

# VERSATEMP EQV-X

DIRECT EXPANSION HIGH EFFICIENCY  
PACKAGED AIR CONDITIONER

**EQV-X 5-21 RANGE**

**WATER-AIR HEAT PUMP**

Nominal cooling capacity from 2,1 to 4,1 kW  
Nominal heating capacity from 2,5 to 5,1 kW



VERSATEMP EQV-X is the highly efficient and autonomous air-conditioner which automatically heats and cools the ambient over the entire year, using water as its source.

Thanks to its rotary compressor, electronic expansion valve, plate exchanger and multi-speed centrifuge fan, VERSATEMP EQV-X stands out for its high efficiency in all working conditions and for its high level of reliability. Even its start-up is simplified by specific plumbing assemblies which are available for different application solutions, supplied already installed and tested on board.

The VERSATEMP EQV-X design can be elegantly added to different settings both in its uncased and in its cased configuration, available for its maximum integration within furnishings. The operating silence is ensured by the particular sound-proofing of the compressor compartment, the accurate balancing of the fans and the anti-vibration devices provided for all moving parts.



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## Total comfort is required all year round, even in the most difficult application situations

In applications like offices, shops, hotels and public buildings it is necessary to maintain comfort all year round, regardless of the external conditions and the different uses of the served ambient. Each area requires its own temperature, humidity and air purification level, in the fastest and simplest way for users.

The maintenance cost of this comfort depends on the chosen air-conditioning system, both when purchasing and above all during use and maintenance over its working lifetime. The rationale of the chosen system and its energy efficiency are therefore fundamental factors of choice.

Finally, an air-conditioning system must be perfectly integrated into a building, in harmony with the structure and the furniture. In some cases, this is a very complex challenge, where, for instance, external units cannot be installed and air vents cannot be fitted, as in certain buildings or historical structures due to regulatory or aesthetic reasons.



## Highly efficient and reliable reversible electric heat pump technology

Electric heat pumps represent an efficient and advantageous choice for ambient air-conditioning. These devices enable energy to be exchanged between the external ambient, known as the source, and the served setting, using the particular refrigeration circuit which they are equipped with.

This transfer only requires the use of electrical energy and is highly efficient, therefore at low consumption. Furthermore, reversible electric heat pumps simplify the system, since only one plant can operate heating and cooling requirements over the entire annual cycle.

Thanks to their energy efficiency, electric heat pumps guarantee the desired level of comfort with reduced management costs and a low impact on the environment. For this reason there are numerous initiatives to aid their production with economic and fiscal incentives.

## Heat pump systems which use water as a heat source are even more efficient than traditional systems

In the face of apparently limited costs, direct expansion systems, for instance, split, multisplit and VRF/VRV systems have numerous limitations in their applications. The piping which contains the refrigerant passes through served settings and is therefore subject to restrictions and usage limitations. It must be limited in length and insulated. Furthermore, external units may be totally incompatible with the architectural and constructions characteristics of the building.

Hydronic systems are without doubt more complete and versatile. Often the system costs for medium and small sized systems are higher in that they are more highly articulated and subject to labour costs for installation, set up and calibration. The complexity increases even more in large-scale centralised systems with four-pipe distribution.

On the other hand, when each area is equipped with its own heat pump which uses water as a heat source, there are only two supply pipes, which save space and installation costs and pump usage costs. Furthermore, there are no length limitations, since they contain water and not refrigerant. The water temperature is generally neutral in comparison with the served ambient and therefore the pipes do not need to be insulated. By using water as a heat source, the energy efficiency of the heat pump further increases, even as much as by 30%.



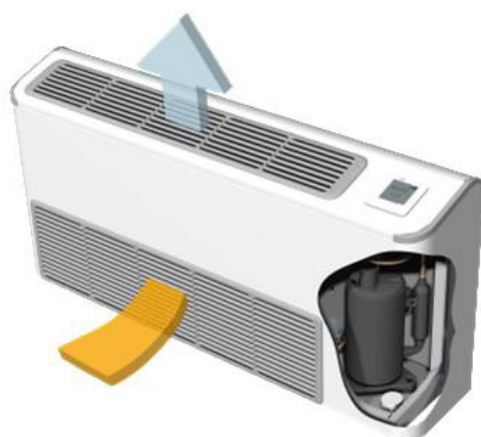
## VERSATEMP EQV-X is the compact and silent solution for the high efficiency year round air-conditioning

EQV-X brings together the Clivet reversible heat pump technology and the VERSATEMP system reliability in a design product, which is versatile as a fan coil.

A high efficient rotating compressor with ecological refrigerant R410A, electronic expansion valve, plate exchanger source side and multi-speed fan: are only some of the solutions available in this completely automatic air-conditioner.

Thanks to the numerous models available either for uncased or cased installation, VERSATEMP EQV-X integrates perfectly into the furnishings. Furthermore, it contains only a minimum quantity of ecological refrigerant (less than 3 kg), and is therefore not subject to restrictions on use. The two water supply ducts do not have length limitations, even, in many cases, they do not need to be insulated and result easy to install and maintain.

It purifies and conditions the air in all settings



Use water as heat source

It contains the best reversible heat pump technology in its interior

## Advantages

### VERSATEMP EQV-X simplifies the system

Thanks to its one-piece construction, the system components and installations are already within the unit itself. The heat or cooling energy which is generated by the unit is directly transferred into the served ambient. The supply water may come from an energy transfer WLHP loop circuit, from a natural source such as a well or ground water, or even from water works in certain cases where architectural constraints make any other system solution impossible.



### VERSATEMP EQV-X is silent and reduces management costs

Thanks to the numerous construction solutions which have been adopted and to its special automatic control, vibrations and sound emissions are undoubtedly reduced. The reversible heat pump technology at high energy efficiency maintains the required comfort only where and when it is needed, reducing the consumption and therefore the management costs over the entire annual cycle. In all the applications which allow it, the devices which limit water consumption reduce these expenses even further.



### VERSATEMP EQV-X is the perfect solution for the system retrofit

The uncased and cased versions are compatible with VERSATEMP products of the EQV, VM, VV series as far as regards capacities, sizes and water connections. VERSATEMP EQV-X is therefore the ideal solution for the retrofit of the existing systems and their possible completion or enlargement.



## High versatility in positioning and use

VERSATEMP EQV-X offers the maximum flexibility in positioning and integration into various architectural contexts.

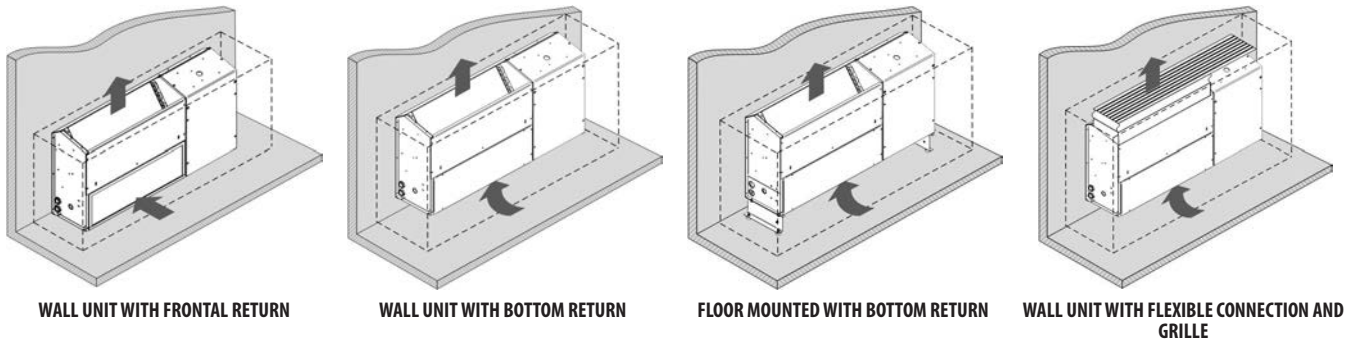
Indeed, it is available in two configurations:

- an uncased configuration, which disappears within the furnishings
- a cased configuration, complete with aesthetic fairing.



### Complete integration into the furnishings

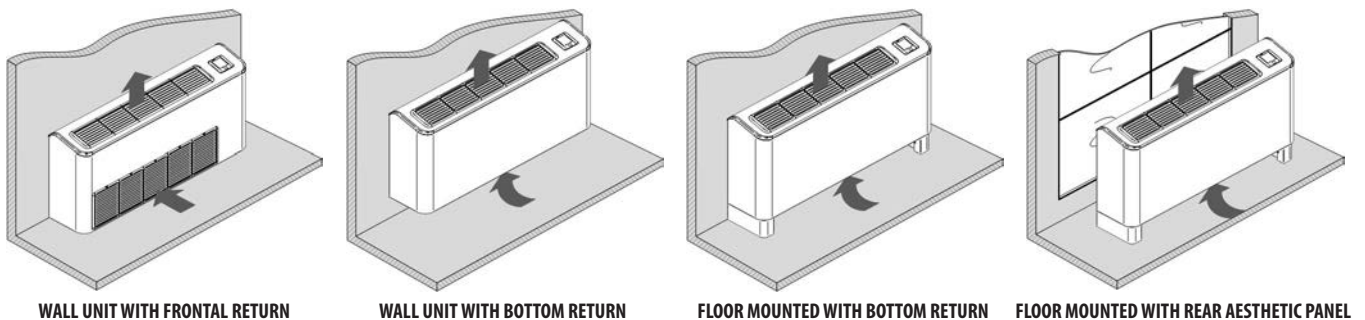
The uncased configuration (standard) can be requested with frontal or bottom return. The numerous accessories which are available, further simplify its installation within the furnishings, offering the most appropriate combination at all times.



This image represents only a few of the numerous positioning possibilities.

### Free positioning within the room

Versatile and pleasing to look as a fan coil, the unit in the cased configuration can be installed directly in the served room thanks to the cover fairing, to its silence during operating, to its various positioning solutions and to the model with a rear aesthetic panel suitable for installation near glass walls.



This image represents only a few of the numerous positioning possibilities.



## High energy efficiency all year round

VERSATEMP EQV-X raises the overall efficiency of the system thanks to its technological solutions, all chosen for an efficient and long-lasting operation and guaranteed by strict quality checks during the assembly phase and rigorous operating tests on the final product.



### High efficiency rotary compressor

With silent and reliable operation, it uses the ecological refrigerant R410A and it is contained within a special compartment which has been further sound-proofed.

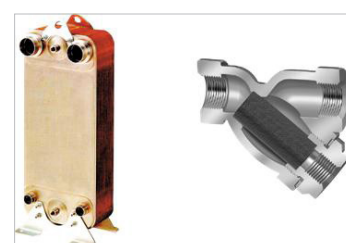


### Electronic expansion valve

The electronic expansion valve (EEV) rapidly and precisely adapts to the effective load required. Furthermore, in the heat pump operation it ensures stability also with high water temperatures.

### Source side plate exchanger

Universally recognised for its highly efficient heat exchange, it is complete with a regulation probe and safety device and is offered with a matching mechanical steel knit strainer which can ensure excellent performance over time.



### Multi-speed fan

The EXTRAQUIET, QUIET and POWERFUL speeds allow to achieve always the best operating conditions in the different applications. In the AUTO mode, the unit automatically sets the most appropriate speed to quickly reach the comfort conditions, thanks to the automatic compensation depending on the distance between the effective temperature in the served room and the set-point.



## The silent comfort

The compressor is housed in a dedicated compartment, made of thick stainless steel and covered with sound-proofing material. It is equipped with a double anti-vibration support system, a vibration sound absorber in the refrigerant circuit, and also with a metal closure hood and finishing in the cased configuration.

At the end of the steady state phase, the AUTO fan mode activation maintains furthermore the minimum speed necessary to maintain the comfort, further increasing the acoustic comfort in the room.



## Reliability and safety

Among the numerous adopted solutions, are:

- The combination of outlet water anti-freeze sensor, treated air anti-freeze sensor, inlet water temperature sensor and water flow-rate monitoring device protects the unit from the ice formation and any malfunctioning which may derive from it.
- The thermostatic valve with MOP (Maximum Operating Pressure) function automatically controls the evaporating pressure to an optimal value for the efficient compressor operating, even upon changes of the heat exchange conditions with the water source.
- The electronic control of the thermostatic valve also uses dynamic algorithms, managing the regularity of the refrigerant flow in the circuit and ensuring a compressor stable operating and, therefore, an increase of its efficiency and operating life.



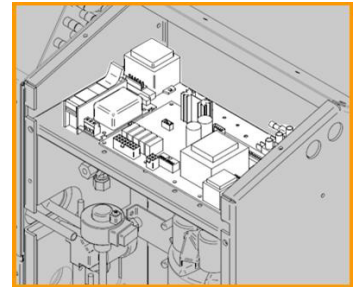
## Easy to use in the small and large plants

VERSATEMP EQV-X is extremely versatile and reliable even in solutions controlled by the User.

### Standard automatic functions

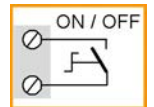
The standard VERSATEMP EQV-X version is equipped with a standard automatic control, complete with a micro processor card and control and safety sensors built-in. Given that it is without a user display, this version represents an efficient solution in all applications open to the public where the operating parameters could otherwise be inappropriately changed:

- it detects the room conditions and compares them with the user set point
- it can decide the operating mode automatically (heating or cooling)
- it decides the activation of resources and can automatically select the fan speed depending on the distance from the scheduled set point
- it can manage without further accessories a mini local network of 15 units, one of which is a master and the others slaves which replicate its operating.



### Voltage-free contact user interface

The standard version has a series of voltage-free contacts, or rather contacts without tension, for managing the following functions remotely: Switching on and switching off, Changing function mode (heating or cooling), setting the Set point (standard or economic).



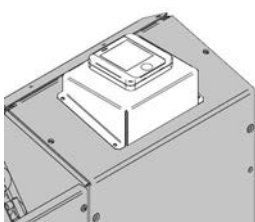
### User interface with built-in or wall display

Both the uncased and the cased unit configuration can be equipped with an electronic room control with a display. The control can be built-in supplied or pre-set for wall installation. It has a modern aspect and is very simple to use even for non-specialised users. Furthermore, it has different access levels, password protected, available for managing the different unit functions.

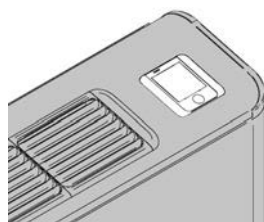
Among the main functions, it detects the temperature using the temperature sensor in its interior, schedules the operating time bands, displays and manages the operating alarms and parameters, enables the manual management of the fan speed and operating mode (heating or cooling).



#### BUILT-IN INSTALLATION

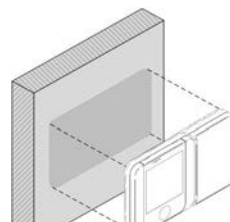


on uncased unit

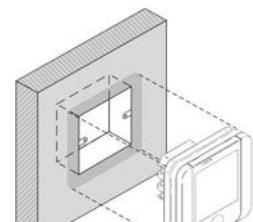


on cased unit

#### REMOTE INSTALLATION



on the wall



in a uncased box

### User interface by serial connection

Thanks to the different communication protocols available, the unit is able to exchange information with the main supervisory systems using serial connections.





