INSTALLATION, USE AND MAINTENANCE MANUAL

air control
INDOOR COMFORT SOLUTIONS

URC 80 EC

HIGH EFFICIENCY HEAT RECOVERY

INDEX

1 GENERAL 4

1.1.1 INTRODUCTION 4

1.1.2 FUNDAMENTAL SAFETY RULES  4

1.1.3 SYMBOLOGY 5

1.1.4 WARNINGS 5

1.1.5 CONFORMITY 6

1.1.6 RANGE 6

1.1.7 IDENTIFICATION  6

1.1.8 CONSTRUCTION FEATURES 7

1.1.9 MAIN COMPONENTS OF THE UNIT 8

1.1.10 PACKAGING AND TRANSPORT 8

1.1.11 RECEPTION, CONTROL AND HANDLING  8

1.1.12 DISASSEMBLY AND DISPOSAL  8

2 INSTALLATION 9

2.1.1 INSTALLATION CONDITIONS  9

2.1.2 UNIT POSITIONING  9

2.1.3 ANCHOR BRACKETS  10

CONDENSATE DRAIN CONNECTION  11

3 AREAULIC CONNECTIONS 11

3.1.1 AREAULIC CONNECTIONS  11

3.1.2 CONFIGURATIONS AND MODIFICATION OF AIR ORIENTATIONS 12

4 ELECTRICAL CONNECTIONS 13

4.1.1 GENERAL INFORMATION  13

4.1.2 ADJUSTMENTS  14

4.1.3 BASIC ADJUSTMENT 14
4.1.4 EVO REGULATION 18
4.1.5 ON-OFF ELECTRIC BATTERY ACCESSORY CONNECTION -BE- 21
4.1.6 ELECTRIC BATTERY ACCESSORY CONNECTION COMPLETE WITH ADJUSTMENT -BER- 22
4.1.7 ACCESSORY CONNECTION OF WATER HEATING COIL -BAC- 22
4.1.8 ACCESSORY CONNECTION WATER COOLING -BAF- 22
4.1.9 RAINPROOF ROOF CONNECTION FOR EXTERNAL INSTALLATION-TVE / THE 23
5 MAINTENANCE 23
5.1.1 CLEANING OR REPLACING FILTERS 23
5.1.2 CLEANING THE HEAT EXCHANGER 24
5.1.3 GENERAL UNIT CLEANING 24
6 ALARMS 25
6.1.1 GENERAL INFORMATION 25
7 REGULATORY COMPLIANCE 26
7.1.1 GENERAL INFORMATION 26
7.1.2 REGULATIONS 26
8 NOTES AND MAINTENANCE INFORMATION 27

1 GENERAL

1.1.1 INTRODUCTION

This manual was conceived with the aim of making the installation and management of your system as simple as possible.

By reading and applying the suggestions in this manual, you will be able to obtain the best performance from the product purchased.

We would like to thank you for the choice you made with the purchase of our product.

Read this manual carefully before carrying out any operation on the unit.

You must not install the unit, nor carry out any work on it, if you have not first carefully read and understood this manual.

all its parts. All precautions listed in the manual must be taken.

The documentation accompanying the unit must be delivered to the system manager so that he can keep it carefully (at least 10 years) for any future assistance, maintenance and repairs.

The installation of the unit must consider both the purely technical requirements for good operation and any local legislation

in force and specific provisions.

Make sure that when the unit is delivered, there are no obvious signs of damage caused by transport. In this case, indicate it on the delivery note.

This manual reflects the state of the art at the time the machine was marketed and cannot be considered inadequate because it was subsequently updated based on new experiences. The Manufacturer reserves the right to update production and manuals, without the obligation to update the previous ones, except in exceptional cases.

Contact the Manufacturer's Sales Office to receive further information or updates to the technical documentation and for any proposal to improve this manual. All reports received will be rigorously examined.

