                            | 25 kW | S611752625 |              |     | O   | O   |           |     | O   | O   |                       |     |     |     |                         |     |     |     |
|                                                                            | 37 kW | S611752537 |              |     | O   | O   |           |     | O   | O   |                       |     |     |     |                         |     |     |     |
| Propane conversion Kit                                                     |       | S611752780 |              |     |     |     |           |     |     |     | A                     | A   | A   | A   | A                       | A   | A   | A   |
| Filter kit F6                                                              |       | S611752401 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |       | S611752402 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Filter kit F7                                                              |       | S611752411 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |       | S611752412 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Grill condenser coil protection                                            |       | S611752451 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |       | S611752452 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Antivibration mounting kit                                                 |       | S611752461 | A            | A   | A   | A   | A         | A   | A   | A   | A                     | A   | A   | A   | A                       | A   | A   | A   |
| Energy recovery                                                            |       | S611752501 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |       | S611752511 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Filter kit F6 for energy recovery                                          |       | S611755506 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |       | S611755516 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Filter kit F7 for energy recovery                                          |       | S611752507 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |       | S611752517 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Alarm relay board                                                          |       | S606791243 | O/A          | O/A | O/A | O/A | O/A       | O/A | O/A | O/A | O/A                   | O/A | O/A | O/A | O/A                     | O/A | O/A | O/A |
| Copper-copper coil                                                         |       | Contact us | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |

O=Option (factory fitted). A=Accessory (supplied loose). O/A=If you want this item factory fitted, precise it in the order form.  
(1) Energy recovery accessory includes: economizer, rain hood, indoor air quality sensor and G4 filters.  
(2) Fresh air damper can not be installed if economizer or motorized damper is fitted.  
(3) Transition roofcurbs to fit in D\_IC/D\_IG/B\_IG existing installations (090-150 kbtu/h).  
\* To be released in 2016 – Ask JCI for availability

# ACTIVA Rooftop

ARC-ARG-ARH-ARD

A complete range from 45.1 kW up to 84 kW

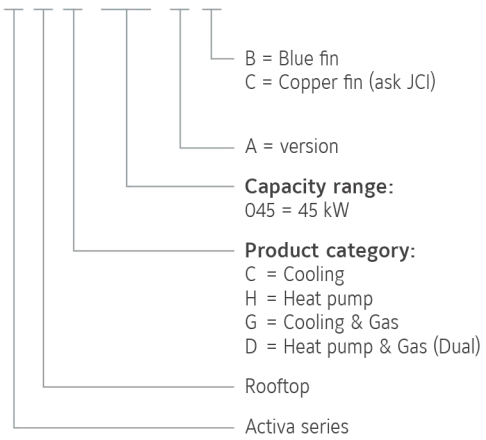


**YKN2open**

### Features

- High efficiency EER and COP
- Low noise level
- All configurations: Cooling only, Cooling + gas, Heating, Heating + Gas
- BMS communication as standard (N2Open protocol)
- Energy recovery (enthalpy wheel)
- EC Return fan
- External HP & LP access
- Filters G4, F6 & F7 available
- Tandem configuration (up to 52°C outdoor temperature)

### A R C 045 A B Nomenclature



# ACTIVA Rooftop

## ARC-ARG-ARH-ARD 045 to 090 AB



### Technical features

| Cooling only models                         |             |            | ARC 045 AB                  | ARC 060 AB  | ARC 075 AB    | ARC 090 AB    |
|---------------------------------------------|-------------|------------|-----------------------------|-------------|---------------|---------------|
| Net cooling capacities                      |             | kW         | 45.1                        | 61.0        | 71.5          | 84.0          |
| Power input                                 |             | kW         | 16.0                        | 23.0        | 30.0          | 36.0          |
| EER                                         |             |            | 2.96                        | 2.91        | 2.67          | 2.60          |
| Working range (full load / partial load) *  |             | °C         | 7°C ~ 46°C / -10°C ~ 52°C   |             |               |               |
| Heat pump models                            |             |            | ARH 045 AB                  | ARH 060 AB  | ARH 075 AB    | ARH 090 AB    |
| Net cooling capacities                      |             | kW         | 47.6                        | 61.9        | 71.4          | 83.4          |
| Power input in cooling                      |             | kW         | 17.0                        | 20.0        | 28.0          | 36.0          |
| EER                                         |             |            | 3.00                        | 3.06        | 2.67          | 2.60          |
| Heating capacities (1)                      |             | kW         | 45.2                        | 58.0        | 71.7          | 86.5          |
| Power input in heating                      |             | kW         | 16.0                        | 19.0        | 27.0          | 33.0          |
| COP                                         |             |            | 2.80                        | 2.96        | 2.81          | 2.60          |
| Working range (full load / partial load) *  |             | °C         | -10°C ~ 46°C / -10°C ~ 52°C |             |               |               |
| Cooling only + Gas heating models           |             |            | ARG 045 AB                  | ARG 060 AB  | ARG 075 AB    | ARG 090 AB    |
| Net cooling capacities                      |             | kW         | 45.1                        | 61.0        | 71.5          | 84.0          |
| Cooling power input                         |             | kW         | 16.0                        | 23.0        | 30.0          | 36.0          |
| Standard Heating capacities (1)             |             | kW         | 76.0                        | 76.0        | 76.0          | 76.0          |
| Natural gas 2ND-H, G20                      |             | m³/h       | 8.60                        | 8.60        | 8.60          | 8.60          |
| High Heating capacities (1)                 |             | kW         | 90.0                        | 90.0        | 90.0          | 90.0          |
| Natural gas 2ND-H, G20                      |             | m³/h       | 9.80                        | 9.80        | 9.80          | 9.80          |
| Working range (full load / partial load) ** |             | °C         | -15°C ~ 46°C / -15°C ~ 52°C |             |               |               |
| Heat pump + Gas heating models              |             |            | ARD 045 AB                  | ARD 060 AB  | ARD 075 AB    | ARD 090 AB    |
| Net cooling capacities                      |             | kW         | 47.6                        | 61.9        | 71.4          | 83.4          |
| Cooling power input                         |             | kW         | 17.0                        | 20.0        | 28.0          | 36.0          |
| Heating capacities (1)                      |             | kW         | 45.2                        | 58.0        | 71.7          | 86.5          |
| Power input in heating                      |             | kW         | 16.0                        | 19.0        | 27.0          | 33.0          |
| Standard Heating capacities (1)             |             | kW         | 76.0                        | 76.0        | 76.0          | 76.0          |
| Natural gas 2ND-H, G20                      |             | m³/h       | 8.60                        | 8.60        | 8.60          | 8.60          |
| High Heating capacities (1)                 |             | kW         | 90.0                        | 90.0        | 90.0          | 90.0          |
| Natural gas 2ND-H, G20                      |             | m³/h       | 9.80                        | 9.80        | 9.80          | 9.80          |
| Working range (full load / partial load) ** |             | °C         | -15°C ~ 46°C / -15°C ~ 52°C |             |               |               |
| Common characteristics                      |             |            |                             |             |               |               |
| Power supply                                |             |            | 400V/3 + N/ 50Hz            |             |               |               |
| Main switch                                 |             | A          | 50                          | 63          | 80            | 80            |
| Main cable                                  |             | Nbr. x mm² | 5 x 10                      | 5 x 16      | 5 x 25        | 5 x 25        |
| Cable to thermostat                         |             | Nbr. x mm² | 10 x 0,22                   |             |               |               |
| Number of circuits / Compressor type        |             |            | 1 (tandem) / 2 x scroll     |             |               |               |
| Evaporator fan at nominal airflow           | Airflow     | m³/h       | 8 500                       | 11 500      | 13 500        | 16 000        |
|                                             | Power input | kW         | 3                           | 4           | 5,5           | 7,5           |
|                                             | Height      | mm         | 1 316                       | 1 316       | 1 367         | 1 367         |
| Nett dimensions                             | Length      | mm         | 3 180                       | 3 180       | 3 495         | 3 495         |
|                                             | Depth       | mm         | 2 337                       | 2 337       | 2 337         | 2 337         |
| Nett weight ARC / ARG                       |             | kg         | 900 / 1 010                 | 945 / 1 055 | 1 118 / 1 228 | 1 142 / 1 252 |
| Nett weight ARH / ARD                       |             | kg         | 930 / 1 040                 | 985 / 1 095 | 1 145 / 1 255 | 1 220 / 1 330 |

All the data are at EUROVENT conditions with 400V/3+N/50Hz.  
Cooling : Entering indoor coil temp. 27°C / 19°C WB and outdoor temperature 35°C - Heating : Entering indoor coil temp. 20°C and outdoor temperature 7°C / 6°C WB  
(1) Add indoor fan motor consumption to know total heating capacity.  
\* With Premium kit (full load / partial load): -10°C ~ 50°C / -10°C ~ 52°C  
\*\* With Premium kit (full load / partial load): -20°C ~ 50°C / -20°C ~ 52°C

### Codes

| Cooling only models               | ARC 045 AB | ARC 060 AB | ARC 075 AB | ARC 090 AB |
|-----------------------------------|------------|------------|------------|------------|
|                                   | S661752140 | S661752160 | S661752170 | S661752190 |
| Heat pump models                  | ARH 045 AB | ARH 060 AB | ARH 075 AB | ARH 090 AB |
|                                   | S661752143 | S661752163 | S661752173 | S661752193 |
| Cooling only + Gas heating models | ARG 045 AB | ARG 060 AB | ARG 075 AB | ARG 090 AB |
|                                   | S661752141 | S661752161 | S661752171 | S661752191 |
| Heat pump + Gas heating models    | ARD 045 AB | ARD 060 AB | ARD 075 AB | ARD 090 AB |
|                                   | S661752142 | S661752162 | S661752172 | S661752192 |
| Thermostat                        |            |            |            |            |
| to be ordered separately          |            | DPC-1      |            |            |



Manufacturer reserves the rights to change specifications without prior notice.



# Activa rooftop details & features



## Condenser fan

New condenser fans with high technology blades and outdoor bell that reduce the turbulences in the air and therefore increase the efficiency and improve the noise level performance.



## Tandem scroll compressors

Tandem compressors configuration allows the unit to operate at partial load (only with one compressor) with higher efficiency and increases the working range up to +52°C ambient temperature.



## PCB board

The YKN2Open board keeps same features and benefits as YKlon V3 and adds new logical to control the tandem circuit, the new options (heat recovery, return fan) and the possibility to communicate with BMS system as standard (only N2Open protocol).



PCB board



## Return fan

Located in a special roof curb underneath the rooftop, it works simultaneously with the indoor fan in order to balance the amount of air supplied to and removed from the space. It is the best suited for systems with high return path static pressures. Also, incorporates EC technology and a differential pressure gauge to easy set up and maintain automatically the working point in the installation.

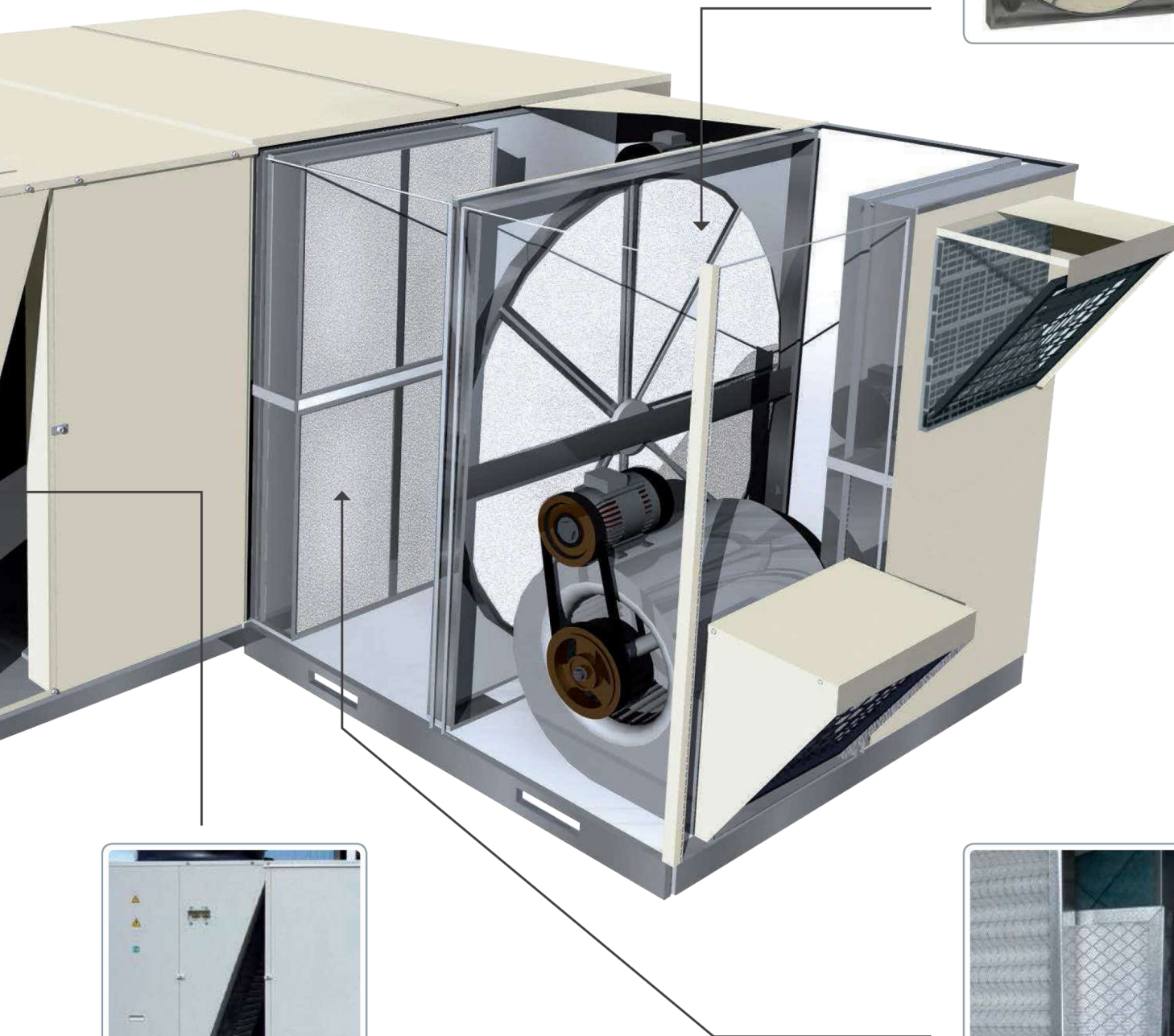
## Energy recovery system

It is the preferred solution to solve two conflicting requirements: reduce running costs (increase efficiency) while maintaining the indoor air quality at high levels (through ventilation).

An enthalpy rotary wheel retains the energy from the exhaust air and transmits it to the fresh air stream that is being supplied in the conditioned space.

The material used is manufactured with the latest technology to increase the energy transmission in both sensible and latent heat.

The wheel is split into 6 portions that can be easily removed for cleaning.



### V-Coils

Made in blue fin (or in copper for harsh conditions under special request), increases the heat exchange surface for a given rooftop footprint. The floor pan is sloped for easy condensates drainage.



### Filter options

Washable air filters: G4 class filter (gravimetric efficiency above 90%) and M1 fire class, it comes with galvanized sheet metal frame that allows easy cleaning and replacement. Delivered as standard.

Filter kit F6: for Average Opacimetric efficiency (em)  $60\% \leq em \leq 80\%$

Filter kit F7: for Average Opacimetric efficiency (em)  $80\% \leq em \leq 90\%$

As per EN 779

# Accessories & options

## Accessories & options

|                                                                         | Code         | Cooling only |     |     |     | Heat pump |     |     |     |
|-------------------------------------------------------------------------|--------------|--------------|-----|-----|-----|-----------|-----|-----|-----|
|                                                                         |              | 45           | 60  | 75  | 90  | 45        | 60  | 75  | 90  |
| Thermostat DPC-1                                                        | S603786044   | A            | A   | A   | A   | A         | A   | A   | A   |
| YNK2Open Gateway BACnet / IP - JCI Metasys N2 **                        | S606791244   | A            | A   | A   | A   | A         | A   | A   | A   |
| YNK2Open Gateway Modbus TCP / IP - JCI Metasys N2 **                    | S606791245   | A            | A   | A   | A   | A         | A   | A   | A   |
| Dry bulb triple input economizer or motorized air damper with rain hood | S661752301   | O            | O   |     |     | O         | O   |     |     |
|                                                                         | S661752311   |              |     | O   | O   |           |     | O   | O   |
| Enthalpy probes                                                         | S613990081   | O            | O   | O   | O   | O         | O   | O   | O   |
| Indoor air quality sensor                                               | S606819964   | A            | A   | A   | A   | A         | A   | A   | A   |
| Power Exhaust                                                           | S661752302   | A            | A   |     |     | A         | A   |     |     |
|                                                                         | S661752322   |              |     | A   | A   |           |     | A   | A   |
| Barometric relief damper and rain hood                                  | S613990472   | A            | A   |     |     | A         | A   |     |     |
|                                                                         | S613990473   |              |     | A   | A   |           |     | A   | A   |
| Fresh air damper and rain hood (2)                                      | S661752303   | A            | A   |     |     | A         | A   |     |     |
|                                                                         | S661752323   |              |     | A   | A   |           |     | A   | A   |
| High pressure drive                                                     | 4 kW         | S611990401   | O   |     |     | O         |     |     |     |
|                                                                         | 5.5 kW       | S611990601   |     | O   |     |           | O   |     |     |
|                                                                         | 7.5 kW (IE3) | S611990701   |     |     | O   |           |     | O   |     |
|                                                                         | 11 kW (IE3)  | S611990903   |     |     |     | O         |     |     | O   |
| Soft start indoor fan                                                   | 5.5 kW       | S606744690   | O   | O   | O   | O         | O   | O   | O   |
|                                                                         | 11.5 kW      | S606744691   | O   | O   | O   | O         | O   | O   | O   |
| Premium Kit (LAK included) *                                            | S613118302   | O            |     |     |     | O         |     |     |     |
|                                                                         | S613118303   |              | O   | O   | O   |           | O   | O   | O   |
| Side duct flanges                                                       | S613991482   | A            | A   |     |     | A         | A   |     |     |
|                                                                         | S613991483   |              |     | A   | A   |           |     | A   | A   |
| Fixed roof curb                                                         | S613991884   | A            | A   |     |     | A         | A   |     |     |
|                                                                         | S613991885   |              |     | A   | A   |           |     | A   | A   |
| Adjustable roof curb                                                    | S613992081   | A            | A   |     |     | A         | A   |     |     |
|                                                                         | S613992082   |              |     | A   | A   |           |     | A   | A   |
| Dirty filter switch                                                     | S613990085   | O            | O   | O   | O   | O         | O   | O   | O   |
| Smoke detector                                                          | S613995382   | O            | O   | O   | O   | O         | O   | O   | O   |
| Fire detection thermostat                                               | S613903003   | O            | O   | O   | O   | O         | O   | O   | O   |
| Hot water coil                                                          | S611083351   | O            | O   | O   | O   | O         | O   | O   | O   |
| Electric heaters                                                        | 12 kW        | S611761584   | O   | O   | O   | O         | O   | O   | O   |
|                                                                         | 25 kW        | S611762284   | O   | O   | O   | O         | O   | O   | O   |
|                                                                         | 37 kW        | S611763385   | O   | O   | O   | O         | O   | O   | O   |
|                                                                         | 50 kW        | S611764485   | O   | O   | O   | O         | O   | O   | O   |
| Propane conversion Kit                                                  | S611801780   | A            | A   | A   | A   | A         | A   | A   | A   |
| High heat gas conversion kit                                            | S611803080   | O            | O   | O   | O   | O         | O   | O   | O   |
|                                                                         | S611300401   | O            | O   |     |     | O         | O   |     |     |
| Filter kit F6                                                           | S611300701   |              |     | O   |     |           |     | O   |     |
|                                                                         | S611300901   |              |     |     | O   |           |     |     | O   |
|                                                                         | S611300402   | O            | O   |     |     | O         | O   |     |     |
| Filter kit F7                                                           | S611300702   |              |     | O   |     |           |     | O   |     |
|                                                                         | S611300902   |              |     |     | O   |           |     |     | O   |
| Grill condenser coil protection                                         | S661752304   | O            |     |     |     | O         |     |     |     |
|                                                                         | S661752324   |              | O   |     |     |           | O   |     |     |
|                                                                         | S661752314   |              |     | O   | O   |           |     | O   | O   |
| Antivibration mounting kit                                              | S613990411   | A            | A   | A   | A   | A         | A   | A   | A   |
| Return fan bottom duct                                                  | S613993042   | A            | A   |     |     | A         | A   |     |     |
|                                                                         | S613993072   |              |     | A   | A   |           |     | A   | A   |
| Energy recovery                                                         | Q6000 (1)    | S611994511   | A   | A   |     | A         | A   |     |     |
|                                                                         | Q3000 (1)    | S611994512   | A   | A   |     | A         | A   |     |     |
|                                                                         | Q9000 (1)    | S611997511   |     |     | A   | A         |     | A   | A   |
|                                                                         | Q4500 (1)    | S611997512   |     |     | A   | A         |     | A   | A   |
| Filter kit F6 for energy recovery                                       | S611994506   | O            | O   |     |     | O         | O   |     |     |
|                                                                         | S611997506   |              |     | O   | O   |           |     | O   | O   |
| Filter kit F7 for energy recovery                                       | S611994507   | O            | O   |     |     | O         | O   |     |     |
|                                                                         | S611997507   |              |     | O   | O   |           |     | O   | O   |
| Alarm relay board                                                       | S606791243   | O/A          | O/A | O/A | O/A | O/A       | O/A | O/A | O/A |
| Copper-copper coil                                                      | Contact us   | O            | O   | O   | O   | O         | O   | O   | O   |

O=Option (factory fitted). A=Accessory (supplied loose). O/A=If you want this item factory fitted, precise it in the order form.

(1) = Energy recovery accessory includes: economizer, rain hood, indoor air quality sensor and G4 filters.

(2) Fresh air damper can not be installed if economizer or motorized damper is fitted.

\* Features: increased efficiency by 0.15, extended max outdoor temperature up to +50°C at full load, Low ambient kit.