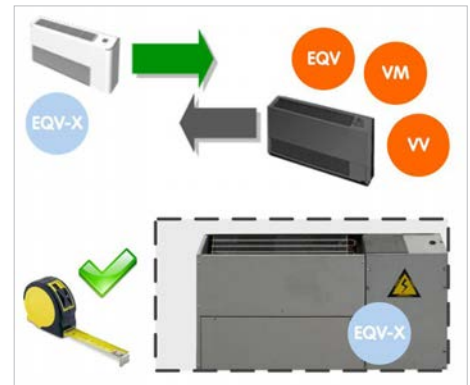
## Perfect for the retrofit of the existing versatemp systems

VERSATEMP EQV-X can be easily installed in the existing systems to substitute or integrate VERSATEMP units of the EQV, VM, and VV series thanks to:

- delivered capacity and water connection compatibility
- same or smaller sizes
- different protocols available for the supervision Systems

The units have been set for two different types of intervention work:

- total substitution (all the units in the system)
- partial substitution (only some of the units in the system)

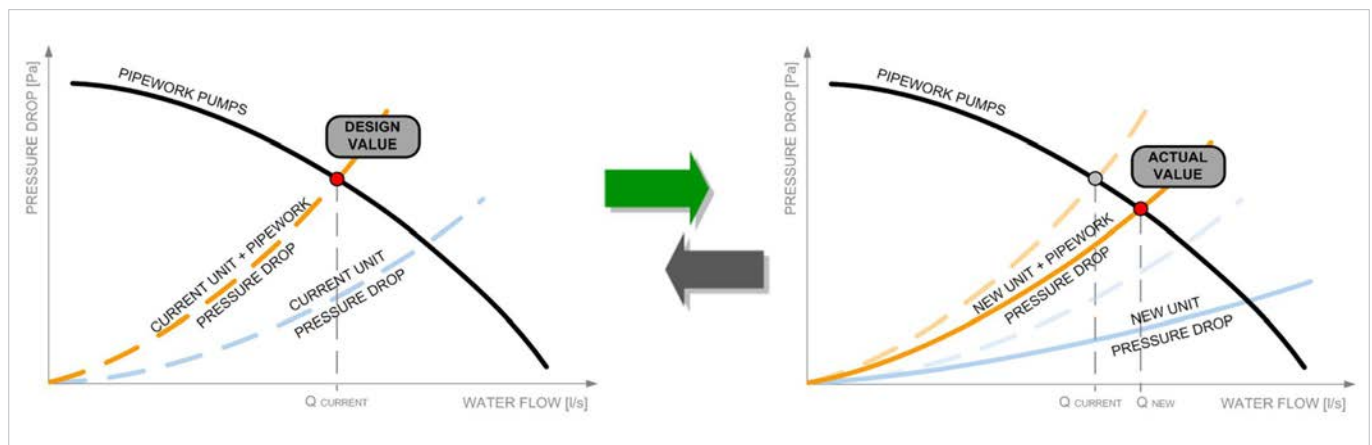
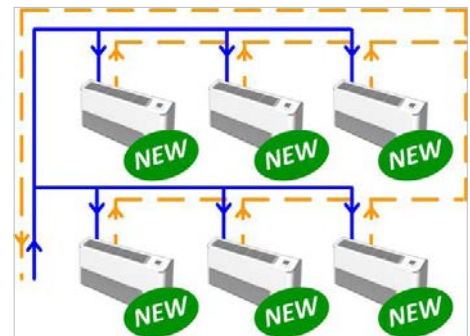


### In case of total substitution

The total substitution of VERSATEMP EQV, VM and VV units can be carried out without any changes of the water components of the system (such as pumps, ducts, by-passes) and without balancing interventions.

Indeed, the new VERSATEMP EQV-X units are able to correctly operate even when they are powered with water flow-rates of the substituted units, which are typically lower than the nominal flow. Furthermore, they have lower pressure drops on the exchanger water side. A new hydraulic equilibrium is established in the system.

If the intention is to make the units operate with the same water flow-rate of the substituted units, even though it is not necessary, it is sufficient only to provide a flow controller on each unit and on the main system ducting.

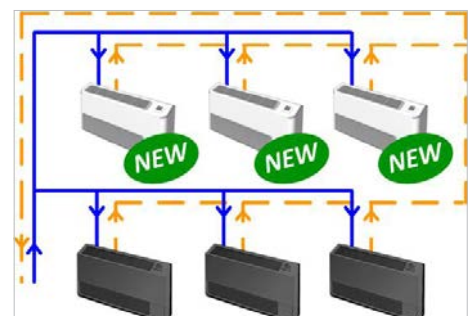


### In case of partial substitution

If only some units are substituted on the existing VERSATEMP system, it is necessary to provide a flow controller which balances the branch where the new units are installed. Indeed, due to the lower pressure drops of the EQV-X, the system can be unbalanced as follows:

- excessive reduction of the water flow-rate on branches that maintain the existing units
- increase of the water flow-rate on branches equipped with new units.

It is therefore necessary to provide for a flow controller on each unit (available as an accessory), or on the whole branch involved with the substitution.



## Ready to be connected to the water mains

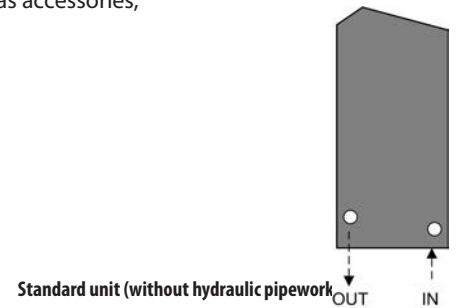
The system components for the VERSATEMP EQV-X connection to the water supply circuit are available built-in. Thanks to their easily accessible position, installation and routine maintenance are notably simplified. Furthermore, reliability is increased since the seal and functionality of the parts are tested at the end of the production process. Thanks to the specific pipe work options available, the unit integrates perfectly within different types of water systems whether loop systems or using aqueduct or disposable water. Each component has been accurately designed to guarantee the maximum operating efficiency and protect the high efficiency exchanger water side from fouling.

### The functions of the standard version

The unit without optional hydraulic pipework arrangement is complete with plate exchanger and control and safety devices, both in the uncased and in the cased version.

The other system components needed for the connection to the water supply are available as accessories, for installation by the Client:

- steel mesh strainer
- manual shut-off valves
- manual by-pass valve for the system cleaning
- manual balancing valve
- flexible pipes for water supply and condensate drain



### The reliability and versatility of the hydraulic pipework

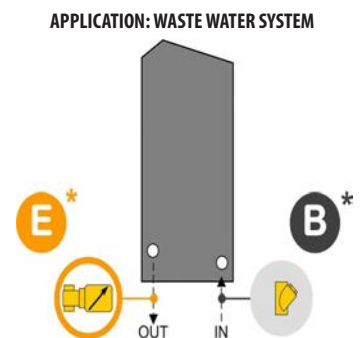
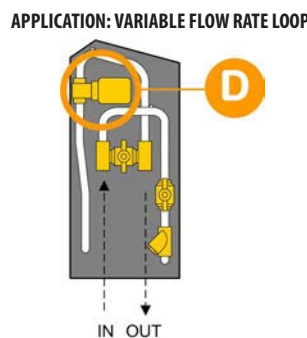
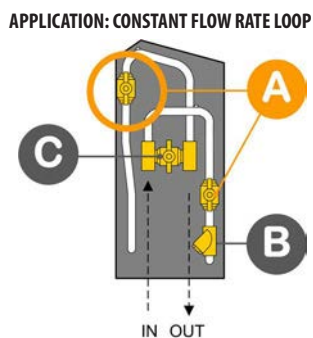
The unit can be supplied complete with pipe work arrangements built-in, with what is necessary for the correct start-up and use of the system in the different types of systems: constant flow loop, variable flow loop. Indeed, the pipe work arrangements enable the unit to be intercepted from the system, the system cleaning (fluxing), the water mechanical filtration during the ordinary operating to protect the exchanger from fouling.

The 2-way modulating valve, available as accessory, allows to:

- further extend the application range to systems fed with well water, groundwater or aqueduct. It is so possible to reduce the water consumption
- extend the standard unit operating field in cooling mode with source at low water temperature
- maximize the efficiency in heating mode also with source at high water temperature.

In the presence of the 2-way modulating valve, the water feeding must be at variable flow. This allows an interesting energy saving on the installation and then a further reduction of the management costs.

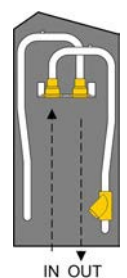
- A - Manual shut-off valve
  - B - Steel mesh filter
  - C - Cleaning by-pass
  - D - ON-OFF motorised 2-way valve
  - E - Modulating motorised 2-way valve
- \* To instal outside the unit



### The version compatibility for the system retrofit

The unit can be set for the rapid replacement (retrofit) of VERSATEMP EQV, VM and VV units. For loop systems with constant water flow-rate. This execution includes:

- water inlet and outlet lines in the same position and of the same type of the units to substitute;
- steel mesh filter, water side.



Retrofit EQV, VM, VV units at constant flow

## Standard unit specifications

### Compressor

Hermetic rotary compressor with gas compression in the crankcase, direct suction, no oil heater. It is mounted on antivibration rubber pads. Includes oil feed.

### Structure

Structure made entirely from "aluzink" plate that guarantees excellent mechanical characteristics and high corrosion strength over time. The compressor area is made from thick metal plate and is completely insulated with soundproofing material to minimise noise output. The ventilating section is completely lined with anti-condensate and soundproofing material.

### Internal exchanger

Direct expansion finned exchanger, made of copper pipes in staggered rows and mechanically expanded to the fin collars. The fins are made of aluminium with a corrugated surface and adequately distanced to ensure the maximum heat exchange efficiency.

### External exchanger source side (water)

Direct expansion heat exchanger with braze welded stainless steel INOX AISI 316 plates and complete with external thermal/anti-condensation insulation.

The exchanger is complete with:

- differential pressure switch, water side
- inlet water temperature sensor
- outlet water temperature sensor, with antifreeze protection
- vent valve

### Fan

Dual intake centrifugal fan with forward blades for maximum efficiency and low noise. Statically- and dynamically-balanced according to the ISO 1940 standards, section 6.3. The scroll, the rotor and the frame are made from galvanized steel plate (semdzimir). Directly coupled to the three speed electric motor.

### Refrigeration circuit

Flat filter, made up of a galvanized plate frame with galvanized and electric-welded protective mesh and 100% regenerable polyester filtering media with PVC resin. G2 efficiency according to CEN-EN 779 standard (Eurovent class EU4/5 - average efficiency 79% ASHRAE 52-76 Atm). Self-extinguishing (resistance to fire class 1 - DIN 53438).

### Drain pan

Condensate collecting tray plate "Aluzink" welded, fitted with a discharge coupling and covered externally with anti-condensate insulation.

### Electrical panel

The electrical panel, consisting of a microprocessor control, is located inside the unit and can be accessed via a panel which can be easily removed.

The capacity section includes:

- power input terminals
- main fuse

The control section includes:

- microprocessor control
- self-test system
- switch on and off daily and weekly programmer and set point
- cumulative alarms, potential-free contacts for remote ON-OFF, summer/winter mode, ECO set-point setting, water flow-rate
- antifreeze protection on the air side
- antifreeze protection water side
- no water flow-rate protection
- return air temperature probe with thermoregulation function
- manual or automatic fan speed selection
- connector for connection of the optional electronic room control

### Casing (only cased configuration)

Removable fairing, made from 10/10 thick steel, power painted (RAL9003 colour, smooth texture). The top-side fittings allow easy access to the internal components.

## Accessories

### Unit in uncased and cased configuration

- Front return (FR)
- Water balancing valve (Accessory separately supplied)
- Steel mesh filter (Accessory separately supplied)
- Condensate drain pump, built-in
- Condensate drain pump (Accessory separately supplied)
- 200 mm flexible pipes for the connection to the water circuit + drop conduit (Accessory separately supplied)
- 500 mm flexible pipes for the connection to the water circuit + drop conduit (Accessory separately supplied)
- Couple of manual shut-off valves (accessory provided separately)
- Hydraulic pipework arrangement for loop with constant flow rate with manual valves
- Hydraulic pipework arrangement for loop with variable flow rate with 2 way ON-OFF valve
- 2-way modulating valve for disposable water system (Accessory separately supplied)
- Constant flow retrofit water connections for EQV,VV,VM units
- Electronic room control with display, for wall installation in built-in box (Accessory separately supplied)
- Serial port RS485 with MODBUS protocol, built-in
- RS485 Serial port with Modbus protocol (Accessory separately supplied)
- BACnet serial communication module (Accessory separately supplied)
- LonWorks serial communication module (Accessory separately supplied)

### Unit in uncased configuration

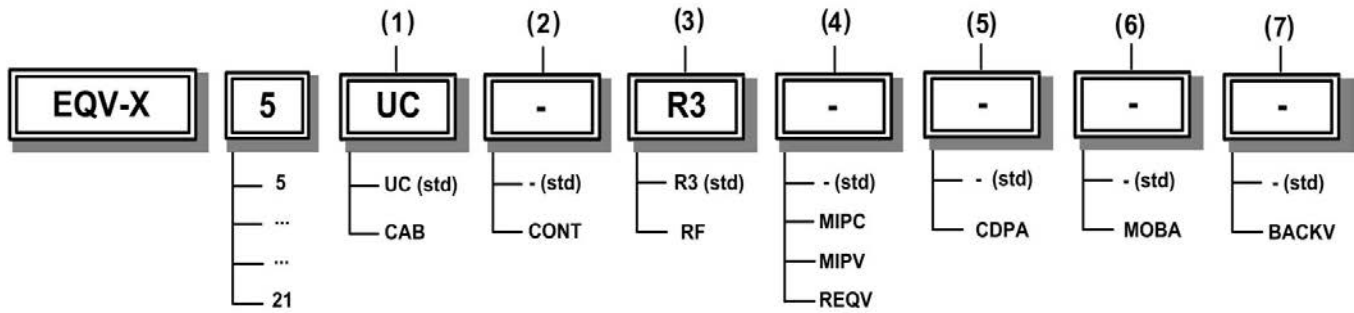
- Electronic room control with display, for installation on the uncased unit (Accessory separately supplied)
- Air supply duct with flexible connection (Accessory separately supplied)
- Air supply grille with flexible connection (Accessory separately supplied)
- Increased zinc-coated plinths for floor fixing on uncased unit (Accessory separately supplied)
- Increased zinc-coated plinths for floor fixing on uncased unit (Accessory separately supplied)

### Unit in cased configuration

- Electronic room control with display, installed in a visible position on the unit with fairing
- Painted plinths for floor fixing (Accessory separately supplied)
- Painted plinths for floor fixing with front grille and rear closing panel (Accessory separately supplied)
- Painted rear panel for cased version
- Rear closing panel for painted plinths
- 2-waysmodulating valve fixing kit for disposable water system Accessory separately supplied

NOTE: The compatibility of the different options is shown in the table at the end of the "Accessory" section.