1.1.2 FUNDAMENTAL SAFETY RULES

We remind you that the use of products that use electricity and water requires compliance with some fundamental safety rules:

- The use of the appliance by disabled and unaided people is prohibited
- It is forbidden to touch the appliance with bare feet or with wet or damp parts of the body
- Any cleaning operation is prohibited before having disconnected the appliance from the electrical power supply by positioning the main switch of the system to off
- It is forbidden to modify the safety or regulation devices without the authorization and indications of the appliance manufacturer
- It is forbidden to pull, detach or twist the electrical cables protruding from the appliance, even if it is disconnected from the electrical power supply.
- It is forbidden to introduce objects and substances through the air intake and delivery grilles.
- It is forbidden to open the access doors to the internal parts of the appliance without first having set the main system switch to off.
- It is forbidden to disperse and leave the packaging material within the reach of children as it can be a potential source of danger.
- Respect the safety distances between the machine and other equipment or structures to ensure sufficient access space to the unit for maintenance and assistance operations as indicated in this booklet.
- The unit must be powered with electrical cables of a section suitable for the power of the unit. The voltage and frequency values must correspond to those indicated for the respective machines; all machines must be earthed as per the regulations in force in the various countries.
- Do not release R134A into the atmosphere: R134A is a fluorinated greenhouse gas, referred to in the Kyoto Protocol, with a global warming potential (GWP)=1975.

1.1.3 SYMBOLOGY

The symbols shown in the following booklet allow you to quickly provide information necessary for the correct use of the unit.

Safety related symbols

	**ATTENTION** Only authorized personnel	Warns that the operations indicated are important for the safe operation of the machines
	**DANGER** Risk of electric shock	Warns that failure to comply with the instructions poses a risk of electric shock.
	DANGER	Warns that failure to comply with the requirements entails a risk of harm to exposed people.
	**WARNING**	Warns that failure to comply with the instructions entails a risk of damage to the unit or system.
	**DANGER**	It warns that there are moving parts and poses a risk of harm to exposed people

1.1.4 WARNINGS

	The installation of the unit must be carried out by qualified and authorized personnel according to the regulations in force in the various countries. If the installation is not performed correctly, it could become a dangerous situation.
	Avoid installing the unit in very humid rooms or with large heat sources.
	On the electrical side, to prevent any risk of electrocution, it is essential to disconnect the main switch before carrying out electrical connections and any maintenance operations.
	In the event of water leaks inside the unit, set the main switch of the system to "Off", close the taps of the water and contact the technical service
	It is recommended to use a dedicated power circuit; Never use a shared power supply with other appliances.
	It is recommended to install a ground leakage breaker; Failure to install this device may cause shock electric.
	To connect, use a cable of sufficient length to cover the entire distance, without any connection; do not use extension cords and do not apply other loads to the power supply but use a dedicated power circuit.

	After connecting the electrical cables, make sure that the cables are routed so as not to exert excessive forces on the covers or electrical panels; any incomplete connection of the covers may cause the terminals to overheat.
	Make sure the earth connection is made; do not earth the appliance on distribution pipes. High intensity momentary surges could damage the unit
	Installations carried out outside the warnings in this manual or use outside the operating limits will void the warranty the guarantee instantly.
	Make sure that the first commissioning is carried out by personnel authorized by the company (see first commissioning request form)

1.1.5 CONFORMITY

The CE marking (present on each machine) certifies compliance with the following community standards:

- Machinery Directive 2006/42/EC
- Low Voltage Directive 2014/35/EC
- Electromagnetic Compatibility Directive 2014/30/EC

1.1.6 RANGE

	-1-	-2-
URC 80 EC	400	S

(1) Defines the maximum flow rate
Models from: 400 Mc/h to 4500 Mc/h

2) Electronic version
S: Standard Electronics
E: Advanced Electronics

1.1.7 IDENTIFICATION

The unit is identifiable by the plate located on the lower front panel of the unit.

On the packaging there will be an additional identification plate with the model of the unit and the shipping references.

The plate on the packaging has no value for the traceability of the product in the years following the sale.