\*\* To be released in 2016 – Ask JCI for availability





Accessories & options

|                                                                         |              | Code       | Cooling + gas heating |     |     |     | Heat pump + gas heating |     |     |     |
|-------------------------------------------------------------------------|--------------|------------|-----------------------|-----|-----|-----|-------------------------|-----|-----|-----|
|                                                                         |              |            | 45                    | 60  | 75  | 90  | 45                      | 60  | 75  | 90  |
| Thermostat DPC-1                                                        |              | S603786044 | A                     | A   | A   | A   | A                       | A   | A   | A   |
| YNK2Open Gateway BACnet / IP - JCI Metasys N2 **                        |              | S606791244 | A                     | A   | A   | A   | A                       | A   | A   | A   |
| YNK2Open Gateway Modbus TCP / IP - JCI Metasys N2 **                    |              | S606791245 | A                     | A   | A   | A   | A                       | A   | A   | A   |
| Dry bulb triple input economizer or motorized air damper with rain hood |              | S661752301 | O                     | O   |     |     | O                       | O   |     |     |
|                                                                         |              | S661752311 |                       |     | O   | O   |                         |     | O   | O   |
| Enthalpy probes                                                         |              | S613990081 | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Indoor air quality sensor                                               |              | S606819964 | A                     | A   | A   | A   | A                       | A   | A   | A   |
| Power Exhaust                                                           |              | S661752302 | A                     | A   |     |     | A                       | A   |     |     |
|                                                                         |              | S661752322 |                       |     | A   | A   |                         |     | A   | A   |
| Barometric relief damper and rain hood                                  |              | S613990472 | A                     | A   |     |     | A                       | A   |     |     |
|                                                                         |              | S613990473 |                       |     | A   | A   |                         |     | A   | A   |
| Fresh air damper and rain hood (2)                                      |              | S661752303 | A                     | A   |     |     | A                       | A   |     |     |
|                                                                         |              | S661752323 |                       |     | A   | A   |                         |     | A   | A   |
| High pressure drive                                                     | 4 kW         | S611990401 | O                     |     |     |     | O                       |     |     |     |
|                                                                         | 5.5 kW       | S611990601 |                       | O   |     |     |                         | O   |     |     |
|                                                                         | 7.5 kW (IE3) | S611990701 |                       |     | O   |     |                         |     | O   |     |
|                                                                         | 11 kW (IE3)  | S611990903 |                       |     |     | O   |                         |     |     | O   |
| Soft start indoor fan                                                   | 5.5 kW       | S606744690 | O                     | O   | O   | O   | O                       | O   | O   | O   |
|                                                                         | 11.5 kW      | S606744691 | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Premium Kit (LAK included) *                                            |              | S613118302 | O                     |     |     |     | O                       |     |     |     |
|                                                                         |              | S613118303 |                       | O   | O   | O   |                         | O   | O   | O   |
| Side duct flanges                                                       |              | S613991482 | A                     | A   |     |     | A                       | A   |     |     |
|                                                                         |              | S613991483 |                       |     | A   | A   |                         |     | A   | A   |
| Fixed roof curb                                                         |              | S613991884 | A                     | A   |     |     | A                       | A   |     |     |
|                                                                         |              | S613991885 |                       |     | A   | A   |                         |     | A   | A   |
| Adjustable roof curb                                                    |              | S613992081 | A                     | A   |     |     | A                       | A   |     |     |
|                                                                         |              | S613992082 |                       |     | A   | A   |                         |     | A   | A   |
| Dirty filter switch                                                     |              | S613990085 | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Smoke detector                                                          |              | S613995382 | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Fire detection thermostat                                               |              | S613903003 | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Hot water coil                                                          |              | S611083351 |                       |     |     |     |                         |     |     |     |
| Electric heaters                                                        | 12 kW        | S611761584 |                       |     |     |     |                         |     |     |     |
|                                                                         | 25 kW        | S611762284 |                       |     |     |     |                         |     |     |     |
|                                                                         | 37 kW        | S611763385 |                       |     |     |     |                         |     |     |     |
|                                                                         | 50 kW        | S611764485 |                       |     |     |     |                         |     |     |     |
| Propane conversion Kit                                                  |              | S611801780 | A                     | A   | A   | A   | A                       | A   | A   | A   |
| High heat gas conversion kit                                            |              | S611803080 | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Filter kit F6                                                           |              | S611300401 | O                     | O   |     |     | O                       | O   |     |     |
|                                                                         |              | S611300701 |                       |     | O   |     |                         |     | O   |     |
|                                                                         |              | S611300901 |                       |     |     | O   |                         |     |     | O   |
| Filter kit F7                                                           |              | S611300402 | O                     | O   |     |     | O                       | O   |     |     |
|                                                                         |              | S611300702 |                       |     | O   |     |                         |     | O   |     |
|                                                                         |              | S611300902 |                       |     |     | O   |                         |     |     | O   |
| Grill condenser coil protection                                         |              | S661752304 | O                     |     |     |     | O                       |     |     |     |
|                                                                         |              | S661752324 |                       | O   |     |     |                         | O   |     |     |
|                                                                         |              | S661752314 |                       |     | O   | O   |                         |     | O   | O   |
| Antivibration mounting kit                                              |              | S613990411 | A                     | A   | A   | A   | A                       | A   | A   | A   |
| Return fan bottom duct                                                  |              | S613993042 | A                     | A   |     |     | A                       | A   |     |     |
|                                                                         |              | S613993072 |                       |     | A   | A   |                         |     | A   | A   |
| Energy recovery                                                         | Q6000 (1)    | S611994511 | A                     | A   |     |     | A                       | A   |     |     |
|                                                                         | Q3000 (1)    | S611994512 | A                     | A   |     |     | A                       | A   |     |     |
|                                                                         | Q9000 (1)    | S611997511 |                       |     | A   | A   |                         |     | A   | A   |
|                                                                         | Q4500 (1)    | S611997512 |                       |     | A   | A   |                         |     | A   | A   |
| Filter kit F6 for energy recovery                                       |              | S611994506 | O                     | O   |     |     | O                       | O   |     |     |
|                                                                         |              | S611997506 |                       |     | O   | O   |                         |     | O   | O   |
| Filter kit F7 for energy recovery                                       |              | S611994507 | O                     | O   |     |     | O                       | O   |     |     |
|                                                                         |              | S611997507 |                       |     | O   | O   |                         |     | O   | O   |
| Alarm relay board                                                       |              | S606791243 | O/A                   | O/A | O/A | O/A | O/A                     | O/A | O/A | O/A |
| Copper-copper coil                                                      |              | Contact us | O                     | O   | O   | O   | O                       | O   | O   | O   |

O=Option (factory fitted). A=Accessory (supplied loose). O/A=If you want this item factory fitted, precise it in the order form.  
(1) = Energy recovery accessory includes: economizer, rain hood, indoor air quality sensor and G4 filters.  
(2) Fresh air damper can not be installed if economizer or motorized damper is fitted  
\* Features: increased efficiency by 0.15, extended max outdoor temperature up to +50°C at full load, Low ambient kit.  
\*\* To be released in 2016 – Ask JCI for availability

# Large ACTIVA Rooftop

ARC-ARG-ARH-ARD

A complete range from 105 kW up to 169 kW



**YKN2open**

## Features

- High efficiency EER and COP
- Quiet operation
- All configurations: Cooling only, Cooling + gas, Heating, Heating + Gas
- BMS communication as standard (N2Open protocol)
- Partial loads
- Extended working range (up to 52°C outdoor temperature)
- F6 & F7 filters available as option (G4 standard)
- Energy recovery (ask JCI for availability)

A

R

C

150

A

B

Nomenclature

B = Blue fin  
C = Copper fin (ask JCI)

A = version

Capacity range:  
150 = 150 kW

Product category:  
C = Cooling  
H = Heat pump  
G = Cooling & Gas  
D = Heat pump & Gas (Dual)

Rooftop

Activa series

# Large ACTIVA Rooftop

## ARC-ARG-ARH-ARD 100 to 175 AB



### Technical features

| Cooling only models                         |             |            | ARC 100 AB                  | ARC 125 AB    | ARC 150 AB    | ARC 175 AB    |
|---------------------------------------------|-------------|------------|-----------------------------|---------------|---------------|---------------|
| Net cooling capacities                      |             | kW         | 108.1                       | 121.8         | 149.3         | 169.0         |
| Power input                                 |             | kW         | 34                          | 41            | 59            | 64            |
| EER                                         |             |            | 3.46                        | 3.21          | 3.13          | 2.91          |
| Working range (full load / partial load) *  |             | °C         | 7°C ~ 46°C / -10°C ~ 52°C   |               |               |               |
| Heat pump models                            |             |            | ARH 100 AB                  | ARH 125 AB    | ARH 150 AB    | ARH 175 AB    |
| Net cooling capacities                      |             | kW         | 108.1                       | 121.8         | 149.3         | 169.0         |
| Power input in cooling                      |             | kW         | 34                          | 41            | 59            | 64            |
| EER                                         |             |            | 3.46                        | 3.21          | 3.13          | 2.91          |
| Heating capacities (1)                      |             | kW         | 104.6                       | 118.4         | 147.0         | 167.0         |
| Power input in heating                      |             | kW         | 33                          | 37            | 53            | 61            |
| COP                                         |             |            | 3.48                        | 3.44          | 3.20          | 2.96          |
| Working range (full load / partial load) *  |             | °C         | -10°C ~ 46°C / -10°C ~ 52°C |               |               |               |
| Cooling only + Gas heating models           |             |            | ARG 100 AB                  | ARG 125 AB    | ARG 150 AB    | ARG 175 AB    |
| Net cooling capacities                      |             | kW         | 108.1                       | 121.8         | 149.3         | 169.0         |
| Cooling power input                         |             | kW         | 34                          | 41            | 59            | 64            |
| Standard Heating capacities (1)             |             | kW         | 125.0                       | 125.0         | 170.0         | 170.0         |
| Natural gas 2ND-H, G20                      |             | m³/h       | 14.1                        | 14.1          | 19.1          | 19.1          |
| Working range (full load / partial load) ** |             | °C         | -15°C ~ 46°C / -15°C ~ 52°C |               |               |               |
| Heat pump + Gas heating models              |             |            | ARD 100 AB                  | ARD 125 AB    | ARD 150 AB    | ARD 175 AB    |
| Net cooling capacities                      |             | kW         | 108.1                       | 121.8         | 149.3         | 169.0         |
| Cooling power input                         |             | kW         | 34                          | 41            | 59            | 64            |
| Heating capacities (1)                      |             | kW         | 104.6                       | 118.4         | 152.0         | 166.7         |
| Power input in heating                      |             | kW         | 33                          | 37            | 53            | 61            |
| Standard Heating capacities (1)             |             | kW         | 125.0                       | 125.0         | 170.0         | 170.0         |
| Natural gas 2ND-H, G20                      |             | m³/h       | 14.1                        | 14.1          | 19.1          | 19.1          |
| Working range (full load / partial load) ** |             | °C         | -15°C ~ 46°C / -15°C ~ 52°C |               |               |               |
| Common characteristics                      |             |            |                             |               |               |               |
| Power supply                                |             |            | 400V / 3 / 50Hz             |               |               |               |
| Main switch                                 |             | A          | 100                         | 125           | 160           | 200           |
| Main cable                                  |             | Nbr. x mm² | 3 x 35                      | 3 x 50        | 3 x 50        | 3 x 70        |
| Cable to thermostat                         |             | Nbr. x mm² | 10 x 0,22                   |               |               |               |
| Number of circuits / Compressor type        |             |            | 2 (tandem) / 4 x scroll     |               |               |               |
| Evaporator fan at nominal airflow           | Airflow     | m³/h       | 19 000                      | 21 000        | 27 000        | 31 000        |
|                                             | Power input | kW         | 3.0                         | 3.3           | 8.3           | 9.1           |
| Nett dimensions                             | Height      | mm         | 2 142                       |               | 2 142         |               |
|                                             | Length      | mm         | 4 036                       |               | 5 085         |               |
|                                             | Depth       | mm         | 2 250                       |               | 2 250         |               |
| Nett weight ARC / ARG                       |             | kg         | 1 737 / 2 080               | 1 744 / 2 125 | 2 074 / 2 410 | 2 090 / 2 450 |
| Nett weight ARH / ARD                       |             | kg         | 1 765 / 2 125               | 1 772 / 2 170 | 2 135 / 2 460 | 2 150 / 2500  |

All the data are at EUROVENT conditions with 400V/3+N/50Hz.  
Cooling : Entering indoor coil temp. 27°C / 19°C WB and outdoor temperature 35°C - Heating : Entering indoor coil temp. 20°C and outdoor temperature 7°C / 6°C WB  
(1) Add indoor fan motor consumption to know total heating capacity.  
\* With Premium kit (full load / partial load): -10°C ~ 50°C / -10°C ~ 52°C  
\*\* With Premium kit (full load / partial load): -20°C ~ 50°C / -20°C ~ 52°C  
Red color indicates preliminary data.

### Codes

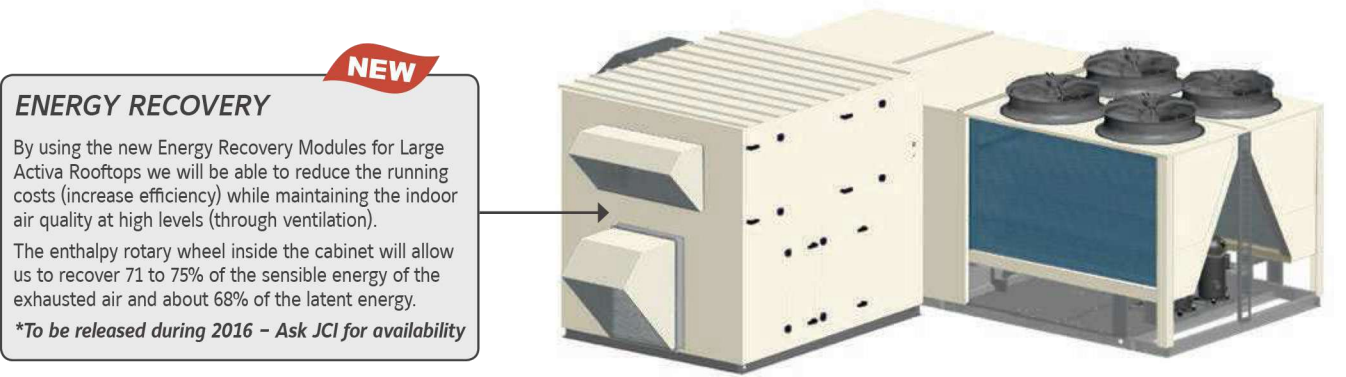
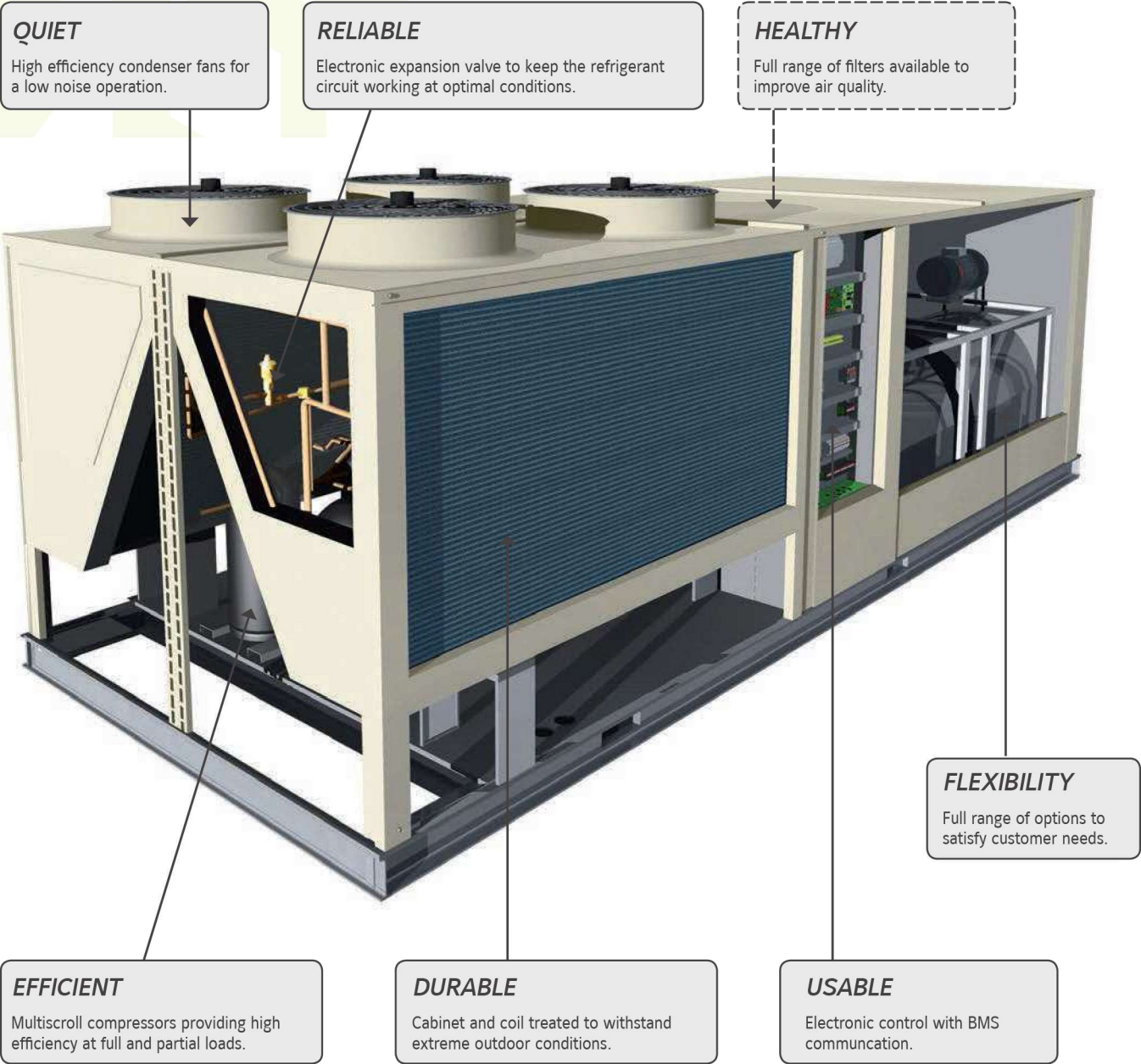
| Cooling only models               | ARC 100 AB | ARC 125 AB | ARC 150 AB | ARC 175 AB |
|-----------------------------------|------------|------------|------------|------------|
|                                   | S661852400 | S661852420 | S661852450 | S661852480 |
| Heat pump models                  | ARH 100 AB | ARH 125 AB | ARH 150 AB | ARH 175 AB |
|                                   | S661852403 | S661852423 | S661852453 | S661852483 |
| Cooling only + Gas heating models | ARG 100 AB | ARG 125 AB | ARG 150 AB | ARG 175 AB |
|                                   | S661852401 | S661852421 | S661852451 | S661852481 |
| Heat pump + Gas heating models    | ARD 100 AB | ARD 125 AB | ARD 150 AB | ARD 175 AB |
|                                   | S661852402 | S661852422 | S661852452 | S661852482 |
| Thermostat                        |            |            |            |            |
| to be ordered separately          |            | DPC-1      |            |            |



Manufacturer reserves the rights to change specifications without prior notice.



# Large Activa rooftop details



Accessories & options

|                                                                            |              | Code       | Cooling only |     |     |     | Heat pump |     |     |     | Cooling + gas heating |     |     |     | Heat pump + gas heating |     |     |     |
|----------------------------------------------------------------------------|--------------|------------|--------------|-----|-----|-----|-----------|-----|-----|-----|-----------------------|-----|-----|-----|-------------------------|-----|-----|-----|
|                                                                            |              |            | 100          | 125 | 150 | 175 | 100       | 125 | 150 | 175 | 100                   | 125 | 150 | 175 | 100                     | 125 | 150 | 175 |
| Thermostat DPC-1                                                           |              | S603786044 | A            | A   | A   | A   | A         | A   | A   | A   | A                     | A   | A   | A   | A                       | A   | A   | A   |
| YNK2Open Gateway<br>BACnet / IP - JCI Metasys N2 **                        |              | S606791244 | A            | A   | A   | A   | A         | A   | A   | A   | A                     | A   | A   | A   | A                       | A   | A   | A   |
| YNK2Open Gateway<br>Modbus TCP / IP - JCI Metasys N2 **                    |              | S606791245 | A            | A   | A   | A   | A         | A   | A   | A   | A                     | A   | A   | A   | A                       | A   | A   | A   |
| Dry bulb triple input economizer or<br>motorized air damper with rain hood |              | S611751011 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |              | S611751511 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Enthalpy probes                                                            |              | S613990081 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Indoor air quality sensor                                                  |              | S606819964 | O/A          | O/A | O/A | O/A | O/A       | O/A | O/A | O/A | O/A                   | O/A | O/A | O/A | O/A                     | O/A | O/A | O/A |
| Power Exhaust                                                              |              | S611751021 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |              | S611751521 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Barometric relief damper                                                   |              | S611751031 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |              | S611751531 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Fresh air damper                                                           |              | S613751021 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |              | S613751521 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| High pressure drive                                                        | 7.5 kW (IE3) | S611751091 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            | 11 kW (IE3)  | S611751093 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            | 5.5 kW (IE3) | S611751591 |              |     | O   |     |           |     | O   |     |                       |     | O   |     |                         |     | O   |     |
|                                                                            | 7.5 kW (IE3) | S611751592 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Side duct supply                                                           |              | S611751061 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |              | S611751561 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Soft start indoor fan                                                      | 5.5 kW       | S606744690 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
|                                                                            | 11.5 kW      | S606744691 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Premium Kit (LAK included) *                                               |              | S611751071 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Fixed roof curb                                                            |              | S611751081 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |              | S611751581 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Adjustable roof curb                                                       |              | S611751082 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
|                                                                            |              | S611751582 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Dirty filter switch                                                        |              | S613990085 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Smoke detector                                                             |              | S613995382 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Fire detection thermostat                                                  |              | S613903003 | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |
| Hot water coil                                                             |              | S611751051 | O            | O   |     |     | O         | O   |     |     |                       |     |     |     |                         |     |     |     |
|                                                                            |              | S611751551 |              |     | O   | O   |           |     | O   | O   |                       |     |     |     |                         |     |     |     |
| Electric heaters                                                           | 37 kW        | S611751037 | O            | O   | O   | O   | O         | O   | O   | O   |                       |     |     |     |                         |     |     |     |
|                                                                            | 50 kW        | S611751050 | O            | O   | O   | O   | O         | O   | O   | O   |                       |     |     |     |                         |     |     |     |
|                                                                            | 60 kW        | S611751060 | O            | O   | O   | O   | O         | O   | O   | O   |                       |     |     |     |                         |     |     |     |
| Filter kit F6                                                              |              | S611751046 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |              | S611751546 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Filter kit F7                                                              |              | S611751047 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |              | S611751547 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Grill condenser coil protection                                            |              | S611751041 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |              | S611751541 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Antivibration mounting kit 100/125                                         |              | S613751011 | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
| Antivibration mounting kit 150/175                                         |              | S613751511 |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Energy recovery 100/125 Q10000 (1) **                                      |              | S611751001 | A            | A   |     |     | A         | A   |     |     | A                     | A   |     |     | A                       | A   |     |     |
| Energy recovery 150/175 Q15000 (1) **                                      |              | S611751501 |              |     | A   | A   |           |     | A   | A   |                       |     | A   | A   |                         |     | A   | A   |
| Filter kit F6 heat recovery                                                |              | Contact us | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |              | Contact us |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Filter kit F7 heat recovery                                                |              | Contact us | O            | O   |     |     | O         | O   |     |     | O                     | O   |     |     | O                       | O   |     |     |
|                                                                            |              | Contact us |              |     | O   | O   |           |     | O   | O   |                       |     | O   | O   |                         |     | O   | O   |
| Alarm relay board                                                          |              | S606791243 | O/A          | O/A | O/A | O/A | O/A       | O/A | O/A | O/A | O/A                   | O/A | O/A | O/A | O/A                     | O/A | O/A | O/A |
| Copper-copper coil                                                         |              | Contact us | O            | O   | O   | O   | O         | O   | O   | O   | O                     | O   | O   | O   | O                       | O   | O   | O   |

O=Option (factory fitted). A=Accessory (supplied loose). O/A=If you want this item factory fitted, precise it in the order form.  
(1) = Energy recovery accessory includes: economizer, rain hood, indoor air quality sensor and G4 filters.  
\* Features: increased efficiency by 0.15, extended max outdoor temperature up to +50°C at full load, Low ambient kit.  
\*\* To be released in 2016 – Ask JCI for availability



# Rooftop & Large Rooftop accessories & options



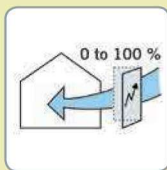
## Triple input economizer

This system utilizes 3 probes: Return Air, Outdoor Air and Supply Air. The Outdoor Air damper and the Return Air dampers are mechanically interconnected in order to provide the same airflow at the coil inlet, with a single damper motor. The PCB compares sensor values and modulates the dampers providing maximum efficiency of the economiser system (free cooling) and comfort (Supply Air > 12°C). Combined with the air quality sensor, your payback will be ensured within few months. The rain hood is painted to match the basic unit and aluminium mesh pre-filter prevents water penetration.