# Configuration Code



## (1) Configuration

UC - Uncased version (without casing)

CAB - Configuration with fairing for uncased applications

## (2) Room thermostat

Electronic room control (-) not required (standard)

CONT - Electronic room control with display, installed in a visible position on the unit with fairing

## (3) Return

R3 - Intake from below (standard)

RF - Front air intake

## (4) Hydraulic module

Hydraulic pipework arrangement: (-) not required (standard)

MIPC - Hydraulic pipework arrangement for loop with constant flow rate with manual valves

MIPV - Hydraulic pipework arrangement for loop with variable flow with 2-way ON-OFF valve

REQV - Constant flow retrofit water connections for EQV,VV,VM units

## (5) Condensate drain pump

Condensate drain pump: (-) not required (standard)

CDPA - Condensate drain pump, built-in

## (6) Remote communication serial port

Remote communication serial port: (-) not required (standard)

MOBA - RS485 serial port with Modbus protocol, built-in

## (7) Unit installation

Painted rear panel for uncased version: (-) not requested (standard)

BACKV - Painted rear panel for uncased version

## General technical data

Size			5	7	9	15	17	21
<b>Cooling</b>								
Cooling capacity	1	kW	2.08	2.39	2.88	3.38	3.75	4.11
Sensible capacity	1	kW	1.47	1.69	2.12	2.55	2.64	3.05
Compressor power input	1	kW	0.43	0.56	0.61	0.71	0.77	0.84
Total power input	2	kW	0.49	0.62	0.67	0.81	0.87	0.96
EER (EN14511:2011)	2		4.19	3.78	4.20	4.09	4.22	4.20
<b>Heating</b>								
Heating capacity	3	kW	2.54	3.05	3.55	4.29	4.78	5.10
Compressor power input	3	kW	0.47	0.63	0.70	0.77	0.92	1.04
Total power input	4	kW	0.53	0.69	0.76	0.87	1.02	1.16
COP (EN 14511:2011)	4		4.91	4.49	4.71	5.05	4.72	4.49
<b>Heating</b>								
Heating capacity	5	kW	2.33	2.73	3.10	3.82	4.17	4.68
Compressor power input	5	kW	0.46	0.60	0.65	0.75	0.89	1.01
Total power input	6	kW	0.52	0.66	0.71	0.85	0.99	1.13
COP (EN 14511:2011)	6		4.60	4.21	4.41	4.62	4.30	4.24
<b>Compressor</b>								
Type of compressors	7		ROT	ROT	ROT	ROT	ROT	ROT
No. of compressors		No	1	1	1	1	1	1
Refrigerant charge (C1)		kg	0.57	0.62	0.70	0.74	0.71	0.80
<b>Air Handling Section Fans (Supply)</b>								
Type of fans	8		CFG	CFG	CFG	CFG	CFG	CFG
Airflow		l/s	106	128	126	208	208	231
Airflow		m <sup>3</sup> /h	380	460	455	750	750	830
<b>Water side exchanger</b>								
Type of exchanger	9		PHE	PHE	PHE	PHE	PHE	PHE
Water flow-rate	10	l/s	0.12	0.14	0.17	0.19	0.21	0.24
Pressure drop	11	kPa	33	26	29	19	23	28
<b>Connections</b>								
Water fittings	12		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Condensate drain	13		15	15	15	15	15	15
<b>Power supply</b>								
Standard power supply		V	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
<b>Noise Levels</b>								
Sound pressure level (1 m)		dB(A)	41	41	41	45	45	47

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.

Performances referred to the standard speed fan (Quiet)

A 27/19 W 30 = Unit inlet air temperature 27°C D.B. / 19°C W.B. Unit inlet water temper

A 20 W 20 = Unit inlet air temperature 20°C Unit inlet water temperature 20°C

A 20 W 15 = Inlet air temperature 20°C Inlet water temperature 15°C

DB = dry bulb WB = wet bulb

- Ambient air 27°C D.B./19°C W.B. Exchanger water temperature 30°C / 35°C. Performance not including fan motor capacity
- Ambient air 27°C D.B./19°C W.B. Exchanger water temperature 30°C / 35°C. Values read in compliance with EN14511:2011 and including the required system fan motor and water pump capacity for overcoming pressure drops inside the unit.
- Ambient temperature 20°C D.B. Exchanger inlet water 20°C. Exchanger outlet water temperature is set in relation to the water flow in cooling. Performance not including fan motor capacity
- Ambient temperature 20°C D.B. Exchanger inlet water 20°C. Exchanger outlet water temperature is set in relation to the water flow in cooling. Values read in compliance with EN14511:2011 and including the required system fan motor and water pump capacity for overcoming pressure drops inside the unit.

5. Ambient air 20°C D.B. Exchanger inlet water temperature 15°C. The water temperature at the exchanger output is read in relation to the flow of water being chilled. Performance not including fan motor capacity

6. Ambient air 20°C D.B. Exchanger inlet water temperature 15°C

The water temperature at the exchanger output is read in relation to the flow of water being chilled.

Values read in compliance with EN14511:2011 and including the required system fan motor and water pump capacity for overcoming pressure drops inside the unit.

7. ROT = rotary compressor

8. CFG = centrifugal fan

9. PHE = plate exchanger

10. Water flow calculated in relation to the performances in cooling

11. Total pressure drop of the standard unit (without optional hydraulic pipe works). To obtain the total drops with any additional hydraulic components see accessory section.

12. Inlet / outlet

13. Pipe outside diameter

**Max. working pressure water side 10 bar.**



## Electrical data

Size			5	7	9	15	17	21
<b>F.L.A. - Full load current at max admissible conditions</b>								
F.L.A. - Compressor 1		A	2.82	3.50	3.90	4.55	5.13	5.86
F.L.A. - Single supply fan		A	0.35	0.66	0.66	0.74	0.74	0.74
F.L.A. - Total	1	A	3.17	4.16	4.56	5.29	5.87	6.60
<b>F.L.I. - Full load power input at max admissible conditions</b>								
F.L.I. - Compressor 1		kW	0.65	0.75	0.85	1.02	1.12	1.25
F.L.I. - Single External Fan		kW	0.080	0.15	0.15	0.17	0.17	0.17
F.L.I. - Total	2	kW	0.73	0.90	1.00	1.19	1.29	1.42
<b>M.I.C. Maximum inrush current</b>								
M.I.C. - Value		A	18.4	19.7	20.7	22.2	26.0	26.2

Data refer to standard units.

Power supply: 230/1/50 Hz. Voltage variation: max. +/- 10%

1. Values not including the accessories. To obtain the value of F.L.A. including accessories, add to the total F.L.A. value that of any accessories (see electrical data of accessories)
2. Values not including the accessories. To obtain the F.L.I. value including the accessories add to the F.L.I. value the value of any accessories (see the electrical data of the accessories)

# Performances in cooling

Size	Ta °C DB/ WB																								
		20 / 25				25 / 30				30 / 35				35 / 40				40 / 45				45 / 50			
		kWf	kWs	kWe	EER	kWf	kWs	kWe	EER	kWf	kWs	kWe	EER	kWf	kWs	kWe	EER	kWf	kWs	kWe	EER	kWf	kWs	kWe	EER
5	22 / 16	1,93	1,31	0,36	<b>5,4</b>	1,92	1,31	0,39	<b>4,92</b>	1,88	1,3	0,44	<b>4,29</b>	1,79	1,3	0,5	<b>3,6</b>	1,67	1,3	0,57	<b>2,92</b>	1,5	1,29	0,66	<b>2,29</b>
	24 / 17	2,01	1,39	0,35	<b>5,66</b>	1,99	1,39	0,39	<b>5,14</b>	1,94	1,38	0,44	<b>4,46</b>	1,85	1,37	0,5	<b>3,73</b>	1,72	1,37	0,57	<b>3,01</b>	1,56	1,36	0,66	<b>2,36</b>
	26 / 18	2,09	1,48	0,35	<b>5,95</b>	2,07	1,47	0,39	<b>5,36</b>	2,01	1,46	0,43	<b>4,63</b>	1,91	1,45	0,5	<b>3,86</b>	1,78	1,44	0,57	<b>3,11</b>	1,61	1,43	0,66	<b>2,44</b>
	27 / 19	2,17	1,5	0,35	<b>6,26</b>	2,14	1,48	0,38	<b>5,61</b>	2,08	1,47	0,43	<b>4,84</b>	1,98	1,46	0,49	<b>4</b>	1,84	1,44	0,57	<b>3,22</b>	1,66	1,43	0,66	<b>2,52</b>
	28 / 20	2,26	1,53	0,34	<b>6,58</b>	2,22	1,51	0,38	<b>5,87</b>	2,15	1,5	0,43	<b>5,02</b>	2,04	1,48	0,49	<b>4,15</b>	1,9	1,46	0,57	<b>3,33</b>	1,72	1,44	0,66	<b>2,6</b>
	30 / 22	2,44	1,65	0,33	<b>7,31</b>	2,39	1,63	0,37	<b>6,44</b>	2,3	1,6	0,42	<b>5,45</b>	2,18	1,57	0,49	<b>4,48</b>	2,03	1,55	0,57	<b>3,58</b>	1,84	1,52	0,66	<b>2,79</b>
7	22 / 16	2,19	1,51	0,4	<b>5,52</b>	2,18	1,49	0,48	<b>4,53</b>	2,14	1,48	0,57	<b>3,77</b>	2,06	1,46	0,65	<b>3,17</b>	1,96	1,44	0,74	<b>2,66</b>	1,82	1,43	0,82	<b>2,21</b>
	24 / 17	2,3	1,59	0,39	<b>5,89</b>	2,27	1,57	0,48	<b>4,77</b>	2,22	1,55	0,56	<b>3,94</b>	2,13	1,53	0,65	<b>3,29</b>	2,02	1,51	0,74	<b>2,75</b>	1,88	1,49	0,82	<b>2,29</b>
	26 / 18	2,4	1,69	0,38	<b>6,27</b>	2,37	1,67	0,47	<b>5,02</b>	2,3	1,65	0,56	<b>4,12</b>	2,21	1,62	0,65	<b>3,42</b>	2,09	1,6	0,73	<b>2,85</b>	1,95	1,58	0,82	<b>2,37</b>
	27 / 19	2,51	1,74	0,38	<b>6,69</b>	2,46	1,72	0,47	<b>5,29</b>	2,39	1,69	0,56	<b>4,27</b>	2,29	1,66	0,64	<b>3,55</b>	2,16	1,64	0,73	<b>2,95</b>	2,01	1,61	0,82	<b>2,45</b>
	28 / 20	2,63	1,83	0,37	<b>7,13</b>	2,57	1,8	0,46	<b>5,58</b>	2,48	1,77	0,55	<b>4,5</b>	2,37	1,74	0,64	<b>3,69</b>	2,24	1,71	0,73	<b>3,05</b>	2,08	1,68	0,82	<b>2,53</b>
	30 / 22	2,87	2,15	0,35	<b>8,1</b>	2,78	2,12	0,45	<b>6,22</b>	2,67	2,09	0,54	<b>4,94</b>	2,54	2,06	0,64	<b>4,01</b>	2,39	2,03	0,73	<b>3,28</b>	2,22	1,99	0,82	<b>2,69</b>
9	22 / 16	2,62	1,87	0,54	<b>4,83</b>	2,62	1,87	0,57	<b>4,62</b>	2,57	1,87	0,62	<b>4,17</b>	2,48	1,87	0,69	<b>3,58</b>	2,35	1,86	0,79	<b>2,95</b>	2,16	1,86	0,92	<b>2,35</b>
	24 / 17	2,72	1,99	0,53	<b>5,15</b>	2,72	1,98	0,56	<b>4,86</b>	2,67	1,98	0,61	<b>4,35</b>	2,57	1,98	0,69	<b>3,71</b>	2,43	1,97	0,8	<b>3,05</b>	2,24	1,97	0,93	<b>2,43</b>
	26 / 18	2,83	2,11	0,52	<b>5,49</b>	2,83	2,11	0,55	<b>5,13</b>	2,77	2,1	0,61	<b>4,54</b>	2,67	2,1	0,69	<b>3,85</b>	2,52	2,09	0,8	<b>3,16</b>	2,33	2,09	0,93	<b>2,51</b>
	27 / 19	2,95	2,13	0,5	<b>5,88</b>	2,94	2,13	0,54	<b>5,41</b>	2,88	2,12	0,61	<b>4,72</b>	2,77	2,12	0,69	<b>4</b>	2,62	2,11	0,8	<b>3,26</b>	2,42	2,11	0,93	<b>2,59</b>
	28 / 20	3,07	2,18	0,49	<b>6,3</b>	3,05	2,17	0,53	<b>5,72</b>	2,99	2,17	0,6	<b>4,96</b>	2,88	2,16	0,69	<b>4,15</b>	2,72	2,16	0,8	<b>3,38</b>	2,5	2,15	0,94	<b>2,67</b>
	30 / 22	3,32	2,36	0,46	<b>7,29</b>	3,3	2,36	0,52	<b>6,41</b>	3,23	2,35	0,59	<b>5,43</b>	3,1	2,34	0,69	<b>4,48</b>	2,92	2,34	0,81	<b>3,61</b>	2,69	2,33	0,94	<b>2,85</b>
15	22 / 16	3,2	2,31	0,58	<b>5,49</b>	3,15	2,28	0,64	<b>4,93</b>	3,06	2,25	0,71	<b>4,3</b>	2,93	2,22	0,8	<b>3,67</b>	2,76	2,19	0,9	<b>3,06</b>	2,55	2,16	1,02	<b>2,5</b>
	24 / 17	3,32	2,49	0,58	<b>5,72</b>	3,26	2,46	0,64	<b>5,12</b>	3,16	2,43	0,71	<b>4,46</b>	3,03	2,4	0,8	<b>3,8</b>	2,86	2,37	0,9	<b>3,16</b>	2,64	2,33	1,02	<b>2,58</b>
	26 / 18	3,44	2,65	0,58	<b>5,95</b>	3,37	2,62	0,63	<b>5,32</b>	3,27	2,59	0,71	<b>4,62</b>	3,13	2,56	0,8	<b>3,93</b>	2,95	2,52	0,9	<b>3,27</b>	2,73	2,49	1,02	<b>2,67</b>
	27 / 19	3,56	2,61	0,58	<b>6,18</b>	3,49	2,58	0,63	<b>5,52</b>	3,38	2,55	0,71	<b>4,76</b>	3,24	2,52	0,8	<b>4,07</b>	3,05	2,49	0,9	<b>3,38</b>	2,83	2,46	1,03	<b>2,75</b>
	28 / 20	3,69	2,54	0,58	<b>6,4</b>	3,61	2,51	0,63	<b>5,73</b>	3,5	2,48	0,7	<b>4,97</b>	3,35	2,45	0,79	<b>4,21</b>	3,15	2,42	0,9	<b>3,5</b>	2,92	2,39	1,03	<b>2,84</b>
	30 / 22	3,95	2,27	0,58	<b>6,83</b>	3,87	2,24	0,63	<b>6,15</b>	3,74	2,22	0,7	<b>5,36</b>	3,57	2,19	0,79	<b>4,53</b>	3,36	2,16	0,9	<b>3,74</b>	3,1	2,14	1,03	<b>3,02</b>
17	22 / 16	3,74	2,52	0,73	<b>5,11</b>	3,57	2,44	0,74	<b>4,83</b>	3,39	2,36	0,77	<b>4,38</b>	3,2	2,27	0,83	<b>3,84</b>	3	2,19	0,92	<b>3,26</b>	2,79	2,1	1,03	<b>2,7</b>
	24 / 17	3,87	2,67	0,73	<b>5,32</b>	3,69	2,59	0,74	<b>5,01</b>	3,51	2,5	0,77	<b>4,54</b>	3,31	2,42	0,83	<b>3,97</b>	3,11	2,33	0,92	<b>3,37</b>	2,89	2,25	1,04	<b>2,79</b>
	26 / 18	4,01	2,82	0,72	<b>5,53</b>	3,82	2,73	0,74	<b>5,19</b>	3,63	2,64	0,77	<b>4,69</b>	3,43	2,56	0,84	<b>4,1</b>	3,21	2,47	0,92	<b>3,48</b>	2,99	2,39	1,04	<b>2,89</b>
	27 / 19	4,14	2,81	0,72	<b>5,74</b>	3,95	2,72	0,73	<b>5,38</b>	3,75	2,64	0,77	<b>4,87</b>	3,55	2,55	0,84	<b>4,24</b>	3,33	2,47	0,92	<b>3,6</b>	3,1	2,38	1,04	<b>2,99</b>
	28 / 20	4,28	2,81	0,72	<b>5,95</b>	4,09	2,72	0,73	<b>5,57</b>	3,89	2,64	0,77	<b>5,03</b>	3,67	2,55	0,84	<b>4,39</b>	3,44	2,47	0,92	<b>3,73</b>	3,2	2,39	1,04	<b>3,09</b>
	30 / 22	4,56	2,81	0,72	<b>6,36</b>	4,37	2,74	0,73	<b>5,97</b>	4,16	2,66	0,77	<b>5,4</b>	3,94	2,58	0,84	<b>4,71</b>	3,69	2,5	0,92	<b>3,99</b>	3,42	2,42	1,04	<b>3,3</b>
21	22 / 16	4,09	2,88	0,67	<b>6,14</b>	3,91	2,8	0,76	<b>5,18</b>	3,75	2,72	0,84	<b>4,48</b>	3,6	2,65	0,91	<b>3,95</b>	3,47	2,57	0,98	<b>3,55</b>	3,36	2,49	1,04	<b>3,23</b>
	24 / 17	4,22	3,08	0,67	<b>6,3</b>	4,03	3	0,76	<b>5,33</b>	3,87	2,92	0,84	<b>4,61</b>	3,72	2,84	0,91	<b>4,07</b>	3,58	2,76	0,98	<b>3,66</b>	3,47	2,68	1,04	<b>3,33</b>
	26 / 18	4,35	3,26	0,67	<b>6,45</b>	4,16	3,17	0,76	<b>5,47</b>	3,99	3,09	0,84	<b>4,75</b>	3,84	3,01	0,91	<b>4,2</b>	3,7	2,93	0,98	<b>3,77</b>	3,58	2,85	1,04	<b>3,43</b>
	27 / 19	4,48	3,22	0,68	<b>6,59</b>	4,29	3,14	0,76	<b>5,62</b>	4,11	3,05	0,84	<b>4,89</b>	3,96	2,97	0,91	<b>4,33</b>	3,82	2,88	0,98	<b>3,89</b>	3,69	2,8	1,04	<b>3,54</b>
	28 / 20	4,62	3,17	0,69	<b>6,71</b>	4,42	3,08	0,77	<b>5,77</b>	4,24	2,99	0,84	<b>5,04</b>	4,08	2,9	0,91	<b>4,47</b>	3,94	2,81	0,98	<b>4,02</b>	3,81	2,72	1,04	<b>3,65</b>
	30 / 22	4,91	2,98	0,71	<b>6,94</b>	4,7	2,87	0,78	<b>6,06</b>	4,52	2,77	0,84	<b>5,35</b>	4,34	2,66	0,91	<b>4,77</b>	4,19	2,56	0,98	<b>4,29</b>	4,05	2,45	1,04	<b>3,89</b>