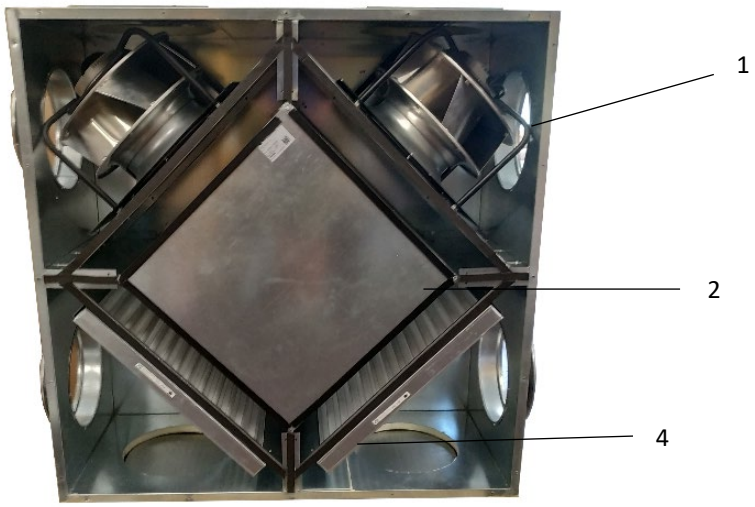
The removal, deterioration and illegibility of the plate placed on the unit causes major problems in identifying the machine, in the availability of spare parts and therefore in any future maintenance.

1.1.8 CONSTRUCTION FEATURES

URC 80 is a ventilation unit complete with heat recuperator dedicated to air exchange without wasting energy.
The unit is particularly suitable for commercial premises or collective residential buildings and in all cases where the nominal flow rates for air exchange do not exceed 4500 m3/h.

STRUCTURE:	Self-supporting sheet metal load-bearing structure, with perimeter sealing gasket. 25 mm thick galvanized sheet metal sandwich panels. insulated in polyurethane foam with a density of 42 kg/m3. Internal carpentry and cladding in very thick galvanized sheet metal.
HEAT EXCHANGER:	Cross-flow aluminum exchanger (80% Erp 2018). Summer and winter operation. Eurovent certified recovery performance
SUMMER BYPASS:	Summer bypass with motorized damper installed.
FANS:	Brushless fans with electronic motor and modulating control. Very high efficiency and low noise levels ErP2018
FILTERS:	Filters with low efficiency pressure drop ePM 1 - 70 % (F7) on the fresh air ePM 10 - 50 % (M5) on the extracted air. Easy extraction for routine maintenance, extraction side according to configuration and drawings
AVAILABILITY AND VERSIONS	8 models with horizontal or vertical development For all configurations it is possible to change the orientation of the outlets on site (further details in the data sheet and technical drawings). Two control versions: BASE / EVO BASIC VERSION Simple electrical setup for quick connection of the unit to the mains. EVO VERSION Solution with electrical panel on board the unit complete with microprocessor and dedicated regulation. Management of modulating fans, display of internal machine temperature probes, dirty filter management with pressure switches, free-cooling management with temperature probes. Management of water and electric pre- and post-heating-cooling batteries. Management of on-off and 2-3 point valves. Wifi connection and possibility of management via dedicated app (available on IOS and Android). Each version can be completed by the dedicated control (BASE or EVO, accessory on request) The URC 80 units are suitable for internal, ceiling or floor installation and external installation with canopy (additional accessory). Electric coils (external to the structure) and modules with heating or cooling coil (water supply fluid) are available for the URC 80 units. Other accessories and possible adjustments according to technical data sheet and price list.

1.1.9 MAIN COMPONENTS OF THE UNIT



1. Fan
2. Heat exchanger
3. Exchanger bypass system
4. Air filters

1.1.10 PACKAGING AND TRANSPORT

The units are supplied for transport fixed on a wooden pallet and inserted in cardboard boxes. To facilitate movement, the units are equipped with a wooden pallet and hooks on the base that allow them to be lifted and positioned on the installation site. The unit can be stored in a room protected from atmospheric agents with temperatures not lower than 0°C, up to a maximum of 40°C.