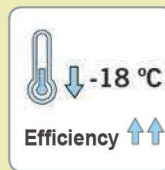
## Indoor air quality

This sensor measures concentrations of pollutant gases, such as tobacco smoke, human body odours, kitchen odours, carbon monoxide, etc... It automatically overrides the economizer when pollutant levels rise above preset limits. A shorting plug will set the algorithm to acceptable, good or very good air quality. This VOC sensor (Volatile Organic Compounds) sends an ON/OFF signal to the control PCB. The YKN2Open will then adjust the fresh air damper, optimising indoor air quality and minimising the energy consumption.



## Motorised outdoor air damper

Equipped with the same dampers as the economizer, the Return Air probe is not used. Outdoor air damper opens to pre-set position whenever the indoor fan is operating (selected from the thermostat, the indoor fan can be activated with the compressor or to operate continuously) and will drive fully closed when the indoor fan shuts down. The rain hood is painted to match the basic unit and aluminium mesh pre-filter prevents water penetration.



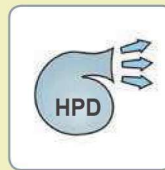
## Premium Kit - Low ambient control

All our rooftops are designed to work in cooling mode down to 7°C ambient temperatures. Although this working range suits most applications, the units can operate correctly down to -18°C with optional Premium Kit. The Premium Kit option consists on an EC condensing fan that will allow us to increase the airflow at reduced consumption. Also we have condensing and evaporating pressure control that will extend our operating limits. It's estimated an increased efficiency by +0.15% in EER and COP.



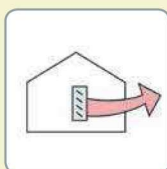
## Enthalpy sensors

To control the economizer in humid areas, or when indoor air humidity needs to remain dry, you should select enthalpy regulation. Enthalpy sensors will be used with the triple input economizer.



## High pressure drive

The high pressure drive will increase the supply fan performance for applications requiring greater air flow and/or static pressure. Please consult technical guide for more information.



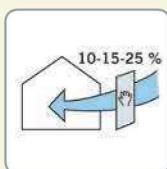
## Barometric relief damper

This accessory can be used to relieve internal air pressure on units equipped with triple input economiser or motorised air damper but no power exhaust. When the rooftop is working in free cooling or introducing fresh air, the damper opens to relieve over pressure from the return air section. This accessory is comprised of a rain hood, a protective grille and a fully assembled damper.



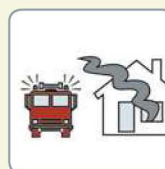
## Power Exhaust

Used to mechanically relieve internal air pressure from the Return Air section and ensure efficient fresh air introduction on units equipped with triple input economiser or motorised air damper. The power exhaust fan motor works when enough Outdoor Air is blowing into the room and if Outdoor Air temperature is acceptable (12°C < t° < 30°C).



## Fresh air damper and rain hood

The most cost effective method with a complete rain hood and a fixed damper that can be adjusted to provide approximately 10, 15 or 25% of fresh air.



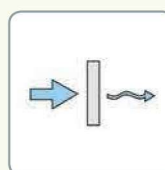
## Smoke detector

The smoke detector is protecting the AHU but must not be used to ensure a full building protection against smoke danger. If smoke is detected the AHU is shutdown (lockout). A manual reset is necessary.



## Fire detection thermostat

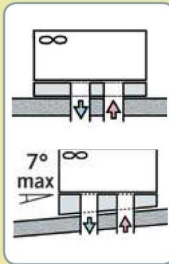
This fire detection thermostat is protecting the AHU but must not be used to ensure a full building protection against fire danger. The standard AHU is protected as standard with a Supply Air probe that shuts the unit down (lockout) when temperature exceeds 80°C. The electro-mechanical fire detection thermostat is used to fulfil specific local requirement. A manual reset is necessary.



## Dirty filter switch

Ensures that clean air is being supplied, advises when maintenance is required to prevent excessive depression and ensures water integrity of the AHU. These are the main advantages of filter dirty switch. Connected with the DPC-1 thermostat, the filter icon will appear on the thermostat screen when a filter change is required.

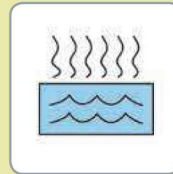




### Fixed and adjustable roof curbs

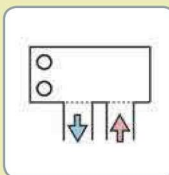
Ideal for down-flow applications, it is a great help for installation allowing duct connections, electrical connection and weatherproofing between the roof curb and the roof of the building. Shipped in kit form, it also gives sufficient height for condensate trap operation.

The adjustable roof curbs have the same benefits as the fixed roof curb, it allows the rooftop to be levelled on a roof with up to 7° slope (4%).



### Hot water coil with control

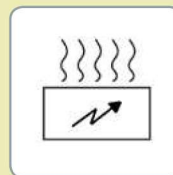
The hot water coil and its control are always fitted, wired and factory tested. Located in the supply air section, side or bottom duct connection is possible without any modification. Complete with an anti-frost thermostat, the PCB will activate the modulated valve (24V supply, 0 – 10V modulating signal) in order to get the best comfort. A jumper will allow using hot water coil as 1st heating stage.



### Side duct flanges

It's an optional (factory fitted) required when rooftops from sizes 45-175 need to work with horizontal air configuration. It's not required for models 17 to 40.

Composed of easy to install sheet metal panels to allow ductwork connections on the side of the AHU for horizontal return air and/or supply air



### Electric heaters

Available on cooling only and Heat pump units, the electric heater is protected with two overheats per element. When the overheat operates, there is a lock out of the faulty electric heater stage and the PCB starts automatically another heat stage.



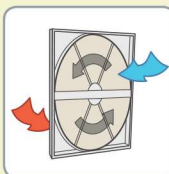
### Kit conversion propane

This kit comprises replacement burner, pilot injectors and all necessary instructions for converting the natural gas burner to propane gas. The nominal pressure of the propane gas should be 37 mbar.



### High heat gas

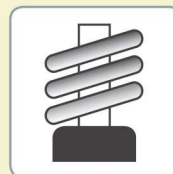
This kit comprises replacement burner injectors and all necessary instructions to provide high heat capacity for gas rooftop.



### Energy recovery

Attached to the return air box of the rooftop, a rotary enthalpy wheel retrieves the energy of the exhausted air and transmits it to the fresh air intake. A special material used in the wheel allows that latent heat as well as sensible heat are transmitted.

Available during 2016 for models ARx-100-175. Consult JCI for availability



### Antivibration mounting kit

It is composed by a set of stainless steel springs, to be assembled underneath the rooftop in a specific position. Their installation avoids the potential vibration transmission of the equipment to the building and reduces therefore the noise level (compressors have their own shock absorbers delivered as standard).



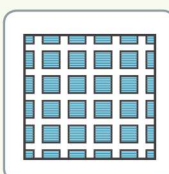
### Indoor fan soft start

Compact control unit with a motor with AC semiconductors, designed for soft starting and stopping of three-phase motors for centrifugal fans. The starting time, the stopping time and the initial torque are adjusted by mean of independent potentiometers.



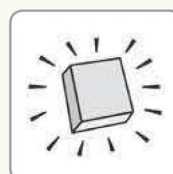
### Return fan

Used to overcome high return path pressure drops, works in series with the indoor fan to maintain the air pressure of the conditioned space within acceptable levels. (Only available in models ARx 45-90).



### Grill condenser protection

Metallic frame painted with oven-baked polymerized paint (800h salt spray resistance) to protect the fins of the coils from external damages.



### Air filters

G4, F6 and F7 filters are available to purify the air in the room. M1 fire class and manufactured in sheet metal frame, they are easy to install and clean.

# VITALITY Axial Fan Large Split

VAC/VAH – VIR 20 to 90 AB

A complete range from 19.1 kW up to 86.1 kW



## Features

- New YKN2open board
- High technology fan blades increases efficiency and reduces noise level
- Service valves
- Economizer or motorized damper
- Return fan
- Indoor air quality
- Hot water coil and control
- Scroll compressor with crankcase heater
- Digital thermostat DPC-1 included

V

A

H

40

A

B

Nomenclature

B = Blue fin  
C = Copper fin (ask JCI)

A = version

Capacity range:  
40 = 40 kW

Product category:  
C = Cooling only  
H = Heat Pump  
R = Reversible  
I = Indoor

A = Axial

V = Vitality

# VITALITY Axial Fan Large Split

VAC/VAH – VIR 20 to 90 AB



## Technical features

| INDOOR UNITS                                     |               |                  |           |          |            |             |               |               |              |
|--------------------------------------------------|---------------|------------------|-----------|----------|------------|-------------|---------------|---------------|--------------|
| Cooling only and Heat pump                       | VIR           | 25AB             |           | 40AB     |            | 45AB        | 60AB          | 75AB          | 90AB         |
| OUTDOOR UNITS                                    |               |                  |           |          |            |             |               |               |              |
| Cooling only models                              | VAC           | 20AB             | 25AB      | 30AB     | 40AB       | 45AB        | 60AB          | 75AB          | 90AB         |
| Cooling capacities                               | kW            | 19.10            | 23.00     | 28.80    | 35.10      | 42.90       | 54.00         | 72.30         | 86.10        |
| Power input in cooling                           | kW            | 5.60             | 6.99      | 9.60     | 11.62      | 13.53       | 18.60         | 23.09         | 28.60        |
| EER (4)                                          |               | 3.41             | 3.29      | 3.00     | 3.02       | 3.17        | 2.90          | 3.13          | 3.01         |
| Refrigerant charge on site for 7 m piping length | kg            | 12               | 12        | 12.5     | 13.5       | 2 x 11      | 2 x 11.5      | 2 x 15.5      | 2 x 15       |
| Heat pump models                                 | VAH           | 20AB             | 25AB      | 30AB     | 40AB       | 45AB        | 60AB          | 75AB          | 90AB         |
| Cooling capacities                               | kW            | 19.10            | 23.00     | 28.80    | 35.10      | 42.90       | 52.10         | 72.30         | 86.10        |
| Power input in cooling                           | kW            | 5.60             | 6.99      | 9.60     | 11.62      | 13.53       | 18.60         | 23.09         | 28.60        |
| EER (4)                                          |               | 3.41             | 3.29      | 3.00     | 3.02       | 3.17        | 2.80          | 3.13          | 3.01         |
| Heating capacities                               | kW            | 21.20            | 25.20     | 31.90    | 41.00      | 44.80       | 59.40         | 81.00         | 93.10        |
| Power input in heating                           | kW            | 4.94             | 6.73      | 8.41     | 12.09      | 12.69       | 17.06         | 22.13         | 28.82        |
| COP (4)                                          |               | 4.29             | 3.74      | 3.79     | 3.39       | 3.53        | 3.48          | 3.66          | 3.23         |
| Refrigerant charge on site for 7 m piping length | kg            | 12               | 12        | 12.5     | 13.5       | 2 x 11      | 2 x 11.5      | 2 x 15.5      | 2 x 15       |
| Power supply                                     |               | 400V/3 + N/ 50Hz |           |          |            |             |               |               |              |
| Nominal / Starting current                       | A             | 8.5 / 74         | 11.8 / 95 | 15 / 118 | 19.3 / 140 | 2 x 12 / 95 | 2 x 15 / 118  | 2 x 19 / 140  | 2 x 25 / 198 |
| Main switch (1)                                  | A             | 20               | 25        | 32       | 40         | 50          | 63            | 80            | 100          |
| Main cable to the outdoor unit (1)               | Nbr x mm²     | 5 x 4            | 5 x 4     | 5 x 6    | 5 x 10     | 5 x 10      | 5 x 16        | 5 x 25        | 5 x 35       |
| Interconnecting cable (1)                        | Nbr x mm²     | 4 x 1.5          | 4 x 1.5   | 4 x 1.5  | 4 x 1.5    | 4 x 1.5     | 4 x 1.5       | 4 x 1.5       | 4 x 2.5      |
| Cable to standard thermostat (2)                 | Nbr x mm²     | 10 x 0.22        |           |          |            |             |               |               |              |
| Insulated refrigerant piping                     | Suction       | 1-1/8"           | 1-1/8"    | 1-1/8"   | 1-1/8"     | 2 x 1-1/8"  | 2 x 1-1/8"    | 2 x 1-3/8"    | 2 x 1-3/8"   |
|                                                  | Liquid        | 1/2"             | 1/2"      | 5/8"     | 5/8"       | 2 x 1/2"    | 2 x 5/8"      | 2 x 7/8"      | 2 x 7/8"     |
| Evaporator fan VIR at nominal airflow (3)        | Airflow       | m³/h             | 4 590     | 4 590    | 7 500      | 7 500       | 9 000         | 10 500        | 13 000       |
|                                                  | Standard ESP  | Pa               | 172       |          | 153        |             | 150           | 178           | 240          |
|                                                  | ESP with HSD  | Pa               | 267       |          | 242        |             | 203           | 277           | 399          |
|                                                  | ESP with HSDM | Pa               | 267       |          | 242        |             | 203           | 277           | 399          |
| Nett dimensions outdoor VAC / VAH                | Height        | mm               | 1 230     | 1 230    | 1 382      | 1 378       | 1 378 / 1 429 | 1 378 / 1 429 | 1 534        |
|                                                  | Length        | mm               | 882       | 882      | 882        | 1 627       | 1 627         | 1 627         | 1 627        |
|                                                  | Depth         | mm               | 1 354     | 1 354    | 1 354      | 1 453       | 1 453         | 1 453         | 2 099        |
| Nett dimensions indoor VIR                       | Height        | mm               | 592       |          | 665        |             | 764           | 764           | 838          |
|                                                  | Length        | mm               | 1360      |          | 1740       |             | 2240          | 2240          | 2653         |
|                                                  | Depth         | mm               | 785       |          | 785        |             | 772           | 772           | 892          |
| Nett weight                                      | VAC / VAH     | kg               | 227       | 228      | 250        | 355         | 470           | 483           | 610          |
|                                                  | VIR           | kg               | 128       |          | 173        |             | 223           | 223           | 310          |

(1) For information only. These should be checked for compliance with local regulations depending also on installation and conductor type.

(2) Shield type cable only.

(3) ESP = External static pressure    HSD = High speed drive    HSDM = High speed drive and motor

(4) All the data are at EUROVENT conditions with 400V/3+N/50Hz.

Cooling : Entering indoor coil temp. 27°C / 19°C WB and outdoor temperature 35°C

Heating : Entering indoor coil temp. 20°C and outdoor temperature 7°C / 6°C WB

## Codes

| INDOOR UNITS                    |            |            |            |            |            |            |            |            |
|---------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Cooling only & heat pump models | VIR 25 AB  |            | VIR 40 AB  |            | VIR 45 AB  | VIR 60 AB  | VIR 75 AB  | VIR 90 AB  |
|                                 | S662562575 |            | S662564075 |            | S662564575 | S662566075 | S662567575 | S662569075 |
| OUTDOOR UNITS                   |            |            |            |            |            |            |            |            |
| Cooling only models             | VAC 20 AB  | VAC 25 AB  | VAC 30 AB  | VAC 40 AB  | VAC 45 AB  | VAC 60 AB  | VAC 75 AB  | VAC 90 AB  |
|                                 | S661502073 | S661502573 | S661503073 | S661504173 | S661504673 | S661506173 | S661507673 | S661509173 |
| Heat pump models                | VAH 20 AB  | VAH 25 AB  | VAH 30 AB  | VAH 40 AB  | VAH 45 AB  | VAH 60 AB  | VAH 75 AB  | VAH 90 AB  |
|                                 | S662512073 | S662512573 | S662513073 | S662514173 | S662514673 | S662516273 | S662517673 | S662519173 |
| Thermostat                      |            |            |            |            |            |            |            |            |
| Delivered with the unit         | DPC-1      |            |            |            |            |            |            |            |



Manufacturer reserves the rights to change specifications without prior notice.



# Accessories or options

## Compatibility table / Codes

| INDOOR UNITS                                                                           |                  |            |            |            |            |            |            |            |            |
|----------------------------------------------------------------------------------------|------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Cooling only & heat pump                                                               |                  | VIR 25 AB  |            | VIR 40 AB  |            | VIR 45 AB  | VIR 60 AB  | VIR 75 AB  | VIR 90 AB  |
|                                                                                        |                  | S662562575 |            | S662564075 |            | S662564575 | S662566075 | S662567575 | S662569075 |
| OUTDOOR UNITS                                                                          |                  |            |            |            |            |            |            |            |            |
| Cooling only models                                                                    |                  | VAC 20 AB  | VAC 25 AB  | VAC 30 AB  | VAC 40 AB  | VAC 45 AB  | VAC 60 AB  | VAC 75 AB  | VAC 90 AB  |
|                                                                                        |                  | S661502073 | S661502573 | S661503073 | S661504173 | S661504673 | S661506173 | S661507673 | S661509173 |
| Heat pump models                                                                       |                  | VAH 20 AB  | VAH 25 AB  | VAH 30 AB  | VAH 40 AB  | VAH 45 AB  | VAH 60 AB  | VAH 75 AB  | VAH 90 AB  |
|                                                                                        |                  | S662512073 | S662512573 | S662513073 | S662514173 | S662514673 | S662516273 | S662517673 | S662519173 |
| Thermostat                                                                             |                  |            |            |            |            |            |            |            |            |
| Delivered with the unit                                                                |                  | DPC-1      |            |            |            |            |            |            |            |
| YNK2Open Gateway<br>BACnet / IP – JCI Metasys N2 **                                    | S606791244       | A          | A          | A          | A          | A          | A          | A          | A          |
| YNK2Open Gateway<br>Modbus TCP / IP – JCI Metasys N2 **                                | S606791245       | A          | A          | A          | A          | A          | A          | A          | A          |
| Accessories or options for outdoor units                                               |                  |            |            |            |            |            |            |            |            |
|                                                                                        |                  | 20AB       | 25AB       | 30AB       | 40AB       | 45AB       | 60AB       | 75AB       | 90AB       |
| Low Ambient Kit                                                                        | S606819974       | O          | O          | O          | O          |            |            |            |            |
|                                                                                        | S606819975       |            |            |            |            | O          | O          | O          | O          |
| Soft start compressor                                                                  | S606744692       | O          | O          | O          | O          |            |            |            |            |
|                                                                                        | S606744693       |            |            |            |            | O          | O          | O          | O          |
| Alarm relay board                                                                      | S606791243       | O/A        | O/A        | O/A        | O/A        | O/A        | O/A        | O/A        | O/A        |
| Copper-copper coil                                                                     | Contact us       | O          | O          | O          | O          | O          | O          | O          | O          |
| Accessories or options for indoor units                                                |                  |            |            |            |            |            |            |            |            |
| VIR models                                                                             |                  | 25A        |            | 40AB       |            | 45AB       | 60AB       | 75AB       | 90AB       |
| Electrical Heaters<br>(inside the unit)<br>(cable 20 m included)                       | 10 kW (1 stage)  | S611763704 | O/A        |            |            |            |            |            |            |
|                                                                                        | 15 kW (1 stage)  | S611763714 | O/A        |            |            |            |            |            |            |
|                                                                                        | 10 kW (1 stage)  | S611763724 |            |            | O/A        |            |            |            |            |
|                                                                                        | 20 kW (2 stages) | S611763734 |            |            | O/A        |            |            |            |            |
|                                                                                        | 15 kW (1 stage)  | S611763744 |            |            |            | O/A        | O/A        |            |            |
|                                                                                        | 30 kW (2 stages) | S611763754 |            |            |            | O/A        | O/A        |            |            |
|                                                                                        | 30 kW (2 stages) | S611763764 |            |            |            |            |            | O/A        | O/A        |
|                                                                                        | 40 kW (2 stages) | S611763774 |            |            |            |            |            | O/A        | O/A        |
| 50 m connecting cable                                                                  | 1 stage          | S611763780 | A          | A          |            | A          | A          |            |            |
|                                                                                        | 2 stages         | S611763781 |            |            | A          | A          | A          | A          | A          |
| Economizer or Motorised damper<br>(dry bulb sensors included)<br>(cable 20 m included) | S613994250       | A          |            |            |            |            |            |            |            |
|                                                                                        | S613994400       |            |            | A          |            |            |            |            |            |
|                                                                                        | S613994450       |            |            |            |            | A          | A          |            |            |
|                                                                                        | S613994750       |            |            |            |            |            |            | A          | A          |
| Indoor air quality                                                                     | S606819964       | A          |            | A          |            | A          | A          | A          | A          |
|                                                                                        | S611082513       | O          |            |            |            |            |            |            |            |
| Hot water coil and control<br>(cable 20 m included)                                    | S611084010       |            |            | O          |            |            |            |            |            |
|                                                                                        | S611084512       |            |            |            |            | O          | O          |            |            |
|                                                                                        | S611087510       |            |            |            |            |            |            | O          | O          |
| 50 m communication cable (Economizer/HWC)                                              | S611087520 *     | A          |            | A          |            | A          | A          | A          | A          |
| Return fan                                                                             | S613995450       |            |            |            |            | A          | A          |            |            |
|                                                                                        | S613995750       |            |            |            |            |            |            | A          | A          |
| Vertical discharge Kit                                                                 | S669482502       | O          |            |            |            |            |            |            |            |
|                                                                                        | S669484002       |            |            | O          |            |            |            |            |            |
|                                                                                        | S669486002       |            |            |            |            | O          | O          |            |            |
|                                                                                        | S669487502       |            |            |            |            |            |            | O          | O          |
| Indoor fan smooth start up to 5,5 kW                                                   | S606744690       | O          |            | O          |            | O          | O          | O          | O          |
| High speed drive                                                                       | S611991087       | O          |            |            |            |            |            |            |            |
|                                                                                        | S611991089       |            |            | O          |            |            |            |            |            |
|                                                                                        | S611991091       |            |            |            |            | O          |            | O          |            |
|                                                                                        | S611991092       |            |            |            |            |            | O          |            |            |
|                                                                                        | S611991095       |            |            |            |            |            |            |            | O          |
| High speed drive and motor                                                             | S611991088       | O          |            |            |            |            |            |            |            |
|                                                                                        | S611991090       |            |            |            |            | O          |            |            |            |
|                                                                                        | S611991093       |            |            |            |            |            | O          |            |            |
|                                                                                        | S611991094       |            |            |            |            |            |            | O          |            |
|                                                                                        | S611991096       |            |            |            |            |            |            |            | O          |

O = Option (factory fitted)    A = Accessory (supplied loose)    O/A = If you want this item factory fitted, precise it in the order form

(1) Factory fitted, for horizontal airflow only.

