

TECHNICAL MANUAL

YKEY and YKEY900 Cassette



 **YORK**[®]



INDEX

1. GENERAL INFORMATION	
1.1 Applications	4
1.2 Operation	4
1.3 Performances	4
1.4 Selection software	4
2. YKEY and YKEY900 CASSETTE UNITS	5
2.1 YKEY Description	5
2.2 YKEY900 Description	8
3. COANDA EFFECT	11
4. COMPONENTS	
4.1 Structure	12
4.2 Coil for YKEY model	12
4.3 Coil for YKEY900 model	12
4.4 Fan deck	13
4.5 QEC00 - Electric panel	13
4.6 Condensate pump	13
4.7 Air filter	13
4.8 Air outlet plenum	13
4.9 Air intake grill	13
5. SPECIAL VERSIONS	
5.1 YKEY/M model: micro-drilled metallic grill	14
5.2 YKEY/M - Slots model: metallic grill with slots	15
5.3 YKEY/H model: cassette with natural condensate discharge	18
6. ELECTRICAL ACCESSORIES	
6.1 QEC10	21
6.2 QEC20	21
6.3 QEC30	21
6.4 Electric heater KREL for YKEY	21
6.5 Electric heater KREL for YKEY900	21
6.6 AS - Air sensor	21
6.7 WS - Water sensor	22
6.8 CSR - Selector	22
6.9 TAD10	22
6.10 CMR - Thermostat	22
6.11 CER - Electronic regulators	22
7. FILTERS	
7.1 G3 Filter	26
7.2 F7 Filter (only for YKEY/HM model)	26
8. REGULATING VALVES	
8.1 DTH3B2 or DTH2B2	27
8.2 DTJ3BM or DTJ2BM	27
8.3 DT – Shut-off valve	28
8.4 Drawings and dimensions for regulating valves	29
9. TECHNICAL DATA	
9.1 Nominal air volumes	32
9.2 Air volume of the air supply collar into an adjacent room	32
9.3 Cooling capacities, 2 pipe system	33
9.4 Heating capacities, 2 pipe system	34
9.5 Cooling capacities, 4 pipe system	35
9.6 Heating capacities, 4 pipe system (additional row)	36
9.7 Electrical data	37
9.8 Working operation limits	37
10. NOISE LEVELS	
10.1 Sound power	38
10.2 Sound pressure in a closed environment	38
11. ELECTRICAL CONNECTIONS	40

1

2

3

4

5

6

7

8

9

10

11

1. GENERAL INFORMATION

1.1 APPLICATIONS

The YORK YKEY Cassette units are designed for installation on a false ceiling, suitable for cooling, heating and air-handling applications.

1.2 OPERATION

The effectiveness of the cassette units is due to the large surface area of the finned heat exchanger (coil) where the air drawn from the room by the fan passes through.

The ambient air drawn through the central air intake grill is blown into the circular heat exchanger, composed by copper pipes and aluminium fins, and then it comes out from the 4 sides of the cassette unit. Thanks to the special combination of air intake/air outlet grilles it is possible to obtain the **pleasant COANDA effect** (see chapter 3).

In heating operation, the hot water circulating in the finned coil supplies heat to the air passing through the heat exchanger. In cooling operation, the chilled water circulating in the finned coil removes heat from the air passing through the heat exchanger. The air is also dehumidified and the condensed water vapour collects itself on the condensate tray beneath the heat exchanger.

It is then evacuated by a condensate pump, factory fitted and wired, to which proper water discharge pipes must be connected. The condensate pump is NOT present on the YKEY/H model.

1.3 PERFORMANCES

The performance of a cassette unit can vary greatly with changes in the temperature and in the amount of water circulating through the coil, as well as with changes in the temperature and in the amount of air circulating through the coil.

The air volume is determined by selecting the proper fan speed through electronic or digital regulators (also for BMS systems), while the water flow rate is determined by the specifications of the system and of the pump. Thermal performances of the unit can be optimised by controlling the inlet flow rate of the water with proper regulating valves (ON/OFF or modulating type), which can be supplied as accessories.

The use of regulating valves is always recommended in cooling operation.

1.4 SELECTION SOFTWARE

To facilitate choosing the correct size of a cassette unit for any operating condition (including those differing from the standard ones), YORK offers a dedicated computer program which is updatable through automatic upload via internet.

2. YKEY AND YKEY900 CASSETTE UNITS

2.1 YKEY DESCRIPTION



Horizontal unit with air outlet on 4 sides and central air intake, suitable for installation on the false ceiling.

General features:

- central air intake grill in heat resistant ABS V0 Anti UV, white colour (RAL9003), prearranged for infrared control (optional);
- 4 sides air outlet plenum in heat resistant ABS V0 Anti UV, white colour (RAL9003), with manual flaps with clutch system in order to adjust the air flow; the air outlet plenum is designed to distribute the air by creating a COANDA effect (see chapter 3);
- unit equipped with condensate tray and condensate pump;
- 2 pipe systems: 2 or 3 row coils available; in all units an electric heater (max. 1,5 kW) can be also installed;
- 4 pipe systems: the additional 1 row coil can be added to units with a 2 or 3 row coil;
- prearranged hole for fresh air intake (standard), diam. 100 mm;
- prearranged holes for air supply into adjacent rooms (standard), diam. 150 mm.



YKEY WITH VALVES (OPTIONALS)

1

2

3

4

5

6

7

8

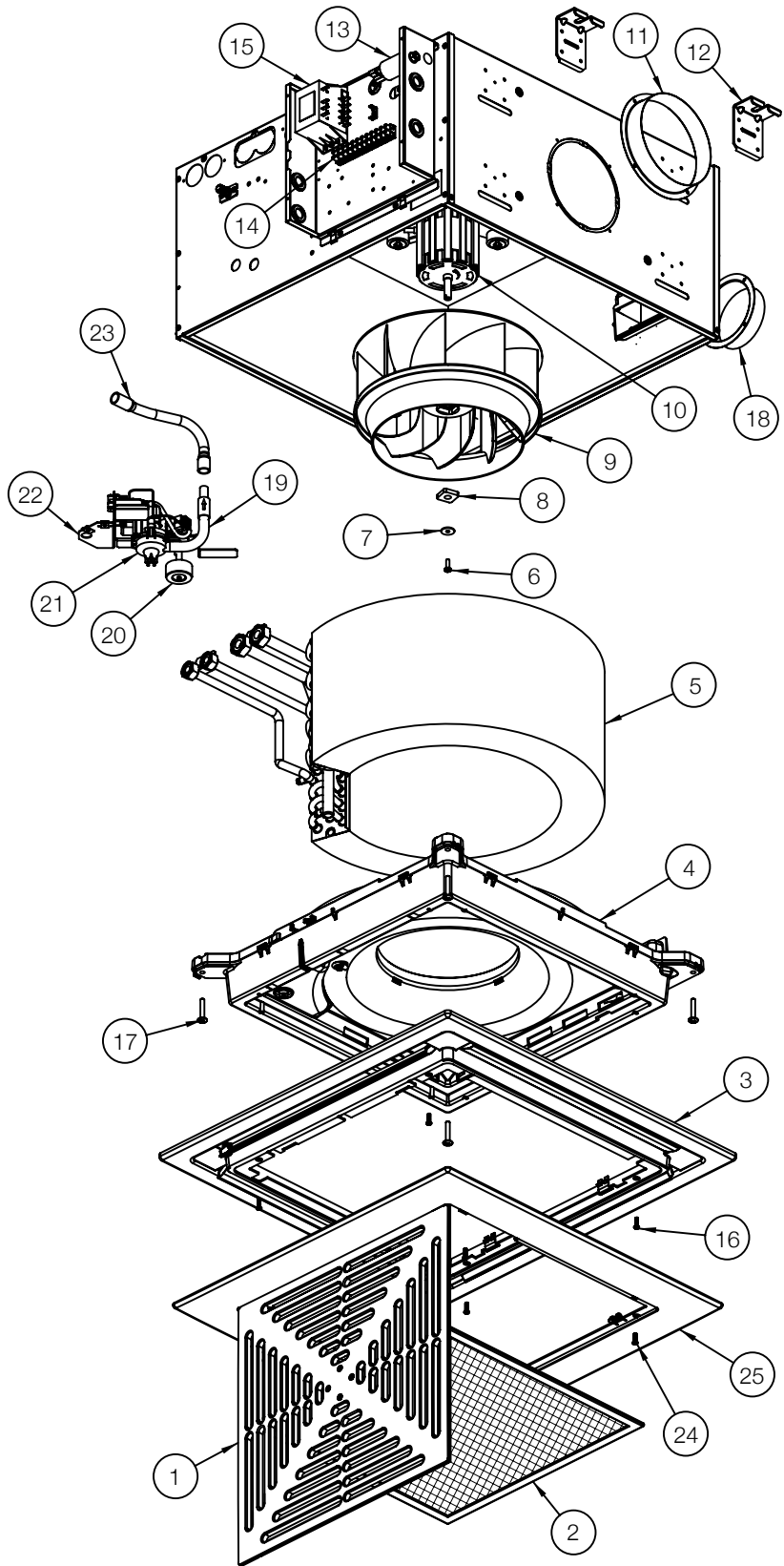
9

10

11

LEGEND-YKEY

- | | |
|-----|---|
| 1. | Air suction grill |
| 2. | Filter |
| 3. | Air supply grilles |
| 4. | Air intake plenum/condensate tray |
| 5. | Heat exchanger |
| 6. | Fan wheel fixing screw |
| 7. | Fan wheel washer |
| 8. | Square washer |
| 9. | Fan wheel |
| 10. | Motor |
| 11. | Air supply collar |
| 12. | Fixing support |
| 13. | Capacitor |
| 14. | Terminal board |
| 15. | Autotransformer |
| 16. | Fixing screw for air supply grilles |
| 17. | Fixing screw for air intake plenum/cond. tray |
| 18. | Collar for ext. air intake |
| 19. | Non return valve pipe |
| 20. | Flow switch for cond. pump |
| 21. | Motor for cond. pump |
| 22. | Support for cond. pump |
| 23. | Condensing water discharge pipe |
| 24. | Fixing screws for air suction grill |
| 25. | Air suction grill frame |



1

2

3

4

5

6

7

8

9

10

11

2 PIPE SYSTEM

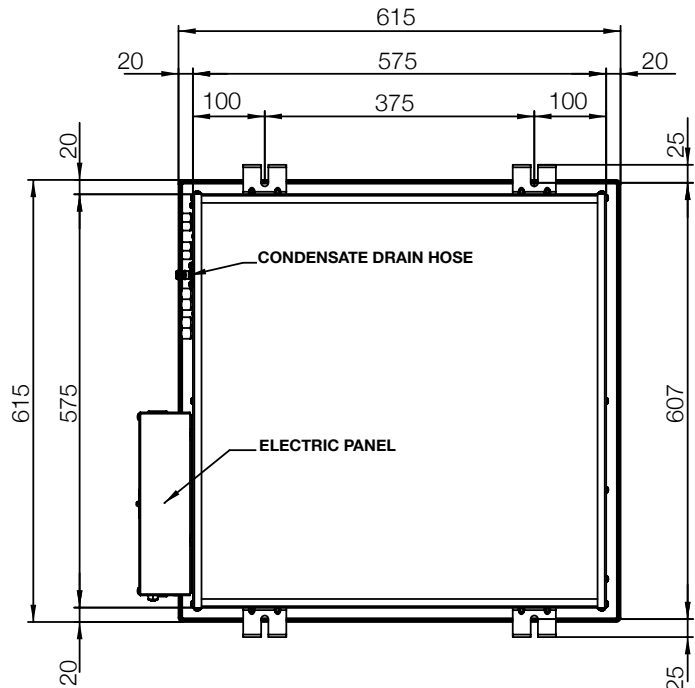
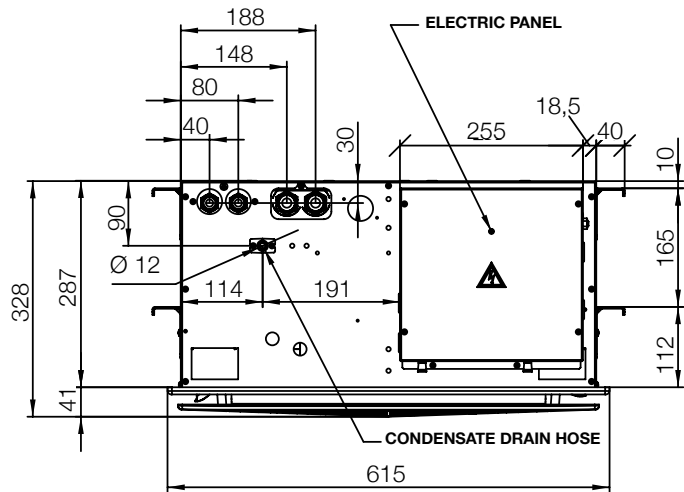
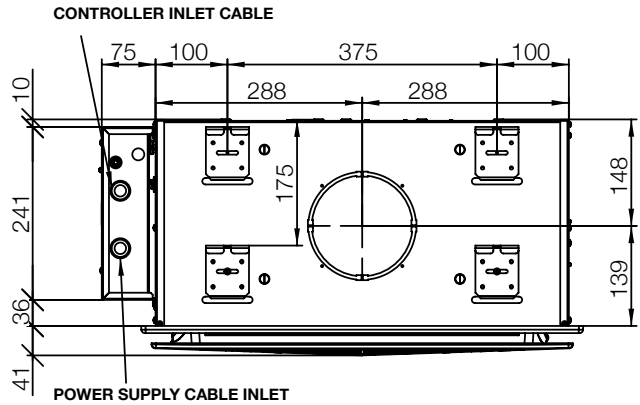
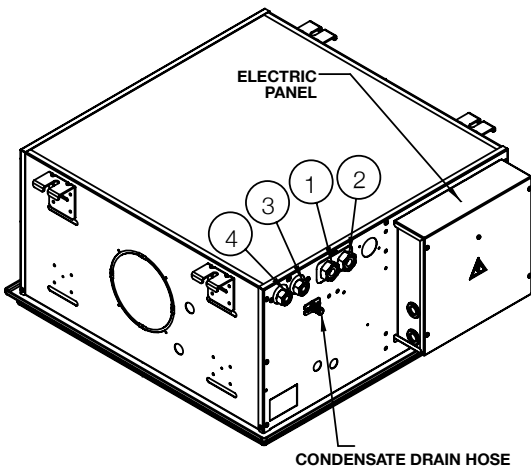
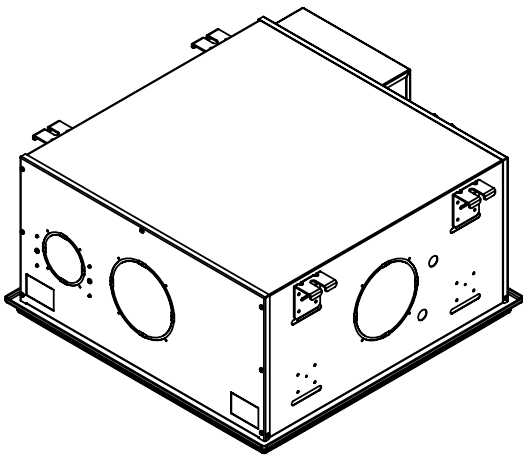
- 1. Water inlet.....3/4" F
- 2. Water outlet.....3/4" F

4 PIPE SYSTEM

- 1. Inlet cooling water3/4" F
- 2. Outlet cooling water3/4" F
- 3. Inlet heating water1/2" F
- 4. Outlet heating water1/2" F

WEIGHT (kg)

- YKEY621-64124,0-24,2
- YKEY622-623-642-64325,4-25,6



YKEY model

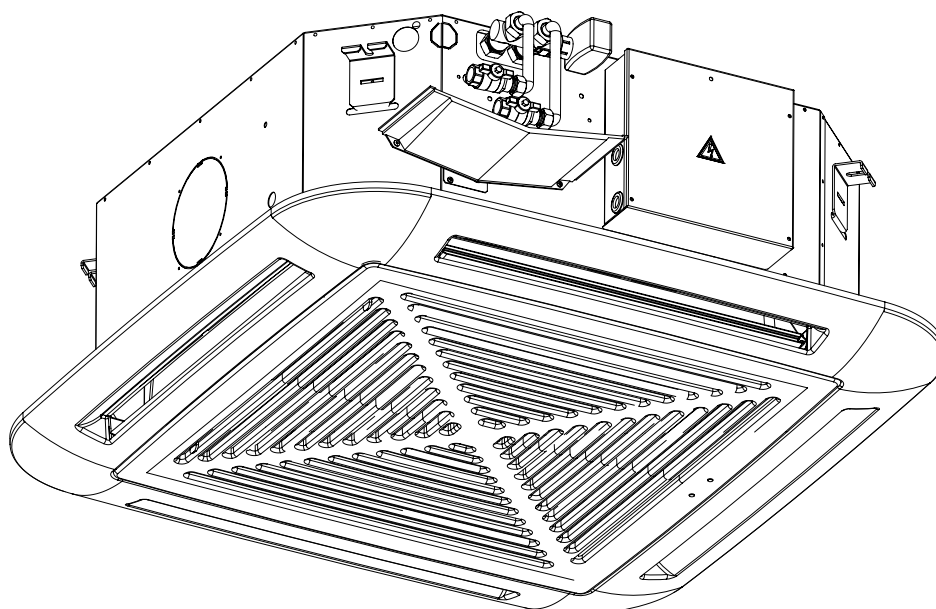


2.2 YKEY900 DESCRIPTION

Horizontal unit with air outlet on 4 sides and central air intake, suitable for installation on the false ceiling.