Performances referred to the standard speed fan (Quiet)  
 EER referred only to compressors  
 Ta = Entering air temperature to the air handling coil (°C)  
 DB = dry bulb WB = wet bulb  
 kWf = Cooling capacity in kW  
 kWe = Electrical power absorbed by compressors (kW)  
 kWs = Sensible cooling capacity (kW)  
 Not all cooling yields take into account the heat dissipated by the fan motors

# Performance in Heating

Size	Ta (°C) DB																		
		12 / 7			15 / 10			17 / 12			20 / 15			25 / 20			35 / 30		
		kWt	kWe	COP	kWt	kWe	COP	kWt	kWe	COP	kWt	kWe	COP	kWt	kWe	COP	kWt	kWe	COP
5	10	2,08	0,37	<b>5,59</b>	2,31	0,38	<b>6,14</b>	2,46	0,38	<b>6,48</b>	2,66	0,38	<b>6,95</b>	2,98	0,39	<b>7,65</b>	3,05	0,41	<b>7,36</b>
	15	2,09	0,41	<b>5,15</b>	2,3	0,41	<b>5,56</b>	2,43	0,42	<b>5,8</b>	2,59	0,42	<b>6,14</b>	2,8	0,42	<b>6,63</b>	2,87	0,45	<b>6,42</b>
	18	2,09	0,43	<b>4,88</b>	2,29	0,44	<b>5,21</b>	2,4	0,44	<b>5,41</b>	2,54	0,45	<b>5,69</b>	2,71	0,45	<b>6,09</b>	2,78	0,47	<b>5,92</b>
	20	2,08	0,44	<b>4,69</b>	2,27	0,46	<b>4,99</b>	2,38	0,46	<b>5,17</b>	2,51	0,47	<b>5,34</b>	2,66	0,46	<b>5,75</b>	2,73	0,49	<b>5,6</b>
	22	2,07	0,46	<b>4,5</b>	2,25	0,47	<b>4,76</b>	2,36	0,48	<b>4,92</b>	2,48	0,48	<b>5,13</b>	2,62	0,48	<b>5,44</b>	2,69	0,51	<b>5,31</b>
	25	2,04	0,48	<b>4,21</b>	2,22	0,5	<b>4,43</b>	2,32	0,51	<b>4,56</b>	2,44	0,51	<b>4,74</b>	2,58	0,51	<b>5,02</b>	2,65	0,54	<b>4,92</b>
	30	1,98	0,53	<b>3,74</b>	2,14	0,55	<b>3,9</b>	2,24	0,56	<b>4,01</b>	2,37	0,57	<b>4,16</b>	2,54	0,57	<b>4,43</b>	2,61	0,6	<b>4,37</b>
7	10	2,47	0,45	<b>5,5</b>	2,75	0,47	<b>5,85</b>	2,92	0,48	<b>6,06</b>	3,17	0,5	<b>6,34</b>	3,55	0,53	<b>6,73</b>	3,59	0,59	<b>6,14</b>
	15	2,48	0,52	<b>4,8</b>	2,72	0,54	<b>5,06</b>	2,87	0,55	<b>5,21</b>	3,08	0,57	<b>5,43</b>	3,41	0,59	<b>5,77</b>	3,45	0,65	<b>5,32</b>
	18	2,47	0,55	<b>4,46</b>	2,69	0,57	<b>4,67</b>	2,83	0,59	<b>4,81</b>	3,03	0,6	<b>5</b>	3,33	0,63	<b>5,3</b>	3,38	0,69	<b>4,92</b>
	20	2,46	0,58	<b>4,25</b>	2,66	0,6	<b>4,45</b>	2,8	0,61	<b>4,59</b>	2,99	0,63	<b>4,75</b>	3,29	0,65	<b>5,04</b>	3,33	0,71	<b>4,69</b>
	22	2,44	0,6	<b>4,06</b>	2,64	0,62	<b>4,24</b>	2,76	0,64	<b>4,35</b>	2,95	0,65	<b>4,52</b>	3,24	0,68	<b>4,79</b>	3,29	0,73	<b>4,47</b>
	25	2,4	0,63	<b>3,79</b>	2,59	0,66	<b>3,95</b>	2,71	0,67	<b>4,05</b>	2,89	0,69	<b>4,21</b>	3,18	0,71	<b>4,47</b>	3,23	0,77	<b>4,19</b>
	30	2,32	0,68	<b>3,4</b>	2,5	0,71	<b>3,53</b>	2,61	0,72	<b>3,62</b>	2,8	0,74	<b>3,77</b>	3,07	0,77	<b>4</b>	3,12	0,83	<b>3,78</b>
9	10	2,8	0,54	<b>5,14</b>	3,08	0,54	<b>5,71</b>	3,28	0,54	<b>6,05</b>	3,59	0,55	<b>6,48</b>	4,14	0,59	<b>6,97</b>	4,19	0,64	<b>6,53</b>
	15	2,79	0,57	<b>4,86</b>	3,06	0,58	<b>5,23</b>	3,24	0,6	<b>5,43</b>	3,53	0,62	<b>5,68</b>	4,02	0,68	<b>5,92</b>	4,07	0,73	<b>5,6</b>
	18	2,77	0,6	<b>4,64</b>	3,03	0,62	<b>4,91</b>	3,21	0,63	<b>5,07</b>	3,49	0,66	<b>5,25</b>	3,96	0,73	<b>5,43</b>	4,01	0,78	<b>5,16</b>
	20	2,75	0,62	<b>4,47</b>	3,01	0,64	<b>4,7</b>	3,19	0,66	<b>4,83</b>	3,46	0,69	<b>5,01</b>	3,92	0,76	<b>5,15</b>	3,97	0,81	<b>4,91</b>
	22	2,73	0,64	<b>4,29</b>	2,99	0,67	<b>4,48</b>	3,16	0,69	<b>4,6</b>	3,42	0,72	<b>4,74</b>	3,89	0,79	<b>4,9</b>	3,93	0,84	<b>4,68</b>
	25	2,7	0,67	<b>4</b>	2,94	0,71	<b>4,16</b>	3,11	0,73	<b>4,25</b>	3,37	0,77	<b>4,39</b>	3,84	0,84	<b>4,58</b>	3,89	0,89	<b>4,39</b>
	30	2,63	0,75	<b>3,52</b>	2,85	0,79	<b>3,63</b>	3,01	0,81	<b>3,72</b>	3,28	0,85	<b>3,86</b>	3,78	0,91	<b>4,13</b>	3,82	0,96	<b>3,98</b>
15	10	3,44	0,62	<b>5,53</b>	3,8	0,62	<b>6,17</b>	4,03	0,62	<b>6,53</b>	4,38	0,63	<b>6,95</b>	4,94	0,67	<b>7,33</b>	4,99	0,72	<b>6,89</b>
	15	3,41	0,67	<b>5,09</b>	3,76	0,68	<b>5,57</b>	3,99	0,68	<b>5,85</b>	4,3	0,69	<b>6,2</b>	4,77	0,72	<b>6,6</b>	4,82	0,77	<b>6,24</b>
	18	3,39	0,7	<b>4,82</b>	3,74	0,72	<b>5,22</b>	3,95	0,72	<b>5,46</b>	4,25	0,74	<b>5,76</b>	4,69	0,76	<b>6,16</b>	4,74	0,81	<b>5,84</b>
	20	3,37	0,73	<b>4,63</b>	3,71	0,74	<b>4,99</b>	3,92	0,75	<b>5,23</b>	4,21	0,77	<b>5,47</b>	4,63	0,79	<b>5,86</b>	4,68	0,84	<b>5,58</b>
	22	3,34	0,75	<b>4,44</b>	3,68	0,77	<b>4,76</b>	3,89	0,78	<b>4,96</b>	4,18	0,8	<b>5,22</b>	4,58	0,82	<b>5,58</b>	4,63	0,87	<b>5,31</b>
	25	3,31	0,79	<b>4,17</b>	3,63	0,82	<b>4,44</b>	3,84	0,83	<b>4,6</b>	4,11	0,85	<b>4,83</b>	4,51	0,88	<b>5,16</b>	4,56	0,93	<b>4,94</b>
	30	3,24	0,87	<b>3,72</b>	3,54	0,9	<b>3,92</b>	3,73	0,92	<b>4,05</b>	4	0,95	<b>4,23</b>	4,42	0,98	<b>4,52</b>	4,47	1,03	<b>4,35</b>
17	10	4,07	0,82	<b>4,99</b>	4,39	0,81	<b>5,43</b>	4,62	0,81	<b>5,71</b>	4,96	0,82	<b>6,07</b>	5,56	0,85	<b>6,53</b>	5,59	0,88	<b>6,35</b>
	15	3,89	0,83	<b>4,67</b>	4,22	0,84	<b>5,05</b>	4,44	0,84	<b>5,29</b>	4,8	0,85	<b>5,63</b>	5,45	0,89	<b>6,12</b>	5,48	0,92	<b>5,96</b>
	18	3,8	0,85	<b>4,44</b>	4,12	0,86	<b>4,77</b>	4,35	0,87	<b>4,99</b>	4,71	0,89	<b>5,31</b>	5,36	0,92	<b>5,8</b>	5,39	0,95	<b>5,66</b>
	20	3,74	0,87	<b>4,28</b>	4,06	0,89	<b>4,58</b>	4,29	0,9	<b>4,77</b>	4,65	0,92	<b>5,05</b>	5,3	0,95	<b>5,57</b>	5,33	0,98	<b>5,43</b>
	22	3,69	0,9	<b>4,11</b>	4	0,92	<b>4,37</b>	4,23	0,93	<b>4,56</b>	4,58	0,95	<b>4,84</b>	5,23	0,98	<b>5,32</b>	5,26	1,01	<b>5,19</b>
	25	3,62	0,94	<b>3,85</b>	3,93	0,96	<b>4,07</b>	4,14	0,98	<b>4,22</b>	4,49	1	<b>4,47</b>	5,11	1,04	<b>4,93</b>	5,14	1,07	<b>4,82</b>
	30	3,53	1,03	<b>3,43</b>	3,81	1,07	<b>3,57</b>	4,01	1,09	<b>3,68</b>	4,33	1,12	<b>3,87</b>	4,88	1,15	<b>4,26</b>	4,9	1,17	<b>4,18</b>
21	10	4,47	0,8	<b>5,62</b>	4,81	0,82	<b>5,85</b>	5,04	0,84	<b>5,99</b>	5,39	0,87	<b>6,17</b>	6	0,94	<b>6,41</b>	6,04	1	<b>6,03</b>
	15	4,35	0,88	<b>4,94</b>	4,7	0,91	<b>5,16</b>	4,91	0,93	<b>5,3</b>	5,2	0,95	<b>5,48</b>	5,63	0,98	<b>5,72</b>	5,67	1,05	<b>5,4</b>
	18	4,28	0,93	<b>4,58</b>	4,62	0,96	<b>4,8</b>	4,83	0,98	<b>4,93</b>	5,1	1	<b>5,1</b>	5,46	1,02	<b>5,33</b>	5,5	1,09	<b>5,05</b>
	20	4,23	0,97	<b>4,36</b>	4,58	1	<b>4,57</b>	4,78	1,02	<b>4,69</b>	5,04	1,04	<b>4,85</b>	5,36	1,05	<b>5,09</b>	5,41	1,12	<b>4,82</b>
	22	4,18	1,01	<b>4,16</b>	4,53	1,04	<b>4,36</b>	4,73	1,06	<b>4,47</b>	4,98	1,08	<b>4,63</b>	5,29	1,09	<b>4,85</b>	5,33	1,16	<b>4,61</b>
	25	4,11	1,06	<b>3,87</b>	4,45	1,1	<b>4,05</b>	4,65	1,12	<b>4,16</b>	4,9	1,14	<b>4,31</b>	5,2	1,15	<b>4,53</b>	5,25	1,22	<b>4,31</b>
	30	3,99	1,16	<b>3,45</b>	4,32	1,2	<b>3,61</b>	4,52	1,22	<b>3,7</b>	4,79	1,25	<b>3,84</b>	5,15	1,27	<b>4,06</b>	5,19	1,34	<b>3,89</b>