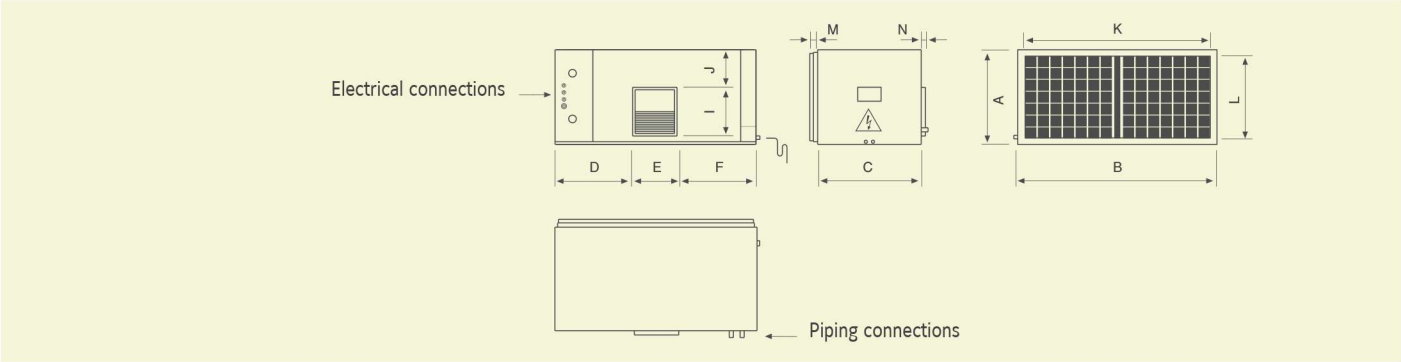
\* If the unit is equipped with economizer and hot water coil, only 1 communication cable is necessary.

\*\* To be released in 2016 – Ask JCI for availability

# Indoor units dimensions



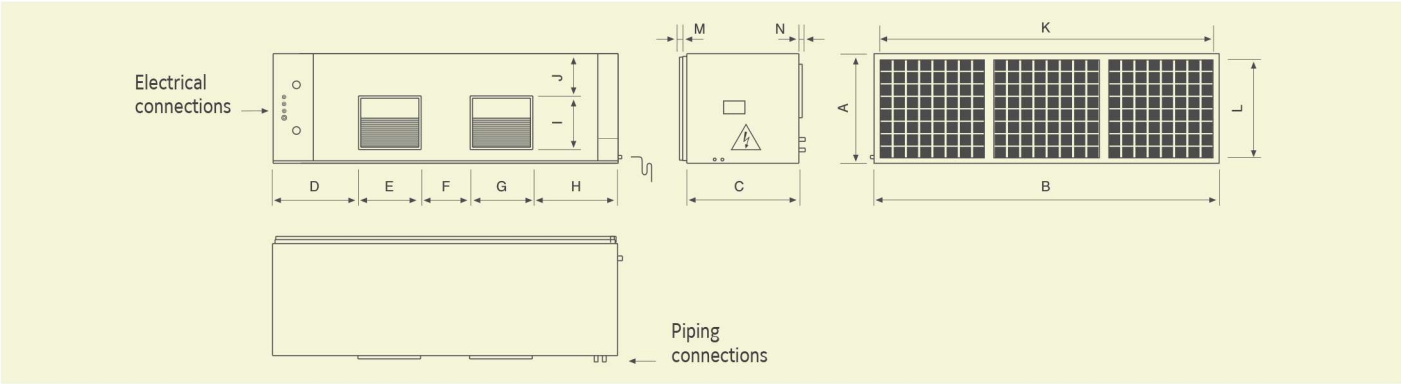
## VIR 25 AB



All dimensions in mm. Drawings not a scale.

| Unit      | A   | B    | C   | D   | E   | F   | G | H | I   | J  | K    | L   | M  | N  |
|-----------|-----|------|-----|-----|-----|-----|---|---|-----|----|------|-----|----|----|
| VIR 25 AB | 592 | 1360 | 785 | 480 | 403 | 480 | - | - | 347 | 40 | 1094 | 520 | 21 | 25 |

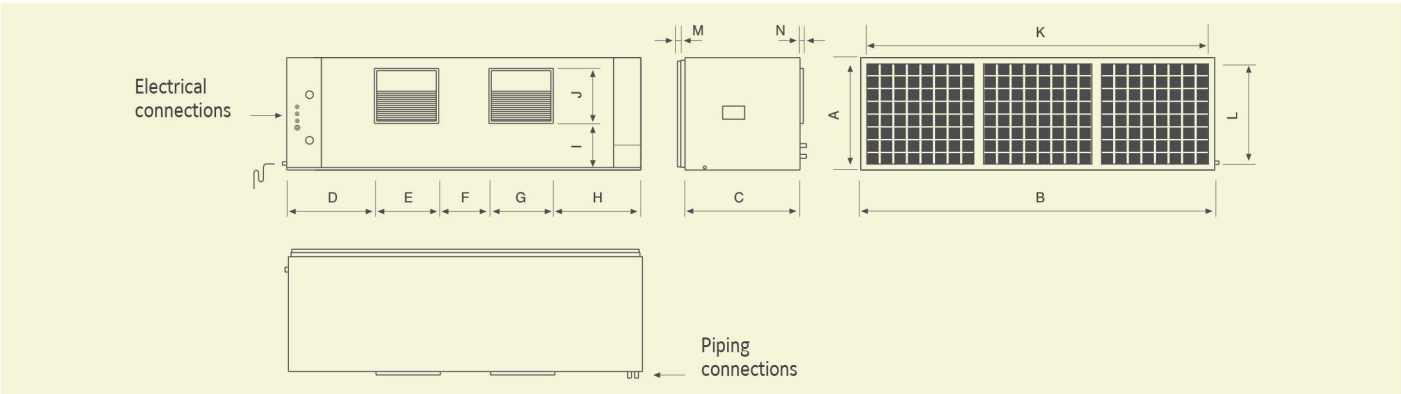
## VIR 40-45-60 AB



All dimensions in mm. Drawings not a scale.

| Unit      | A   | B    | C   | D   | E   | F   | G   | H   | I   | J  | K    | L   | M  | N  |
|-----------|-----|------|-----|-----|-----|-----|-----|-----|-----|----|------|-----|----|----|
| VIR 40 AB | 665 | 1740 | 785 | 442 | 316 | 229 | 316 | 442 | 347 | 79 | 1337 | 593 | 21 | 25 |
| VIR 45 AB | 764 | 2240 | 772 | 567 | 401 | 309 | 401 | 567 | 347 | 79 | 1920 | 692 | 21 | 25 |
| VIR 60 AB | 764 | 2240 | 772 | 567 | 401 | 309 | 401 | 567 | 347 | 79 | 1920 | 692 | 21 | 25 |

## VIR 75-90 AB

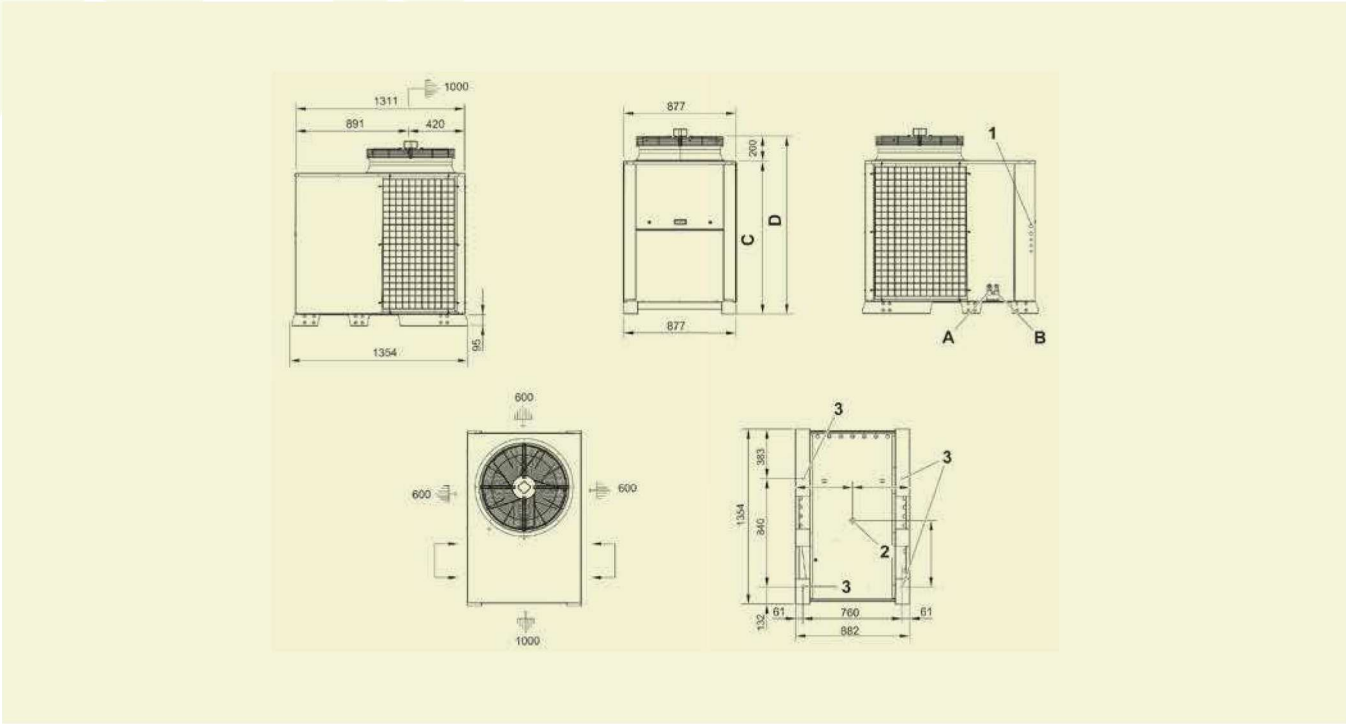


All dimensions in mm. Drawings not a scale.

| Unit      | A   | B    | C   | D   | E   | F   | G   | H   | I   | J  | K    | L   | M  | N  |
|-----------|-----|------|-----|-----|-----|-----|-----|-----|-----|----|------|-----|----|----|
| VIR 75 AB | 838 | 2653 | 892 | 663 | 478 | 376 | 478 | 663 | 409 | 79 | 2196 | 766 | 21 | 25 |
| VIR 90 AB | 838 | 2653 | 892 | 663 | 478 | 376 | 478 | 663 | 409 | 79 | 2196 | 766 | 21 | 25 |

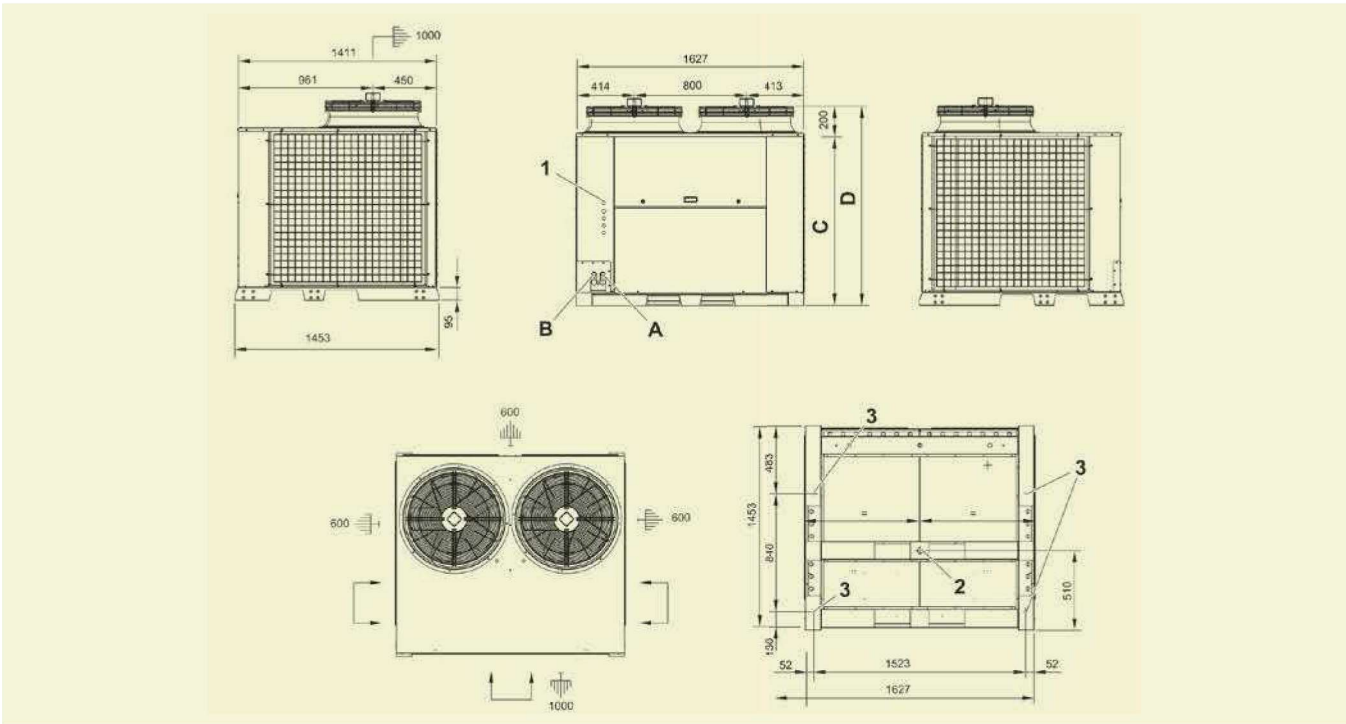
# Dimensions and space requirements for outdoor units

## VAC-VAH 20-25-30 AB



All dimensions in mm. Drawings not a scale.

## VAC-VAH 40-45-60 AB

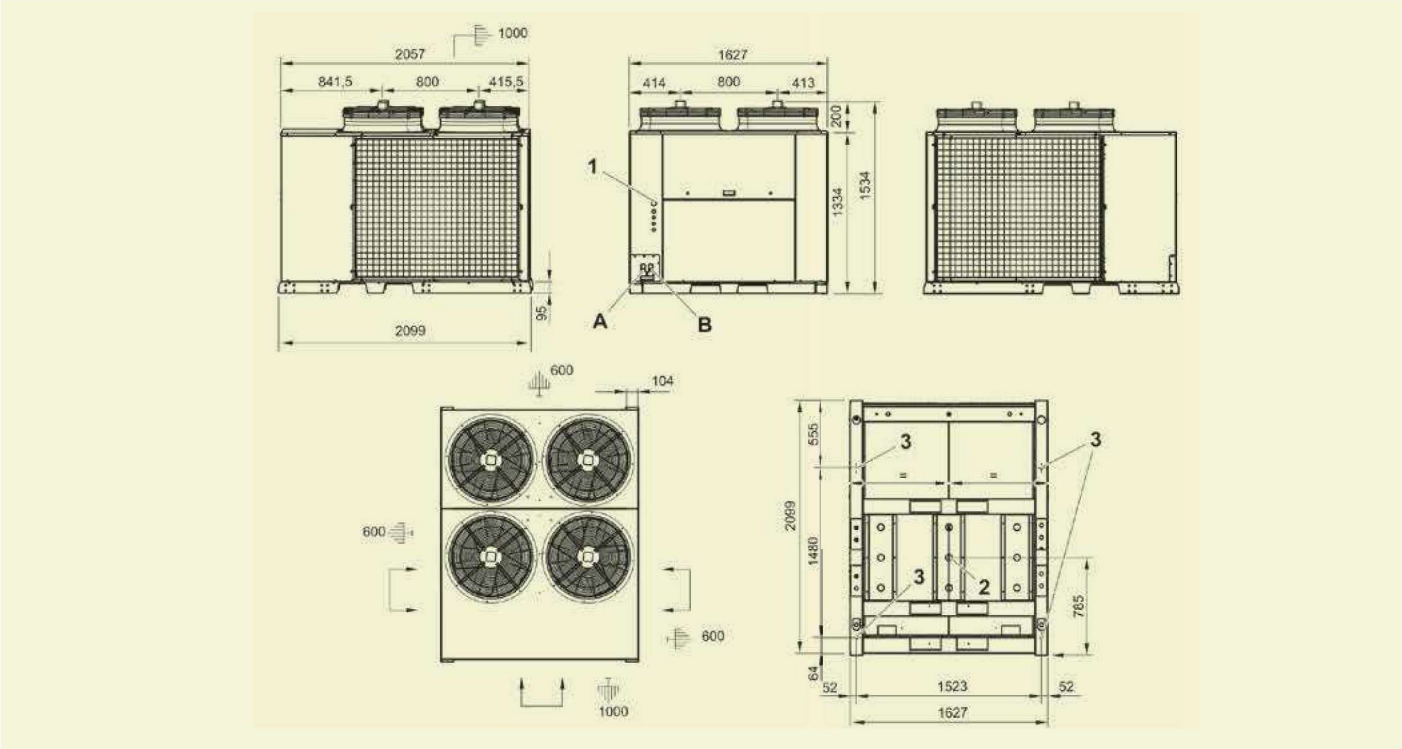


All dimensions in mm. Drawings not a scale.





VAC-VAH 75-90 AB



All dimensions in mm. Drawings not a scale.