General features:

- central air intake grill in heat resistant ABS, white colour RAL9003;
- 4 sides air outlet plenum in heat resistant ABS, white colour RAL9003 with manual flaps in order to adjust the air flow; the air outlet plenum is designed to distribute the air by creating a COANDA effect (see chapter 3);
- unit equipped with condensate tray and condensate pump;
- 2 pipe systems: 3 row coils available; in all units an electric heater (max. 3,0 kW) can be also installed;
- 4 pipe systems: the additional 1 row coil can be added to units with a 3 row coil;
- prearranged hole for fresh air intake (standard), diam. 100 mm;
- prearranged holes for air supply into adjacent rooms (standard), diam. 150 mm.



YKEY900 WITH VALVES (optionals)

1

2

3

4

5

6

7

8

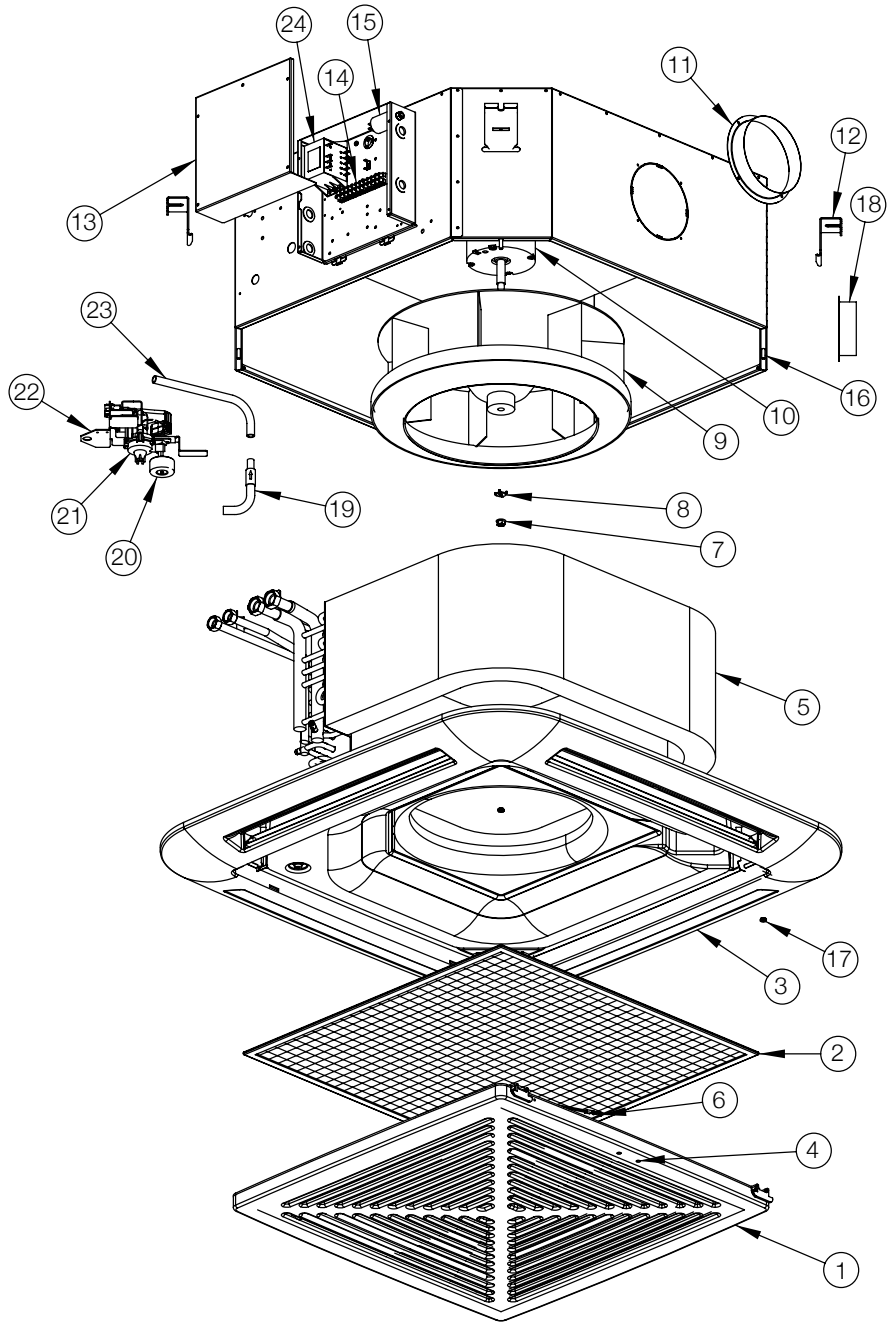
9

10

11

LEGEND-YKEY900

- 1. Air suction grill
- 2. Filter
- 3. Air supply frame/condensate tray
- 4. "IR" receiver (optional)
- 5. Heat exchanger
- 6. Safety rope for air suction grill
- 7. Fan wheel fixing nut
- 8. Fan wheel joint
- 9. Fan wheel
- 10. Motor
- 11. Air supply collar
- 12. Fixing support
- 13. Electric box cover
- 14. Terminal board
- 15. Capacitor
- 16. Fixing screws for air supply grilles
- 17. Fixing nuts for air supply grilles
- 18. Collar for ext. air intake
- 19. Non return valve pipe
- 20. Flow switch for cond. pump
- 21. Motor for cond. pump
- 22. Support for cond. pump
- 23. Condensing water discharge pipe
- 24. Autotransformer



2 PIPE SYSTEM

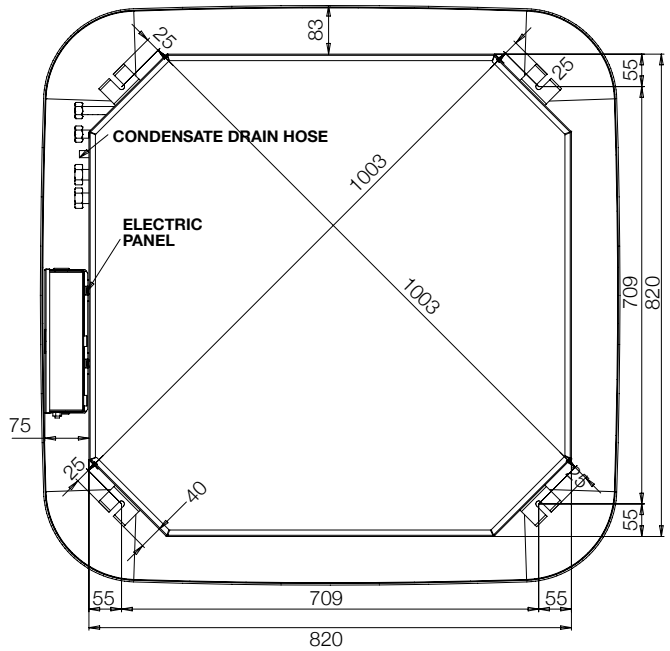
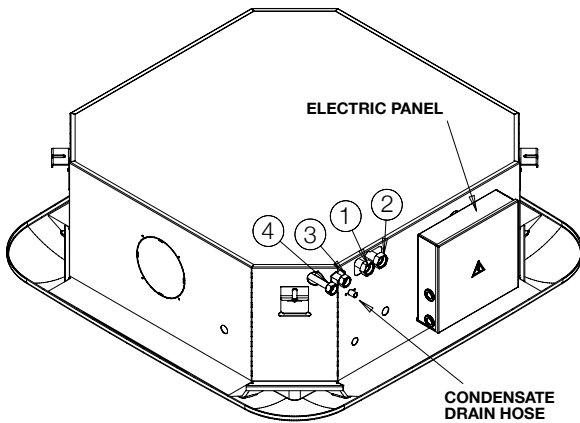
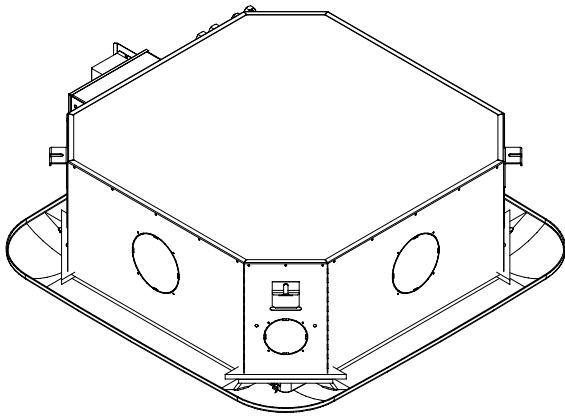
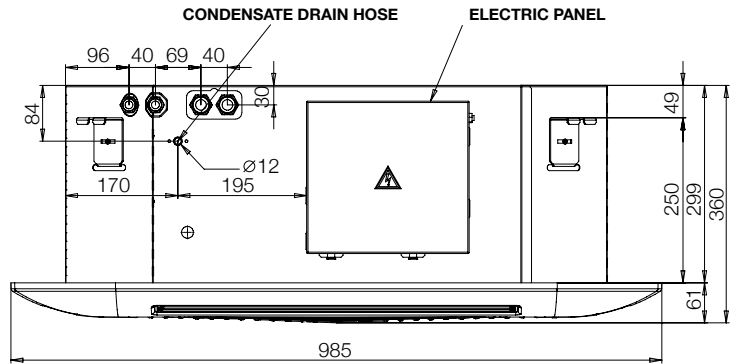
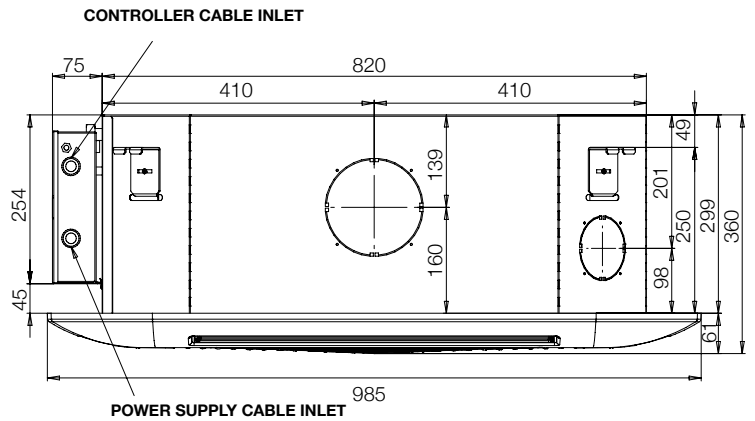
1. Water inlet..... 3/4" F
2. Water outlet..... 3/4" F

4 PIPE SYSTEM

1. Inlet cooling water..... 3/4" F
2. Outlet cooling water..... 3/4" F
3. Inlet heating water..... 1/2" F
4. Outlet heating water..... 1/2" F

WEIGHT (kg)

YKEY921-922-941-942.....45,0



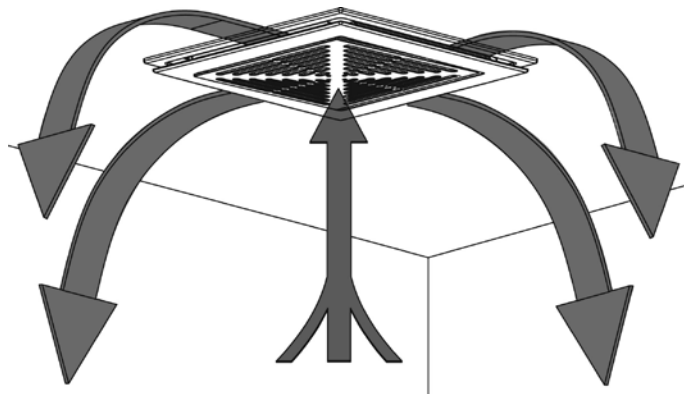
Model YKEY900

3. COANDA EFFECT

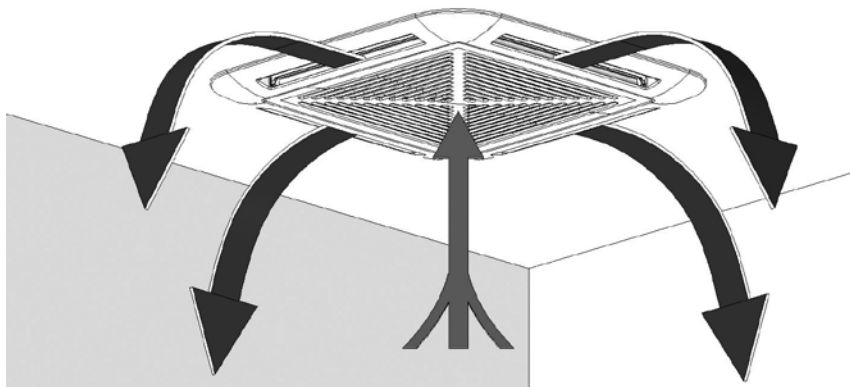
The particular combination of the air intake and outlet grilles permits to obtain a pleasant distribution of the air flow and creates a good comfort in the room where the YORK cassette unit is installed.

This condition is granted by the phenomenon called "COANDA effect": the air is blown towards the ceiling and not directly downwards, it adheres to the ceiling (because of the depression created on the ceiling's surface) and it attracts the air coming from the room, by mixing with it. The air throw is longer and the air falling velocity decreases, by falling down as rain, with a milder temperature.

The COANDA effect guarantees an uniform air distribution and it avoids a direct air flow against the people in the room.



Coanda effect model YKEY



Coanda effect model YKEY900

1

2

3

4

5

6

7

8

9

10

11

4. COMPONENTS

4.1 STRUCTURE

The structure is made of 10/10 mm thick galvanised steel for the YKEY and 12/10 mm thick galvanised steel for the YKEY900, completely insulated inside with closed cell thermal insulation material, 10 mm thick. Except for the YKEY/H model, on three of the four sides there is a prearranged hole having diam. 150 mm for the connection to an air supply duct. Furthermore there is a prearranged hole having diam. 100 mm for the connection to an external air intake.

The relevant collars for an easy connection to the air duct are always supplied as standard.

The air plenum/condensate tray group is realised in heat resistant ABS V0 Anti UV material. The condensate tray has a water drainage hole, which is normally closed by a water-tight rubber cap.

The air plenum has special slots on the sides in order to permit access to the external air: the fresh air coming through the slots will perfectly mix with the internal air and pass through the heat exchanger before blowing into the room.

Additionally there are four fixing supports, which are part of the main structure, that are supplied as standard in a separate kit. The fixing supports can be installed on the proper holes on two sides of the cassette unit, either on the upper side or on the lower side.

4.2 COIL FOR YKEY MODEL

The finned heat exchangers are made of copper pipes and surface treated (3 rows) aluminium fins, bent for 360°. The surface treatment on the fins permits to have a better condensing water discharge from the fins themselves and a perfect air passage through the heat exchanger, with reduced pressure drops and a high dehumidification and efficiency of the coil.

The hexagonal brass water connections have diameter $\frac{3}{4}$ " G female on the cooling coil and diameter $\frac{1}{2}$ " G female on the heating coil (4 pipe system). A particular internal fixing system of the coil's header will limit the problems of torsion and damages on the copper pipes.

Maximum operating pressure: 16 bar.

Min/max water temperature: 5/85 °C (see paragraph 9.8).

A drain valve is located beneath the coil's headers in order to completely discharge the water from the coil, when the unit does not work for a long period of time.

The air bleed is done by loosening slightly the water inlet union and supplying water from the outlet connection.

4.3 COIL FOR YKEY900 MODEL

The finned heat exchangers are made of copper pipes and aluminium fins.

The hexagonal brass water connections have diameter $\frac{3}{4}$ " G female on the cooling coil and diameter $\frac{1}{2}$ " G female on the heating coil (4 pipe system). A particular internal fixing system of the coil's header will limit the problems of torsion and damages on the copper pipes.

Maximum operating pressure: 16 bar.

Min/max water temperature: 5/85 °C (see paragraph 9.8).

A drain valve is located beneath the coil's headers in order to completely discharge the water from the coil, when the unit does not work for a long period of time.

The air bleed is done by loosening slightly the water inlet union and supplying water from the outlet connection.

1

2

3

4

5

6

7

8

9

10

11

4.4 FAN DECK

The fan deck, installed in central position, is composed by a centrifugal fan and plastic impeller. The electric motor is single phase (operates at 50/60 Hz) with permanently connected capacitor and thermal protection of the windings. It is provided with six speeds (by using a transformer), three of them are factory wired as standard, giving the nominal air volumes. Power supply 230V \pm 6%.