1.1.11 RECEPTION, CONTROL AND HANDLING

The unit is shipped completely pre-loaded with refrigerant gas in the circuits and non-freeze oil in the compressors. Under no circumstances may there be water in the hydraulic circuits, since after testing the unit is carefully emptied. Upon arrival, the customer is required to inspect the unit also in the internal areas to verify that it has not suffered any damage during transport; the unit left the factory in perfect condition. Otherwise, it is necessary to immediately take action against the carrier by reporting the extent of the damage in detail on the delivery note, producing photographic evidence of the apparent damage and notifying the shipper of any apparent damage by registered mail. The manufacturer does not assume responsibility for damage due to transport even if he himself provided the shipment. Great care must be taken when handling the units during unloading and positioning on site, in order to avoid damage to the casing and more delicate internal components such as compressors, exchangers, etc. In any case, keep the unit in a horizontal position without tilting it. All the indications regarding the necessary precautions to ensure that no damage occurs to the unit and the indication of its weight are shown on the packaging. The materials that make up the packaging can be of various types such as wood, cardboard or polyethylene (plastic). It is good practice to send them for disposal or recycling through specialized companies to reduce their environmental impact.

1.1.12 DISASSEMBLY AND DISPOSAL

Do not disassemble or dispose of the product yourself. The dismantling, demolition and disposal of the product must be carried out by authorized personnel in accordance with local regulations.

2 INSTALLATION

2.1.1 INSTALLATION CONDITIONS

The unit must be installed according to national and local regulations regulating the use of electrical devices and according to the following indications:

install the unit inside residential buildings with an ambient temperature between 0°C and 45°C;

avoid areas near sources of heat, steam, flammable and/or explosive gases and particularly dusty areas;

install the unit in a place not subject to frost (the condensation water must be discharged without freezing, at a certain inclination, using a siphon);

do not install the unit in areas with a high level of relative humidity (such as the bathroom or toilet) to avoid condensation on the external surface;

choose an installation location where there is sufficient space around the unit for the air duct connections and to be able to carry out maintenance work;

the consistency of the ceiling/wall/floor where the unit will be installed must be suitable for the weight of the unit and not cause vibrations.

In the environment chosen for installation there must be:

- air duct connections.

-single-phase or three-phase electrical connection (depending on the URC 80 model to be installed)

-connection for condensate drain

- hydraulic connection

2.1.2 UNIT POSITIONING

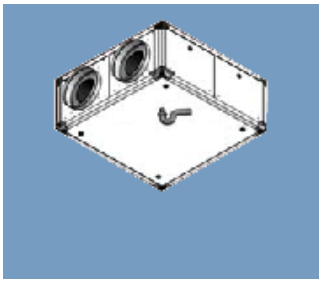
Ceiling Mount – H Unit

To mount the unit on the ceiling you will need:

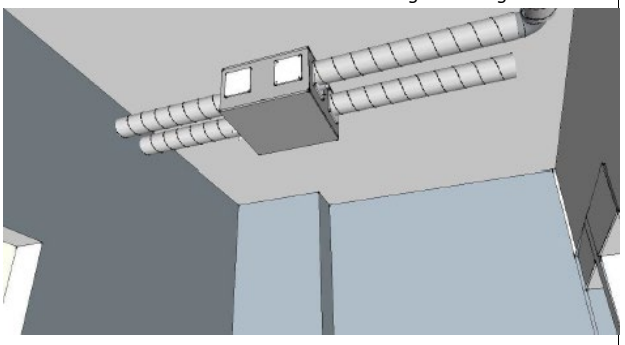
- install the condensate drain kit on the front wall of the unit (cover): remove the caps, insert the threaded pipe from the inside and screw the siphon on the outside;
- fix the unit to the ceiling, using the brackets already installed on the unit and using suitable anchoring systems (plugs, threaded bars, chains...) and check its leveling with the help of a level.