VAC-VAH 20-25-30 AB

|           | A                   | B                      | C     | D     |
|-----------|---------------------|------------------------|-------|-------|
| Unit      | Gas piping diameter | Liquid piping diameter | mm    | mm    |
| VAC 20 AB | 1-1/8"              | 1/2"                   | 1 030 | 1 230 |
| VAH 20 AB | 1-1/8"              | 1/2"                   | 1 030 | 1 230 |
| VAC 25 AB | 1-1/8"              | 1/2"                   | 1 030 | 1 230 |
| VAH 25 AB | 1-1/8"              | 1/2"                   | 1 030 | 1 230 |
| VAC 30 AB | 1-1/8"              | 5/8"                   | 1 182 | 1 382 |
| VAH 30 AB | 1-1/8"              | 5/8"                   | 1 182 | 1 382 |

VAC-VAH 40-25-60 AB

|           | A                   | B                      | C     | D     |
|-----------|---------------------|------------------------|-------|-------|
| Unit      | Gas piping diameter | Liquid piping diameter | mm    | mm    |
| VAC 40 AB | 1-1/8"              | 5/8"                   | 1 178 | 1 378 |
| VAH 40 AB | 1-1/8"              | 5/8"                   | 1 178 | 1 378 |
| VAC 45 AB | 2 x 1-1/8"          | 2 x 1/2"               | 1 178 | 1 378 |
| VAH 45 AB | 2 x 1-1/8"          | 2 x 1/2"               | 1 129 | 1 429 |
| VAC 60 AB | 2 x 1-1/8"          | 2 x 5/8"               | 1 178 | 1 378 |
| VAH 60 AB | 2 x 1-1/8"          | 2 x 5/8"               | 1 129 | 1 429 |

VAC-VAH 40-25-60 AB

|           | A                   | B                      | C  | D  |
|-----------|---------------------|------------------------|----|----|
| Unit      | Gas piping diameter | Liquid piping diameter | mm | mm |
| VAC 75 AB | 2 x 1-3/8"          | 2 x 7/8"               | -  | -  |
| VAH 75 AB | 2 x 1-3/8"          | 2 x 7/8"               | -  | -  |
| VAC 90 AB | 2 x 1-3/8"          | 2 x 7/8"               | -  | -  |
| VAH 90 AB | 2 x 1-3/8"          | 2 x 7/8"               | -  | -  |

# VITALITY Centrifugal Large Split

VCH-VIR 20 to 90 AB

A complete range from 16.8 kW up to 87.3 kW

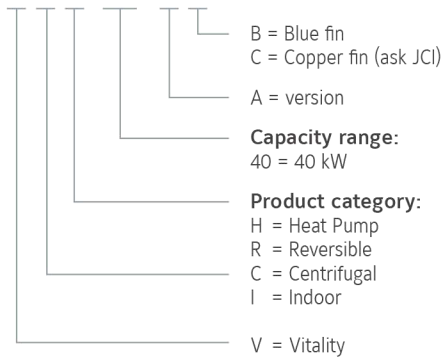


**YKN2open**

## Features

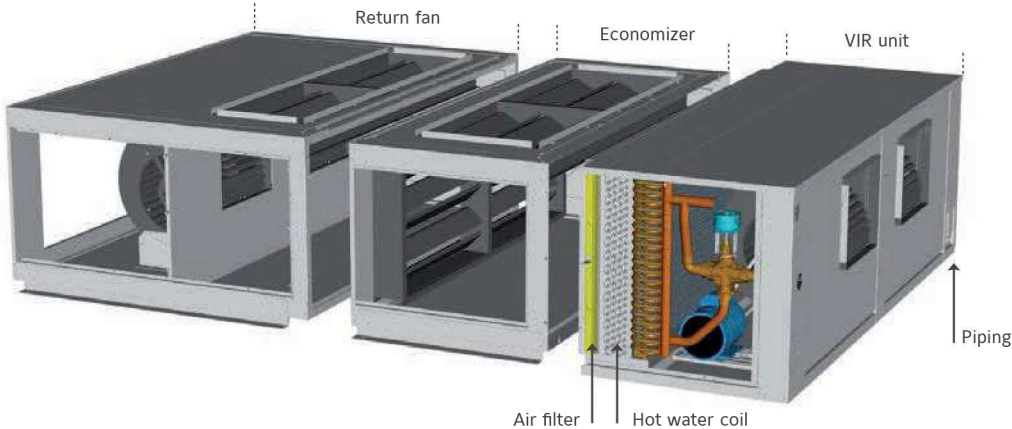
- New YKN2open board
- High efficiency EER and COP
- Economizer or motorized damper
- Indoor air quality
- Hot water coil and control
- Scroll compressor with crankcase heater
- Possibility to be installed outdoor
- Return fan
- Digital thermostat DPC-1 included

## VCH 40 AB Nomenclature\*



\* Check codes in next page for discharge configuration

## VIR - Indoor unit details



# VITALITY Centrifugal Large Split

## VCH-VIR 20 to 90 AB



### Technical features

| VITALITY UNITS                                  |               |           |                  |         |         |         |            |            |            |            |
|-------------------------------------------------|---------------|-----------|------------------|---------|---------|---------|------------|------------|------------|------------|
| Heat pump models                                |               | VCH/VIR   | 20 AB            | 25 AB   | 30 AB   | 40 AB   | 45 AB      | 60 AB      | 75 AB      | 90 AB      |
| Cooling capacities                              |               | kW        | 16.8             | 20.6    | 28.7    | 32.4    | 43.5       | 54.1       | 76.1       | 87.3       |
| Power input in cooling                          |               | kW        | 5.9              | 7.48    | 10.25   | 12.81   | 14.81      | 20.86      | 29.21      | 34.92      |
| EER                                             |               |           | 2.85             | 2.75    | 2.8     | 2.53    | 2.94       | 2.6        | 2.61       | 2.5        |
| Heating capacities                              |               | kW        | 21.5             | 23.2    | 32.3    | 39.3    | 47.4       | 53         | 77.7       | 89.9       |
| Power input in heating                          |               | kW        | 5.68             | 6.84    | 9.95    | 12.87   | 13.75      | 20         | 27.56      | 33.19      |
| COP                                             |               |           | 3.79             | 3.39    | 3.25    | 3.05    | 3.45       | 2.8        | 2.82       | 2.71       |
| Refrigerant charge on site for 7m piping length |               | kg        | 8.5              | 8.5     | 12      | 12      | 2 x 9.5    | 2 x 10.5   | 2 x 15     | 2 x 16     |
| Power supply                                    |               |           | 400V/3 + N/ 50Hz |         |         |         |            |            |            |            |
| Nominal / Starting current                      |               | A         | 13 /             | 16 /    | 22 /    | 27 /    | 33 /       | 43 /       | 59 /       | 72 /       |
| Main switch (1)                                 |               | A         | 20               | 25      | 32      | 40      | 50         | 63         | 80         | 100        |
| Main cable to the condensing unit (1)           |               | Nbr x mm² | 5 x 4            | 5 x 4   | 5 x 6   | 5 x 10  | 5 x 10     | 5 x 16     | 5 x 25     | 5 x 35     |
| Interconnecting cable (1)                       |               | Nbr x mm² | 4 x 1.5          | 4 x 1.5 | 4 x 1.5 | 4 x 1.5 | 4 x 1.5    | 4 x 1.5    | 4 x 1.5    | 4 x 2.5    |
| Cable to standard thermostat (1) (2)            |               | Nbr x mm² | 10 x 0.22        |         |         |         |            |            |            |            |
| Insulated refrigerant piping                    |               | Suction   | 1 1/8"           | 1 1/8"  | 1 1/8"  | 1 1/8"  | 2 x 1 1/8" | 2 x 1 1/8" | 2 x 1 3/8" | 2 x 1 3/8" |
|                                                 |               | Liquid    | 1/2"             | 1/2"    | 5/8"    | 5/8"    | 2 x 1/2"   | 2 x 5/8"   | 2 x 7/8"   | 2 x 7/8"   |
| Evaporator fan VIR at nominal airflow (3)       | Airflow       | m³/h      | 4 590            |         | 7 500   |         | 9000       | 10500      | 13700      | 16000      |
|                                                 | Standard ESP  | Pa        | 117              |         | 118     |         | 130        | 137        | 125        | 175        |
|                                                 | ESP with HSD  | Pa        | -                |         | 217     |         | 188        | 246        | 260        | -          |
|                                                 | ESP with HSDM | Pa        | 222              |         | -       |         | 188        | 246        | 260        | 354        |
| Condenser fan at nominal airflow                | Airflow       | m³/h      | 6235             | 6235    | 11975   | 11975   | 17250      | 20340      | 25200      | 25200      |
|                                                 | Standard ESP  | Pa        | 50               | 50      | 50      | 50      | 50         | 50         | 50         | 50         |
| Nett dimensions VCH condensing units            | Height        | mm        | 1392             | 1392    | 1526    | 1526    | 1641       | 1641       | 1794       | 1794       |
|                                                 | Length        | mm        | 1362             | 1362    | 1740    | 1740    | 2240       | 2240       | 2658       | 2658       |
|                                                 | Depth         | mm        | 790              | 790     | 785     | 785     | 778        | 778        | 897        | 897        |
| Nett dimensions VIR indoor units                | Height        | mm        | 592              |         | 665     |         | 764        | 764        | 838        | 838        |
|                                                 | Length        | mm        | 1360             |         | 1740    |         | 2240       | 2240       | 2653       | 2653       |
|                                                 | Depth         | mm        | 785              |         | 785     |         | 772        | 772        | 892        | 892        |
| Nett weight                                     | VCH           | kg        | 285              | 310     | 355     | 375     | 578        | 589        | 710        | 715        |
|                                                 | VIR           | kg        | 128              |         | 173     |         | 223        | 223        | 310        | 312        |

(1) For information only. These should be checked for compliance with local regulations depending also on installation and conductor type.  
(2) Shield type cable will have a better insulation against electromagnetic interference. It is recommended for sensitive sites and for communications.  
(3) ESP = External static pressure    HSD = High speed drive    HSDM = High speed drive and motor  
All the data are at EUROVENT conditions with 400V/3+N/50Hz.  
Cooling : Entering indoor coil temp. 27°C / 19°C WB and outdoor temperature 35°C  
Heating : Entering indoor coil temp. 20°C and outdoor temperature 7°C / 6°C WB

### Codes

| INDOOR UNITS                    |            |            |            |            |            |            |            |            |
|---------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Cooling only & heat pump models | VIR 25 AB  |            | VIR 40 AB  |            | VIR 45 AB  | VIR 60 AB  | VIR 75 AB  | VIR 90 AB  |
|                                 | S662562575 |            | S662564075 |            | S662564575 | S662566075 | S662567575 | S662569075 |
| OUTDOOR UNITS                   |            |            |            |            |            |            |            |            |
| Heat pump models                | VCH 20 AB  | VCH 25 AB  | VCH 30 AB  | VCH 40 AB  | VCH 45 AB  | VCH 60 AB  | VCH 75 AB  | VCH 90 AB  |
| with horizontal discharge       | S662512043 | S662512653 | S662513043 | S662514044 | S662514543 | S662516153 | S662517543 | S662519043 |
| with vertical discharge         | -          | -          | -          | -          | S662514565 | S662516174 | S662517564 | S662519064 |
| Thermostat                      |            |            |            |            |            |            |            |            |
| Delivered with the unit         | DPC-1      |            |            |            |            |            |            |            |



# Accessories or options

## Compatibility table / Codes

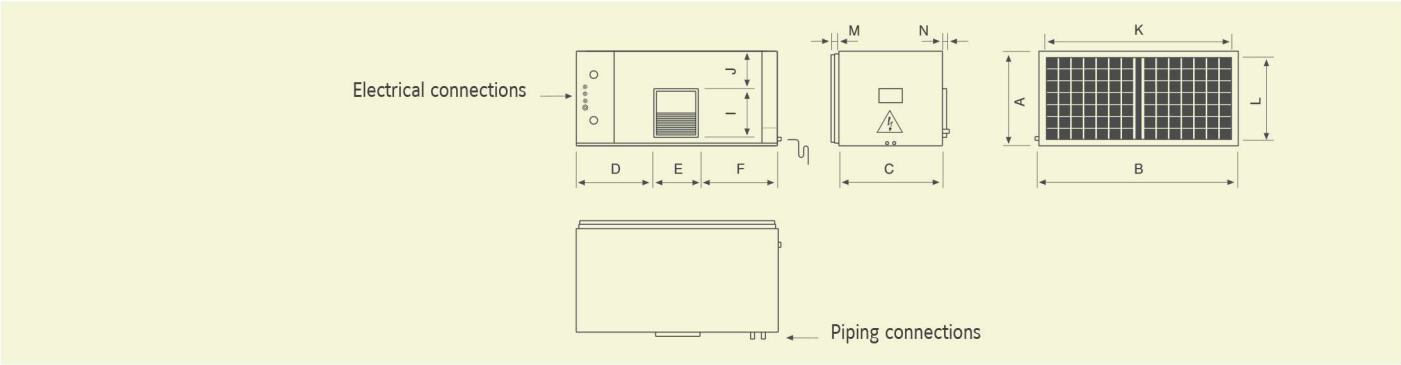
| INDOOR UNITS                                                                           |                  |            |            |            |            |            |            |            |            |            |
|----------------------------------------------------------------------------------------|------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Cooling only & heat pump models                                                        |                  |            | VIR 25 AB  |            | VIR 40 AB  |            | VIR 45 AB  | VIR 60 AB  | VIR 75 AB  | VIR 90 AB  |
|                                                                                        |                  |            | S662562575 |            | S662564075 |            | S662564575 | S662566075 | S662567575 | S662569075 |
| OUTDOOR UNITS                                                                          |                  |            |            |            |            |            |            |            |            |            |
| Heat pump models                                                                       |                  |            | VCH 20 AB  | VCH 25 AB  | VCH 30 AB  | VCH 40 AB  | VCH 45 AB  | VCH 60 AB  | VCH 75 AB  | VCH 90 AB  |
| with horizontal discharge                                                              |                  |            | S662512043 | S662512653 | S662513043 | S662514044 | S662514543 | S662516153 | S662517543 | S662519043 |
| with vertical discharge                                                                |                  |            | -          | -          | -          | -          | S662514565 | S662516174 | S662517564 | S662519064 |
| Thermostat                                                                             |                  |            |            |            |            |            |            |            |            |            |
| Delivered with the unit                                                                |                  |            | DPC-1      |            |            |            |            |            |            |            |
| YNK2Open Gateway<br>BACnet / IP – JCI Metasys N2 ****                                  | S606791244       | A          | A          | A          | A          | A          | A          | A          | A          |            |
| YNK2Open Gateway<br>Modbus TCP / IP – JCI Metasys N2 ****                              | S606791245       | A          | A          | A          | A          | A          | A          | A          | A          |            |
| Accessories or options for condensing units                                            |                  |            |            |            |            |            |            |            |            |            |
| VCH models                                                                             |                  | 20 AB      | 25 AB      | 30 AB      | 40 AB      | 45 AB      | 60 AB      | 75 AB      | 90 AB      |            |
| Low ambient regulation *                                                               | S613112583       | O          | O          |            |            |            |            |            |            |            |
|                                                                                        | S613114084       |            |            | O          | O          |            |            |            |            |            |
|                                                                                        | S613116084       |            |            |            |            | O          | O          |            |            |            |
|                                                                                        | S613111084       |            |            |            |            |            |            | O          | O          |            |
| Vertical discharge kit                                                                 | S612828305       | O          | O          |            |            |            |            |            |            |            |
|                                                                                        | S612828405       |            |            | O          | O          |            |            |            |            |            |
|                                                                                        | S612828505 **    |            |            |            |            | O          |            |            |            |            |
|                                                                                        | S612828605 **    |            |            |            |            |            | O          |            |            |            |
| Condensate tray heater                                                                 | S612828205 **    |            |            |            |            |            |            | O          | O          |            |
|                                                                                        | S611080789       | A          | A          | A          | A          |            |            |            |            |            |
|                                                                                        | S611080790       |            |            |            |            | A          | A          | A          | A          |            |
| Alarm relay board                                                                      | S606791243       | O/A        | O/A        | O/A        | O/A        | O/A        | O/A        | O/A        | O/A        |            |
| Copper-copper coil                                                                     | Contact us       | O          | O          | O          | O          | O          | O          | O          | O          |            |
| Accessories or options for indoor units                                                |                  |            |            |            |            |            |            |            |            |            |
| VIR models                                                                             |                  |            | 25 AB      |            | 40 AB      |            | 45 AB      | 60 AB      | 75 AB      | 90 AB      |
| Electrical Heaters<br>(Inside the unit)<br>(cable 20 m included)                       | 10 kW (1 stage)  | S611763704 | O/A        |            |            |            |            |            |            |            |
|                                                                                        | 15 kW (1 stage)  | S611763714 | O/A        |            |            |            |            |            |            |            |
|                                                                                        | 10 kW (1 stage)  | S611763724 |            |            | O/A        |            |            |            |            |            |
|                                                                                        | 20 kW (2 stages) | S611763734 |            |            | O/A        |            |            |            |            |            |
|                                                                                        | 15 kW (1 stage)  | S611763744 |            |            |            |            | O/A        | O/A        |            |            |
|                                                                                        | 30 kW (2 stages) | S611763754 |            |            |            |            | O/A        | O/A        |            |            |
|                                                                                        | 30 kW (2 stages) | S611763764 |            |            |            |            |            |            | O/A        | O/A        |
|                                                                                        | 40 kW (2 stages) | S611763774 |            |            |            |            |            |            | O/A        | O/A        |
| 50 m connecting cable                                                                  | 1 stage          | S611763780 | A          |            | A          |            | A          | A          |            |            |
|                                                                                        | 2 stages         | S611763781 |            |            | A          |            | A          | A          | A          | A          |
| Economizer or Motorised damper<br>(dry bulb sensors included)<br>(cable 20 m included) | S613994250       | A          |            |            |            |            |            |            |            |            |
|                                                                                        | S613994400       |            |            | A          |            |            |            |            |            |            |
|                                                                                        | S613994450       |            |            |            |            | A          | A          |            |            |            |
|                                                                                        | S613994750       |            |            |            |            |            |            |            | A          | A          |
| Indoor air quality                                                                     | S606819964       | A          |            | A          |            | A          | A          | A          | A          | A          |
|                                                                                        | S611082513       | O          |            |            |            |            |            |            |            |            |
| Hot water coil and control<br>(cable 20 m included)                                    | S611084010       |            |            | O          |            |            |            |            |            |            |
|                                                                                        | S611084512       |            |            |            |            | O          | O          |            |            |            |
|                                                                                        | S611087510       |            |            |            |            |            |            |            | O          | O          |
| 50 m communication cable (Economizer/HWC)                                              | S611087520 ***   | A          |            | A          |            | A          | A          | A          | A          | A          |
| Return fan                                                                             | S613995450       |            |            |            |            | A          | A          |            |            |            |
|                                                                                        | S613995750       |            |            |            |            |            |            |            | A          | A          |
| Vertical discharge Kit                                                                 | S669482502       | O          |            |            |            |            |            |            |            |            |
|                                                                                        | S669484002       |            |            | O          |            |            |            |            |            |            |
|                                                                                        | S669486002       |            |            |            |            | O          | O          |            |            |            |
|                                                                                        | S669487502       |            |            |            |            |            |            |            | O          | O          |
| Indoor fan smooth start up to 5,5 kW                                                   | S606744690       | O          |            | O          |            | O          | O          | O          | O          | O          |
|                                                                                        | S611991087       | O          |            |            |            |            |            |            |            |            |
| High speed drive                                                                       | S611991089       |            |            | O          |            |            |            |            |            |            |
|                                                                                        | S611991091       |            |            |            |            | O          |            |            | O          |            |
|                                                                                        | S611991092       |            |            |            |            |            | O          |            |            |            |
|                                                                                        | S611991095       |            |            |            |            |            |            |            |            | O          |
| High speed drive and motor                                                             | S611991088       | O          |            |            |            |            |            |            |            |            |
|                                                                                        | S611991090       |            |            |            |            | O          |            |            |            |            |
|                                                                                        | S611991093       |            |            |            |            |            | O          |            |            |            |
|                                                                                        | S611991094       |            |            |            |            |            |            |            | O          |            |
|                                                                                        | S611991096       |            |            |            |            |            |            |            |            | O          |

O = Option (factory fitted).    A = Accessory (supplied loose).    O/A = If you want this item factory fitted, precise it in the order form.  
\* Not protected against external condition.    \*\* To be used only with horizontal discharge models  
\*\*\* If the unit is equipped with economizer and hot water coil, only 1 communication cable is necessary.    \*\*\*\* To be released in 2016 – Ask JCI for availability

# Indoor units dimensions



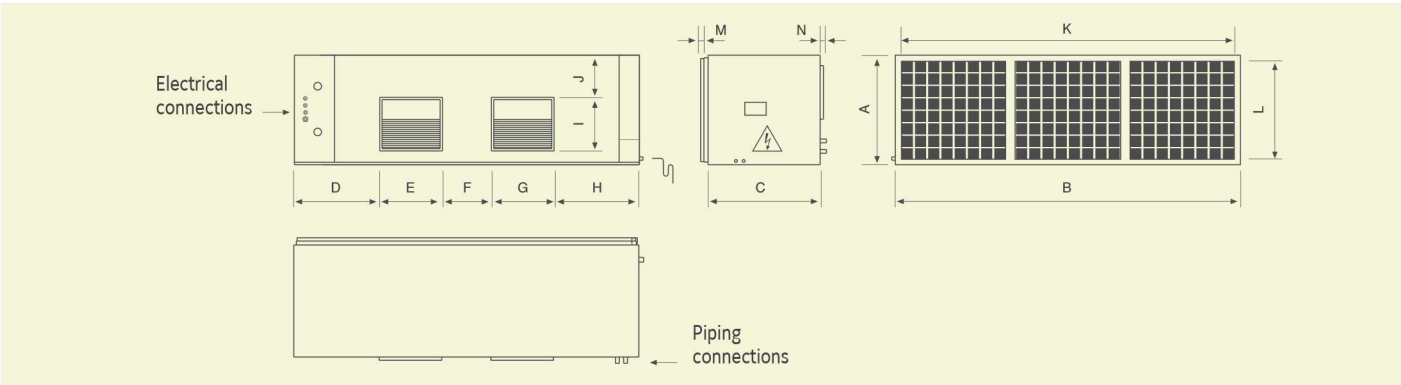
## VIR 25 AB



All dimensions in mm. Drawings not a scale.

| Unit      | A   | B    | C   | D   | E   | F   | G | H | I   | J  | K    | L   | M  | N  |
|-----------|-----|------|-----|-----|-----|-----|---|---|-----|----|------|-----|----|----|
| VIR 25 AB | 592 | 1360 | 785 | 480 | 403 | 480 | - | - | 347 | 40 | 1094 | 520 | 21 | 25 |

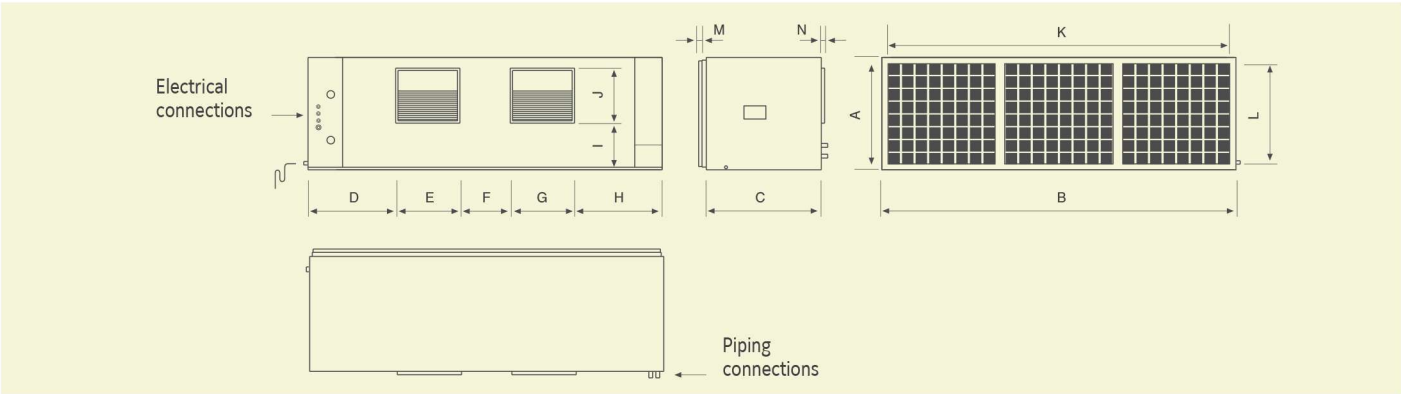
## VIR 40-45-60 AB



All dimensions in mm. Drawings not a scale.