Performances referred to the standard speed fan (Quiet)

COP referred only to compressors

Ta = Entering air temperature to the air handling coil (°C)

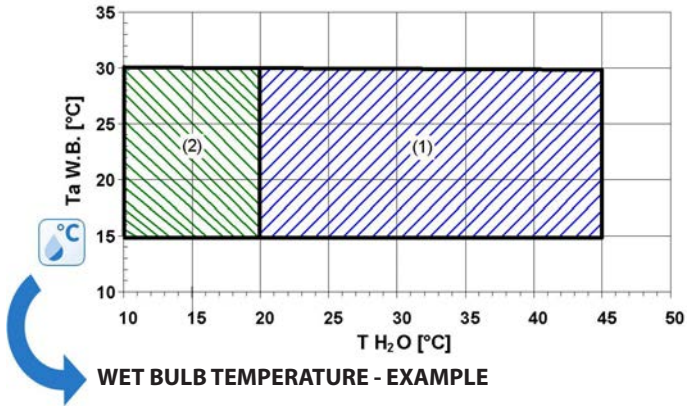
DB = dry bulb

kWt = Provided heating capacity (kW)

kWe = Electrical power absorbed by compressors (kW)

Not all cooling yields take into account the heat dissipated by the fan motors

## Operating range (Cooling)



The limits are meant as an indication and they have been calculated by considering:

- general and non specific sizes
- standard airflow (Fan speed: Medium speed (M))
- non-critical positioning and correct use of the unit
- operation at full load
- difference between inlet / outlet water temperature = 5°C

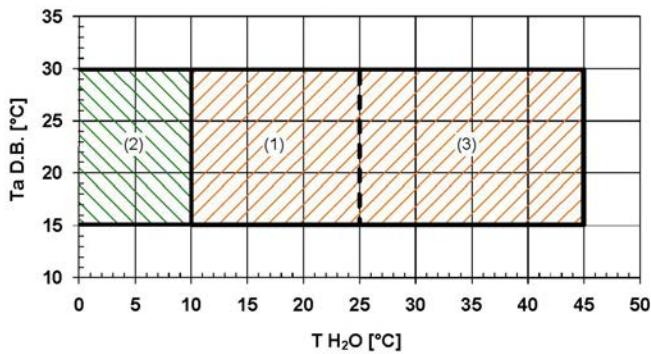
Ta = handling air coil entering air temperature (°C)

**WARNING! WET BULB TEMPERATURE**  
(W.B. = WET BULB)

TH2O = Water temperature at plate exchanger input (°C)

1. Standard operating range
2. Operating field for unit equipped with 'V2MODX - 2-way modulating valve for installation with disposable water' option, i.e. well water, aqueduct, groundwater or anyway a source at low water temperature. by this option the water feeding system must be at variable flow.

## Operating range (Heating)



The limits are meant as an indication and they have been calculated by considering:

- general and non specific sizes
- standard airflow (Fan speed: Medium speed (M))
- non-critical positioning and correct use of the unit
- operation at full load
- difference between inlet / outlet water temperature = 5°C

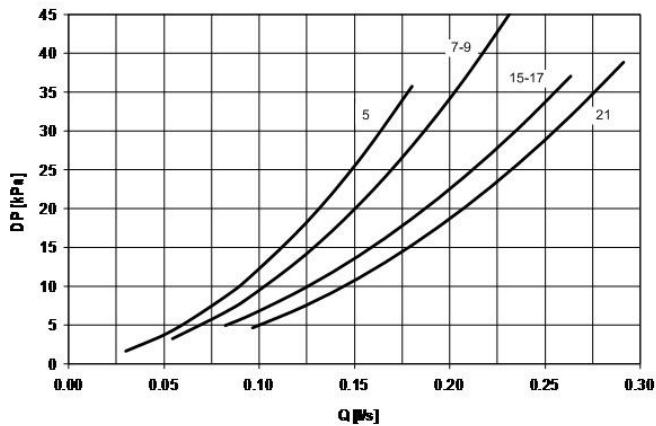
Ta = handling air coil entering air temperature (°C)

**CAUTION! dry bulb measured temperature (D.B.=DRY BULB)**  
(W.B. = WET BULB)

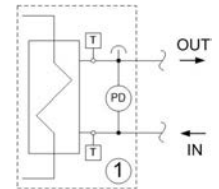
TH2O = Water temperature at plate exchanger input (°C)

1. Standard operating range
2. Operating field for water glycol system (to prevent frost)
3. Standard unit operating field. in this field the cop efficiency can be increased equipping the unit with the 'V2MODX - 2-way modulating valve for installation with disposable water' option, that controls the heat exchange with the source. in this way the unit performances are similar to the unit ones with feeding water temperature (T H2O) equal to 25°C. with this option the water feeding system must be at variable flow.

## Standard unit water circuit pressure drops



Q = water flow rate (l/s)  
DP = water side pressure drops (kPa)



The standard unit includes the following components: 1 - plate heat exchanger complete with differential water side pressure switch (to check for the presence of water flow) and water temperature control probe (for avoiding ice formation and to deactivate the compressor when the water temperature falls below a limit value) 2 - bleed bibcock (to let air out of the system). It does not provide for other shut off or control devices

## Electric fans performance

SIZES		5	7	9	15	17	21
<b>Minimum speed - EXTRAQUIET</b>							
Airflow	l/s	93	114	113	172	172	208
Airflow	m <sup>3</sup> /h	335	410	405	620	620	750
Total input	kW	0.029	0.042	0.042	0.063	0.063	0.083
<b>Standard speed - QUIET</b>							
Airflow	l/s	106	128	126	208	208	230
Airflow	m <sup>3</sup> /h	380	460	455	750	750	830
Total input	kW	0.043	0.048	0.048	0.083	0.083	0.094
<b>Maximum speed - POWERFUL</b>							
Airflow	l/s	114	183	182	230	230	258
Airflow	m <sup>3</sup> /h	410	660	655	830	830	930
Total input	kW	0.052	0.072	0.072	0.094	0.094	0,115

## Performance corrective coefficients in relation to the speed of the treatment fans

	Minimum speed - EXTRAQUIET					Standard speed - QUIET					Maximum speed - POWERFUL				
	Kf	Ks	Kt	Kef	Ket	Kf	Ks	Kt	Kef	Ket	Kf	Ks	Kt	Kef	Ket
<b>5</b>	0,88	0,81	0,95	1,02	1,03	1	1	1	1	1	1,02	1,04	1,01	1	0,97
<b>7</b>	0,94	0,94	0,99	1,01	1,02	1	1	1	1	1	1,06	1,18	1,03	1,01	0,94
<b>9</b>	0,96	0,94	0,98	1,02	1,03	1	1	1	1	1	1,06	1,21	1,04	1	0,92
<b>15</b>	0,93	0,83	0,94	1,01	1,14	1	1	1	1	1	1,01	1,06	1,01	1	0,97
<b>17</b>	0,97	0,78	0,93	1,01	1,11	1	1	1	1	1	1,02	1,06	1,02	1	0,96
<b>21</b>	0,98	0,95	0,99	1	1,06	1	1	1	1	1	1,02	1,06	1,02	1	0,96

The performances at the handling fan speeds are obtained by multiplying the standard flow unit (Quiet) by the correction factors in the table.

Extra-quiet = Fan maximum speed

Quiet (standard) = Fan medium speed

Powerful = Fan maximum speed

Kf = Output multiplying coefficient in cooling mode

Ks = Sensible output multiplication coefficient

Kt = Heating performance multiplication coefficient

Kef = Multiplying coefficient of the power absorbed by the compressors in cooling mode

Ket = Multiplying coefficient of the power absorbed by the compressors in heating mode

## Sound levels

### Extra-quiet = Fan maximum speed

Size	Sound power level (dB)								Sound power level	Sound pressure level
	Octave band (Hz)									
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
5	54	62	51	46	46	41	37	35	51	40
7	55	59	47	48	44	39	34	35	50	38
9	55	59	51	49	44	40	35	34	50	38
15	59	59	54	51	46	41	40	37	52	41
17	59	60	53	51	45	41	41	37	52	41
21	61	57	57	55	51	46	42	38	56	45

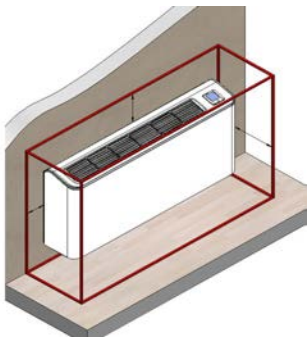
### Quiet (standard) = Fan medium speed

Size	Sound power level (dB)								Sound power level	Sound pressure level
	Octave band (Hz)									
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
5	56	62	54	49	45	44	37	36	52	41
7	63	58	52	51	47	43	37	35	52	41
9	63	59	52	51	47	43	39	36	52	41
15	59	58	56	56	50	45	39	37	56	45
17	60	59	58	56	51	46	40	36	56	45
21	62	59	59	57	53	49	41	35	58	47

### Powerful = Fan maximum speed

Size	Sound power level (dB)								Sound power level	Sound pressure level
	Octave band (Hz)									
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
5	56	54	54	50	46	45	36	34	52	41
7	57	58	55	52	50	48	40	38	55	43
9	60	61	56	51	50	47	39	36	54	43
15	63	62	58	58	52	48	40	38	58	47
17	65	61	59	58	53	49	40	38	58	47
21	66	60	60	58	55	52	44	37	60	49

The sound levels are referred to units operating at a full load in nominal conditions. The sound pressure level is referred to a distance of 1m. from the external unit surface, with fairing, fitted to a wall. Please note that when the unit is installed in conditions other than nominal test conditions /for example near walls or obstacles in general) the sound levels may undergo substantial variation. Measurements are made in accordance to the UNI EN ISO 9614-2, with units installed over two sound reflective surfaces.



Measurements are made in accordance to the UNI EN ISO 9614-2, with units installed over two sound reflective surfaces.

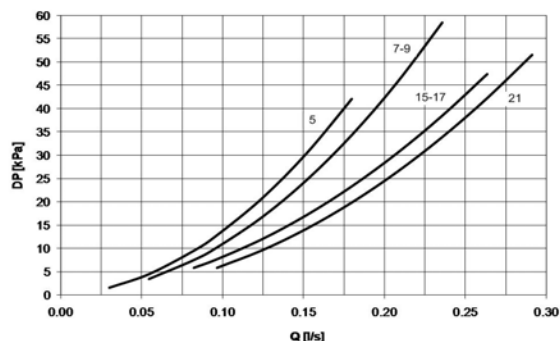


## Common accessories for uncased and cased unit configurations

### MIPC - Hydraulic pipework arrangement for loop with constant flow rate with manual valves

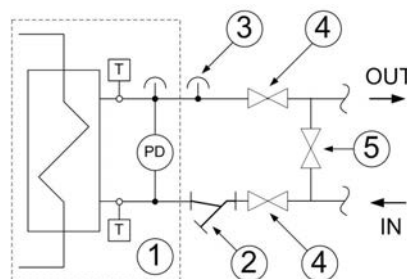
Option supplied built-in. It simplifies the design and the installation in closed loop applications at constant water flow. Complete with water steel-mash filter, two 2-way shut-off valves with manual operation at the inlet and outlet to the water side exchanger, a 2-way valve with manual activation which works as a by-pass during hydraulic circuit cleaning, two bleed bibcocks.

Pressure drop of the unit complete with MIPC option



Q = water flow-rate[l/s]  
DP = water side pressure drops (kPa)

MIPC option scheme

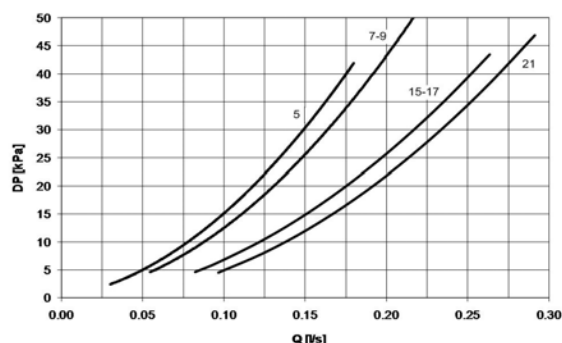


1. Internal exchanger with temperature probes, differential pressure switch, vent valve
2. Steel mesh strainer
3. Vent valve
4. Manual switch off valve
5. Manual by-pass valve

### MIPV - Hydraulic pipework arrangement for loop with variable flow rate with 2 way ON-OFF valve

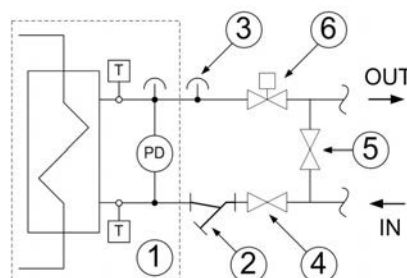
Option supplied built-in. It simplifies the design and the installation in closed loop applications at variant water flow. Includes a 2-way motorised ON/OFF valve at the outlet of the water side exchanger, powered and controlled by the unit. Its function is coupled to that of the refrigerant circuit: with the stopped compressor, the valve stays closed, reducing water consumption. Furthermore, complete with steel-mesh filter, two 2-way shut off valves with manual operation at the inlet of the water side exchanger, a 2-way valve with manual activation which works as a by-pass during the hydraulic circuit cleaning, two bleed bibcocks.

Pressure drop of the unit complete with MIPV option



Q = water flow-rate[l/s]  
DP = water side pressure drops (kPa)

MIPV option scheme



1. Internal exchanger with temperature probes, differential pressure switch, vent valve
2. Steel mesh strainer
3. Vent valve
4. Manual switch off valve
5. Manual by-pass valve
6. Motorised two-way ON /OFF valve



The supplied valve ensures proper opening and closure for water differential pressures that do not exceed

### CDPA - Condensate drain pump, built-in

Device which enables condensation water to be discharged into the collection tray in case it cannot drain away due to gravity. It is necessary in installations where the external outlet is placed at a higher height than the condensate tray. The integrated sensor activates the pump only when necessary. If the water level in the tray should be greater than the pre-set limit, the unit stops the compressor to avoid the tray overflowing, signalling the fault with an alarm.

The device is installed and wired built-in the unit.