4.5 QEC00 - ELECTRIC PANEL

The electric panel (QEC00) consists of a galvanized metal box, which contains the terminal board for the electrical connections, the earth protection terminal, the autotransformer and the capacitor.

The electric panel is located on the side of the unit, on the same side of the water connections.

Every unit is provided with an electric wiring diagram, always showing all the controls and electric accessories connected to the unit. The wiring diagram must be strictly respected in order to obtain the requested working conditions of the unit.

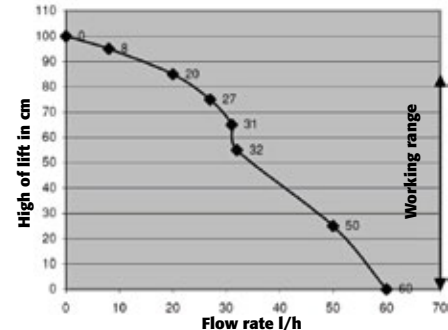
4.6 CONDENSATE PUMP

The YORK Cassette units (except for the YKEY/H model) are supplied with a built-in condensate pump having a no-return valve on the outlet.

The pump has a water discharge head of 850 mm from the bottom side of the cassette unit. The pump is activated by a floating switch and a second switch is used for closing the cooling valve in case of too high water level in the condensate tray, due to some problems in the water evacuation system.

Technical features:

- water discharge head: 850 mm from the bottom side of the cassette unit
- power supply: 230V~ - 50/60 Hz
- absorption: 0,06 A - 8 W (230 V~)
- insulation: class B
- ambient temperature: from 0 to 45 °C, 95% r.h.
- alarm contact: exchange contact, 250V~ - 4 A
- sound level: lift 30 cm < 26 dB(A)



4.7 AIR FILTER

The air filter is composed by a black pre-varnished metal frame and by a honeycomb polypropylene fibre filtering septum contained in two electro welded galvanized steel nets (12x24 mm). The re-generable filtering septum, black colour, has very low pressure drops.

The filter is immediately accessible by removing the external air intake grill. Filtration class: G1.

4.8 AIR OUTLET PLENUM

The air outlet plenum is made by heat-resistant ABS V0 Anti UV plastic material in white colour (RAL9003). It permits to distribute the air on the 4 sides of the unit.

On each side of the cassette unit there are white flaps which can be totally closed on one or two (max.) sides of the unit, particularly used in case of an air discharge into an adjacent room.

It is recommended not to close more than two sides of the cassette unit, in order to avoid turbulence and noise on the open sides.

4.9 AIR INTAKE GRILL

The air intake grill is realized in heat-resistant ABS V0 Anti UV plastic material, white colour (RAL9003), with a very discreet design. A

1

2

3

4

5

6

7

8

9

10

11

1

perfect internal insulation with closed-cell insulating material guarantees not to have problems of water condensation on the grilles. **In YKEY models** the particular combination of air intake and air outlet grilles permits to avoid having direct air flow against the people in the room. In order to facilitate the maintenance and cleaning operations the grill can be opened by pressing two hooks and, thanks to a hinge system, the grill remains hooked to the frame.

2

In YKEY900 models two levers fix the grill to one side of the air supply plenum; this permits, thanks to a hinge system, to facilitate maintenance operations, as the grill remains hooked to the plenum itself. A black rope with hook permits to make the maintenance operations in total safe.

3

On request, the air intake/outlet grilles can be painted in every RAL colour, with delivery time and prices to be defined.

4

5. SPECIAL VERSIONS

5

5.1 YKEY/M MODEL: CASSETTE WITH MICRO-DRILLED METALLIC GRILL

6

The YKEY/M cassette unit is born as an aesthetical variation of the YKEY model and it is perfectly adaptable to modular false ceilings. The air intake micro-drilled grill and the outlet frame are made of 10/10 mm thick metal sheet, painted in white colour (RAL9003) with epoxy-polyester powders.

7

Technical, functional and performance features of the YKEY/M cassette are exactly the same ones as described for the YKEY model. The YKEY/M is not provided with air outlet flaps for the deviation of the air flow, therefore the air diffusion is homogeneous on the four sides of the cassette unit.

Similarly to the standard YKEY model, the metallic grill has been designed to obtain the Coanda effect, that guarantees an uniform and pleasant air diffusion, by avoiding that people are directly invested by outgoing air flow (COANDA effect, see chapter 3).

8

A perfect internal insulation with closed-cell insulating material guarantees not to have problems of water condensation on the grilles.

9

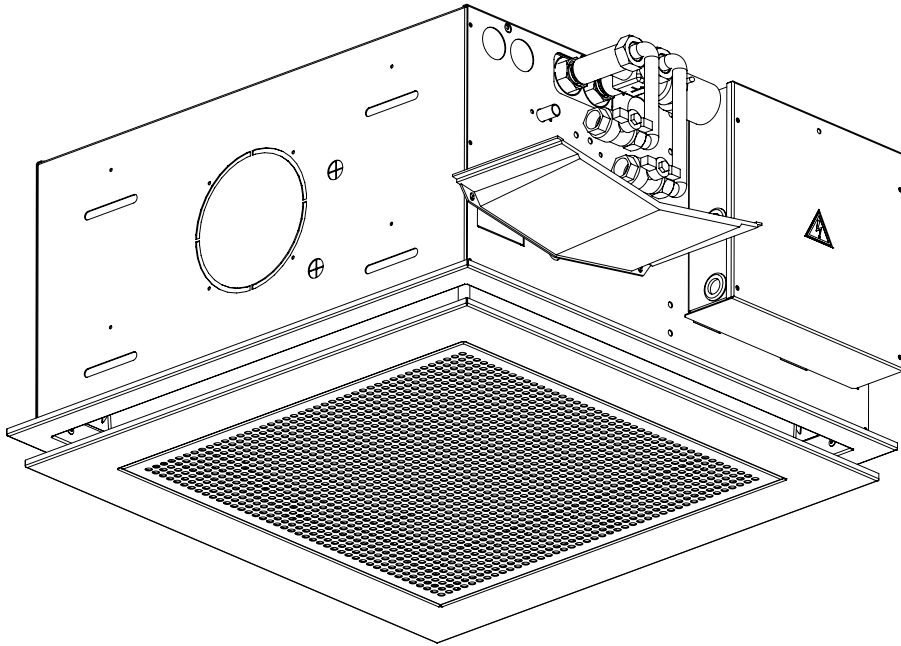
The YKEY/M cassette has been designed to facilitate maintenance and filter cleaning operations: by simply turning outwards the closing lever, suitably hidden and located near the YORK sticker on the frame, the intake grill opens and it remains hooked to one side of the unit, making any type of operation extremely easy.

10

Note: This model is not available with infrared control.

11

On request, the air intake/outlet grilles can be painted in every RAL colour, with delivery time and prices to be defined.



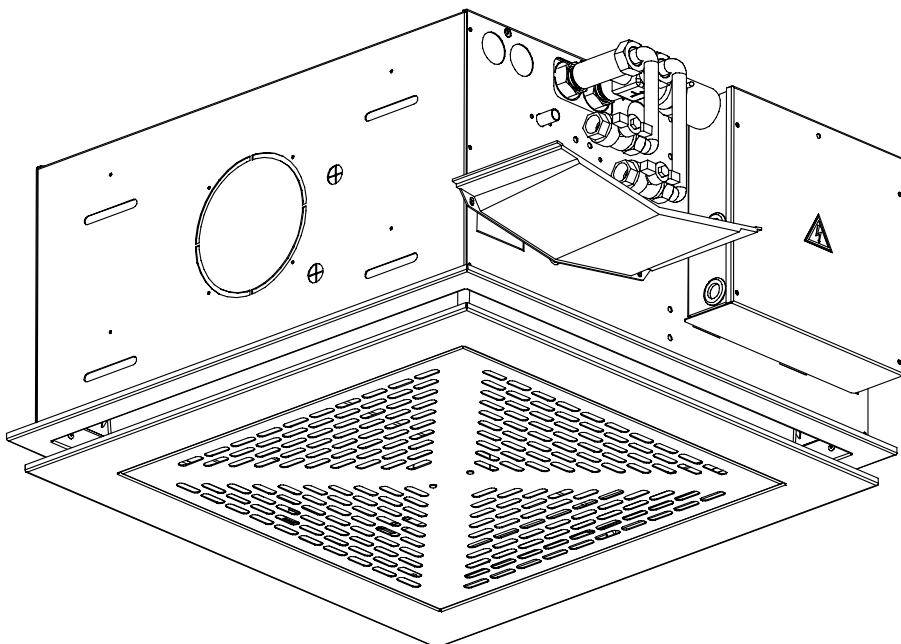
YKEY/M-MICRO-DRILLED GRILL WITH VALVES (OPTIONALS)

5.2 YKEY/M-SLOTS: METALLIC GRILL WITH SLOTS

The air intake grill is available, on request, also in a version with slots.

Unlike the standard version with micro-drilled grill (see paragraph 5.1), this model can be supplied with infrared control.

On request, the air intake/outlet grilles can be painted in every RAL colour, with delivery time and prices to be defined.



YKEY/M-SLOTS WITH VALVES (OPTIONALS)

1

2

3

4

5

6

7

8

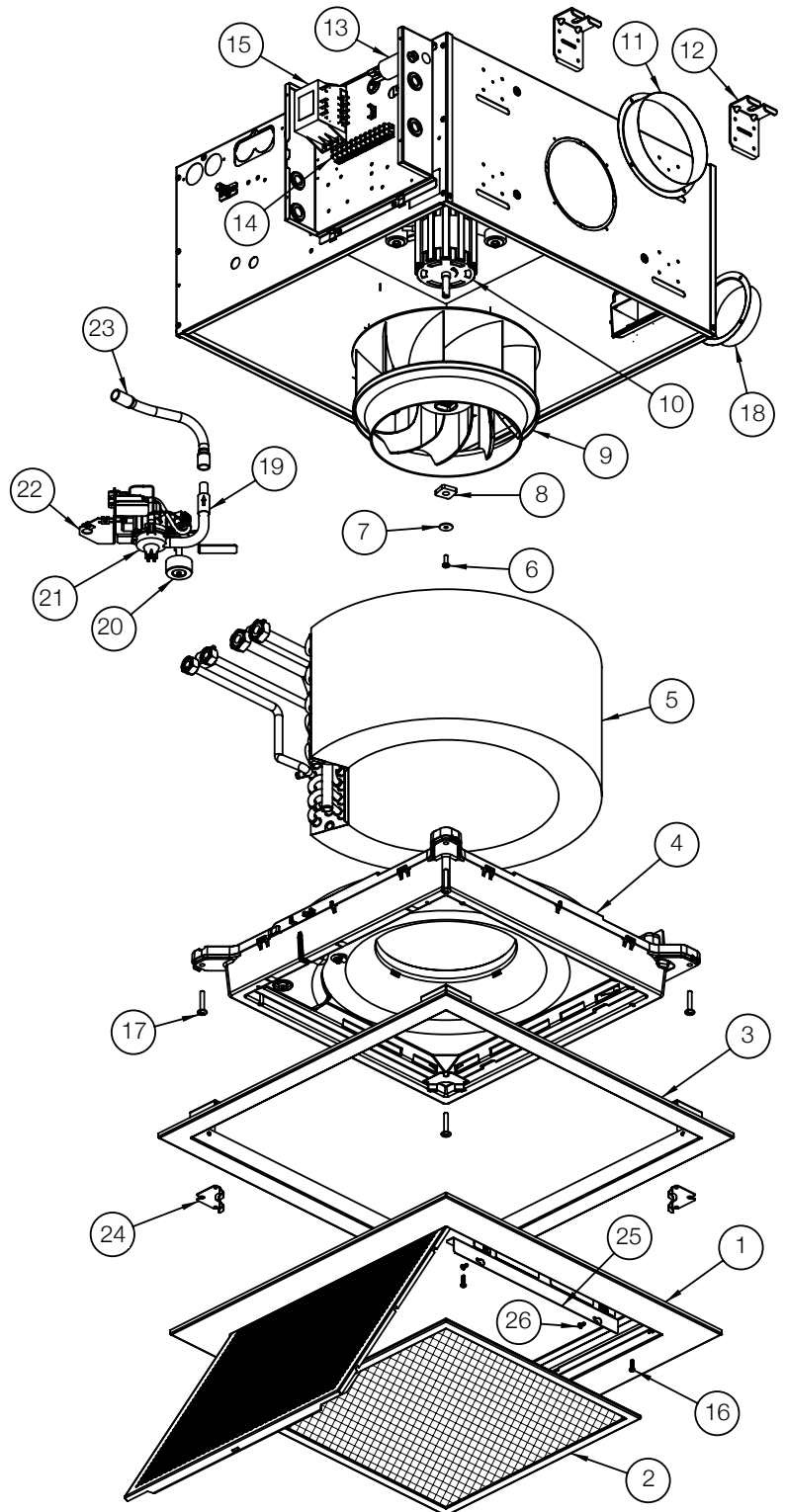
9

10

11

LEGEND-YKEY/M

- | | |
|----|---|
| 1 | Air intake grill with support |
| 2 | Filter |
| 3 | Air supply frame |
| 4 | Air intake plenum/condensate tray |
| 5 | Heat exchanger |
| 6 | Fan wheel fixing screw |
| 7 | Fan wheel washer |
| 8 | Square washer |
| 9 | Fan wheel |
| 10 | Motor |
| 11 | Air supply collar |
| 12 | Fixing support |
| 13 | Capacitor |
| 14 | Terminal board |
| 15 | Autotransformer |
| 16 | Fixing screw for air supply grilles |
| 17 | Fixing screw for air intake plenum/
cond. tray |
| 18 | Collar for ext. air intake |
| 19 | Non return valve pipe |
| 20 | Flow switch for cond. pump |
| 21 | Motor for cond. pump |
| 22 | Support for cond. pump |
| 23 | Condensig water discharge pipe |
| 24 | Fast fixing hook for outlet frame |
| 25 | Filtre fixing brackets |
| 26 | Screws for filter fixing brackets |



2 PIPE SYSTEM

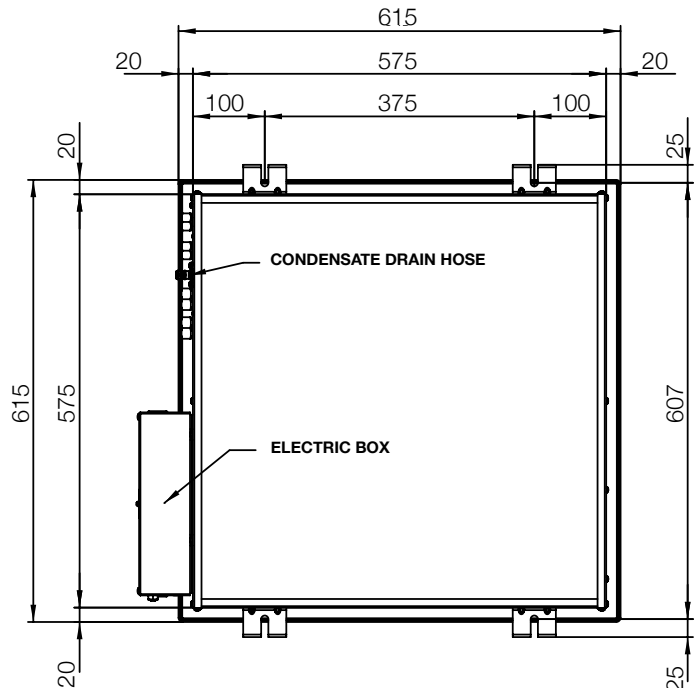
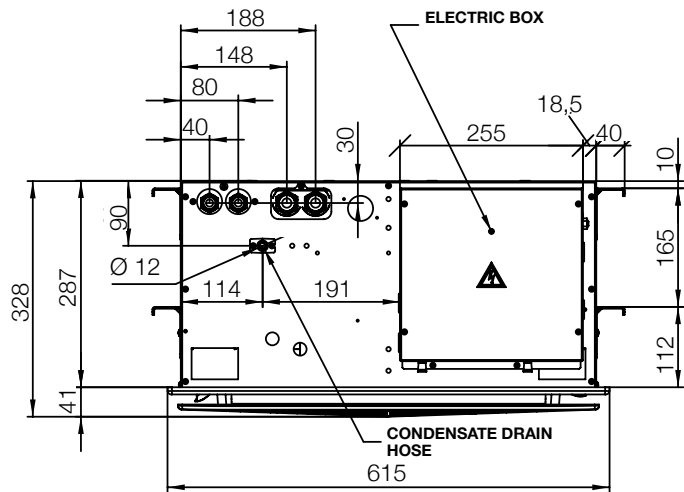
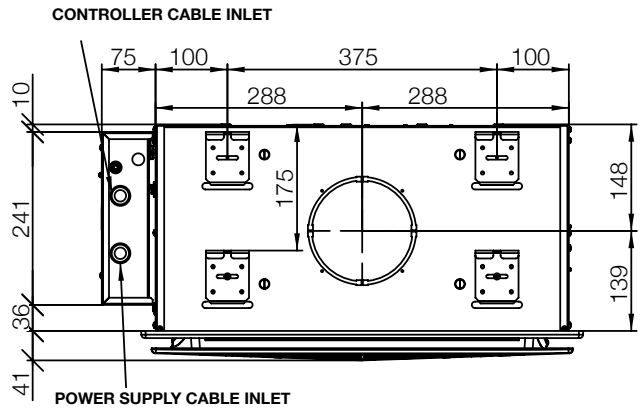
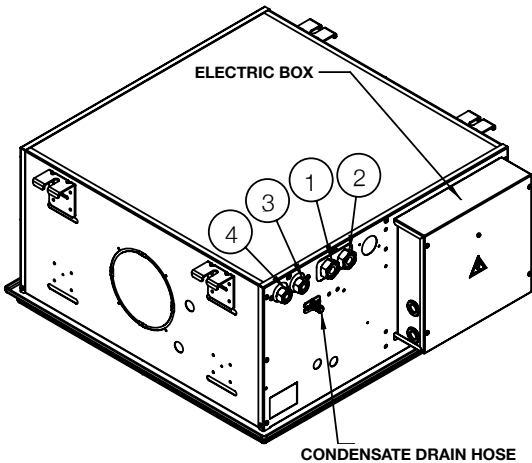
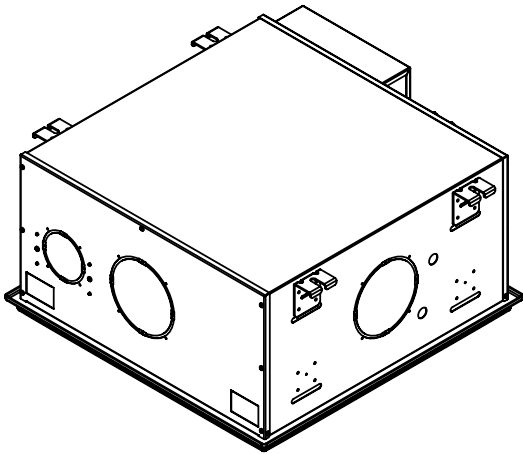
- 1. Water inlet.....3/4" F
- 2. Water outlet.....3/4" F