| Unit      | A   | B    | C   | D   | E   | F   | G   | H   | I   | J  | K    | L   | M  | N  |
|-----------|-----|------|-----|-----|-----|-----|-----|-----|-----|----|------|-----|----|----|
| VIR 40 AB | 665 | 1740 | 785 | 442 | 316 | 229 | 316 | 442 | 347 | 79 | 1337 | 593 | 21 | 25 |
| VIR 45 AB | 764 | 2240 | 772 | 567 | 401 | 309 | 401 | 567 | 347 | 79 | 1920 | 692 | 21 | 25 |
| VIR 60 AB | 764 | 2240 | 772 | 567 | 401 | 309 | 401 | 567 | 347 | 79 | 1920 | 692 | 21 | 25 |

## VIR 75-90 AB

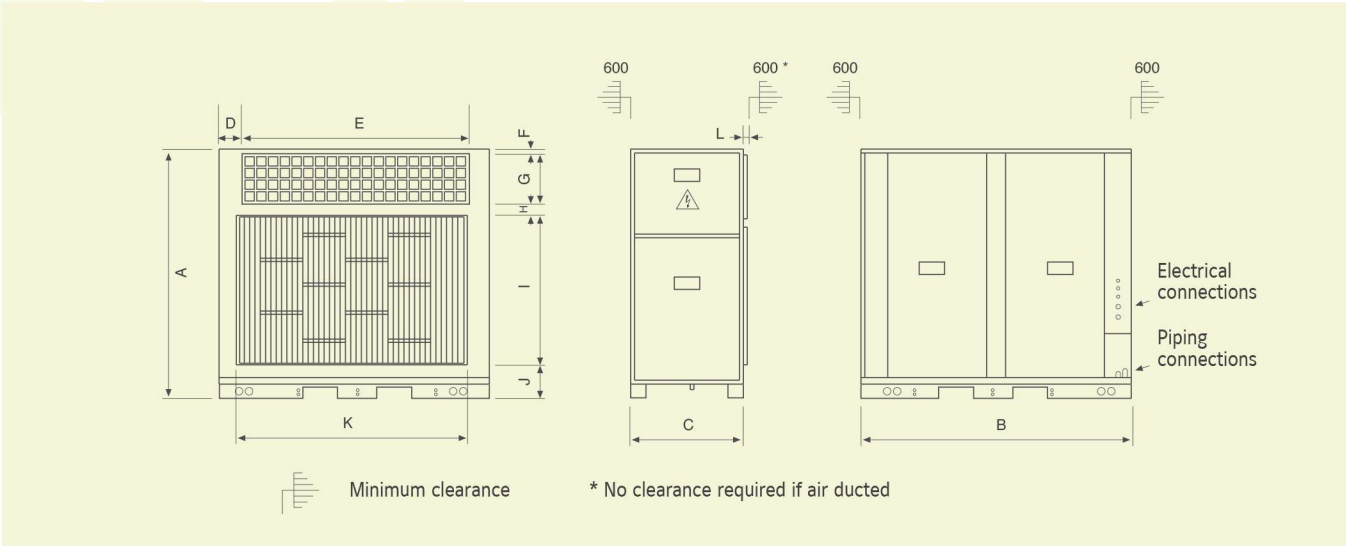


All dimensions in mm. Drawings not a scale.

| Unit      | A   | B    | C   | D   | E   | F   | G   | H   | I   | J  | K    | L   | M  | N  |
|-----------|-----|------|-----|-----|-----|-----|-----|-----|-----|----|------|-----|----|----|
| VIR 75 AB | 838 | 2653 | 892 | 663 | 478 | 376 | 478 | 663 | 409 | 79 | 2196 | 766 | 21 | 25 |
| VIR 90 AB | 838 | 2653 | 892 | 663 | 478 | 376 | 478 | 663 | 409 | 79 | 2196 | 766 | 21 | 25 |

# Dimensions and space requirements for condensing units

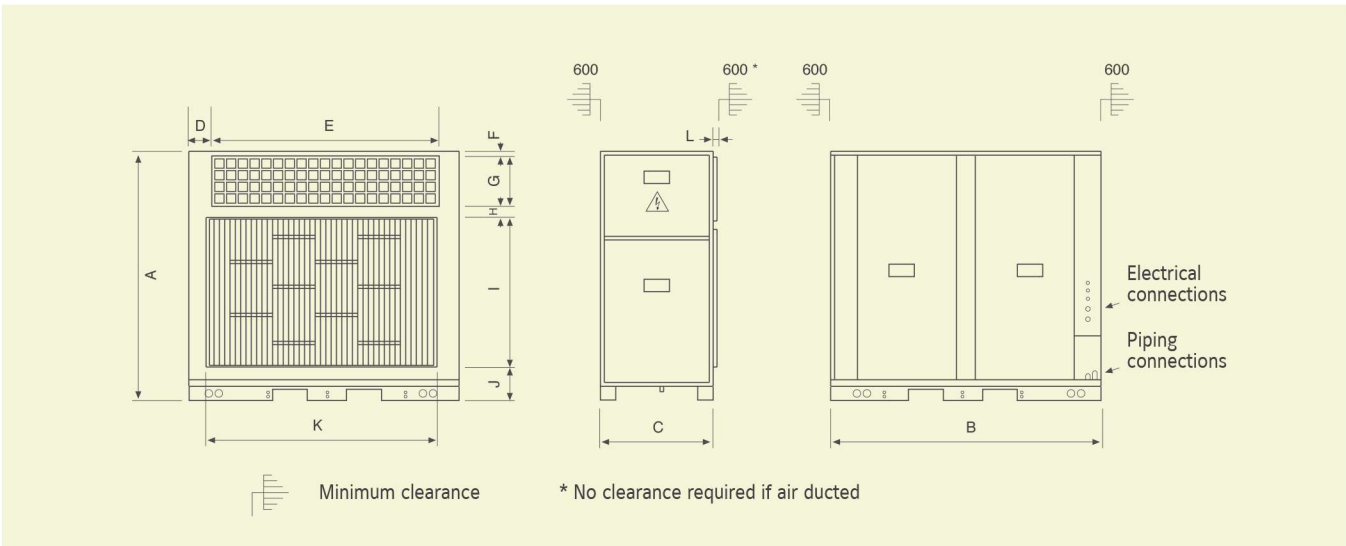
## VCH 20-25 AB



All dimensions in mm. Drawings not a scale.

| Unit      | A     | B     | C   | D   | E     | F  | G   | H  | I   | J   | K     | L  |
|-----------|-------|-------|-----|-----|-------|----|-----|----|-----|-----|-------|----|
| VCH 20 AB | 1 392 | 1 362 | 790 | 147 | 1 069 | 30 | 268 | 37 | 919 | 138 | 1 100 | 24 |
| VCH 25 AB | 1 392 | 1 362 | 790 | 147 | 1 069 | 30 | 268 | 37 | 919 | 138 | 1 100 | 24 |

## VCH 30-40 AB



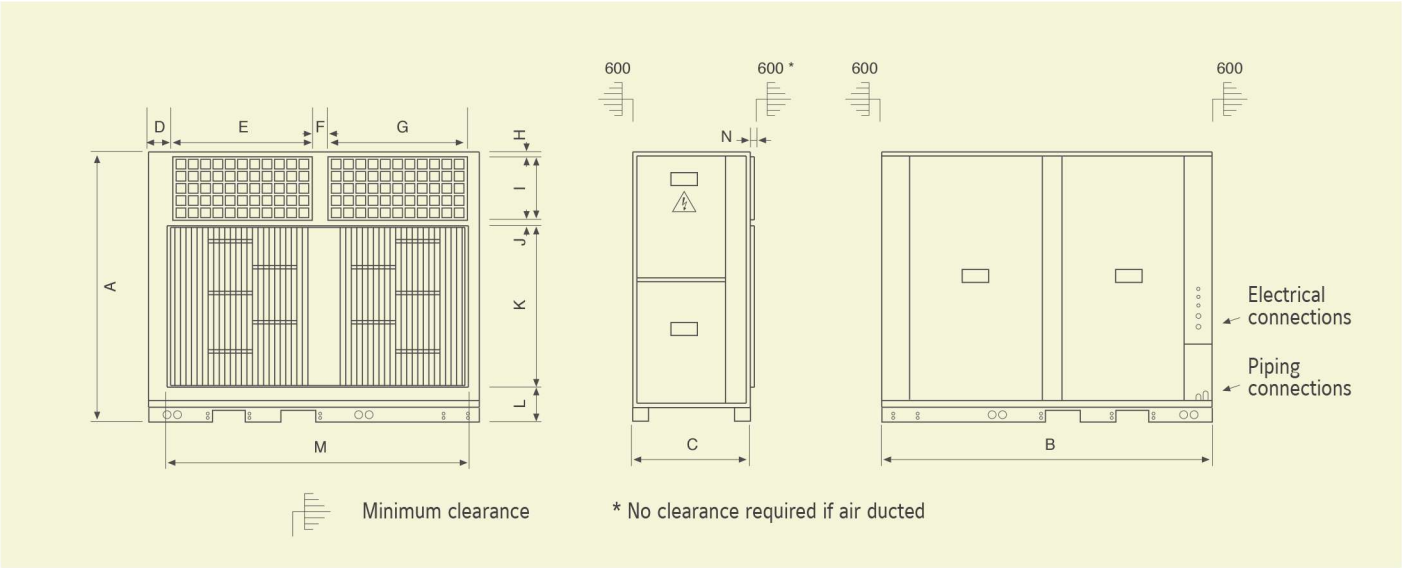
All dimensions in mm. Drawings not a scale.

| Unit      | A     | B     | C   | D   | E     | F  | G   | H  | I   | J   | K     | L  |
|-----------|-------|-------|-----|-----|-------|----|-----|----|-----|-----|-------|----|
| VCH 30 AB | 1 526 | 1 740 | 785 | 151 | 1 436 | 30 | 324 | 37 | 994 | 141 | 1 476 | 24 |
| VCH 40 AB | 1 526 | 1 740 | 785 | 151 | 1 436 | 30 | 324 | 37 | 994 | 141 | 1 476 | 24 |





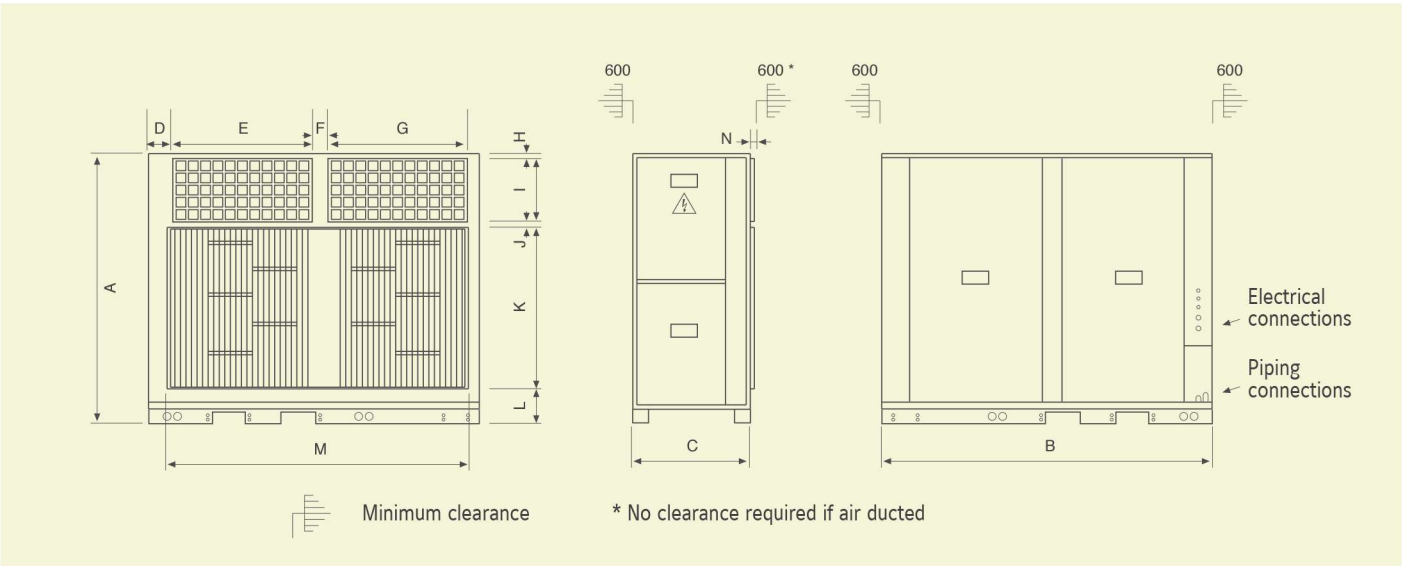
VCH 45-60 AB



All dimensions in mm. Drawings not a scale.

| Unit      | A     | B     | C   | D   | E   | F  | G   | H  | I   | J  | K    | L   | M     | N  |
|-----------|-------|-------|-----|-----|-----|----|-----|----|-----|----|------|-----|-------|----|
| VCH 45 AB | 1 641 | 2 240 | 778 | 148 | 945 | 95 | 945 | 38 | 389 | 38 | 1044 | 140 | 2 060 | 23 |
| VCH 60 AB | 1 641 | 2 240 | 778 | 148 | 945 | 95 | 945 | 38 | 389 | 38 | 1044 | 140 | 2 060 | 23 |

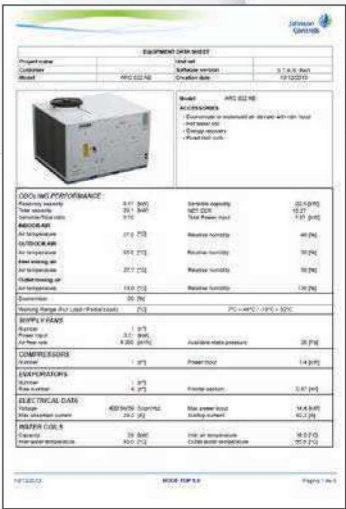
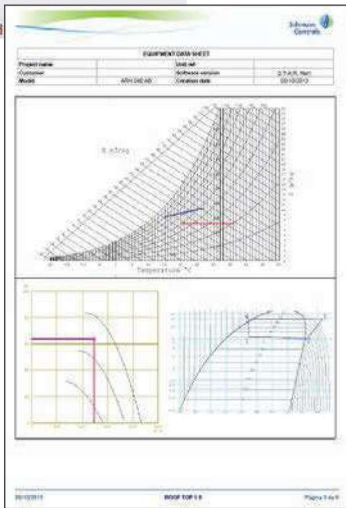
VCH 75-90 AB



All dimensions in mm. Drawings not a scale.

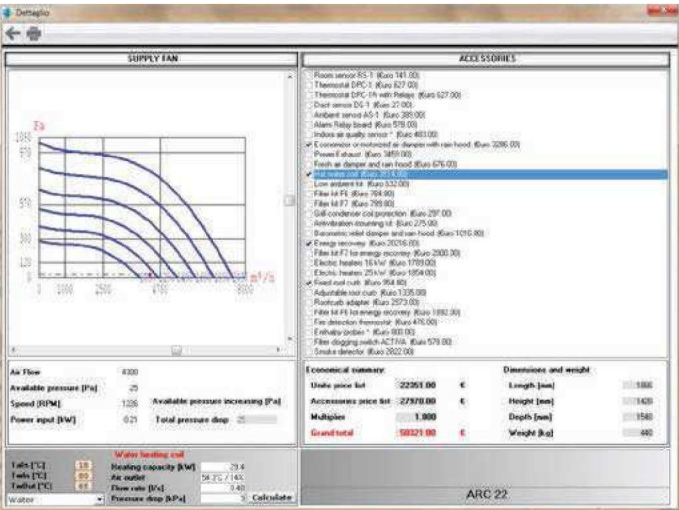
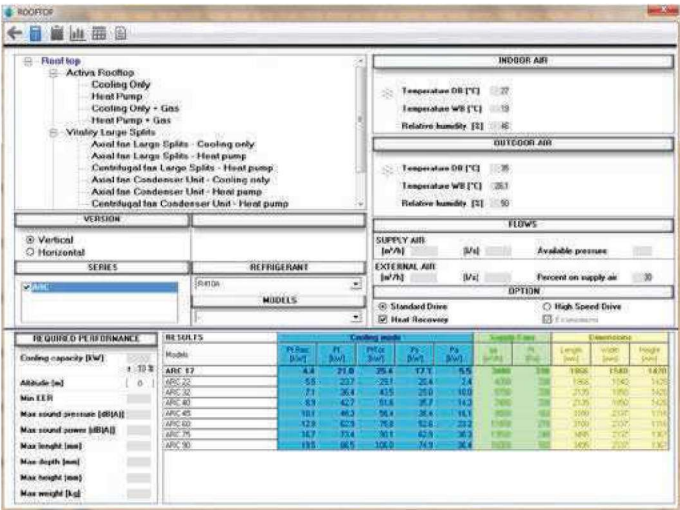
| Unit      | A     | B    | C   | D   | E    | F  | G    | H  | I   | J  | K     | L   | M    | N  |
|-----------|-------|------|-----|-----|------|----|------|----|-----|----|-------|-----|------|----|
| VCH 75 AB | 1 794 | 2658 | 897 | 148 | 1155 | 95 | 1155 | 30 | 389 | 37 | 1 200 | 138 | 2479 | 23 |
| VCH 90 AB | 1 794 | 2658 | 897 | 148 | 1155 | 95 | 1155 | 30 | 389 | 37 | 1 200 | 138 | 2479 | 23 |

Johnson Controls continues the improvement of the selection software for Packaged and Commercial Split Systems called YORK® S.T.A.R – Selection Tool for Advanced Rooftop. By installing new releases, available through Virtual Branch portal, the selection tool is updated periodically with the aim to help and simplify the product selection and quotation process.

[illegible]

## Using S.T.A.R you will be able to select:

- The ACTIVA Rooftop range units
- Roomtop units (RTC/RTH)
- Vitality Large Split units (including condenser units only)



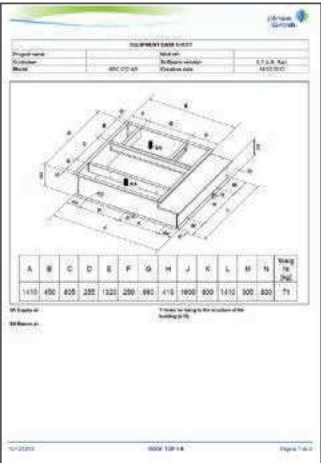
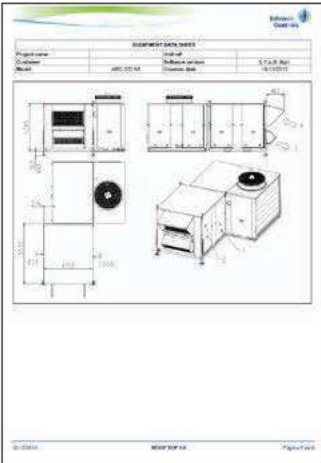
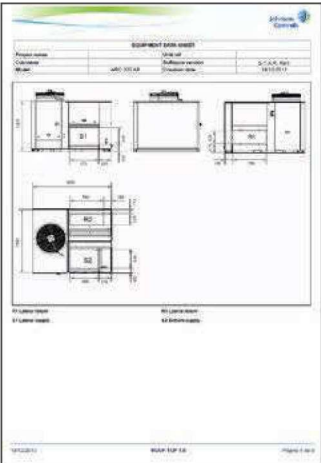
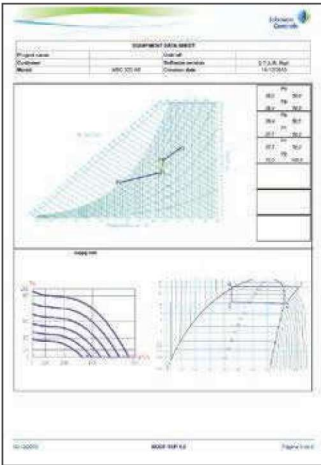
In addition, the selection of some **key options** is possible.

For instance: **economizer**, **enthalpy wheel**, **high pressure drive**, **hot water coil** for the ACTIVA Rooftops 17-40 and 45-90.

The tool allows **extracting reports** easily in different formats (editable and non editable).

S.T.A.R. is currently available in English, Spanish, Polish and Italian. The tool can be translated to other languages if required.

\* Call your JCI Sales Representative and request access now.







# Comprehensive Solutions

INDUSTRIAL REFRIGERATION

METASYS® BUILDING AUTOMATION AND  
CONTROL SYSTEMS

Johnson Controls Industrial Refrigeration designs, manufactures, tests, installs and commissions highly efficient and environmentally sustainable refrigeration solutions for the demanding conditions encountered in industrial environments.

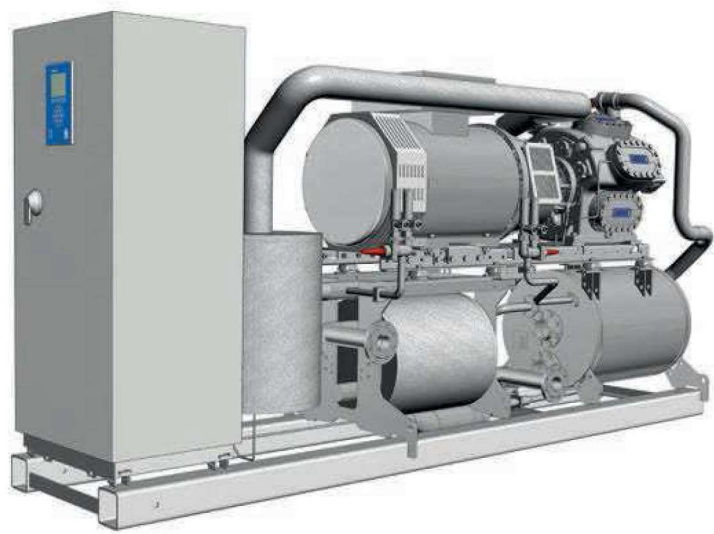
## HeatPAC heat pumps

Ammonia-based heat pumps using a reciprocating compressor, with a 240–1200 kW capacity range



HeatPAC units are extremely compact heat pumps based on ultra-reliable Sabroe HPO/HPC high-pressure reciprocating compressors, using ammonia as refrigerant. They are usually most cost-effective when fitted with a variable-speed drive (VSD) that makes it easy to deal with changing circumstances and different operating requirements. These highly customisable integrated units are based on a unique vibration-resistant design, featuring an uncomplicated flooded evaporating system. They provide exceptional heat pump capacity from the smallest possible footprint, and with only a very small refrigerant charge.

Sabroe HeatPAC heat pumps are the ideal solution for effectively exploiting low-temperature waste heat, and turning it into hot water (up to 70°C), using only a minimum of electrical energy. These units are designed to provide a cost-effective way to tackle needs for cooling and heating at the same time, providing an extremely high coefficient of performance (COP).