### Technical specifications of the condensate drain pump

Size	5-7-9-15-17-21
Water flow-rate	6 l/h
Available pressure	60 kPa

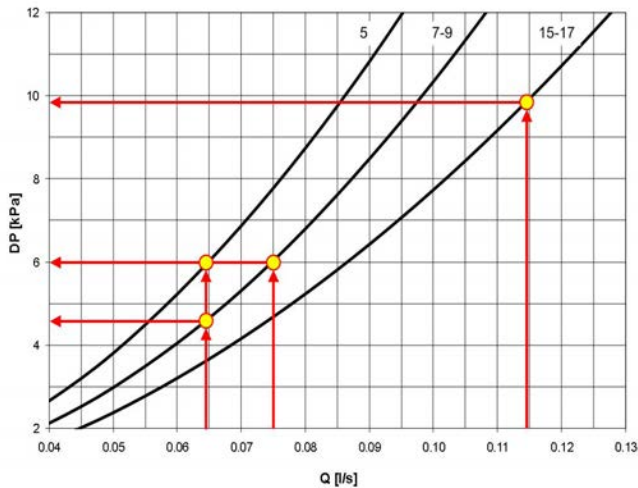
## REQV - Water connections for retrofit of EQV, VM AND VV units with constant flow-rate

Option supplied built-in. This simplifies hydraulic connection of the VERSATEMP EQV, VM, VV series unit replacement, uncased and cased, since it keeps the same size fittings in the same places. Complete with steel-mash filter and safety valve.

The device is built-in the unit.

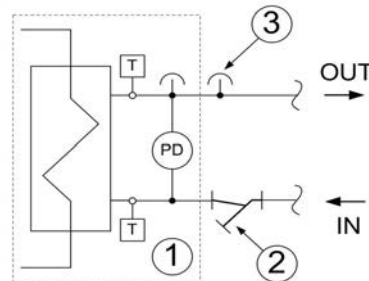


Pressure drop of the unit complete with REQV option



Q = water flow-rate [l/s]  
DP = water side pressure drops (kPa)

REQV option scheme



1. Internal exchanger with temperature probes, differential pressure switch, vent valve
2. Steel mesh strainer
3. Vent valve



The graph shows only the EQV-x sizes suitable replacement (retrofit) with the VERSATEMP unit, series EQV, VM, VV.



The system side connections are female

## EQV-X performance table with retrofit system

EQV-X SIZES			5	7	9	15	17
Water flow-rate	1	l/s	0.064	0.064	0.075	0.114	0,114
Airflow	2	l/s	106	128	126	208	208
Airflow	2	m3/h	380	460	455	750	750
<b>COOLING</b>			<b>A 27/19 W 30</b>				
Cooling capacity		kW	1.99	2.25	2.71	3.26	3.59
Compressor power input		kW	0.48	0.64	0.70	0.77	0.85
<b>HEATING</b>			<b>A 20 W 20</b>				
Heating capacity		kW	2.33	2.68	3.12	3.98	4.34
Compressor power input		kW	0.46	0.61	0.68	0.76	0.90
<b>OPERATION RANGE</b>							
Min inlet water temperature in cooling mode		°C	20	20	20	20	20
Max inlet water temperature in cooling mode		°C	40	39	39	41	40
Min inlet water temperature in heating mode		°C	13	14	14	12	13
Max inlet water temperature in heating mode		°C	45	45	45	45	45

A 27/19 W 30 = Unit inlet air temperature 27°C D.B. / 19°C W.B. Unit inlet water temper

A 20 W 20 = Unit inlet air temperature 20°C Unit inlet water temperature 20°C

DB = dry bulb WB = wet bulb

Note: The difference between the inlet and the outlet water temperature can be calculated in relation to the water flow rate and the unit's power output.

1. EQV-X water flow-rate = EQV, VM, VV water flow-rate
2. EQV-X airflow, at the fan standard speed (Quiet)

$$DT [^{\circ}C] = \frac{kWt}{4.186 \times Q [l/s]}$$

Q = water flow-rate (l/s)

DT = DIFFERENCE BETWEEN INLET AND OUTLET WATER TEMPERATURE (°C)

kWt = BASED ON THE OPERATING MODE

- kWt = Pf + Pe compressor (COOLING)

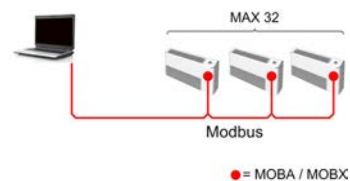
- kWt = Pt - Pe compressor (HEATING)

## MOBA - RS485 serial port with Modbus protocol, built-in

It allows the serial connection to supervision systems, using BACnet as the communication protocol. It allows the access to the complete list of operating variables, controls and alarms.

On the serial line can be connected up to 32 units for a typical distance of 1000 m. The connection is made using a suitable cable to RS485 network or formed by a twisted pair and shielded wires.

The device is installed and wired built-in the unit.



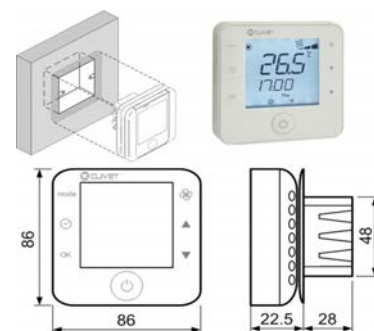
## Accessories separately supplied

### CIWMX - Electronic room control with display for wall installation with uncased box

Option which allows the remote control of the unit which can be easily installed in the main built-in units which are available on the market with squared or rounded 65 mm diameter / 31 mm deep profiles.

The electronic control with display is simple to use even for non-specialised users. Thanks to the icon menu which is complete with back-lighting, it allows different unit functions to be controlled, including:

- switching the unit on and off
- reading the temperature using the probe in its interior
- display the alarm code and the unit stata
- password protection to access the unit's parameters
- changing the manual operating mode (hot or cold) and/or set point
- programming the daily and weekly time schedule for switching on and off and for setting the standard or economic set point.
- management of the operating parameters.
- language management for the navigation menu
- manually, or automatically, managing the fan speed, depending on the distance from the set- point.



Electrical connection for distances lower than 10m



Electrical connection for distances exceeding 10m



The device is prepared for connection to a unit electrical panel (installation by the Client) with the following modes: - For a max distance of 10m only use the power supply cable and serial communication included in the pack. In this way electric power is supplied by the unit. - For a max distance of 200m use a shielded twisted pair cable with a min 0.5 / max 1.5 mm<sup>2</sup> section. In this case the 230/1/50 electricity supply is by the Client (transformer integrated in the display).

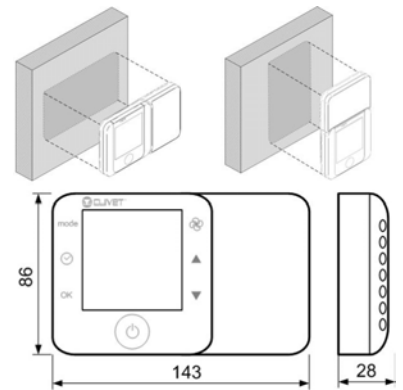
## CWMX - Electronic control with display for wall installation

An option which enables the unit to be remotely controlled. It can be attached to a wall with the support in a horizontal or vertical position.

The electronic control with display is simple to use even for non-specialised users.

It allows different unit functions to be controlled, including:

- reading the temperature directly on the thermostat using the probe in its interior
- switching the unit on and off
- machine parameter protection with password
- programming the daily and weekly time schedule for switching on and off and for setting the standard or economic set point.
- changing the manual operating mode (hot or cold) and/or set point
- alarm and unit status display;
- management of the operating parameters.
- language management for the navigation menu
- back-lit icon menu
- manual or automatic fan speed management in relation to how far away the setpoint is.



Electrical connection for distances lower than 10m



Electrical connection for distances exceeding 10m



The device is prepared for connection to a unit electrical panel (installation by the Client) with the following modes: - For a max distance of 10m only use the power supply cable and serial communication included in the pack. In this way electric power is supplied by the unit. - For a max distance of 200m use a shielded twisted pair cable with a min 0.5 / max 1.5 mm<sup>2</sup> section. In this case the 230/1/50 electricity supply is by the Client (transformer integrated in the display).

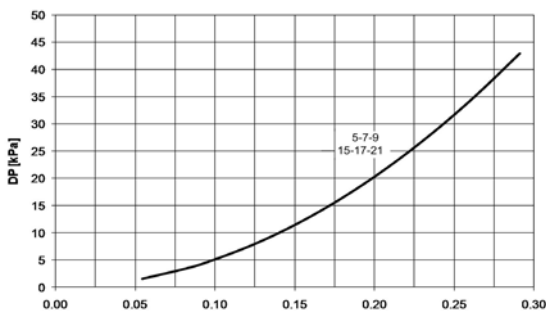
## V2MODX - 2-way modulating valve for installation with disposable water

Option indicated in the applications with disposable water at a temperature relatively low (well, groundwater, aqueduct) or with loop at a variable flow where the unit must operate in heating with high water temperatures or in cooling with low water temperatures. The 2-way motorized valve, modulating type, is placed in the exchanger output water side and is fed by the unit. Its operating is combined with that of the refrigerant circuit: the modulation by 0-10V signal according to the refrigerant pressure in the exchanger source side, reduces the water consumption and maintains the unit in the provided operating field both in cooling and in heating mode.



The supplied valve ensures proper opening and closure for water differential pressures that do not exceed 800 kPa, i.e. 8 bar.

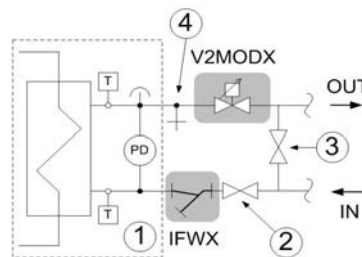
Pressure drops of v2modx option



Q = water flow-rate[l/s]

DP = water side pressure drops (kPa)

Water connection diagram



1. Internal exchanger with temperature probes, differential pressure switch, vent valve
2. Manual switch off valve (provided by the Customer)
3. Manual by-pass valve (provided by the Customer)
4. Drain cock (provided by the Customer)

V2MODX - Two-way modulating valve for systems with disposable water  
IFWX - Steel mesh strainer water side



Option to be installed outside the unit on the water outlet pipe of the exchanger. Provide for spaces to assemble/disassemble the valve.



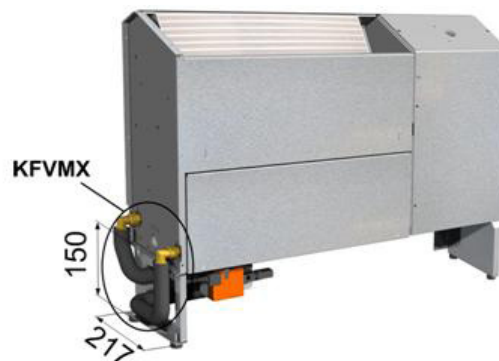
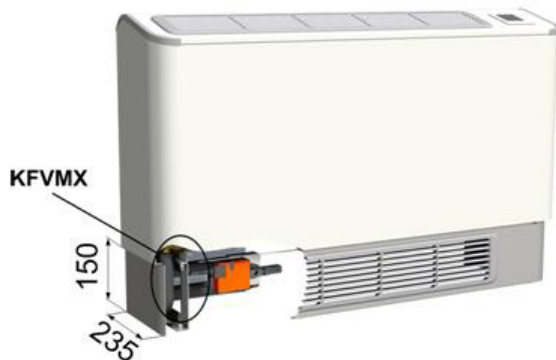
With this option the unit is provided full of rapid electric connections for the valve feeding and automatic control.



To simplify the fixing and ensure the correct valve positioning is recommended the matching to the 'KFVMX - 2-way modulating valve fixing kit for installation with disposable water' accessory.

## KFVMX - 2-way modulating valve fixing kit for installation with disposable water

Option that simplifies the mechanical and electrical installation of the 'V2MODX - 2-way modulating valve for installation with disposable water' device both in the configuration with fairing and in the uncased one. In the configuration with fairing it allows to be hidden from view thanks to the mandatory coupling with the 'FXVFHX - Painted plinths for floor fixing with front grille and rear closing' accessory. It is made up of pipes, fittings and a fixing bracket. It also includes the drain cock otherwise provided by the Customer.

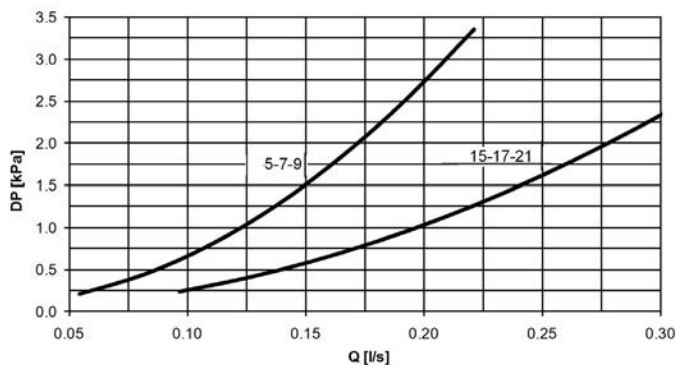


- This accessory has to be combined to the 'V2MODX - 2-way modulating valve for installation with disposable water' option
- For the units in configuration with fairing this accessory has to be combined to the 'FXVFHX - Painted plinths for floor fixing with front grille and rear closing' option
- For the units in uncased configuration that have to be placed on the floor, this accessory has to be combined to the 'FXPMX- Raised zinc-coated plinth for floor standing arrangement for uncased unit' option.

## IFWX - Steel mesh strainer on water side

The device protects the plate exchanger of any impurities in the hydraulic circuit. The mechanical stainless steel-mesh filter is easily disassembled for routine maintenance and cleaning.

IFWX OPTION PRESSURE DROPS



Q = water flow-rate[l/s]  
DP = water side pressure drops (kPa)

### IFWX option technical specifications

Size	5-7-9	15-17-21
Filter diameter	1/2"	3/4"
Water fitting diameter	1/2"	1/2"
System side water fittings	FEMALE	FEMALE
Unit side water fittings	MALE	MALE
Degree of filtration	400 μm	400 μm

- Pressure drop referred to a clean filter
- To carry out routine maintenance there should be appropriate shut-offs on the hydraulic line.

## FCVBX - Manual balancing valve

The device enables the water flow through the unit to be calibrated without measuring tables or devices. In this way it is possible to balance the water flow in the circuit. The special viewer enables instantaneous reading of the water flow (in litres / minute). The calibration can be easily carried out even by non-specialised operators, operating on the special control screws. It includes adaptors for varying the diameter between the balancing valve and the water fittings.

### Features of the manual balancing valve

Size	5-7-9	15-17-21
Balancing valve diameter	3/4"	1"
Water fitting diameter	1/2"	1/2"
System side water fittings	MALE	MALE
Unit side water fittings	MALE	MALE
Max. operating pressure	10 bar	10 bar
Field flow control	0.05 ÷ 0.2 l/s	0.13 ÷ 0.5 l/s
Flow-rate coefficient (Kvs)	1.85	5.00



The water side pressure drop can be determined with the following formula:

$$Dp \text{ [bar]} = \left( \frac{3.6 \times Q \text{ [l/s]}}{Kvs} \right)^2$$

Q = water flow-rate [l/s]  
 Dp = water side pressure drops (bar)  
 Kvs = flow-rate coefficient [m3/h]

## CDPAX - Condensate drain pump

Technical characteristics as for the CPDA accessory, but with the exception of installation and wiring which have to be fitted by Client.