4 PIPE SYSTEM

- 1. Cooling water inlet.....3/4" F
- 2. Cooling water outlet.....3/4" F
- 3. Heating water inlet.....1/2" F
- 4. Heating water outlet.....1/2" F

WEIGHT (kg)

- YKEY/M 621-64126,0-26,2
- YKEY/M 622-623-642-643.....27,4-27,6



YKEY/M model

- 1
- 2
- 3
- 4
- 5**
- 6
- 7
- 8
- 9
- 10
- 11

5.3 YKEY/H MODEL: CASSETTE WITH NATURAL CONDENSATE DISCHARGE

It is a special version of the YKEY model designed to allow a natural condensate water discharge for gravity; in this way, condensate pump is not necessary.

The YKEY/H model is characterized by a particular vertical development of the unit (height goes from the standard 287 mm to 483 mm): it is recommended installing it in false ceilings with 500 mm height.

Air intake grill and outlet plenum are the same ones as for the YKEY model, so once they are installed the two models look identical. It is possible to install also the metallic grill: YKEY/HM with micro-drilled grill and YKEY/HM-SLOTS with slotted hole grill.

The absence of the condensate pump has the following advantages:

- reduced noise level during functioning of the unit, making it even more silent;
- reduced, even if slightly, overall power consumption of the unit;
- absence of humidity inside the drain pan, which could cause bacterial proliferation;
- no need of maintenance due to wear or malfunctioning of the condensate pump.

YKEY/H unit is particularly indicated when reduced maintenance operations are allowed, for safety locations (banks, police stations, ministry) or when very low sound levels are tolerated (libraries, museums). YKEY/HM unit, combined with optional filter F7 (Par. 7.2) which ensure purification and air quality improvement, is particularly indicated when total hygiene is necessary (hospitals, nursing homes).



YKEY/H WITH VALVES (OPTIONALS)

1

2

3

4

5

6

7

8

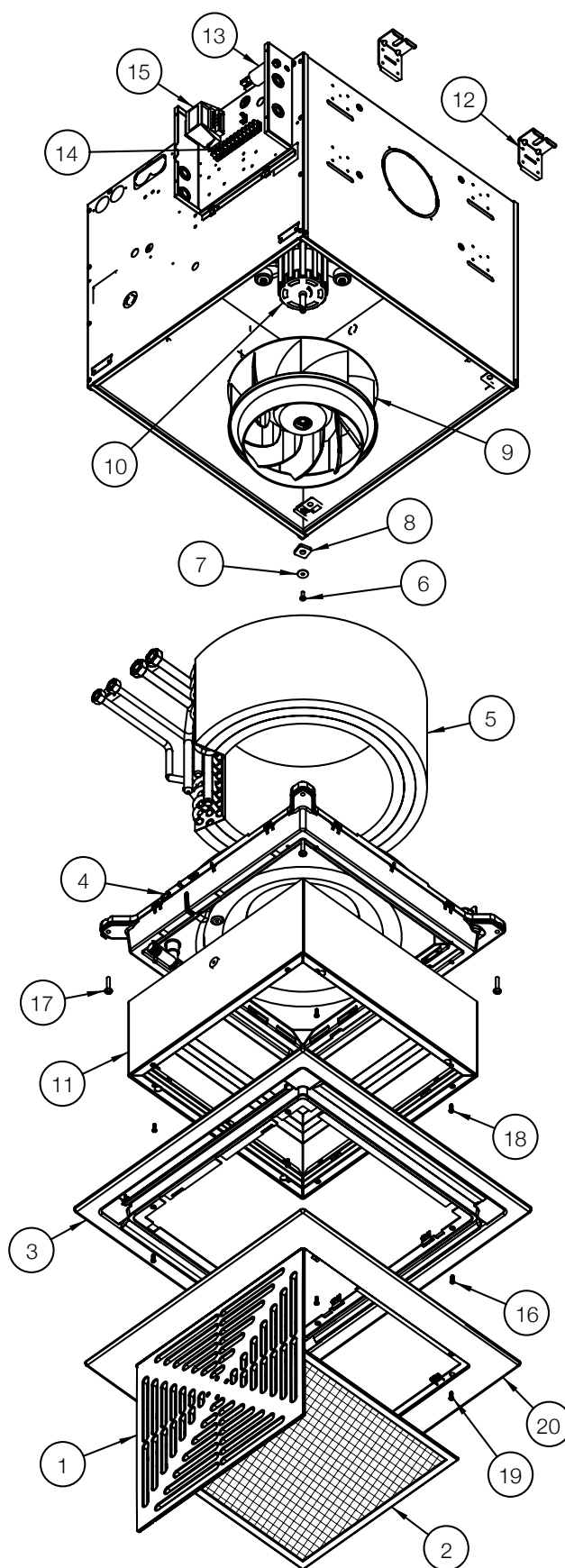
9

10

11

LEGEND-YKEY/H

1.	Air suction grill
2.	Filter
3.	Air supply grilles
4.	Air intake plenum/condensate tray
5.	Heat exchanger
6.	Fan wheel fixing screw
7.	Fan wheel washer
8.	Square washer
9.	Fan wheel
10.	Motor
11.	Air intake connection
12.	Fixing support
13.	Capacitor
14.	Terminal board
15.	Autotransformer
16.	Fixing screw for supply grill
17.	Fixing screw for air intake plenum/cond. tray
18.	Fixing screw for air intake connection
19.	Fixing screws for air suction grill
20.	Air suction grill frame



1

2

3

4

5

6

7

8

9

10

11

2 PIPE SYSTEM

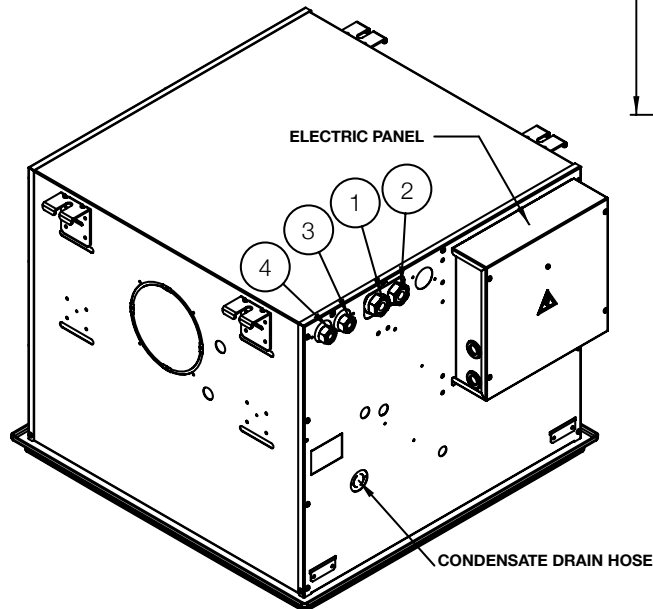
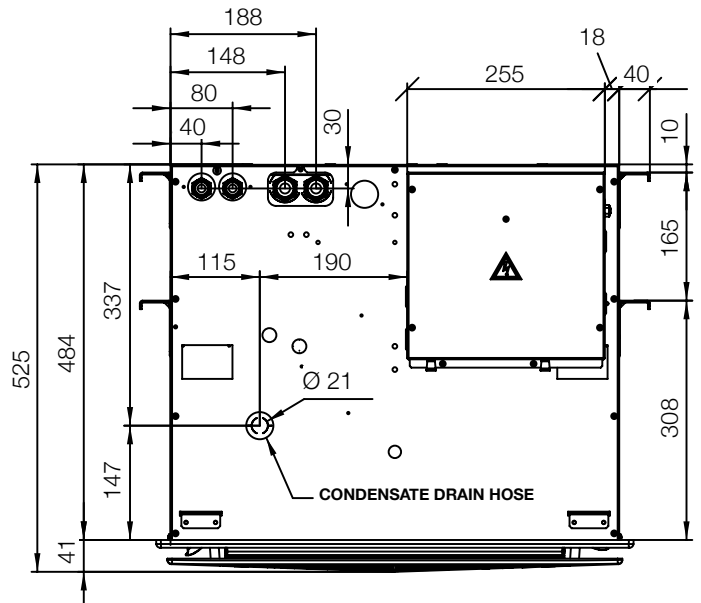
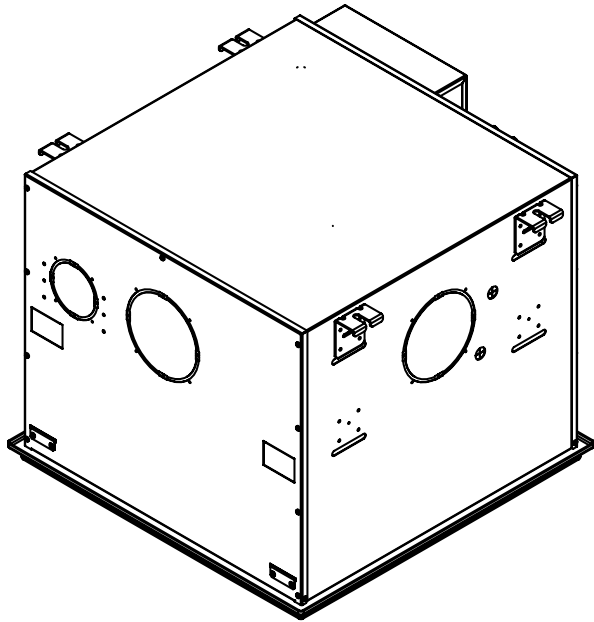
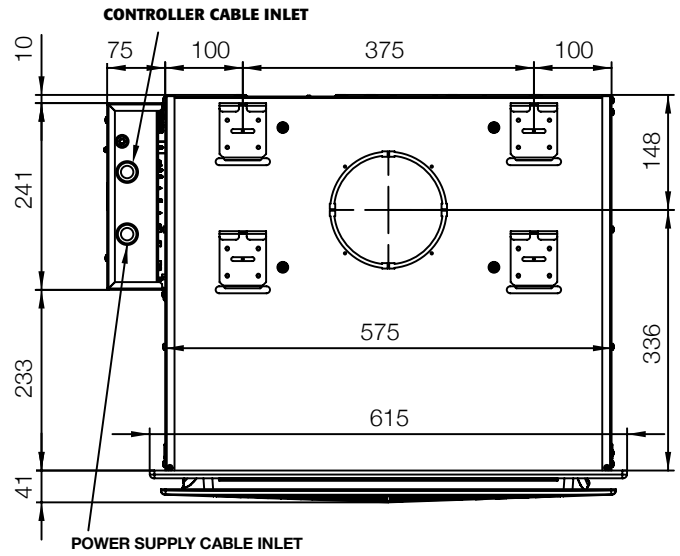
1. Water inlet..... 3/4" F
2. Water outlet..... 3/4" F

4 PIPE SYSTEM

1. Cooling water inlet..... 3/4" F
2. Cooling water outlet..... 3/4" F
3. Heating water inlet..... 1/2" F
4. Heating water outlet..... 1/2" F

WEIGHT (kg)

- | | |
|-----------------------------|-----------|
| YKEY/H 621-641..... | 33,1-33,3 |
| YKEY/H 622-623-642-643..... | 34,5-34,7 |



YKEY/H model

1

2

3

4

5

6

7

8

9

10

11

6. ELECTRICAL ACCESSORIES

6.1 QEC10

The galvanized metal electric panel includes, besides the standard terminal board (see par. 4.5), a double insulated transformer (230/24 Vac 10 VA) for the power supply to modulating valves. It is supplied as standard in combination to CER10/B and CER30/B controllers.

6.2 QEC20

The galvanized metal electric panel includes, besides the standard terminal board (see par. 4.5), a 230 Vac relay card for supporting the electric heater and/or for controlling the fan speeds in master/slave solution. It can be used in combination to the controllers CMR00, CER00 and CER20.

6.3 QEC30

The galvanized metal electric panel includes, besides the standard terminal board (see par. 4.5), a 24 Vac relay card for controlling the fan speeds in master/slave solution, together with a double insulated transformer (230/24 Vac 10 VA) for the power supply to modulating valves and/or 24 Vac electronic cards. It can be used in combination to the controllers CER11, CER31, CER00 and CER20 in 24V configuration.

6.4 ELECTRIC HEATER KREL FOR YKEY

Stainless steel 1,5 kW electric heater supplied with 2 safety thermostats, one with automatic resetting and the other one with manual resetting (in accordance with LV 2006/95/CE and EMC 2004/108 CE Directives) and a power relay card (QEC20).

When the Electric heater is installed, the cassette unit is internally insulated with heat resistant insulating material.

6.5 ELECTRIC HEATER KREL FOR YKEY900

Stainless steel 3,0 kW electric heater supplied with 2 safety thermostats, one with automatic resetting and the other one with manual resetting (in accordance with LV 2006/95/CE and EMC 2004/108 CE Directives) and a power relay card (QEC20).

When the Electric heater is installed, the cassette unit is internally insulated with heat resistant insulating material.

6.6 AS – AIR SENSOR

1 m long NTC sensor fixed on the cassette's air inlet.

It is optional, on request, with the following regulators: CMR00, CER00, CER10/B, CER11, CER20, CER30/B and CER31.

1

2

3

4

5

6

7

8

9

10

11

6.7 WS – WATER SENSOR

3m long NTC sensor (10K, 25 °C), requested for the automatic S/W switch when a cassette unit is controlled by a regulator with microprocessor, in a 2 pipe system, for both heating and cooling operation. The Summer/Winter changeover works as follows:

- WS combined with CER00, CER20, CER30/B
 - Summer: water temperature WS < 17 °C = cooling on
water temperature WS > 19 °C = cooling off
 - Winter: water temperature WS > 32 °C = valve open
water temperature WS < 30 °C = valve closed
water temperature WS > 35 °C = fan on
water temperature WS < 33 °C = fan off
- WS combined with CER10/B, CER11, CER31
 - Summer: water temperature < 11 °C ± 1 K = cooling on
water temperature > 14 °C ± 1 K = cooling off
 - Winter: water temperature > 40 °C ± 1 K = heating on
water temperature < 30 °C ± 1 K = heating off



WS

The water sensor is not compatible with 2 way valves (DTH2B2 or DTJ2BM, for example).

6.8 CSR - FAN SPEED SELECTOR

This selector has no room thermostat and it can control the 3 fan speeds only. The speed selector does not control any valve: a remote thermostat (TAD10) is requested in order to control the ON/OFF valves, in case.