### Main benefits

- High reliability – proven components
- Fast installation – quick start-up
- High efficiency – high saving potential.

### Options

- Cascade evaporator
- Variable-speed drive (VSD)
- Soft-starter or Y/D starter
- De-superheater
- Subcooler
- Control panel mounted separately
- HeatPAC 24, 26 and 28: 60 Hz or VSD
- Customer-witnessed factory acceptance tests (FAT).

### HeatPAC packaged ammonia heat pumps

| Type       | Heating capacity kW | Cooling capacity kW | Power consumption kW | COP heat | R717 charge kg | Dry weight kg | Dimensions |       |       | Sound press. level dB(A) |
|------------|---------------------|---------------------|----------------------|----------|----------------|---------------|------------|-------|-------|--------------------------|
|            |                     |                     |                      |          |                |               | L mm       | W mm  | H mm  |                          |
| HPAC 24-W  | 240                 | 202                 | 38                   | 6.3      | 20             | 2 020         | 2 800      | 1 000 | 2 000 | 75                       |
| HPAC 26-W  | 359                 | 302                 | 57                   | 6.3      | 23             | 2 230         | 2 850      | 1 000 | 2 000 | 76                       |
| HPAC 28-W  | 484                 | 408                 | 77                   | 6.3      | 25             | 2 420         | 2 900      | 1 000 | 2 000 | 77                       |
| HPAC 104-W | 570                 | 478                 | 93                   | 6.1      | 28             | 2 630         | 3 050      | 1 000 | 2 000 | 81                       |
| HPAC 106-W | 852                 | 715                 | 138                  | 6.2      | 37             | 3 300         | 3 750      | 1 000 | 2 000 | 82                       |
| HPAC 108-W | 1 149               | 965                 | 186                  | 6.2      | 48             | 3 950         | 4 050      | 1 000 | 2 000 | 83                       |

Condenser water inlet +64°C, outlet +70°C. Evaporator water inlet +39°C, outlet +34°C. Motor: 3 x 400 V / 50 Hz, 1 470 rpm  
Capacities are nominal at 1500 rpm  
W = Heat pump unit water/water  
Sound pressure levels in free field, over reflecting plane and one meter distance from the unit.



# HeatPAC HPX heat pumps

Single-stage high-pressure ammonia-based heat pumps, using a reciprocating compressor, with a 100–600 kW capacity range



Sabroe HeatPAC™ HPX heat pumps are compact units with an integrated single-stage configuration that features less than half the space and weight requirements of any other heat pump designs usually needed to achieve 90°C hot water outputs.

These energy-efficient units feature a breakthrough HPX hybrid compressor design that allows differential pressures as high as 40 bar and discharge pressures as high as 60 bar, combined with space-saving evaporator technology from the ChillPAC™ packaged ammonia chiller.

HeatPAC HPX heat pumps make it easy to produce hot water at temperatures up to 90°C, using any suitable source of low-temperature heat, with only tiny energy inputs needed.

They provide a low-cost supply of hot water at temperatures ideal for sterilisation and pasteurisation – as well as many other hygiene-sensitive functions and processes.



### Options

- Cascade evaporator
- Subcooler
- Control panel mounted separately
- Customer-witnessed factory acceptance tests (FAT).

## HeatPAC HPX ammonia heat pumps

| Type          | Heating capacity kW | Cooling capacity kW | Power consumption kW | COP heat | R717 charge kg | Dry weight kg | Dimensions |       |       | Sound press. level dB(A) |
|---------------|---------------------|---------------------|----------------------|----------|----------------|---------------|------------|-------|-------|--------------------------|
|               |                     |                     |                      |          |                |               | L mm       | W mm  | H mm  |                          |
| HeatPAC 704-W | 326                 | 249                 | 82                   | 4.0      | 25             | 3 500         | 3 500      | 1 000 | 2 100 | 83                       |
| HeatPAC 706-W | 489                 | 373                 | 123                  | 4.0      | 30             | 4 200         | 3 700      | 1 000 | 2 100 | 85                       |
| HeatPAC 708-W | 652                 | 498                 | 164                  | 4.0      | 35             | 5 000         | 4 100      | 1 000 | 2 100 | 86                       |

Condenser water inlet +70°C, outlet +90°C. Evaporator water inlet +39°C, outlet +34°C. Evaporation 30°C, 16K sub-cooling.

W = Heat pump unit water/water.

VSD drive is standard.

Sound pressure levels in free field, over reflecting plane and one meter distance from the unit.

Manufacturer reserves the rights to change specifications without prior notice.



# HeatPAC heat pumps

## Ammonia-based heat pumps using a screw compressor, with a capacity of up to 1800 kW

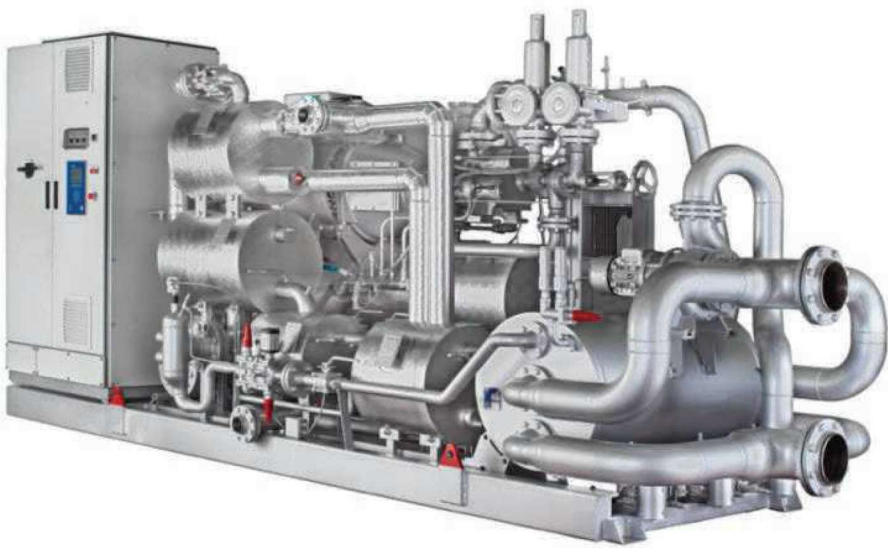


HeatPAC units are extremely compact heat pumps based on ultra-reliable Sabroe high-pressure screw compressors, using ammonia as refrigerant.

These highly customisable integrated units, featuring an uncomplicated flooded evaporating system, provide exceptional heat pump capacity from the smallest possible footprint, and with only a very small refrigerant charge. They are designed to provide a cost-effective way to tackle needs for cooling and heating at the same time, providing an extremely high coefficient of performance (COP).

Sabroe HeatPAC heat pumps are the ideal solution for effectively exploiting low-temperature waste heat, and turning it into hot water (up to 90°C), using only a minimum of electrical energy.

Sabroe HeatPAC heat pumps provide considerable scope for customisation to meet specific customer requirements.



### Main benefits

- High reliability – proven components
- Fast installation – quick start-up
- High efficiency – high saving potential.

### Options

- Cascade evaporator
- Control panel mounted separately
- Customer-witnessed factory acceptance tests (FAT).

### Compliance

All HeatPAC heat pumps are fully compliant with appropriate major international design codes and the specifications laid down by the most common classification societies. Approval in accordance with other technical requirements, specific national legislation or other classification societies' requirements is available on request.

The HeatPAC 157 HR is a versatile heat pump that can cope with a wide range of operating conditions. These units are particularly efficient under part-load conditions due to the variable-speed drive (1000-6000 rpm) fitted as standard.

Each unit is specially configured to comply with the specific set of operating conditions, in order to ensure the most effective exploitation of the waste heat available.

### HeatPAC 157 HR

|       | Cold side         |                    |           |                     |       | Hot side          |                    |           |                     | Power motor kW | COP |
|-------|-------------------|--------------------|-----------|---------------------|-------|-------------------|--------------------|-----------|---------------------|----------------|-----|
|       | Temperature in °C | Temperature out °C | Flow m³/h | Cooling capacity kW |       | Temperature in °C | Temperature out °C | Flow m³/h | Heating capacity kW |                |     |
| Water | 40                | 35.9               | 300       | 1 422               | Water | 40                | 85                 | 34.8      | 1 792               | 407            | 4.4 |
| Water | 30                | 26.8               | 300       | 1 107               | Water | 40                | 85                 | 28.2      | 1 453               | 381            | 3.8 |
| Water | 20                | 17.6               | 300       | 818                 | Water | 40                | 85                 | 22.0      | 1 121               | 335            | 3.3 |
| Water | 10                | 8.3                | 300       | 588                 | Water | 40                | 85                 | 16.5      | 852                 | 290            | 2.9 |

Capacities are nominal at 6000 rpm. Specific capacity must be calculated for actual running conditions.



Manufacturer reserves the rights to change specifications without prior notice.



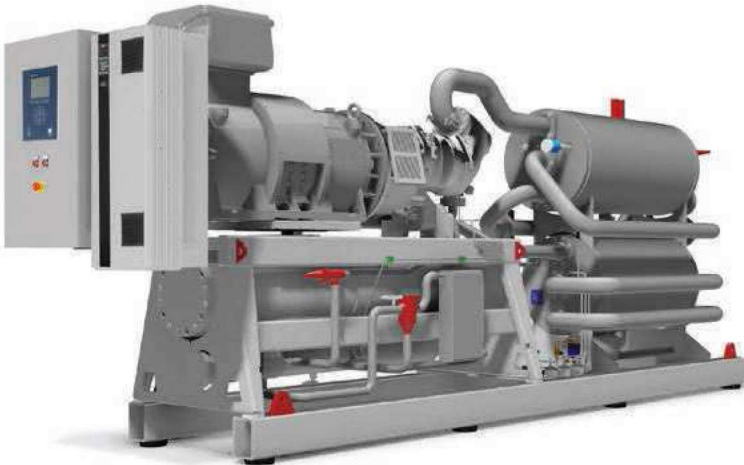
# ComPAC chillers

Packaged ammonia chillers based on screw compressors, with a 500-2000 kW capacity range



Sabroe ComPAC ammonia chillers based on plate-and-shell heat exchangers and the comprehensive Sabroe screw compressor programme (SAB 120-151 to SAB 193-233 and SABflex) are distinctive for their compactness. Frequency converter and panel solutions are supplied as standard.

ComPAC chillers with capacities below 1200 kW use the ultra-compact and extremely low-charge Sabroe-patented plate-and-shell heat exchangers. Chillers with capacities above 1200 kW use condensers and evaporators of premium quality, integrated into a unique vibration-resistant design.



## Range

There are 12 different standard models in this range of ComPAC chillers - both high- and low-temperature versions. A comprehensive range of equipment options are available to ensure performance and application versatility.

## Options

- Variable-speed drive (VSD)
- Soft-starter or Y/D starter
- Sound enclosure for outdoors mounting
- External condenser
- Control panel mounted separately
- Economiser option for low-temperature brine
- Customer-witnessed factory acceptance tests (FAT)
- Heater package for low-temperature operation
- Shunt solution for high-temperature difference.

## ComPAC water chillers (water: inlet +12°C, outlet +7°C)

| Type           | Cooling capacity kW | E-motor | R717 charge kg | Dry weight kg | Dimensions in mm |      |      | Sound level dB(A) |
|----------------|---------------------|---------|----------------|---------------|------------------|------|------|-------------------|
|                |                     |         |                |               | L                | W    | H    |                   |
| ComPAC 120 S-A | 200                 | 55      | 20             | 3600          | 5500             | 1200 | 2200 | 85                |
| ComPAC 120 M-A | 330                 | 75      | 25             | 3800          | 5500             | 1200 | 2200 | 86                |
| ComPAC 120 L-A | 420                 | 90      | 30             | 4000          | 5500             | 1200 | 2200 | 87                |
| ComPAC 120 E-A | 540                 | 132     | 35             | 4200          | 5500             | 1200 | 2200 | 89                |
| ComPAC Flex-A  | 575                 | 160     | 40             | 5700          | 5500             | 1200 | 2200 | 89                |
| ComPAC 151 S-A | 630                 | 142     | 40             | 5500          | 5500             | 1200 | 2200 | 91                |
| ComPAC 151 M-A | 750                 | 172     | 45             | 5800          | 5500             | 1200 | 2200 | 92                |
| ComPAC 151 L-A | 945                 | 223     | 55             | 5900          | 5500             | 1200 | 2200 | 92                |
| ComPAC 151 E-A | 1140                | 250     | 65             | 6300          | 5500             | 1200 | 2200 | 93                |
| ComPAC 193 S-A | 1100                | 250     | 65             | 7100          | 6500             | 1500 | 2200 | 85                |
| ComPAC 193 L-A | 1420                | 315     | 75             | 7400          | 6500             | 1500 | 2200 | 85                |
| ComPAC 233 S-A | 2000                | 400     | 330            | 12000         | 7000             | 1500 | 2500 | 86                |
| ComPAC 233 L-A | 2200                | 500     | 350            | 13000         | 7000             | 1500 | 2500 | 86                |

120 S operates at 1470 rpm

## ComPAC brine chillers (Ethylene glycol 30%: inlet -4°C, outlet -8°C)

| Type           | Cooling capacity kW | E-motor | R717 charge kg | Dry weight kg | Dimensions in mm |      |      | Sound level dB(A) |
|----------------|---------------------|---------|----------------|---------------|------------------|------|------|-------------------|
|                |                     |         |                |               | L                | W    | H    |                   |
| ComPAC 120 S-C | 115                 | 45      | 20             | 3653          | 5500             | 1200 | 2200 | 85                |
| ComPAC 120 M-C | 185                 | 75      | 25             | 3818          | 5500             | 1200 | 2200 | 86                |
| ComPAC 120 L-C | 235                 | 90      | 30             | 3997          | 5500             | 1200 | 2200 | 87                |
| ComPAC 120 E-C | 310                 | 117     | 35             | 4428          | 5500             | 1200 | 2200 | 89                |
| ComPAC Flex-C  | 340                 | 132     | 45             | 5667          | 5500             | 1200 | 2200 | 89                |
| ComPAC 151 S-C | 360                 | 132     | 40             | 5304          | 5500             | 1200 | 2200 | 91                |
| ComPAC 151 M-C | 430                 | 160     | 45             | 5584          | 5500             | 1200 | 2200 | 92                |
| ComPAC 151 L-C | 540                 | 200     | 55             | 5833          | 5500             | 1200 | 2200 | 92                |
| ComPAC 151 E-C | 605                 | 250     | 45             | 5824          | 5500             | 1200 | 2200 | 93                |
| ComPAC 193 S-C | 610                 | 200     | 60             | 6836          | 6500             | 1500 | 2200 | 85                |
| ComPAC 193 L-C | 770                 | 275     | 60             | 7165          | 6500             | 1500 | 2200 | 85                |
| ComPAC 233 S-C | 1110                | 368     | 230            | 11100         | 7000             | 1500 | 2500 | 86                |
| ComPAC 233 L-C | 1400                | 470     | 270            | 11900         | 7000             | 1500 | 2500 | 86                |

120 S operates at 1470 rpm



Manufacturer reserves the rights to change specifications without prior notice.







## Extremely compact packaged ammonia chillers based on reciprocating compressors, with a 100–1400 kW capacity range

ChillPAC ammonia-based chillers feature an ultra-compact format so narrow that they can even pass through a normal doorway. This is achieved by having an extra-compact shell-and-plate evaporator/condenser, oil separator and control system all built in and fully integrated into a unique vibration-resistant design.

This means ChillPAC units provide exceptional refrigeration capacity – taking full advantage of the many different models of ultra-reliable Sabroe reciprocating compressors – while only taking up a minimum of space. This makes ChillPAC units ideal in installations where space is limited, and where there are restrictions on the refrigerant charge used.

ChillPAC chillers are most cost-effective when fitted with a variable-speed drive (VSD) that makes it easy to deal with changing circumstances and different operating requirements.



### Range

There are 20 different models in the standard ChillPAC range, with capacities ranging from 90 kW to 1398 kW.

### Main benefits

- Fast installation – quick start-up
- High reliability – 100% factory-tested
- Minimised life cycle costs
- High safety standards – small refrigerant charge.

### Options

- Variable-speed drive (VSD)
- Soft-starter or Y/D starter
- De-superheater
- Sub-cooler
- External condenser
- Control panel mounted separately
- S and L models: 1800 rpm at 60 Hz or VSD
- Customer-witnessed factory acceptance tests (FAT)
- Heater package for low-temperature heat pump operation
- Shunt solution for high-temperature difference.

### Advantages

- Factory-assembled, pre-tested packaged units based on Sabroe reciprocating compressors world-renowned for their reliability
- Exceptionally compact design and fully integrated configuration results in less than half the footprint of bespoke chiller designs
- Indirect cooling and uncomplicated flooded evaporating system, using natural ammonia (R717) only
- Exceptional COP and outstanding part-load performance
- Refrigerant charge 50% smaller than with conventional chillers, because of special condenser/evaporator design

### Benefits

- Easy pre-commissioning makes installation and running-in both faster and cheaper. Factory acceptance tests (FAT) available (as an option)
- Major savings on both weight and space, resulting in lower installation costs. Much less need for expensive separate machinery rooms
- Greater safety and outstanding reliability
- Greater cooling effect from a smaller refrigerant charge, and optimum load structure over the entire capacity range
- Higher output per unit kW/kg refrigerant, lower unit cost and lower installation costs.

ChillPAC water chillers (water: inlet +12°C, outlet +7°C)

| Type             | Cooling capacity<br>kW | E-motor | R717 charge<br>kg | Dry weight<br>kg | Dimensions |         |         | Sound press.<br>level *)<br>dB(A) |
|------------------|------------------------|---------|-------------------|------------------|------------|---------|---------|-----------------------------------|
|                  |                        |         |                   |                  | L<br>mm    | W<br>mm | H<br>mm |                                   |
| ChillPAC 34      | 139*                   | 27      | 13                | 2 000            | 2 900      | 1 000   | 2 000   | 70                                |
| ChillPAC 26      | 177*                   | 33      | 14                | 2 050            | 2 900      | 1 000   | 2 000   | 71                                |
| ChillPAC 36      | 205*                   | 40      | 14                | 2 100            | 2 900      | 1 000   | 2 000   | 70                                |
| ChillPAC 28      | 234*                   | 45      | 15                | 2 150            | 2 900      | 1 000   | 2 000   | 73                                |
| ChillPAC 38      | 276*                   | 55      | 16                | 2 350            | 2 900      | 1 000   | 2 000   | 74                                |
| ChillPAC 104 S-A | 233                    | 45      | 14                | 2 301            | 2 900      | 1 000   | 2 000   | 78                                |
| ChillPAC 104 L-A | 294                    | 55      | 15                | 2 410            | 2 900      | 1 000   | 2 000   | 79                                |
| ChillPAC 106 S-A | 346                    | 75      | 17                | 2 727            | 2 900      | 1 000   | 2 000   | 79                                |
| ChillPAC 104 E-A | 357                    | 75      | 17                | 2 652            | 2 900      | 1 000   | 2 000   | 79                                |
| ChillPAC 106 L-A | 440                    | 90      | 21                | 2 950            | 2 900      | 1 000   | 2 000   | 80                                |
| ChillPAC 108 S-A | 464                    | 90      | 22                | 3 060            | 2 900      | 1 000   | 2 000   | 80                                |
| ChillPAC 106 E-A | 536                    | 110     | 24                | 3 225            | 3 100      | 1 000   | 2 000   | 81                                |
| ChillPAC 108 L-A | 588                    | 110     | 26                | 3 526            | 3 100      | 1 000   | 2 000   | 82                                |
| ChillPAC 112 S-A | 690                    | 132     | 29                | 4 315            | 4 000      | 1 000   | 2 200   | 82                                |
| ChillPAC 108 E-A | 715                    | 132     | 30                | 3 880            | 3 300      | 1 000   | 2 000   | 82                                |
| ChillPAC 112 L-A | 878                    | 160     | 36                | 4 738            | 4 500      | 1 000   | 2 200   | 83                                |
| ChillPAC 116 S-A | 921                    | 200     | 37                | 5 044            | 4 500      | 1 000   | 2 200   | 83                                |
| ChillPAC 112 E-A | 1 066                  | 200     | 41                | 5 196            | 4 600      | 1 000   | 2 200   | 83                                |
| ChillPAC 116 L-A | 1 167                  | 250     | 45                | 5 556            | 4 700      | 1 000   | 2 200   | 83                                |
| ChillPAC 116 E-A | 1 398                  | 315     | 49                | 5 878            | 5 000      | 1 000   | 2 200   | 84                                |

ChillPAC brine chillers (ethylene glycol 30%: inlet -4°C, outlet -8°C)

| Type             | Cooling capacity<br>kW | E-motor | R717 charge<br>kg | Dry weight<br>kg | Dimensions |         |         | Sound press.<br>level *)<br>dB(A) |
|------------------|------------------------|---------|-------------------|------------------|------------|---------|---------|-----------------------------------|
|                  |                        |         |                   |                  | L<br>mm    | W<br>mm | H<br>mm |                                   |
| ChillPAC 26      | 90*                    | 30      | 13                | 2 000            | 2 900      | 1 000   | 2 000   | 70                                |
| ChillPAC 36      | 105*                   | 33      | 13                | 2 050            | 2 900      | 1 000   | 2 000   | 72                                |
| ChillPAC 28      | 119*                   | 37      | 14                | 2 100            | 2 900      | 1 000   | 2 000   | 73                                |
| ChillPAC 38      | 139*                   | 45      | 15                | 2 250            | 2 900      | 1 000   | 2 000   | 73                                |
| ChillPAC 104 S-C | 116                    | 37      | 13                | 2 253            | 2 700      | 1 000   | 2 000   | 78                                |
| ChillPAC 104 L-C | 150                    | 55      | 15                | 2 378            | 2 900      | 1 000   | 2 000   | 79                                |
| ChillPAC 106 S-C | 172                    | 55      | 15                | 2 505            | 2 900      | 1 000   | 2 000   | 79                                |
| ChillPAC 104 E-C | 185                    | 75      | 17                | 2 586            | 2 900      | 1 000   | 2 000   | 79                                |
| ChillPAC 106 L-C | 222                    | 75      | 18                | 2 701            | 2 900      | 1 000   | 2 000   | 80                                |
| ChillPAC 108 S-C | 227                    | 75      | 18                | 2 766            | 2 900      | 1 000   | 2 000   | 80                                |
| ChillPAC 106 E-C | 272                    | 90      | 20                | 2 866            | 2 900      | 1 000   | 2 000   | 80                                |
| ChillPAC 108 L-C | 295                    | 110     | 22                | 3 091            | 3 100      | 1 000   | 2 000   | 82                                |
| ChillPAC 112 S-C | 339                    | 110     | 24                | 3 696            | 3 800      | 1 000   | 2 200   | 82                                |
| ChillPAC 108 E-C | 363                    | 132     | 25                | 3 523            | 3 300      | 1 000   | 2 000   | 82                                |
| ChillPAC 112 L-C | 440                    | 160     | 29                | 4 290            | 4 200      | 1 000   | 2 200   | 83                                |
| ChillPAC 116 S-C | 450                    | 160     | 29                | 4 390            | 4 200      | 1 000   | 2 200   | 83                                |
| ChillPAC 112 E-C | 544                    | 200     | 35                | 4 733            | 4 300      | 1 000   | 2 200   | 83                                |
| ChillPAC 116 L-C | 586                    | 200     | 37                | 4 898            | 4 300      | 1 000   | 2 200   | 83                                |
| ChillPAC 116 E-C | 718                    | 250     | 43                | 5 322            | 4 300      | 1 000   | 2 200   | 83                                |

Condenser: water inlet +30°C, outlet +35°C.  
The above data are only valid for the stated temperatures and operating conditions. Capacities are nominal at 1500 rpm. \* Capacities are nominal at 1800 rpm..  
A = Air conditioning application (temperature above 0°C)  
C = Chiller application (temperature below 0°C)  
Sound pressure levels in free field, over reflecting plane and 10 m distance from the unit.