The device is prepared for installation inside the unit (to be fitted by Client). The pack includes a condensate drain flexible pipe (1m in length) and the the electricity power cable and the control.

## CSVX - Couple of manual shut-off valves

Shut-off device which enables the unit to be hydraulically closed for maintenance works and to prepare the system before connecting the unit. The two manual operated valves are located on the water lines at the inlet and outlet.



### Technical specifications of the manual shut-off valves

Size	5-7-9-15-17-21
Filter diameter	1/2"
System side water fittings	FEMALE
Unit side water fittings	MALE



## PFHCX - 200 mm flexible pipes for water connection and condensate drain

## PFHC1X - 500 mm flexible pipes for water connection and condensate drain

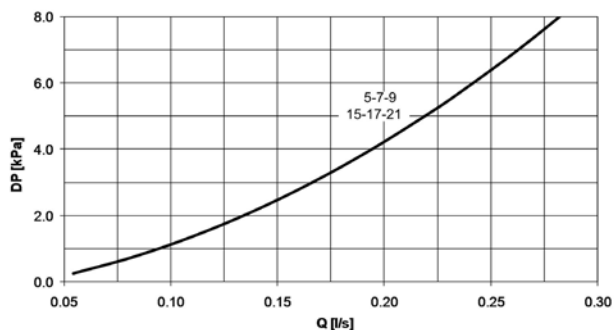
An option which simplifies the water connection and reduces any vibrations between the unit and the system. It includes two flexible pipes with stainless steel net covering and a reinforced plastic pipe for the connection of the tray to the external drain.



### Technical specifications of the flexible pipes for water connections

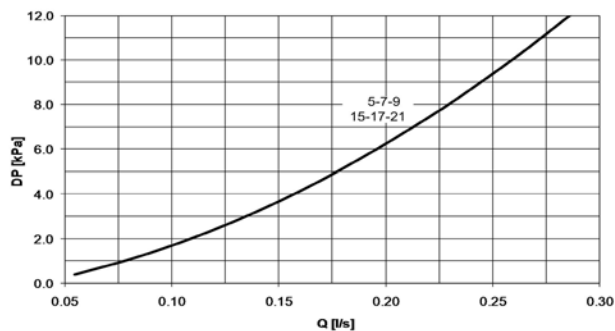
Size	5-7-9-15-17-21
Diameter of the fittings	1/2"
System side water fittings	FEMALE
Unit side water fittings	MALE
Max. operating pressure	12 bar
Min. bending radius	45 mm

### Pressure drops of the single 200 mm flexible pipe



Q = water flow-rate[l/s]  
DP = water side pressure drops (kPa)

### Pressure drops of the single 500 mm flexible pipe



Q = water flow-rate[l/s]  
DP = water side pressure drops (kPa)

### Technical specifications of the flexible pipe for condensate drain

Size	5-7-9-15-17-21
Pipe diameter	15 mm
Pipe length	1 m



The flexible pipe of the condensate drain can be completed with a suitable trap to prevent the odour return in the room and connected to a suitable drain (installed by Customer).

## MOBX - RS485 serial port with Modbus protocol

This accessory has the same technical specifications of MOBA accessory, with the exception of the installation and wiring to be completed by customer.

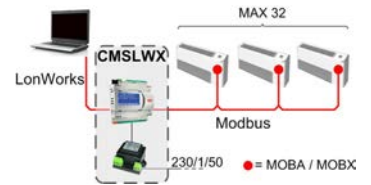


The device is ready for connecting to the electrical panel (installed by the customer).

## CMSLWX - LonWorks communication serial module

This enables the serial connection of the supervision system which uses the LonWorks communication protocol. It enables access to a list of operating variables, commands and alarms which comply with the Echelon® standard.

With this accessory, each unit can communicate with the main supervisor systems such as Trend, Johnson Controls, PlantVisor.



The device needs to be combined with the RS485 serial port option with Modbus protocol.



The package includes the transformer, which is powered by 230/1/50, and the Gateway of communication between the supervisor and the Modbus serial line. The configuration and management of the LonWorks network are the responsibility of the Customer.

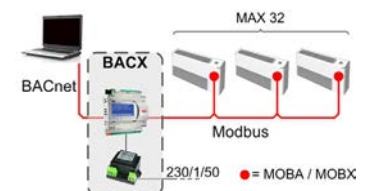


The device is prearranged to mounting in DIN rail, for external installation (7 DIN modules, installed by the customer)

## BACX - BACnet communication serial module

Allows to perform the serial connection to supervision systems by using BACnet as a communication protocol. It allows the access to the entire list of operating variables, controls and alarms

With this accessory, each unit can communicate with the main supervisor systems such as Trend, Johnson Controls, PlantVisor.



The device requires the coupling with the "RS485 serial port with Modbus protocol" option



The package includes the transformer, which is powered by 230/1/50, and the Gateway of communication between the supervisor and the Modbus serial line. The configuration and management of the BACnet network are the responsibility of the customer.



The device is prearranged to mounting in DIN rail, for external installation (7 DIN modules, installed by the customer)

## Main variables of supervision by serial (Modbus / LonWorks / BACnet).

- Current room temperature
- Ideal temperature Set-Point
- Maximum correction of the set-point temperature set by the user via electronic room control
- Fan speed (Extraquiet, Quiet, Powerful, AUTO)
- Operating mode (Heating, Cooling, AUTO)
- Alarm reset
- ECONOMIC operating mode (using a pre-set ECO set point)
- Remote ON-OFF
- Heating temperature hysteresis
- Cooling temperature hysteresis
- Deadband

## Uncased unit accessories

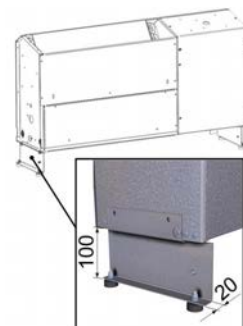
### Accessories separately supplied

#### FXPFX - Zinc-coated plinths for floor fixing on uncased unit

Option that simplifies the design and realization of the containment furniture. The plinths are made of zinc-coated stainless steel and are supplied with adjustable rubber feet.



Option available only with uncased configuration unit



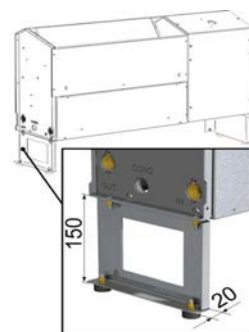
#### FXPFX - Zinc-coated plinths for floor fixing on uncased unit

Option that simplifies the design and realization of the containment furniture. The plinths are made of zinc-coated stainless steel and are supplied with adjustable rubber feet.

The rise obtained keeps the unit raised from the ground and allows any installation components to be put under the unit (performed by the Customer). The plinths are drilled in the middle to allow the passage of any electrical cables and pipes.



Option available only with uncased configuration unit



#### CONTX - Electronic room control with display, for installation on the uncased unit

An option which enables the electronic control to be assembled built-in, in a horizontal, visible position.

The electronic control with display is simple to use even for non-specialised users.

It allows different unit functions to be controlled, including:

- switching the unit on and off
- machine parameter protection with password
- programming the daily and weekly time schedule for switching on and off and for setting the standard or economic set point.
- changing the manual operating mode (hot or cold) and/or set point
- alarm and unit status display;
- management of the operating parameters.
- language management for the navigation menu
- back-lit icon menu
- manual or automatic fan speed management in relation to how far away the setpoint is.

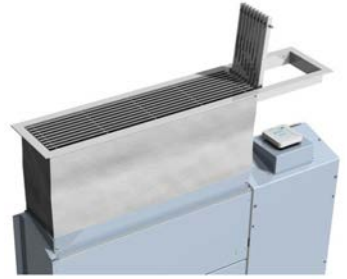
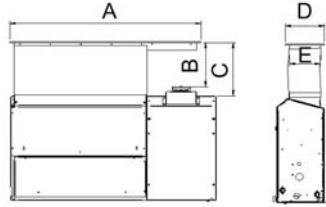


Package includes mounting screws and the power cable and serial communication (installed by customer)

## GOJX - Air supply grille with flexible joint and grille

Option that simplifies the design and realization of the containment furniture. The kit consists of:

- an aluminium grille for air diffusion. With a pleasing design, it is equipped with one single line of blades and integrated attachment flange for building into the furnishings. A portion of the grille opened for access to the “Electronic control with display” option (when present);
- a flexible PVC duct for connection with the unit air discharge. It enables a good level of freedom in positioning the air diffusion grille in relation to the unit.



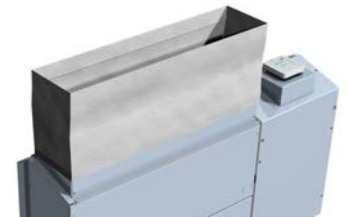
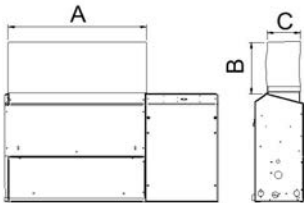
Size	5	7-9	15-17-21
A	880	1030	1180
B	125 ÷ 205	125 ÷ 205	125 ÷ 205
C	170 ÷ 250	170 ÷ 250	170 ÷ 250
D	182	182	182
E	145	145	145



Option available only with uncased configuration unit

## DAOJX - Air supply duct with flexible joint

Option that simplifies the design and realization of the containment furniture. The kit consists of a flexible PVC duct for connection with the unit air supply. It enables a good level of freedom in positioning the air diffusion grille in relation to the unit.



Size	5	7-9	15-17-21
A	605	750	860
B	150 ÷ 230	150 ÷ 230	150 ÷ 230
C	145	145	145



Option available only with uncased configuration unit

## Cased unit accessories

### CAB - Configuration with fairing for cased applications

With this aesthetic finishing option the unit can be installed directly in the room. The external fairing is made of zinc-coated stainless steel and powder-coated (colour RAL 9003), with finishing and grilles in robust RAL 7047 colour ABS plastic. "Aluzinc" assembly to the internal structure at 4 points which are hidden by the air supply grille. The air supply grilles and, if present, the frontal air grille are supplied with one single line of fixed fins. They can be easily extracted and rotated by 180° to obtain a different direction in the air flow.

The joint between the fairing and the sides is made using ABS profiles (RAL 7047)

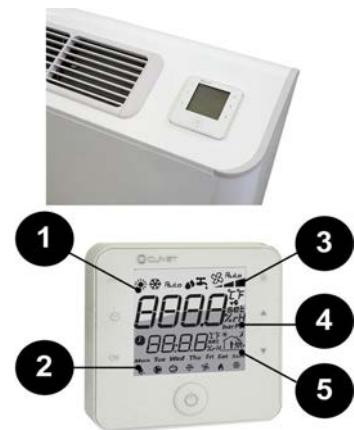


### CONT - Electronic room control with display, installed in a visible position on the unit with fairing

The electronic control with display is electrically connected built-in, in an easily visible position and is simple to use even for non-specialised users.

It allows different unit functions to be controlled, including:

- switching the unit on and off
- machine parameter protection with password
- programming the daily and weekly time schedule for switching on and off and for setting the standard or economic set point.
- changing the manual operating mode (hot or cold) and/or set point
- alarm and unit status display;
- management of the operating parameters.
- language management for the navigation menu
- back-lit icon menu
- manual or automatic fan speed management in relation to how far away the setpoint is.



Icons and status visible from the display:

1. Operating mode
2. Unit Status
3. Fan: manual / automatic speed
4. Status variables, parameter, alarms
5. Set-point, times, days of the week

### BACKV - Rear painted panel for cased unit

Option which enables the installation of a unit with a rear visible wall (for instance, in front of a glass wall). It includes a rear aesthetic panel in galvanized steel and powder-coated with the same colour of the hood (RAL 9003).



Option available only with cased configuration unit



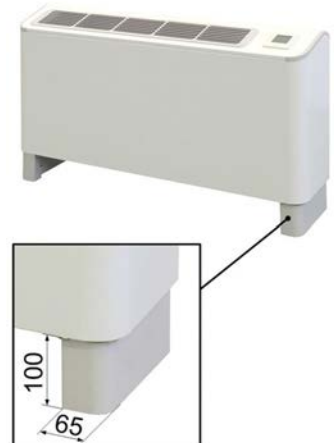
## Accessories separately supplied

### FXVFX - Painted plinths for floor fixing

Enables safe positioning even when the unit cannot be attached to a rear wall, as in the case of plasterboard walls or near to a glass wall. The plinths are made of galvanized steel and powder-coated with the same colour as the grilles (RAL 7047) and are supplied with rubber adjustable feet.



Option available only with cased configuration unit



### FXVFHX - Painted plinths for floor fixing with front grille and rear closing

Enables safe positioning even when the unit cannot be attached to a rear wall, as in the case of plasterboard walls or near to a glass wall. Furthermore, enables any pipe work components to be hidden. It includes:

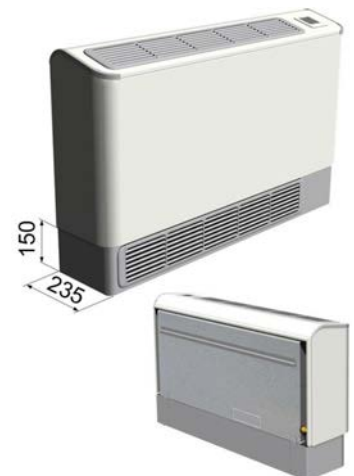
- two plinths made of zinc-coated stainless steel and supplied with rubber adjustable feet
- a covering panel made of galvanized steel and powder-coated with the same colour as the grilles (RAL 7047), complete with frontal air grille which is the same as the air delivery grille.
- a rear closing panel with the same colour as the grilles (RAL 7047) that allows the unit installation with exposed rear wall (for example close to a glass wall).