CSR00

6.9 TAD10 - ROOM TEMPERATURE THERMOSTAT

Room temperature thermostat for wall installation with manual selection of the working mode (Summer/Winter changeover) and set point regulation of the room temperature.



TAD10

6.10 CMR - THERMOSTAT

Room temperature thermostat with manual fan speed selector and Summer/Winter switch. The comfort temperature zone (20-25 °C) is marked around the knob. It is also possible to limit the temperature setting range.



CMR00

6.11 CER – ELECTRONIC REGULATORS

The YORK electronic controllers with microprocessor offer a wide range of functions for the cassette regulation; they are provided with the comfort temperature zone (20-25 °C) and with the opportunity to limit the temperature setting range.



CER00

1

2

3

4

5

6

7

8

9

10

11

YORK REGULATORS

Functions	CSR00	CMR00	CER00	CER10/B CER11	CER20	CER30/B CER31
Ventilation mode (Thermostated - OFF - Continuous)		•	•	•	•	•
Manual speed selector	•	•	•	•		
Automatic or manual speed selection					•	•
Manual Summer/Winter changeover		•				
Summer/Winter changeover with dead band or external (centralized)			•	•	•	•
Setting Temperature thermostat		•	•	•	•	•
Temperature setting range limitation		•	•	•	•	•
De-stratification function			•	•	•	•
Economy/occupancy contact*			•	•	•	•
Window contact*			•	•	•	•
Frost protection (only with heating valve)			•	•	•	•
Operating mode LED (Summer - Winter)			•	•	•	•
Dirty filter alarm LED			•	•	•	•

* not optoinsulated from 230 V~ power supply net

YORK REGULATORS

Compatibility	CSR00	CMR00	CER00	CER10/B CER11	CER20	CER30/B CER31
2 pipe system only	•					
2/4 pipe system		•	•	•	•	•
ON/OFF 230V cooling and heating valve		•	•		•	
Modulating 24V cooling and heating valve				•		•
Room temperature thermostat TAD	•					
NTC sensor for automatic S/W changeover (2 pipe system only)			•	•	•	•
Electric heater (in alternative to the heating valve)		•	•		•	

For more information, please refer to the TECHNICAL MANUAL FOR YORK CONTROLLERS.

1

2

3

4

5

6

7

8

9

10

11

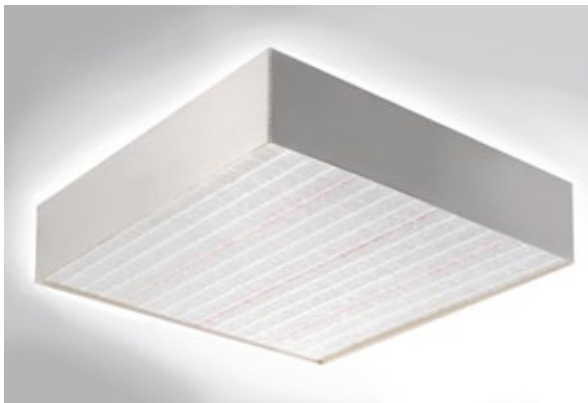
7. AIR FILTERS

7.1 G3 FILTER (ONLY UCS600)

The air filter is composed by a black pre-varnished metal frame and by an acrylic fibre filtering septum, with G3 degree filtration, contained in two electro-welded galvanized steel nets. The regenerable filtering septum, black colour, has very low pressure drops.

7.2 F7 FILTER (ONLY FOR YKEY/HM MODEL)

The air filter is composed by a white ABS plastic frame and by a fiberglass filtering septum with self-extinguishing class M1 and a filtration degree F7, which permits to filter particles sizes smaller than 0,4 μm . The filter can be combined with a pressure switch that monitors the pressure differences signalling an alarm when the filter is clogged. The pressure switch is calibrated according to customer needs.



F7 filter



Pressure switch

In order to select the cassette YKEY/HM in presence of the F7 filter, please use the YORK selection software.

8. REGULATING VALVES

8.1 DTH3B2 OR DTH2B2 – ON/OFF VALVES, 3-WAY WITH 4 WATER CONNECTIONS (DTH3B2) OR 2-WAY (DTH2B2), 230V, FOR 2 OR 4 PIPE SYSTEMS

The ON/OFF regulating valves, G $\frac{3}{4}$ " M (for 2 pipe system) and G $\frac{1}{2}$ " M for the heating coil (4 pipe system), 3 way with 4 water connections or 2 way, are provided with thermoelectric actuator and copper connection tubes. The direct flow is closed by not supplying power to the actuator. They are factory fitted and wired.

The full bore ball shut-off valves ending with G $\frac{1}{2}$ " F connection are supplied separately as a kit. In the same kit the auxiliary drain pan is included.

These valves are available also with on/off 24V actuators: for more information, please contact the YORK staff.

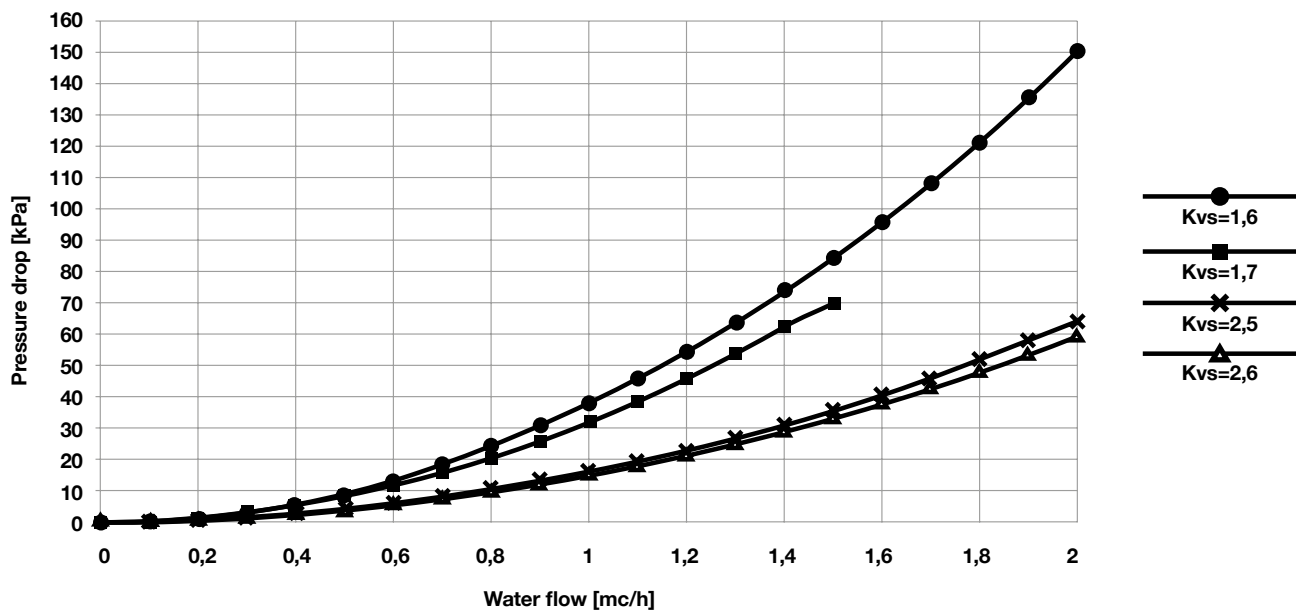
8.2 DTJ3BM OR DTJ2BM – MODULATING (24V) VALVES, 3 WAY WITH 4 WATER CONNECTIONS (DTJ3BM) OR 2 WAY (DTJ2BM) FOR 2 OR 4 PIPE SYSTEMS

The modulating 0-10V valves, G $\frac{3}{4}$ " M (for 2 pipe system) and G $\frac{1}{2}$ " M for the heating coil (4 pipe system), 3 way with 4 water connections or 2 way, are provided with modulating actuator and copper connection tubes. The direct flow is closed by not giving signal to the actuator. They are factory fitted and wired.

The modulating valves are highly recommended in combination to the YKEY cassette unit, for the high levels of comfort that they can provide.

The full bore ball shut-off valves ending with G $\frac{1}{2}$ " F connection are supplied separately as a kit. In the same kit the auxiliary drain pan is included.

PRESSURE DROP DIAGRAM REFERRED TO THE VALVES



Maximum operating pressure with valves: 16 bar.

1

2

3

4

5

6

7

8

9

10

11

VALVES TECHNICAL FEATURES

Nominal pressure	PN16	Cod.: H2A2, H3A2, J2AM, J3AM, H2B2, H3B2, J2BM, J3BM, H3B0, H2B0, H3A0, H2A0
Fluid	Hot or cold water for HVAC system, according to VDI standard quality or equivalent	Cod.: H2A2, H3A2, J2AM, J3AM, H2B2, H3B2, J2BM, J3BM, H3B0, H2B0, H3A0, H2A0
Connessione	1/2" GM 3/4" GM	Cod.: H2A2, H3A2, J2AM, J3AM, H3A0, H2A0 Cod.: H2B2, H3B2, J2BM, J3BM, H3B0, H2B0
Max close-off pressure	150kPa 200kPa 250kPa 300kPa	Cod.: J2BM, J3BM Cod.: H2B2, H3B2, H3B0, H2B0 Cod.: J2AM, J3AM Cod.: H2A2, H3A2, H3A0, H2A0
Kvs	1,6 1,7 2,5 2,6	Cod.: H2A2, H3A2, H3A0, H2A0 Cod.: J2AM, J3AM Cod.: H2B2, H3B2, J3BM, H3B0, H2B0 Cod.: J2BM
Material	Brass	Cod.: H2A2, H3A2, J2AM, J3AM, H2B2, H3B2, J2BM, J3BM, H3B0, H2B0, H3A0, H2A0
Flow temperature limit	2÷110 °C 2÷120 °C	Cod.: J2AM, J3AM, J2BM, J3BM Cod.: H3A2, H2A2, H2B2, H3B2, H3B0, H2B0, H3A0, H2A0
Room temperature limit	2÷50 °C	Cod.: H2A2, H3A2, J2AM, J3AM, H2B2, H3B2, J2BM, J3BM, H3B0, H2B0, H3A0, H2A0
Actuator	On/Off Modulating	Cod.: H2A2, H3A2, J2A2, J3A2, H2B2, H3B2, H3B0, H2B0, H3A0, H2A0 Cod.: J2AM, J3AM, J2BM, J3BM
Voltage supply	230V ~ ±15% 50/60 Hz 24V ~ ±15% 50/60 Hz	Cod.: H2A2, H3A2, H2B2, H3B2 Cod.: J2AM, J3AM, J2BM, J3BM, H3B0, H2B0, H3A0, H2A0
Control signal	0÷10 Vcc	Cod.: J2AM, J3AM, J2BM, J3BM
Absorption	3 VA 2,5 VA	Cod.: H2A2, H3A2, H2B2, H3B2, J2BM, J3BM, H3B0, H2B0, H3A0, H2A0 Cod.: J2AM, J3AM
Opening time 20 °C	~ 200s	Cod.: H2A2, H3A2, H2B2, H3B2, H3B0, H2B0, H3A0, H2A0
Closing time 20 °C	~ 300s	Cod.: H2A2, H3A2, H2B2, H3B2, H3B0, H2B0, H3A0, H2A0, H3B0, H2B0, H3A0, H2A0
Protection grade	IP43 (EN 60529) IP43	Cod.: H2A2, H3A2, J2A2, J3A2, H2B2, H3B2, H3B0, H2B0, H3A0, H2A0 Cod.: J2AM, J3AM, J2BM, J3BM

In order to choose the correct type of valve it is necessary to know the system's technical specifications. For this reason the consultant has full responsibility for the correct choice of the valve.

8.3 DT – SHUT-OFF VALVE

It is a full bore ball valve with T handle; it is designed to separate the unit from the piping system if maintenance is required.

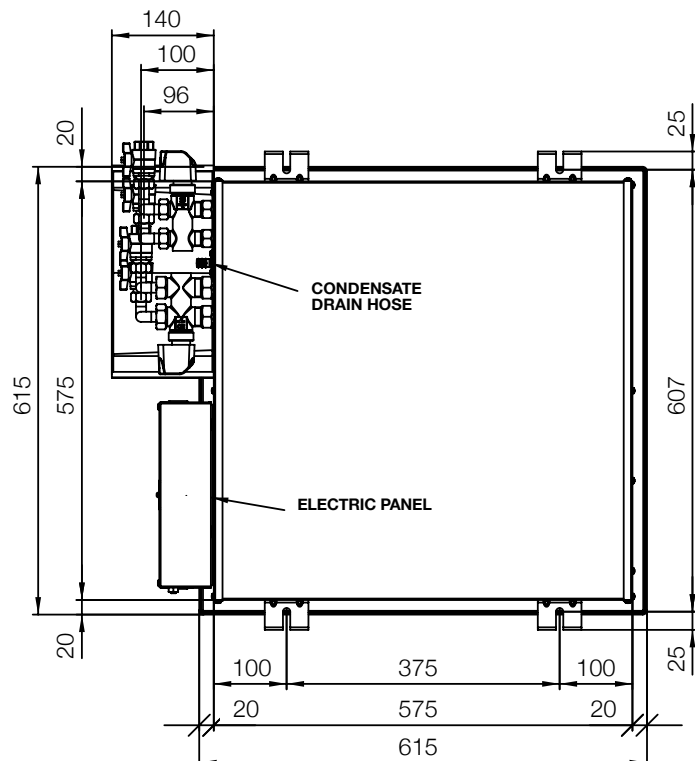
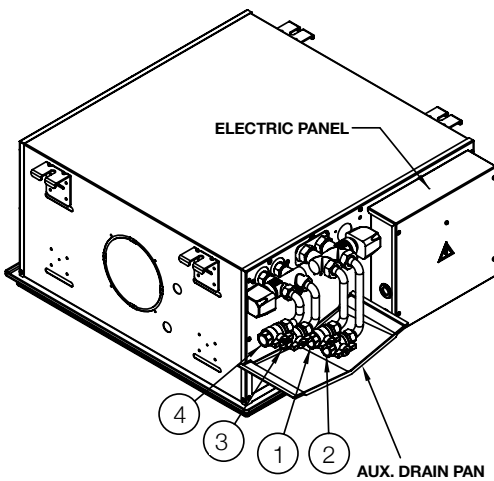
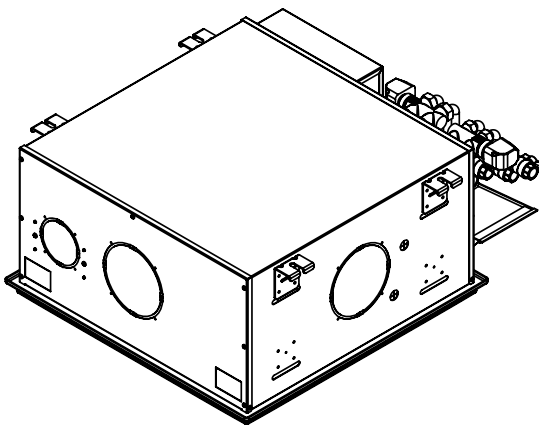
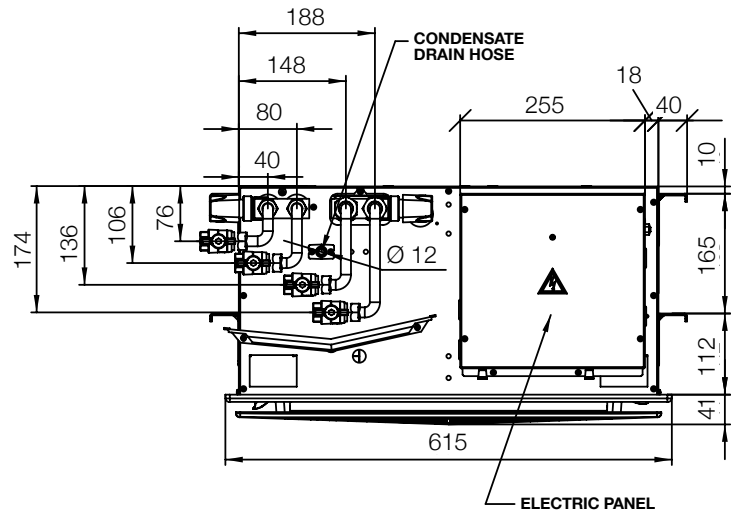
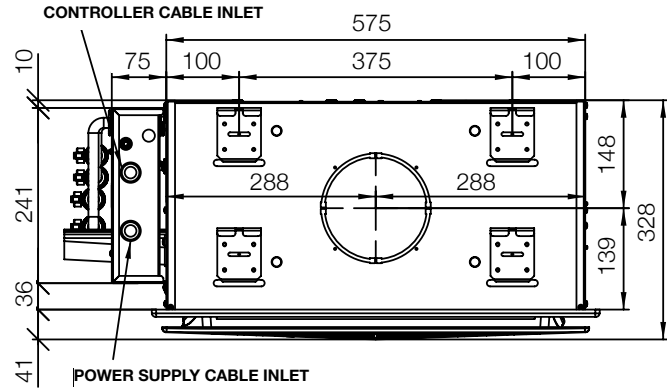
8.4 DRAWINGS AND DIMENSIONS FOR REGULATING VALVES