Compact air-cooled chillers for outdoor installation, based on a screw compressor, with a 95–400 kW capacity range. The SABlight air-cooled chiller is a particularly compact design that uses V-coil condensers to substantially reduce the overall footprint resulting in a height of 2.9 m and a width of only 1.3 m. SABlight units provide a cost-effective alternative to traditional air conditioning, chilled rooms and industrial/process refrigeration. They are designed for quiet running and outdoor operation. SABlight uses a small propane refrigerant charge, providing an attractive, economical and environmentally responsible alternative to air-cooled chillers that use HFCs as refrigerant.



Standard equipment

- Control and monitoring system
- Variable-speed drive
- Hot-dip galvanised base frame
- Screw compressor
- Pre-charged with refrigerant.

Compliance

All SABlight air-cooled chillers are fully compliant with PED (CE marked and PED approved). Approval in accordance with other classification societies is available on request.

Options

- External communication via network and industrial-standard bus systems
- Evaporator heating elements for frost-proofing
- Epoxy coating of condenser surface
- Oil cooler
- Models operating with inlet temperatures below 0°C available on request
- Desuperheater
- Oil pump.

Advantages

- Compact design with small footprint
- Quiet while running. Available in both low and ultra-low noise versions
- Variable-speed drive fitted to both compressor and fans, providing very high coefficient of performance (COP), even under part-load conditions
- Designed for maximum safety, with very small natural refrigerant charge (propane R290)
- Easy to mount, install and connect up
- Straightforward, uncomplicated construction

Benefits

- Easy to mount outdoors – no special machinery room required
- Can be placed close to occupied buildings
- Low power consumption, which means low operating costs
- No expenditure on special safety precautions
- Low installation costs and rapid commissioning
- Low maintenance costs

Sabroe SABlight air-cooled chillers

| Type            | Cooling capacity kW | COP ESEER | R290 charge kg | Dry weight kg | Dimensions |       |       | Power consumption kW | Nominal load current A | Sound press. level dB(A) |
|-----------------|---------------------|-----------|----------------|---------------|------------|-------|-------|----------------------|------------------------|--------------------------|
|                 |                     |           |                |               | L mm       | W mm  | H mm  |                      |                        |                          |
| SABlight A140-1 | 178                 | 4.7       | 24             | 2 300         | 5 260      | 1 250 | 2 835 | 54                   | 110                    | 55                       |
| SABlight A140-2 | 174                 | 4.6       | 24             | 2 300         | 5 260      | 1 250 | 2 835 | 51                   | 115                    | 45                       |
| SABlight A200-1 | 235                 | 4.8       | 24             | 2 500         | 5 260      | 1 250 | 2 835 | 70                   | 155                    | 55                       |
| SABlight A200-2 | 232                 | 4.6       | 32             | 3 000         | 6 660      | 1 250 | 2 835 | 69                   | 160                    | 45                       |
| SABlight A260-1 | 293                 | 4.6       | 32             | 3 000         | 6 660      | 1 250 | 2 835 | 85                   | 190                    | 55                       |
| SABlight A260-2 | 288                 | 4.6       | 40             | 3 300         | 8 060      | 1 250 | 2 835 | 85                   | 190                    | 45                       |
| SABlight A340-1 | 356                 | 4.7       | 40             | 3 700         | 8 060      | 1 250 | 2 835 | 101                  | 215                    | 55                       |
| SABlight A340-2 | 341                 | 4.6       | 48             | 4 200         | 9 460      | 1 250 | 2 915 | 102                  | 220                    | 45                       |
| SABlight A400-1 | 427                 | 4.8       | 48             | 4 400         | 9 460      | 1 250 | 2 915 | 115                  | 250                    | 55                       |
| SABlight A400-2 | 413                 | 4.6       | 56             | 4 800         | 10 860     | 1 250 | 2 915 | 122                  | 250                    | 45                       |

Capacity data are based on water temperature 12/7°C, ambient temperature 30°C. Two or more units can be built together if larger capacities are required. ESEER = European seasonal energy efficiency ratio (Eurovent Institute, Europe). Fans and VSD are included in the power consumption. Sound pressure levels in free field, over reflecting plane and 10 m distance from the unit.



Manufacturer reserves the rights to change specifications without prior notice.



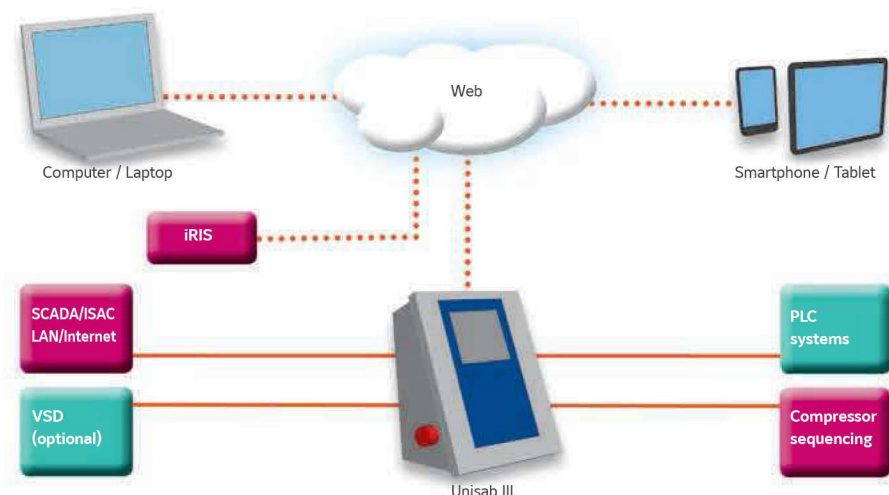


# Sabroe Unisab III

## Integrated systems controller for refrigeration compressors, chillers and heat pumps

Unisab III systems controllers are connectivity hubs that help make sure refrigeration installations have the best possible performance, maximum uptime and lowest possible operating costs.

These important control units are pre-equipped and pre-configured with the connectivity equipment and protocols necessary for monitoring and controlling a wide range of compressors, compressor packages, chillers and heat pumps – as well as using this data for fault-finding and analysis.



# Sabroe chiller plant controller

## Integrated solution for managing and monitoring the controls equipment in chiller plants



The Sabroe chiller plant controller is a compact, easy-to-install control panel that contains a pre-programmed PLC system and touch panel for monitoring and controlling a wide range of external equipment that is not part of the chiller itself, but that serves the chilled water distribution system as well as other key equipment in the chiller plant.

# Sabroe Intelligent Remote Information Services (iRIS)

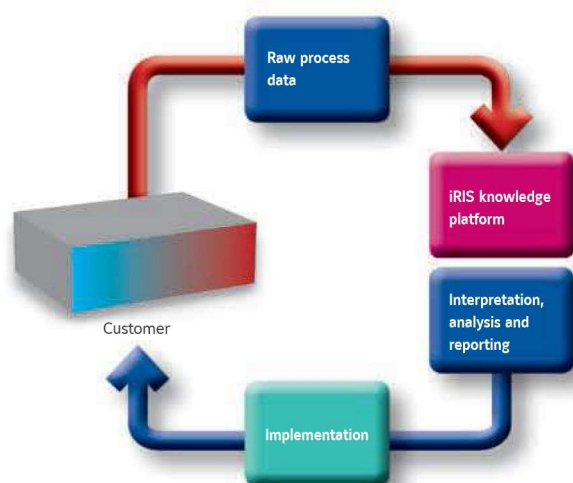
## Intelligent reporting and documentation system for optimising plant performance

Intelligent Remote Information Services (iRIS) is a unique Sabroe software platform (managed by Johnson Controls) that registers, captures and collates performance data from all types of industrial refrigeration and thermal transfer equipment.

The iRIS system processes data such as:

- Load distribution and power consumption
- Performance patterns and fluctuations over time
- Statistics for shutdowns and alarms to reveal any irregularities in operation
- Comparisons and benchmarking between the different plants in a company, and operations in different countries.

The iRIS system is part of a complete service concept, working on the basis of information collected and structured by the iRIS server to form different reports and services. These are available by subscription, tailored to the requirements of each individual installation.



Manufacturer reserves the rights to change specifications without prior notice.



# Metasys® Building Automation and Control Systems

Metasys® building management system from Johnson Controls ensures all of the building systems – comfort controls, lighting, fire safety, security and HVAC equipment – operate together in harmony. With an innovative, IT-based infrastructure, software and wireless capabilities, Metasys® is the one building management system that coordinates and organizes all the information logically to deliver it where and when needed, giving more control and easier access to information than any other system of its kind.

Previously a winner of the Frost & Sullivan North American BAS Market Leadership Award, Metasys now offers even more.

## Ease of use

- Easy to configure and deploy
- No special training is required to use it
- The new Metasys UI is designed to enhance our customers' productivity and effectiveness. It allows users to navigate by space to view summaries, trends, and activities, emulating the way they work every day. The new user interface is also optimized for all devices, enabling our customers to work smarter from any device and any location.



## More efficiency, less costs

- The Energy Essentials leverages the Metasys® Advanced Reporting System to take the existing data and present it in an organized and informative way, providing easy-to-configure, easy-to-use and actionable energy reports
- The improved Johnson Controls Central Plant Optimization™ 10 (CPO 10) helps facility managers operate their chiller plants more efficiently. CPO algorithms are used to operate and sequence plant equipment in an efficient and reliable manner, and to ensure that runtime, starts and stops are equalized across the individual plant components saving energy and improving reliability in the facility.



Single platform communication

- Enhanced, single platform interface of thousands of different hardwired and wireless systems, devices and equipment.
- Even more control options and better information access by users, thanks to:
  - Field Equipment Controllers redesigning
  - Terminal Equipment Controller updates and improvements
  - Added wireless and network sensors
  - Enhanced software and firmware



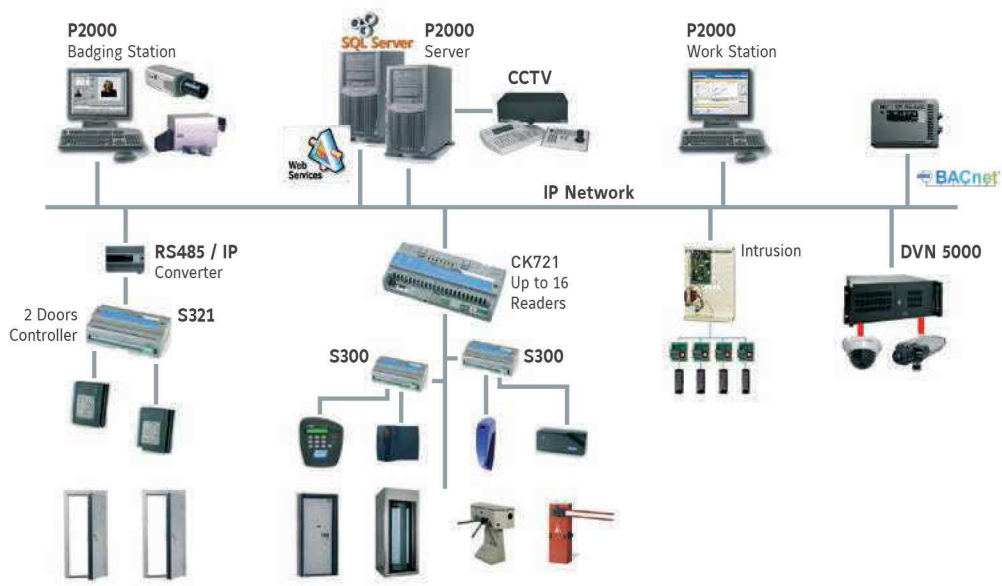
Wireless Capabilities

- Increased control flexibility, streamlines retrofits and faster download times, thanks to the latest wireless technologies that Metasys® incorporates into more devices.
- At system's user interface, network automation, field controller or room sensing levels, Wireless Building Technologies from Johnson Controls always result in increased application flexibility and cost effectiveness.



Security features

- Metasys® now incorporates P2000 Security Management System, whose software and network controllers ensure the safety of employees and security of company assets.
- P2000 open integration platform, designed for interoperability with a variety of security subsystems including access control, alarm & intrusion detection, video surveillance, visitor management.





# Metasys® Energy Dashboard

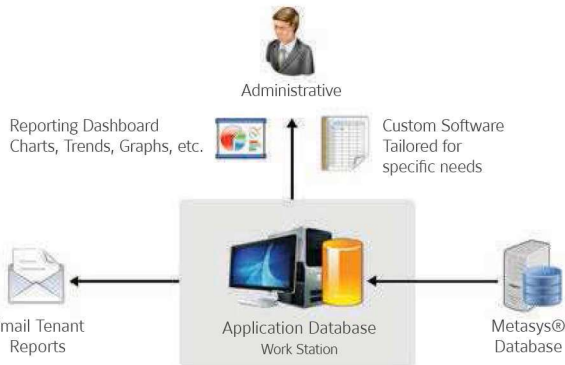
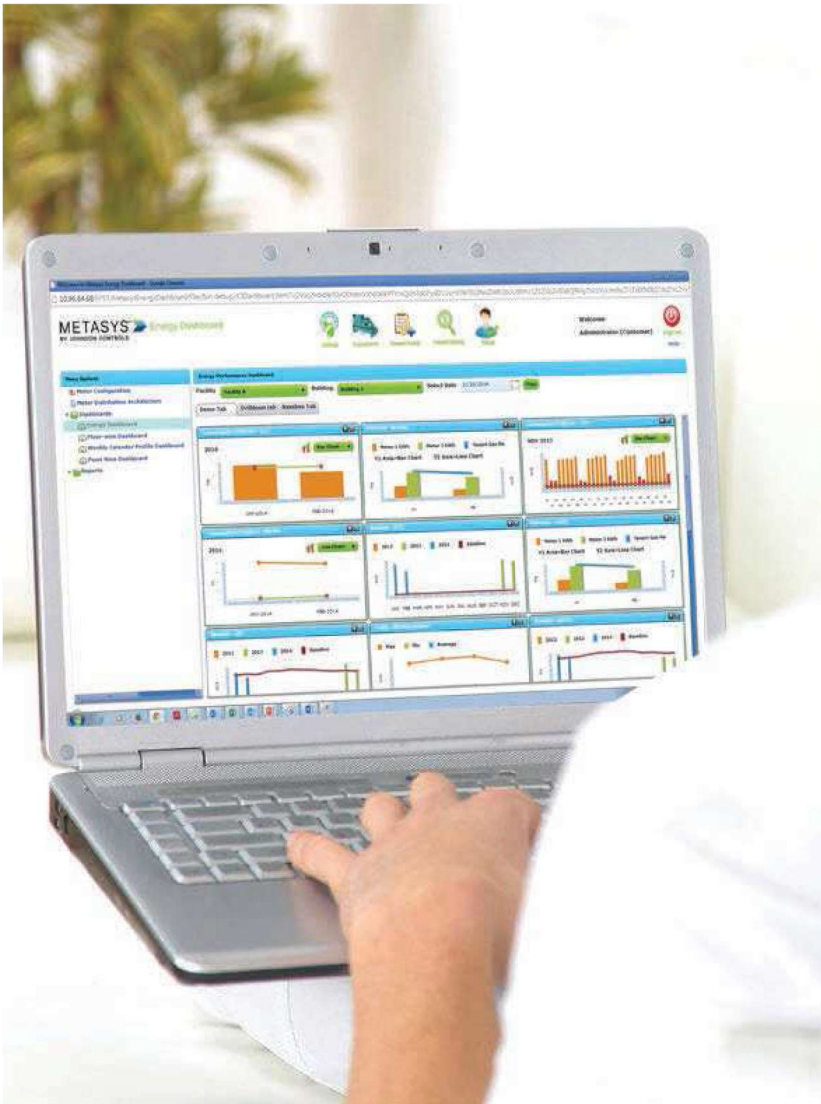
Metasys® Energy Dashboard is a software solution designed specifically for addressing the needs of energy management in all sort of facilities. It enables dynamic visualization and reporting through an intuitive, rich and easy-to-use interface.

Metasys® Energy Dashboard has been conceived using the combination of Johnson Controls global expertise in the fields of building automation, HVACR and energy management projects.

The solution is comprises four main modules allowing a customer to acquire only those that better fit its need. These are: Energy, Equipment, Tenant Billing and Tenant Portal.

## Key features include:

- Intuitive, flexible user interface – fully configurable layout
- Sensible reporting options that come as in-built templates – can start actionable analysis from day 0
- Contextualized, modular structure – catering to the specific needs of respective users
- Caters to energy analysis and reporting, equipment performance monitoring, tenant billing and after hour schedule override needs of the building occupants
- Multiple database sources / site can be integrated simultaneously
- Web based tool - requires no additional hardware, minimal additional software
- Multi-lingual support – English, Dutch, French, Italian, Japanese, Spanish, simplified Chinese

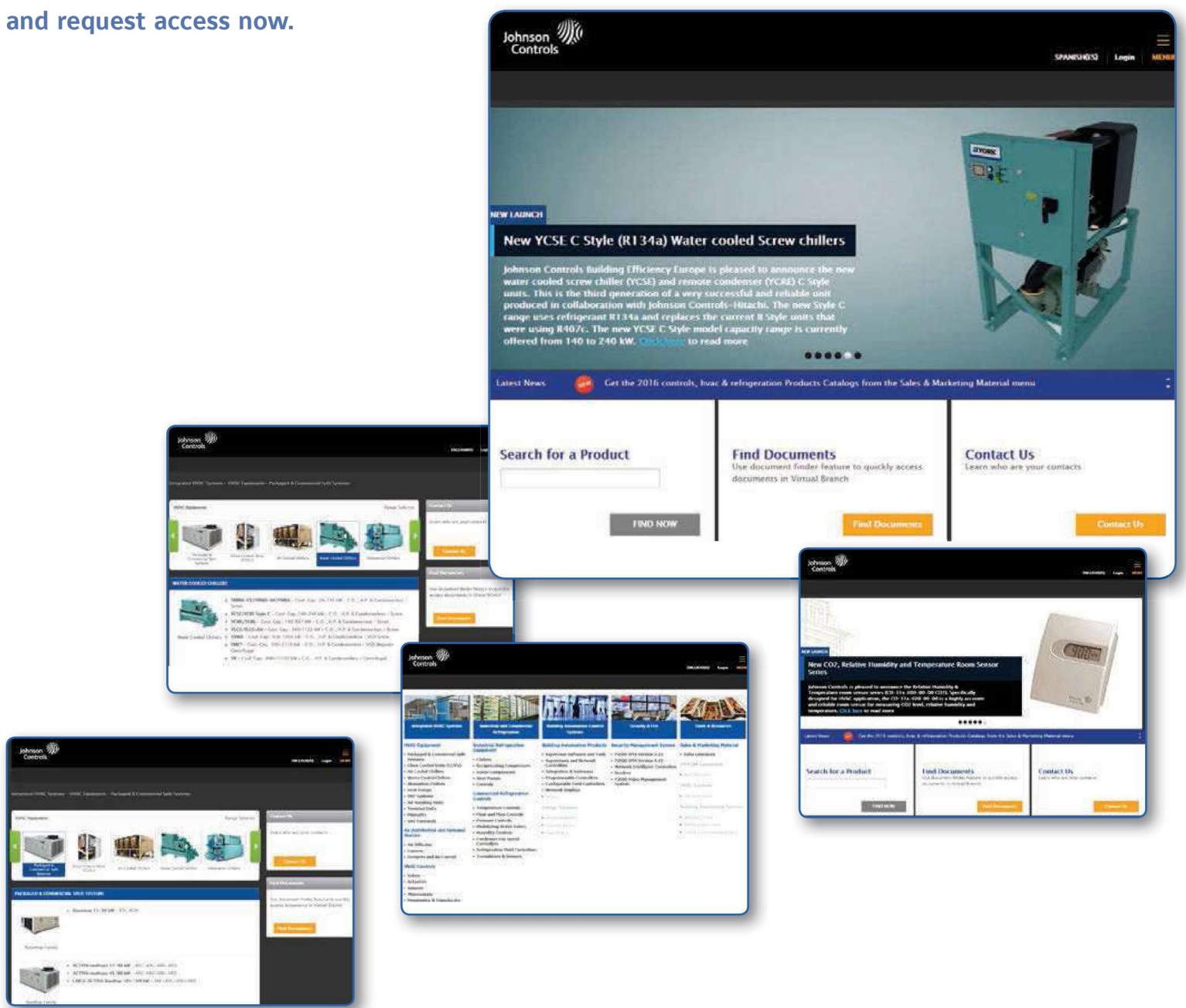


# Johnson Control's eCatalog

Johnson Control's eCatalog, also known as the "Virtual Branch", is not only an extensive database of product information but also a point of entry into our organization.

Within the eCatalog you are connected to the cloud and hence stay up-to-date on all new product launches, product selection tool releases and updates, technical documents, eLearning modules and much more. You will reach our products in 3-clicks or less through the use of a powerful search engine and a very easy-to-browse navigation menu. You can also view the purchase prices online for many of our products and check the availability of stocked items at a glance. Also, rest assured that access to our network of Sales Representatives and Technical Support teams is directly available for your use.

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