Option available only with cased configuration unit



The painted plinths of the FXVFHX and FXVFX options are of different heights





## Option compatibility

OPTIONS OF EQV-X RANGE			
REF.	DESCRIPTION	WITH FAIRING	UNCASED
<b>Versions</b>			
CAB	Configuration with fairing for cased applications	√	-
UC	Uncased version (without casing)	-	√
<b>Aeraulic circuit</b>			
GOJX	Air supply grille with flexible connection	-	◊
DAOJX	Air supply duct with flexible connection	-	◊
RF	Front air inlet	√	√
<b>Hydraulic circuit</b>			
CDPX	condensate drain pump	◊	◊
CDPA	condensate drain pump, built-in	√	√
IFWX	Steel mesh strainer on the water side	◊	◊
FCVBX	Water balancing valve	◊	◊
CSVX	Couple of manual shut-off valves	◊	◊
PFHCX	200 mm flexible pipes for the connection to the water circuit + drop conduit	◊	◊
PFHC1X	500 mm flexible pipes for the connection to the water circuit + drop conduit	◊	◊
MIPC	Hydraulic pipework arrangement for loop with constant flow rate with manual valves	√	√
MIPV	Hydraulic pipework arrangement for loop with variable flow with 2-way ON-OFF valve	√	√
V2MODX	2-way modulating valve for disposable water system	◊	◊
KFVMX	2-way modulating valve fixing kit for disposable water system	◊ <sup>1</sup>	◊ <sup>1</sup>
REQV	Water connections for EQV, VV unit retrofit at constant flow	√	√
<b>Electric circuit</b>			
MOBA	Serial port RS485 with MODBUS protocol, built-in	√	√
MOBX	RS485 serial port kit with Modbus protocol	◊	◊
CMSLWX	LonWorks serial communication module	◊*	◊*
BACX	BACnet serial communication module	◊*	◊*
CWMX	Electronic room control with display, for wall installation	◊	◊
CIWMX	Electronic room control with display, for wall installation in built-in box	◊	◊
CONT	Electronic room control with display, installed in a visible position on the unit with fairing	√	-
CONTX	Electronic room control with display, for installation on the uncased unit	-	◊
<b>Application</b>			
BACKV	Painted rear panel for cased version	√	-
FXVFX	Painted plinths for floor fixing	◊	-
FXVFHX	Painted plinths for floor fixing with front grille and rear closing	◊	-
FXPF1X	Zinc-coated plinths for floor fixing on uncased unit	◊	-
FXPFX	Zinc-coated plinths for floor fixing on uncased unit	-	◊

√ Standard component

◊ Optional component

◊\* Accessories separately supplied (optional) and available only with: RS485 Serial port with Modbus protocol (Clivet Ref. MOBA o MOBX)

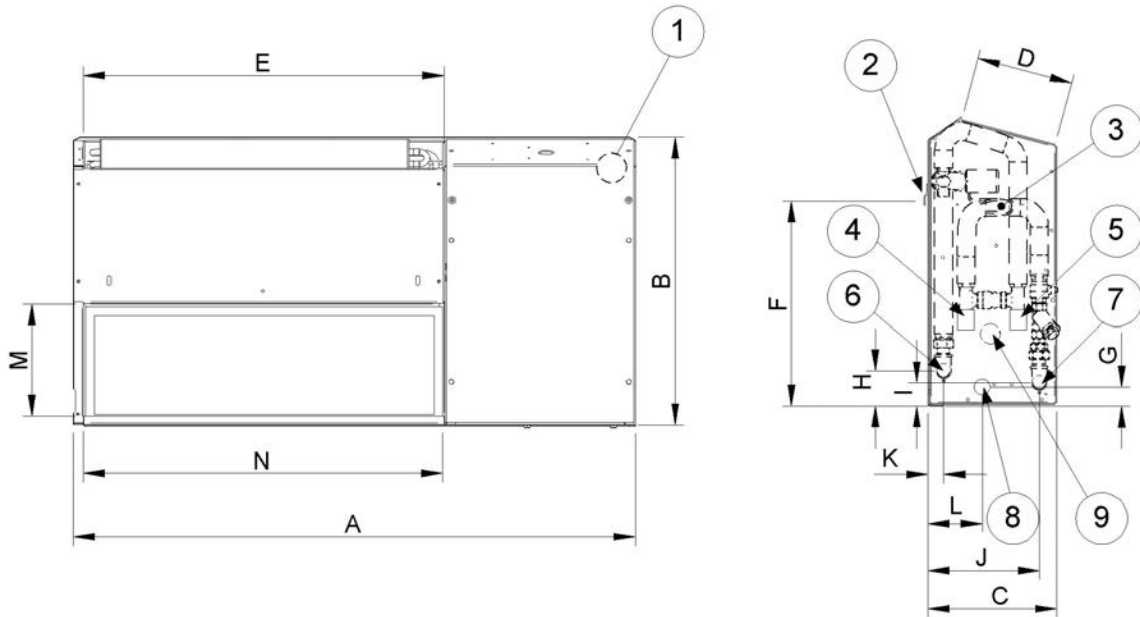
◊<sup>1</sup> Accessory separately supplied (optional) and available only with: Modulating 2-way valve with disposable water ( Clivet Ref. V2MODX)

◊ Accessory separately supplied (optional)

# Dimensional drawings

## Uncased unit

### Size 5-21

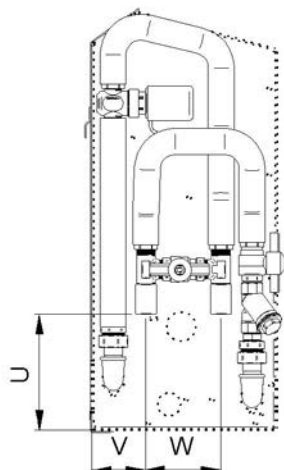


1. Power input
2. Unit wall-mounting bracket
3. Optional hydraulic module
4. Water inlet - unit with optional hydraulic module (female)
5. Water outlet - unit with optional hydraulic module (female)
6. Standard unit water outlet (female)
7. Standard unit water inlet (female)
8. Condensate drain (15 mm)
9. Conduit drop output from condensate drain pump (option)

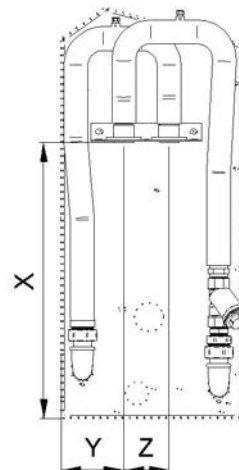
Size	5	7	9	15	17	21
A (Length)	945	1095	1095	1245	1245	1245
B (Height)	490	490	490	490	490	490
C (Depth)	225	225	225	225	225	225
D	160	160	160	160	160	160
E	605	755	755	875	875	875
F	348	348	348	348	348	348
G	32	32	32	32	32	32
H	60	60	60	60	60	60
I	40	40	40	40	40	40
J	188	188	188	188	188	188
K	26	26	26	26	26	26
L	90	90	90	90	90	90
M	605	750	750	870	870	870
N	190	190	190	190	190	190
Operating weight	55	61	61	64	64	68
Standard unit water fittings	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

## Unit in uncased version with hydraulic pipework arrangement or retrofit options

**HYDRAULIC PIPEWORK ARRANGEMENT  
- FOR CONSTANT FLOW LOOP  
- FOR VARIABLE FLOW LOOP**

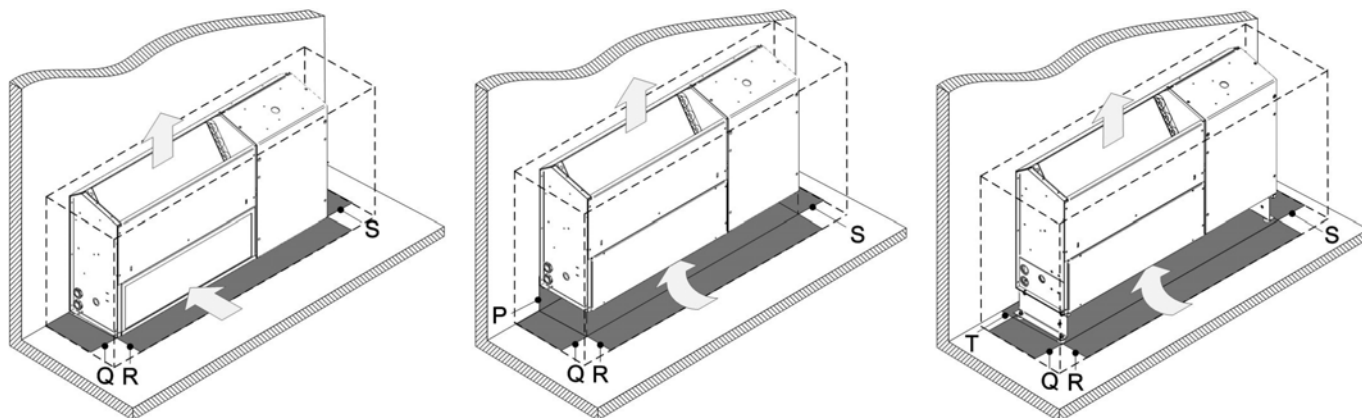


**HYDRAULIC PIPEWORK ARRANGEMENT  
- WITH SYSTEM RETROFIT**



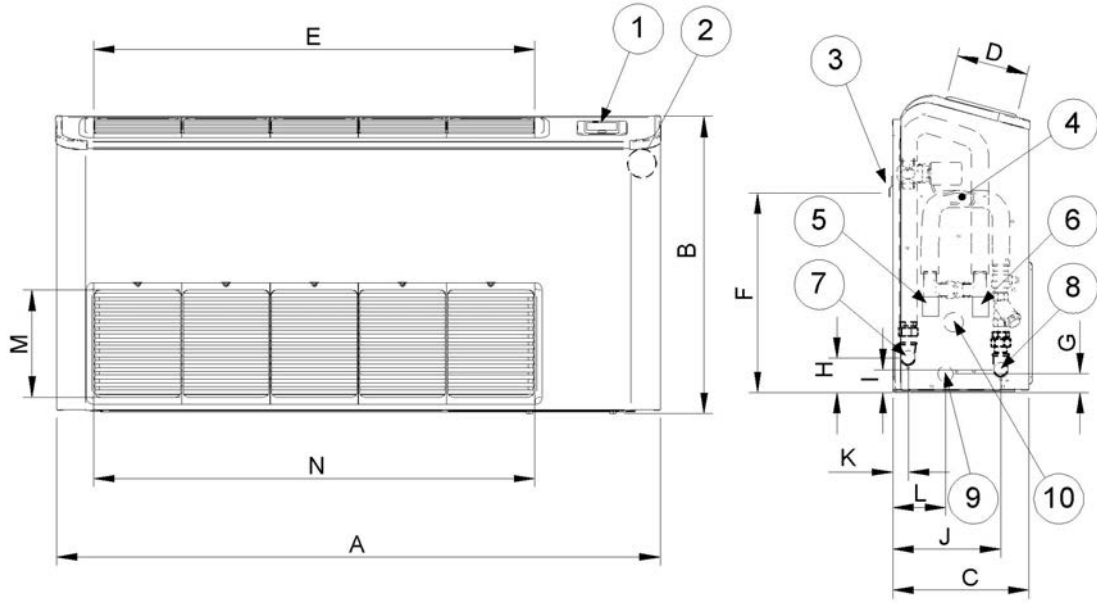
Size	5	7	9	15	17	21
U	135	135	135	135	135	135
V	65	65	65	65	65	65
W	90	90	90	90	90	90
X	320	320	320	320	320	320
Y	75	75	75	75	75	75
Z	55	55	55	55	55	55
Unit water fittings with optional hydraulic pipework arrangement	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit water fittings with water connections for system retrofit	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

## Functional clearances



Size	5	7	9	15	17	21
P (min)	100	100	100	100	100	100
Q	200	200	200	200	200	200
R	500	500	500	500	500	500
S	100	100	100	100	100	100
T (min)	0	0	0	0	0	0

## Cased unit

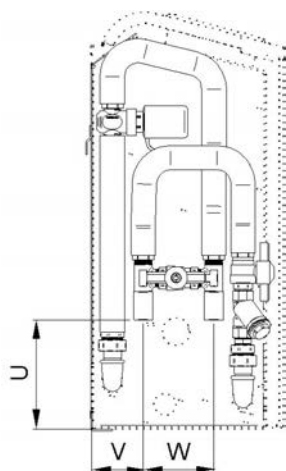


1. Electronic room control with display (optional)
2. Power input
3. Unit wall-mounting bracket
4. Optional hydraulic module
5. Water inlet - unit with optional hydraulic module (female)
6. Water outlet - unit with optional hydraulic module (female)
7. Standard unit water outlet (female)
8. standard unit water inlet (female)
9. Condensate drain (15 mm)
10. Conduit drop output from condensate drain pump (option)

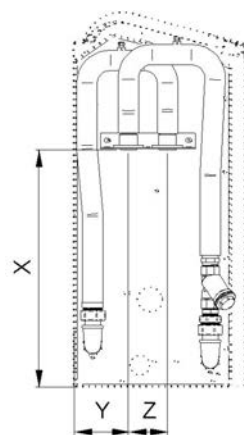
Size	5	7	9	15	17	21
A (Length)	1050	1200	1200	1350	1350	1350
B (Height)	520	520	520	520	520	520
C (Depth)	240	240	240	240	240	240
D	125	125	125	125	125	125
E	765	920	920	1075	1075	1075
F	348	348	348	348	348	348
G	32	32	32	32	32	32
H	60	60	60	60	60	60
I	40	40	40	40	40	40
J	188	188	188	188	188	188
K	26	26	26	26	26	26
L	90	90	90	90	90	90
M	765	920	920	1070	1070	1070
N	210	210	210	210	210	210
Operating weight	63	70	70	73	73	77
Standard unit water fittings	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

## Unit in cased version with hydraulic pipework arrangement or retrofit options

**HYDRAULIC PIPEWORK ARRANGEMENT**  
- FOR CONSTANT FLOW LOOP  
- FOR VARIABLE FLOW LOOP

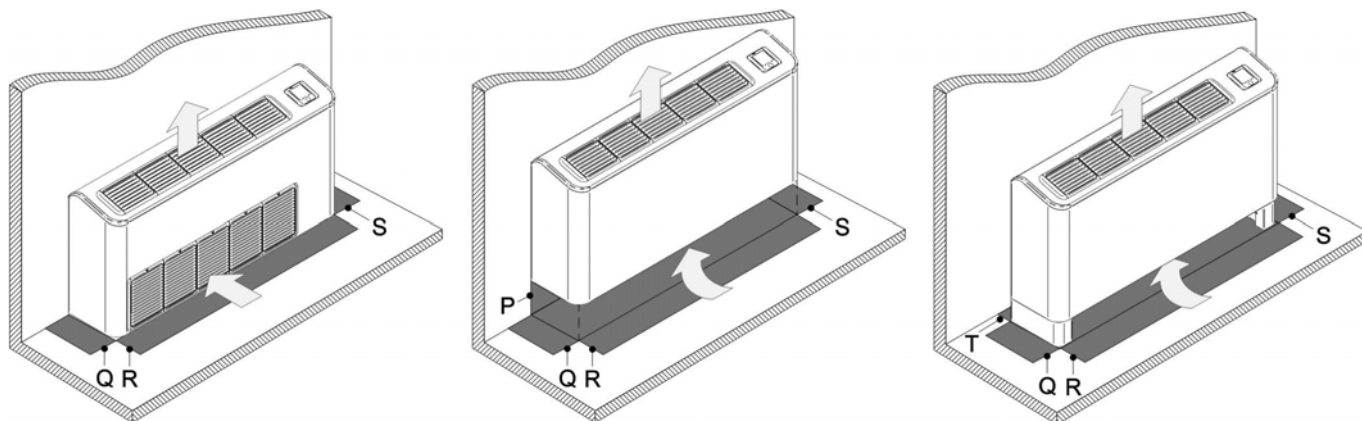


**HYDRAULIC PIPEWORK ARRANGEMENT**  
- WITH SYSTEM RETROFIT



Size	5	7	9	15	17	21
U	135	135	135	135	135	135
V	65	65	65	65	65	65
W	90	90	90	90	90	90
X	320	320	320	320	320	320
Y	75	75	75	75	75	75
Z	55	55	55	55	55	55
Unit water fittings with optional hydraulic pipework arrangement	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit water fittings with water connections for system retrofit	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

## Functional clearances



Size	5	7	9	15	17	21
P (MIN)	100	100	100	100	100	100
Q	200	200	200	200	200	200
R	500	500	500	500	500	500
S	100	100	100	100	100	100
T (MIN)	0	0	0	0	0	0

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