**2 PIPE SYSTEM
(VALVE KIT WITH SHUT-OFF VALVES)**

- 1. Water inlet..... 1/2" F
- 2. Water outlet..... 1/2" F

**4 PIPE SYSTEM
(VALVE KIT WITH SHUT-OFF VALVES)**

- 1. Cooling water inlet..... 1/2" F
- 2. Cooling water outlet..... 1/2" F
- 3. Heating water inlet..... 1/2" F
- 4. Heating water outlet..... 1/2" F



YKEY and YKEY/M model with valves

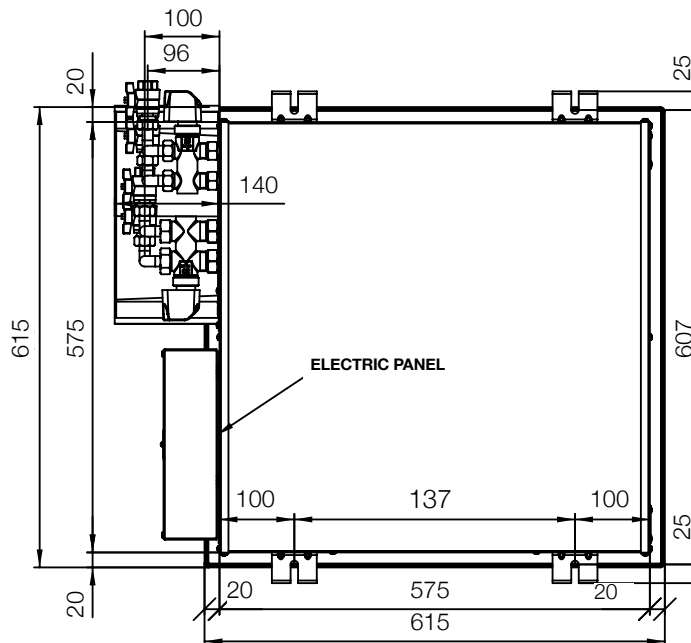
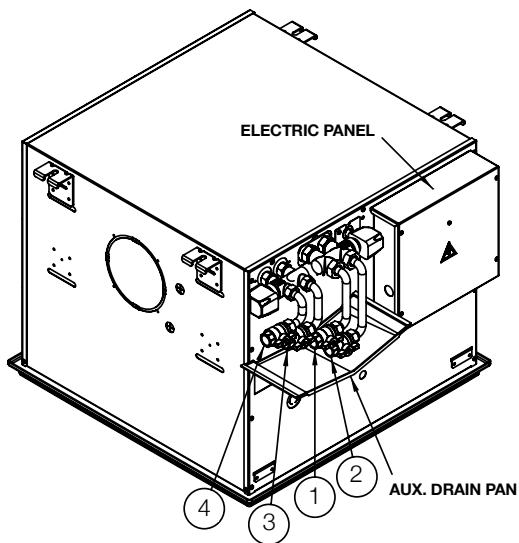
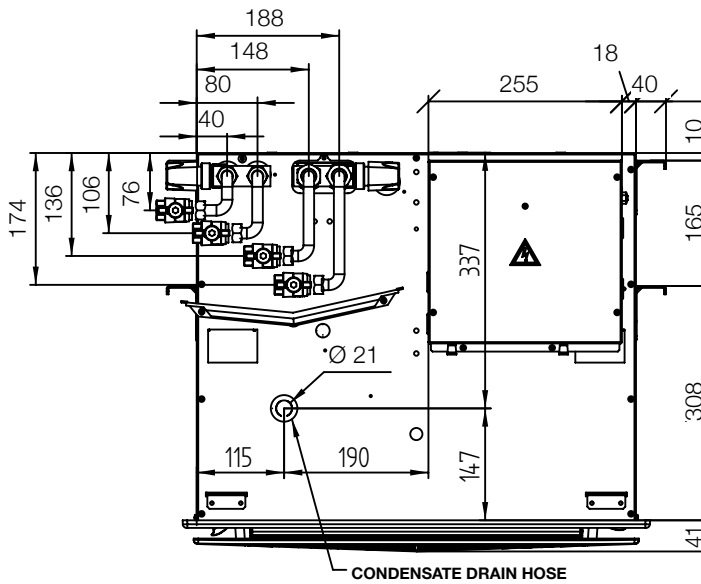
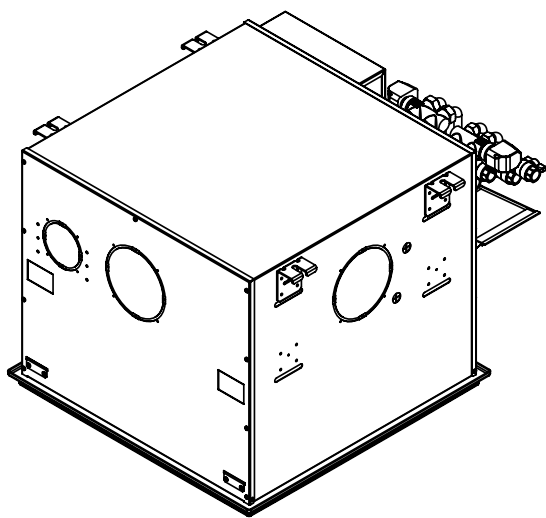
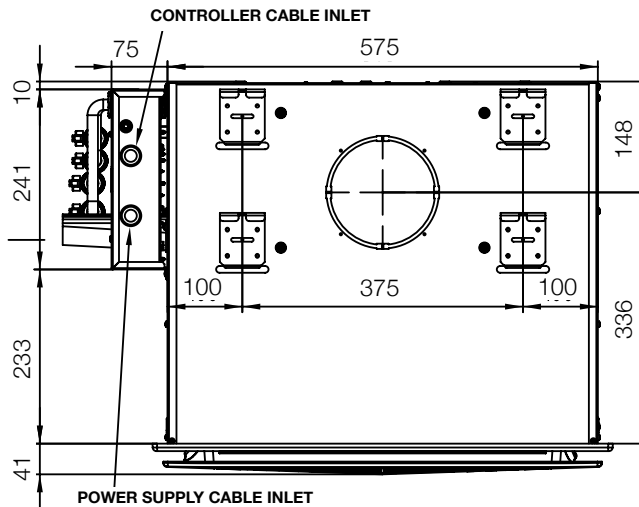
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

**2 PIPE SYSTEM
(VALVE KIT WITH SHUT-OFF VALVES)**

1. Water inlet..... 1/2" F
2. Water outlet..... 1/2" F

**4 PIPE SYSTEM
(VALVE KIT WITH SHUT-OFF VALVES)**

1. Cooling water inlet..... 1/2" F
2. Cooling water outlet..... 1/2" F
3. Heating water inlet..... 1/2" F
4. Heating water outlet..... 1/2" F



YKEY/H model with valves

1

2

3

4

5

6

7

8

9

10

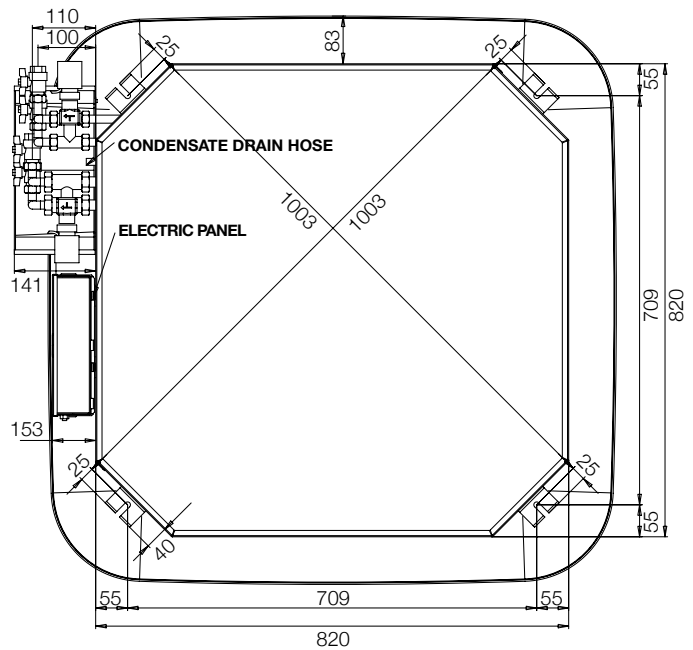
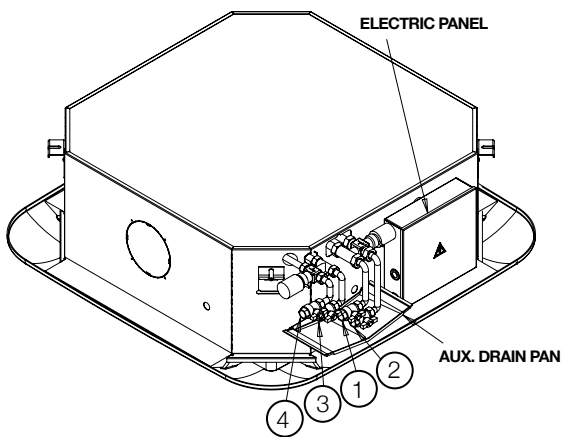
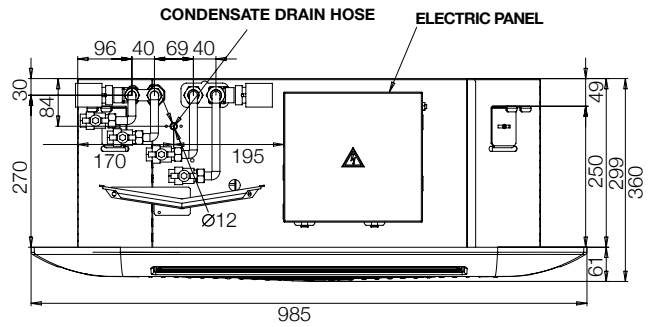
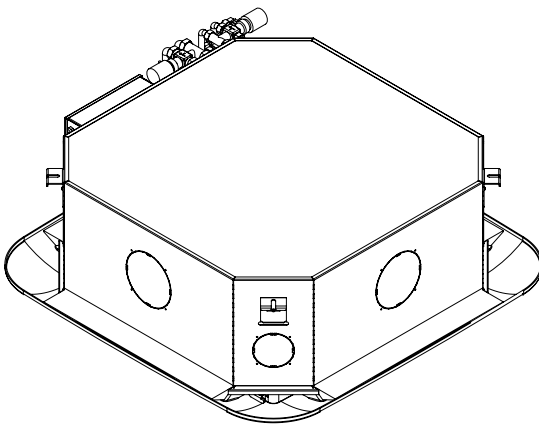
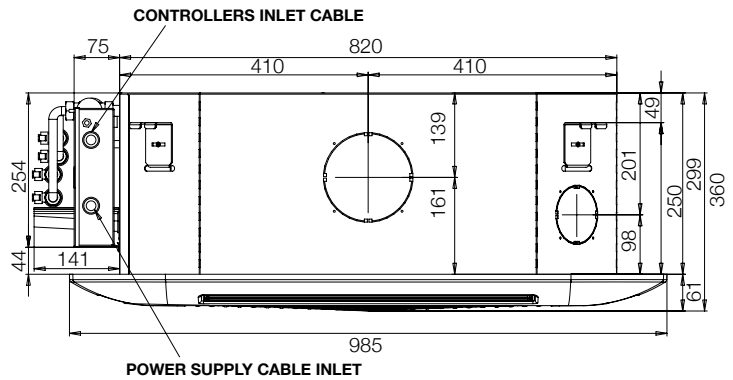
11

**2 PIPE SYSTEM
(VALVE KIT WITH SHUT-OFF VALVES)**

- 1. Water inlet..... 1/2" F
- 2. Water outlet..... 1/2" F

**4 PIPE SYSTEM
(VALVE KIT WITH SHUT-OFF VALVES)**

- 1. Cooling water inlet..... 1/2" F
- 2. Cooling water outlet..... 1/2" F
- 3. Heating water inlet..... 1/2" F
- 4. Heating water outlet..... 1/2" F



YKEY900 model with valves

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8**
- 9
- 10
- 11

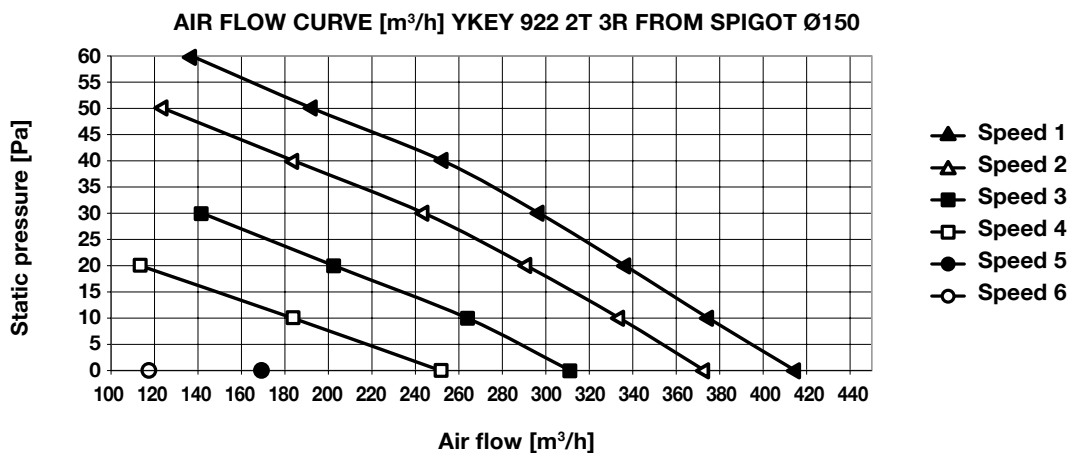
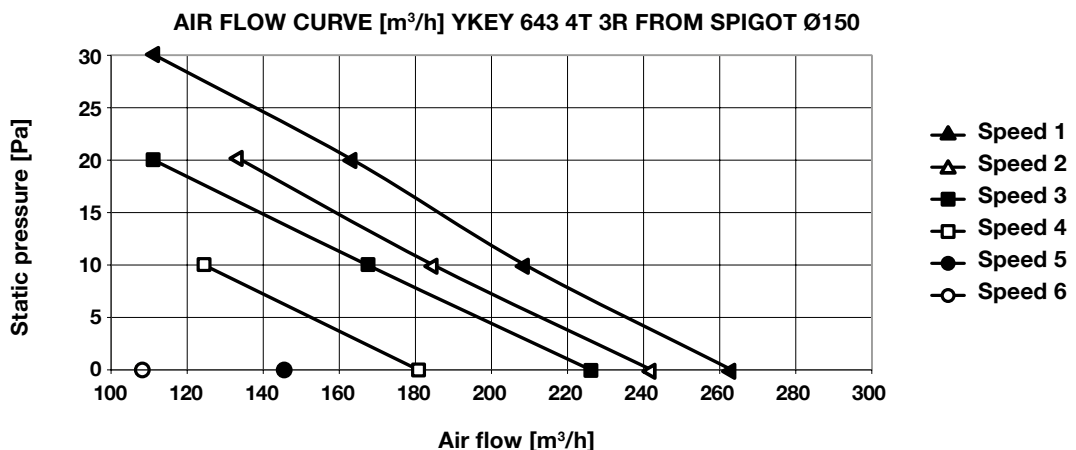
9. TECHNICAL DATA

9.1 NOMINAL AIR VOLUMES

NOMINAL VALUES (m ³ /h)						
Model		621-641	622-642	623-643	921-941	922-942
Fan speed	Speed 1	566	566	717	1435	1588
	Speed 2	495	495	657	1240	1426
	Speed 3	448	448	617	975	1165
	Speed 4	351	351	525	790	950
	Speed 5	269	269	422	585	686
	Speed 6	182	182	308	420	509

Data referred to models YKEY, YKEY/M, YKEY/H, YKEY/HM and YKEY900

9.2 AIR VOLUME OF THE AIR SUPPLY COLLAR INTO AN ADJACENT ROOM (YKEY - YKEY900)



9.3 COOLING CAPACITIES, 2 PIPE SYSTEM



ROOM TEMPERATURE: 27 °C d.b. - 48% R. H. - WATER TEMPERATURE: 7/12 °C

Size		621	622	623	921	922	
Speed 1	Total cooling capacity	kW	2,78	4,01	4,72	9,65	9,99
	Sensible cooling capacity	kW	2,35	2,86	3,47	7,05	7,51
	Water flow	l/h	476	688	810	1656	1714
	Water pressure drop	kPa	8,4	11,9	16,5	23,3	26,0
Speed 2	Total cooling capacity	kW	2,52	3,68	4,55	8,63	9,60
	Sensible cooling capacity	kW	2,11	2,57	3,28	6,10	6,99
	Water flow	l/h	432	631	781	1481	1647
	Water pressure drop	kPa	7,8	10,9	14,7	20,1	22,5
Speed 3	Total cooling capacity	kW	2,28	3,33	4,38	7,82	8,24
	Sensible cooling capacity	kW	1,91	2,33	3,12	5,31	5,88
	Water flow	l/h	391	571	752	1342	1414
	Water pressure drop	kPa	7,0	8,6	13,3	15,4	16,0
Speed 4	Total cooling capacity	kW	2,06	2,84	3,82	6,49	7,14
	Sensible cooling capacity	kW	1,60	1,92	2,69	4,37	4,97
	Water flow	l/h	354	487	655	1114	1225
	Water pressure drop	kPa	6,3	7,3	11,5	12,3	14,0
Speed 5	Total cooling capacity	kW	1,78	2,27	3,25	5,10	5,65
	Sensible cooling capacity	kW	1,31	1,51	2,24	3,36	3,80
	Water flow	l/h	305	389	558	875	969
	Water pressure drop	kPa	4,6	5,2	8,7	7,1	9,0
Speed 6	Total cooling capacity	kW	1,42	1,54	2,51	3,86	4,23
	Sensible cooling capacity	kW	0,97	1,02	1,69	2,50	2,83
	Water flow	l/h	244	264	431	662	726
	Water pressure drop	kPa	3,2	3,5	6,0	5,8	4,8
Water content	l	1,34	2,12	2,12	4,26	4,26	

Data referred to models YKEY, YKEY/M, YKEY/H, YKEY/HM and YKEY900.

1

2

3

4

5

6

7

8

9

10

11

9.4 HEATING CAPACITIES, 2 PIPE SYSTEM

ROOM TEMPERATURE: 20 °C d.b. - 50% R. H. - WATER TEMPERATURE: 50 °C

Size		621	622	623	921	922	
Speed 1	Heating total capacity	kW	3,36	4,92	5,85	11,06	11,74
	Water flow	l/h	476	688	810	1656	1714
	Water pressure drop	kPa	7,7	11,9	7,0	21,5	22,0
Speed 2	Heating total capacity	kW	2,74	4,50	5,56	10,40	11,00
	Water flow	l/h	432	631	781	1481	1647
	Water pressure drop	kPa	7,0	9,1	5,3	18,9	17,5
Speed 3	Heating total capacity	kW	2,48	4,07	5,40	8,96	9,50
	Water flow	l/h	391	571	752	1342	1414
	Water pressure drop	kPa	6,3	6,5	4,6	14,5	16,0
Speed 4	Heating total capacity	kW	2,24	3,34	4,60	7,63	8,10
	Water flow	l/h	354	487	655	1114	1225
	Water pressure drop	kPa	5,7	5,3	3,4	11,3	10,1
Speed 5	Heating total capacity	kW	1,83	2,59	3,82	5,64	6,25
	Water flow	l/h	305	389	558	875	969
	Water pressure drop	kPa	3,4	2,1	2,9	6,0	8,0
Speed 6	Heating total capacity	kW	1,42	1,75	2,87	4,31	4,77
	Water flow	l/h	244	264	431	662	726
	Water pressure drop	kPa	2,2	1,4	2,2	4,8	4,0
Water content		l	1,34	2,12	2,12	4,26	4,26

Data referred to models YKEY, YKEY/M, YKEY/H, YKEY/HM and YKEY900.

9.5 COOLING CAPACITIES, 4 PIPE SYSTEM



ROOM TEMPERATURE: 27 °C d.b. - 48% R. H. - WATER TEMPERATURE: 7/12 °C

Size		641	642	643	941	942	
Speed 1	Total cooling capacity	kW	1,92	3,45	3,88	8,52	9,04
	Sensible cooling capacity	kW	1,79	2,63	3,15	6,59	7,14
	Water flow	l/h	330	591	666	1462	1551
	Water pressure drop	kPa	8,2	12,4	16,7	28,0	32,0
Speed 2	Total cooling capacity	kW	1,75	3,11	3,78	7,49	8,83
	Sensible cooling capacity	kW	1,61	2,34	2,97	5,74	6,69
	Water flow	l/h	301	534	649	1285	1515
	Water pressure drop	kPa	7,4	11,2	15,1	23,2	29,7
Speed 3	Total cooling capacity	kW	1,60	2,82	3,53	6,66	7,50
	Sensible cooling capacity	kW	1,46	2,12	2,78	4,82	5,58
	Water flow	l/h	274	483	606	1143	1287
	Water pressure drop	kPa	6,7	8,8	13,9	18,0	23,0
Speed 4	Total cooling capacity	kW	1,51	2,48	3,23	5,67	6,60
	Sensible cooling capacity	kW	1,34	1,77	2,45	4,02	4,74
	Water flow	l/h	258	426	554	973	1132
	Water pressure drop	kPa	5,8	7,8	11,9	14,1	17,6
Speed 5	Total cooling capacity	kW	1,34	2,04	2,84	4,50	5,20
	Sensible cooling capacity	kW	1,14	1,41	2,07	3,10	3,60
	Water flow	l/h	230	350	487	772	892
	Water pressure drop	kPa	4,8	5,7	9,3	8,9	12,0
Speed 6	Total cooling capacity	kW	1,10	1,39	2,25	3,41	3,44
	Sensible cooling capacity	kW	0,84	0,96	1,58	2,30	2,50
	Water flow	l/h	188	239	386	585	590
	Water pressure drop	kPa	3,6	3,9	6,6	5,0	9,6
Water content	l	1,34	2,12	2,12	4,26	4,26	

Data referred to models YKEY, YKEY/M, YKEY/H, YKEY/HM and YKEY900.

1

2

3

4

5

6

7

8

9

10

11

9.6 HEATING CAPACITIES, 4 PIPE SYSTEM (ADDITIONAL 1 ROW COIL)

ROOM TEMPERATURE: 20 °C d.b. - 50% R. H. - WATER TEMPERATURE: 70/60 °C

Size		641	642	643	941	942	
Speed 1	Heating total capacity	kW	2,81	3,45	3,83	8,32	8,86
	Water flow	l/h	247	303	337	731	778
	Water pressure drop	kPa	8,6	14,5	18,9	36,1	40,9
Speed 2	Heating total capacity	kW	2,33	3,13	3,79	7,53	8,50
	Water flow	l/h	205	275	333	661	747
	Water pressure drop	kPa	7,2	13,1	17,5	30,8	38,2
Speed 3	Heating total capacity	kW	2,12	2,83	3,53	6,73	7,56
	Water flow	l/h	186	249	310	591	664
	Water pressure drop	kPa	6,2	10,2	16,3	24,7	31,1
Speed 4	Heating total capacity	kW	1,95	2,56	3,25	5,98	6,62
	Water flow	l/h	171	225	286	525	581
	Water pressure drop	kPa	4,8	9,2	14,2	19,4	24,4
Speed 5	Heating total capacity	kW	1,72	2,12	2,91	4,84	5,58
	Water flow	l/h	151	186	256	425	490
	Water pressure drop	kPa	3,6	6,6	11,0	13,6	18,0
Speed 6	Heating total capacity	kW	1,41	1,44	2,34	3,93	4,99
	Water flow	l/h	124	126	205	345	438
	Water pressure drop	kPa	3,0	4,5	7,8	9,7	14,6
Water content		l	1,34	2,12	2,12	4,26	4,26

Data referred to models YKEY, YKEY/M, YKEY/H, YKEY/HM and YKEY900.

9.7 ELECTRICAL DATA



POWER SUPPLY: 230-1-50 (V-ph-Hz)

Size		621	622	623	921	922	641	642	643	941	942
Nominal absorbed power [W]	Speed 1	64	64	86	149	161	64	64	86	149	164
	Speed 2	53	53	70	129	141	52	52	70	127	141
	Speed 3	46	46	60	107	111	46	46	60	107	117
	Speed 4	34	34	45	80	94	34	34	45	80	101
	Speed 5	24	24	31	57	57	23	23	31	57	57
	Speed 6	15	15	20	33	42	15	15	20	33	42
Nominal absorbed current [A]	Speed 1	0,31	0,31	0,38	0,72	0,78	0,31	0,31	0,38	0,72	0,68
	Speed 2	0,25	0,25	0,30	0,62	0,68	0,25	0,25	0,30	0,62	0,62
	Speed 3	0,21	0,21	0,26	0,52	0,54	0,21	0,21	0,26	0,52	0,51
	Speed 4	0,16	0,16	0,19	0,39	0,45	0,16	0,16	0,19	0,39	0,45
	Speed 5	0,11	0,11	0,13	0,28	0,28	0,11	0,11	0,13	0,28	0,27
	Speed 6	0,07	0,07	0,09	0,16	0,20	0,07	0,07	0,09	0,16	0,20

Data referred to models YKEY, YKEY/M, YKEY/H, YKEY/HM and YKEY900.



Electrical data refer to standard YKEY cassette units with clean filter and without external static pressure. A dirty filter or an external air pressure drop will lower the absorbed power level. The installation of electric accessories increases the absorbed power level.

9.8 WORKING OPERATION LIMITS

The YKEY Cassette units can work correctly only if the following operational limits are respected:

- Max. operating pressure (water side): 1600 kPa
- Min. inlet cold water temperature: 5 °C
- Max. inlet cold water temperature: 20 °C
- Min. inlet hot water temperature: 35 °C
- Max. inlet hot water temperature: 85 °C

For more detailed information, please use the YORK software for selection.

1

2

3

4

5

6

7

8

9

10

11

10. NOISE LEVELS

1

10.1 SOUND POWER

2

The acoustic emission characteristics of any noise source is defined as its **«sound power»** (SWL). This typical measurement indicates the total radiated energy which does not vary for a given noise source; that is, it does not depend on the observer, location, distance or any other factor which is not part of the source. Following please find the values of the sound power level.

3

10.2 SOUND PRESSURE IN A CLOSED ENVIRONMENT

4

The perceived noise radiated from a sound source is something quite different: noise perception is indicated by its **«sound pressure»** (SPL). Even though it is caused by the emission of a sound energy, it greatly depends on the environment through which the sound travels, on the distance from the source and on all other circumstances that are not directly related to the primary noise source.

5

Besides the distance from the source, the most important factor that influences the **«sound pressure»** (and, as a result, the perceived noise) in a closed environment is the amount of sound energy reflected off surfaces that have a greater or lesser reflection capacity: it depends, therefore, on the re-transmission of sound energy (power) acting upon reflecting surfaces.

6

Covering the walls with sound absorbing material (i.e. material with a low sound reflecting capacity) is the most effective way to reduce the noise level in a closed environment.

7

The following values indicate the sound pressure emitted by the cassette unit, calculated at 1,5 meter distance and with a reverberation time of 0,3 seconds. By using the YORK software for selection it is possible to calculate the new sound pressure level obtained by changing the parameters: room volume, distance from the noise source and reverberation time. The reverberation time measures the sound characteristics of a room: it increases as the room dimensions increase and decreases as the sound absorption capacity of the structure increases.

8

9

10

11


SOUND POWER LEVEL

		dB(A)
Model 621	Fan speed 1	53,3
	Fan speed 2	49,0
	Fan speed 3	47,4
	Fan speed 4	40,0
	Fan speed 5	34,0
	Fan speed 6	30,0
Model 622	Fan speed 1	53,3
	Fan speed 2	49,0
	Fan speed 3	47,4
	Fan speed 4	40,0
	Fan speed 5	34,0
	Fan speed 6	30,0
Model 623	Fan speed 1	58,0
	Fan speed 2	57,1
	Fan speed 3	55,3
	Fan speed 4	51,3
	Fan speed 5	45,8
	Fan speed 6	38,0
Model 641	Fan speed 1	53,3
	Fan speed 2	49,0
	Fan speed 3	47,4
	Fan speed 4	40,0
	Fan speed 5	34,0
	Fan speed 6	30,0
Model 642	Fan speed 1	53,3
	Fan speed 2	49,0
	Fan speed 3	47,4
	Fan speed 4	40,0
	Fan speed 5	34,0
	Fan speed 6	30,0
Model 643	Fan speed 1	58,0
	Fan speed 2	57,1
	Fan speed 3	55,3
	Fan speed 4	50,0
	Fan speed 5	45,8
	Fan speed 6	37,0
Model 921	Fan speed 1	59,5
	Fan speed 2	54,0
	Fan speed 3	49,7
	Fan speed 4	45,0
	Fan speed 5	38,7
	Fan speed 6	30,0
Model 922	Fan speed 1	61,0
	Fan speed 2	56,7
	Fan speed 3	53,0
	Fan speed 4	45,4
	Fan speed 5	40,0
	Fan speed 6	31,4
Model 941	Fan speed 1	59,5
	Fan speed 2	54,0
	Fan speed 3	49,7
	Fan speed 4	45,0
	Fan speed 5	38,7
	Fan speed 6	30,0
Model 942	Fan speed 1	63,0
	Fan speed 2	56,7
	Fan speed 3	55,0
	Fan speed 4	45,4
	Fan speed 5	40,0
	Fan speed 6	31,4

Data referred to models YKEY, YKEY/M, YKEY/H, YKEY/HM and YKEY900.

SOUND PRESSURE LEVEL IN A CLOSED ENVIRONMENT

		dB(A)
Model 621	Fan speed 1	43,8
	Fan speed 2	39,5
	Fan speed 3	37,9
	Fan speed 4	30,5
	Fan speed 5	24,5
	Fan speed 6	20,5
Model 622	Fan speed 1	43,8
	Fan speed 2	39,5
	Fan speed 3	37,9
	Fan speed 4	30,5
	Fan speed 5	24,5
	Fan speed 6	20,5
Model 623	Fan speed 1	48,5
	Fan speed 2	47,6
	Fan speed 3	45,8
	Fan speed 4	41,8
	Fan speed 5	36,3
	Fan speed 6	28,5
Model 641	Fan speed 1	43,8
	Fan speed 2	39,5
	Fan speed 3	37,9
	Fan speed 4	30,5
	Fan speed 5	24,5
	Fan speed 6	20,5
Model 642	Fan speed 1	43,8
	Fan speed 2	39,5
	Fan speed 3	37,9
	Fan speed 4	30,5
	Fan speed 5	24,5
	Fan speed 6	20,5
Model 643	Fan speed 1	48,5
	Fan speed 2	47,6
	Fan speed 3	45,8
	Fan speed 4	40,5
	Fan speed 5	36,3
	Fan speed 6	27,5
Model 921	Fan speed 1	50,0
	Fan speed 2	44,5
	Fan speed 3	40,2
	Fan speed 4	35,5
	Fan speed 5	29,2
	Fan speed 6	20,5
Model 922	Fan speed 1	51,5
	Fan speed 2	47,2
	Fan speed 3	43,5
	Fan speed 4	35,9
	Fan speed 5	30,5
	Fan speed 6	21,9
Model 941	Fan speed 1	50,0
	Fan speed 2	44,5
	Fan speed 3	40,2
	Fan speed 4	35,5
	Fan speed 5	29,2
	Fan speed 6	20,5
Model 942	Fan speed 1	53,5
	Fan speed 2	47,2
	Fan speed 3	45,5
	Fan speed 4	35,9
	Fan speed 5	30,5
	Fan speed 6	21,9

Data referred to models YKEY, YKEY/M, YKEY/H, YKEY/HM and YKEY900.

In order to select the YKEY Cassette units with calculating conditions differing from the standard ones, please use the YORK software selection.

1

2

3

4

5

6

7

8

9

10

11

11. ELECTRICAL CONNECTIONS

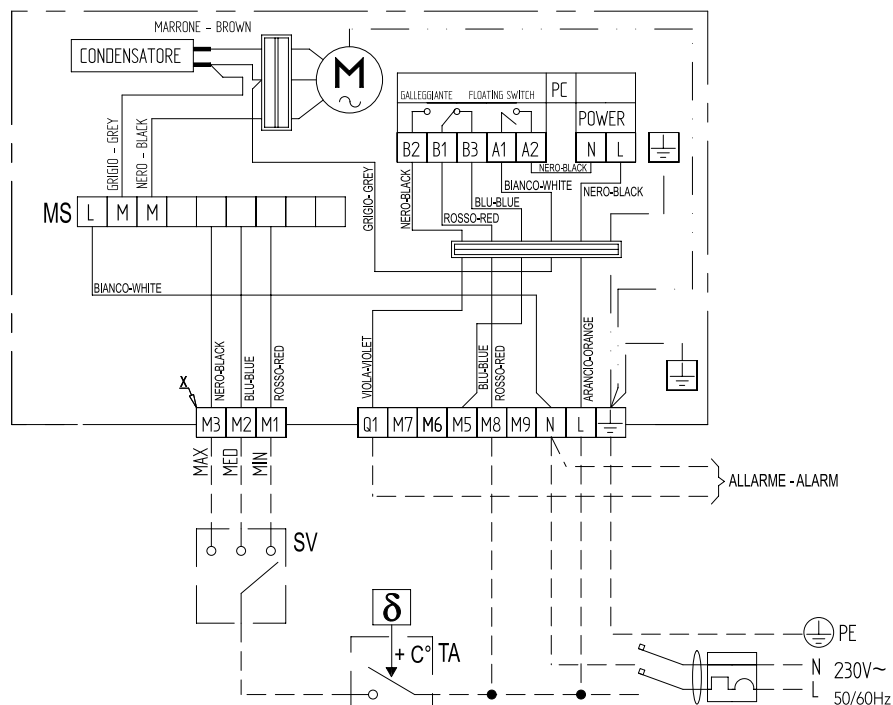
LEGEND (for all the electric diagrams)

M	Fan motor	RE	Electric heater
MS	Terminal board for motor	PR	Relay card
SV	Fan speed selector	PC	Condensate pump
PE	Earth	TSRM	Safety thermostat with manual resetting
N	Neutral	TSRA	Safety thermostat with automatic resetting
L	Phase	X	Terminal board
EV	Regulating valve: EVC for cooling; EVH for heating	TA	Room thermostat
		I/E	Summer/Winter changeover

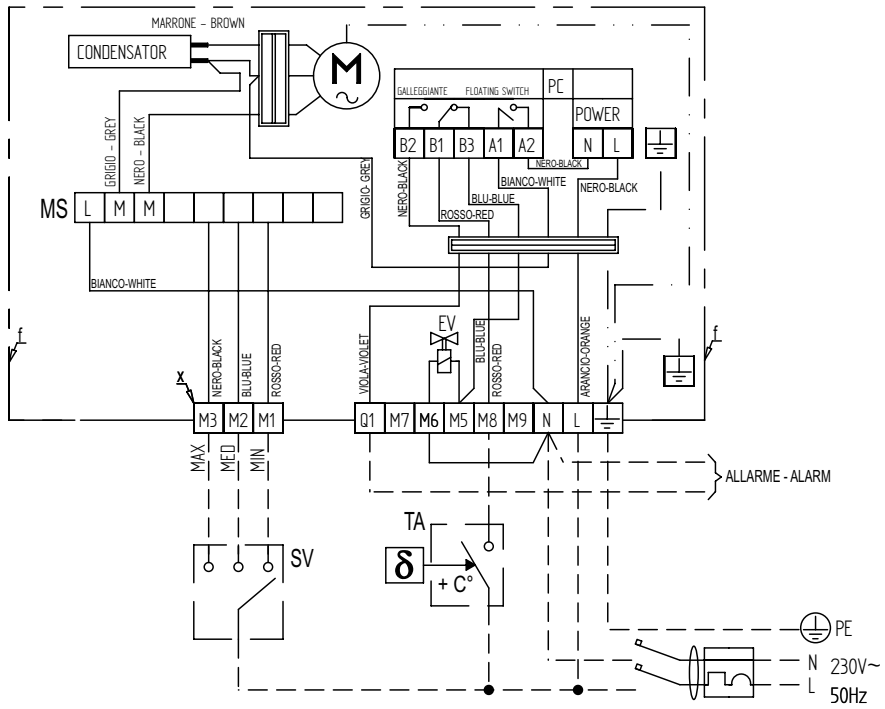
NOTE. If other configurations are required, different from the standard ones, please refer to the instruction manual of every specific YORK regulator.

The following wiring diagrams are the most frequently used for cassette applications:

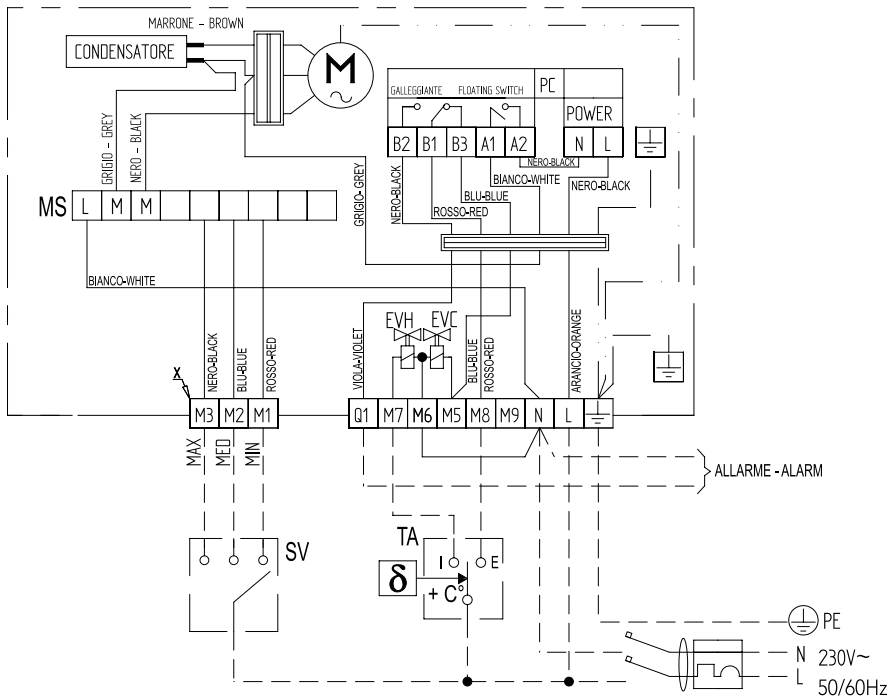
QEC00 (YKEY, YKEY/M, YKEY900)



QEC00-EV (YKEY, YKEY/M, YKEY900)



QEC00-EVC-EVH (YKEY, YKEY/M, YKEY900)



1

2

3

4

5

6

7

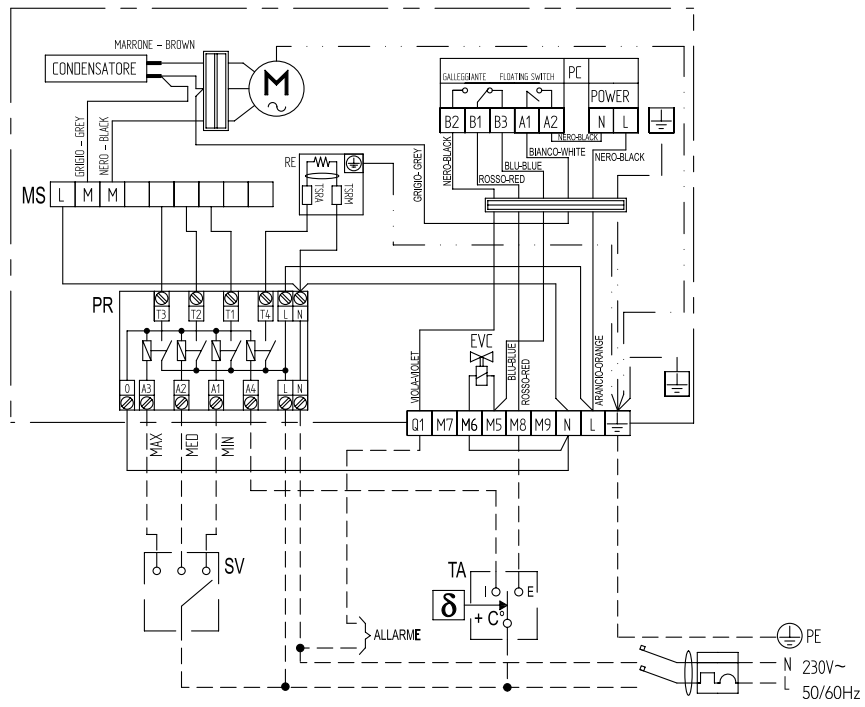
8

9

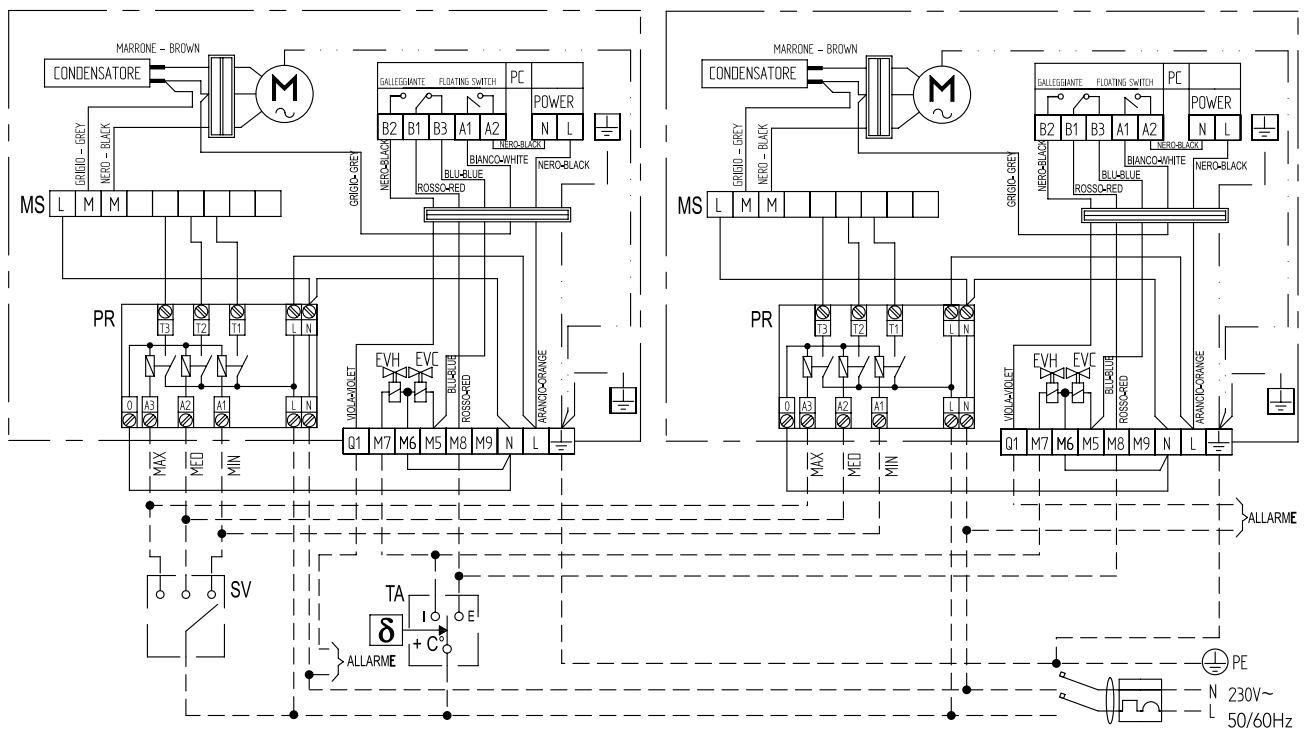
10

11

QEC20-EV-RE (YKEY, YKEY/M, YKEY900)



QEC20-EVC-EVH MASTER/SLAVE (YKEY, YKEY/M, YKEY900)



1

2

3

4

5

6

7

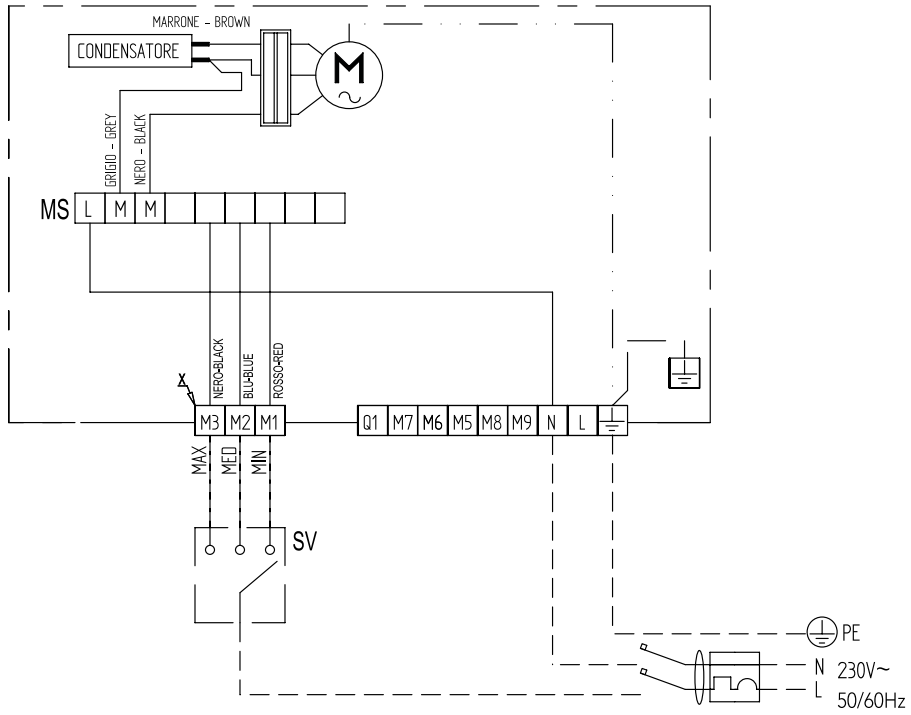
8

9

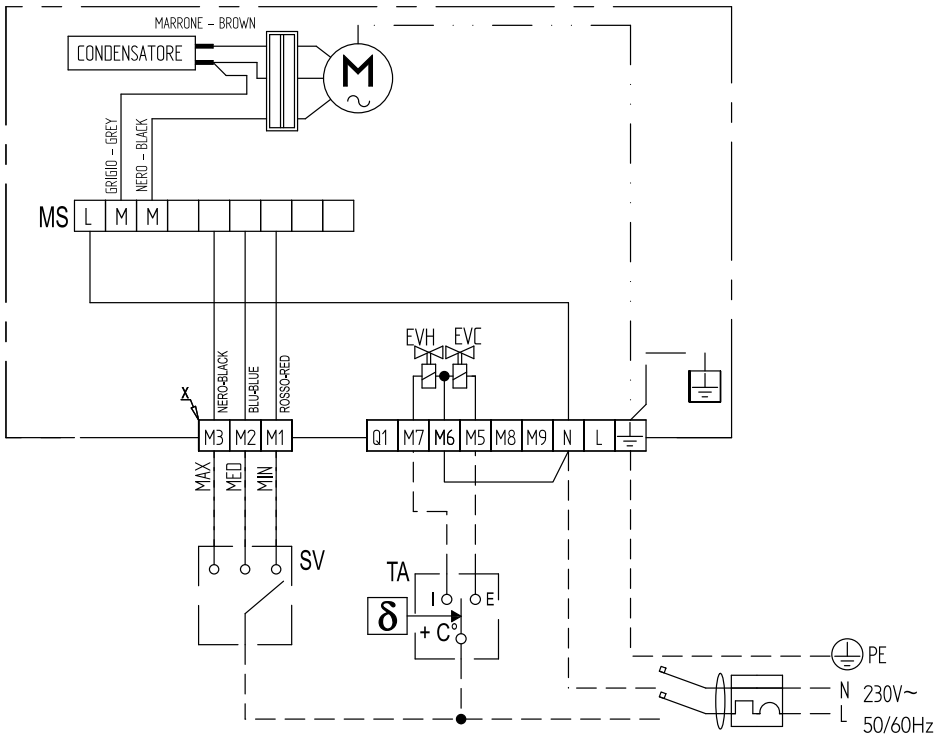
10

11

QEC00 (YKEY/H)



QEC00-EVC-EVH (YKEY/H)

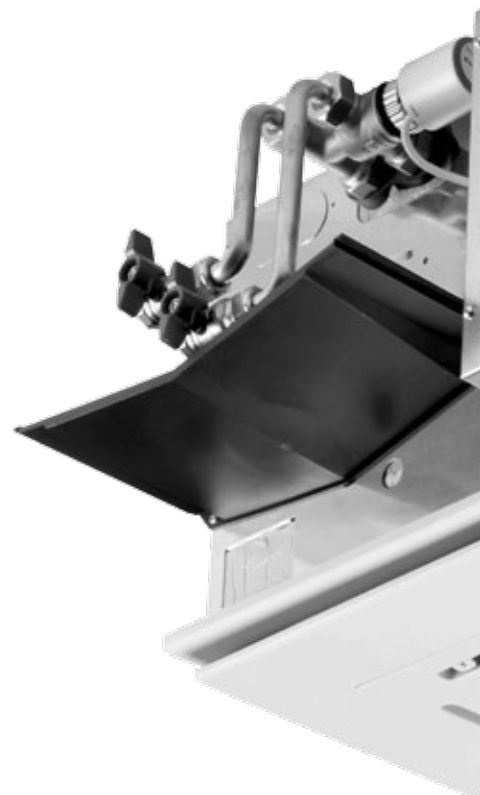


- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



**JOHNSON CONTROLS INC.
MAYNE HOUSE, JUNIPER PARK
FENTON WAY, BASILDON
ESSEX, SS15 6RZ
UNITED KINGDOM**

MT-YKEY-YORK - EN1700



CE



www.eurovent-certification.com
www.certiflash.com

As programs and technologies are always improving, description, data and drawings must be intended as merely indicative and can be modified without any notice.