Ensure sufficient space for carrying out maintenance activities: the opening of the unit cover (from below) must be guaranteed.

Do not mount the unit with its sides in direct contact with the walls to avoid possible contact noise, insert rubber or neoprene strips in this case.



Horizontal installation H with ceiling mounting



Ceiling Mount – V Unit

VERSION V - Wall mounting

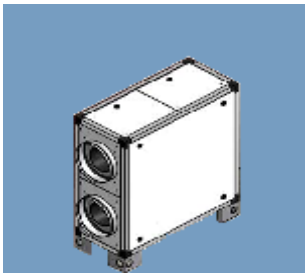
To mount the unit on the wall you will need:

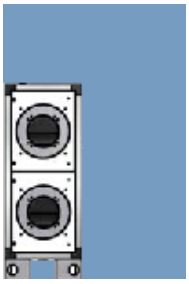
- install the condensate drain kit on the back panel: remove the caps, insert the internal connection pipe and screw the siphon on the outside.
- Place the unit on the floor
- place the 4 mounting brackets on the rear side of the unit only if there is a need for wall anchoring and secure them with the supplied screws after making the holes with a drill (the holes must be drilled on the aluminum frame);

Ensure sufficient space for carrying out maintenance activities: the opening of the

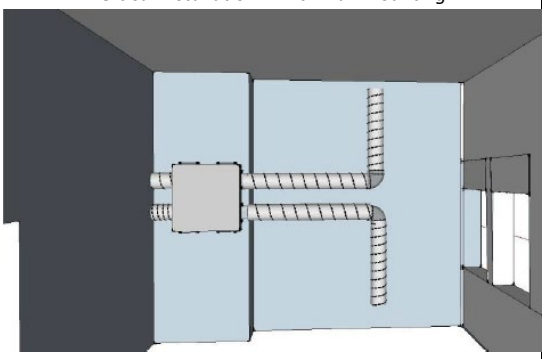
front panel of the unit.

Do not mount the unit with the sides in direct contact with the walls to avoid possible contact noises, insert rubber or neoprene strips in this case.





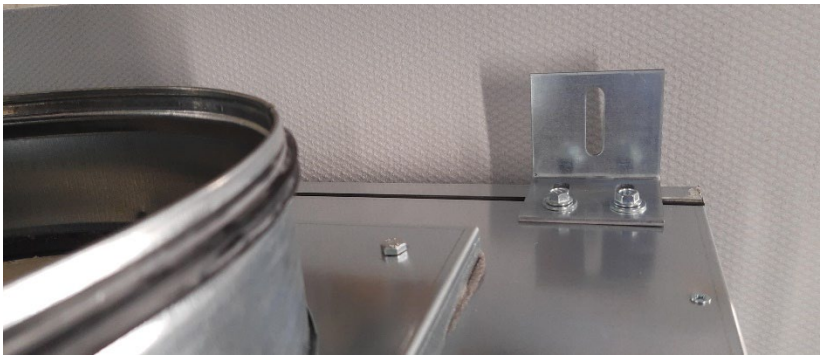
Vertical installation V with wall mounting



2.1.3 ANCHOR BRACKETS

The brackets are already mounted on the unit on the bottom four corners.

They are designed for fixing using dowels and threaded rods



CONDENSATE DRAIN CONNECTION

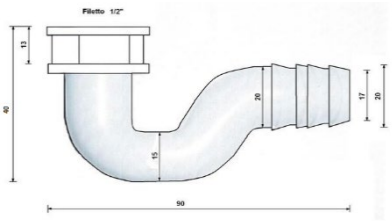
Due to the heat recovery system (the hot expelled air is cooled by the incoming air inside the heat exchanger), the humidity contained in the internal air condenses inside the unit.

For the correct functioning of the heat recuperator, it is therefore necessary to connect a condensate drain to the plumbing system (drain) of the house. Furthermore, to allow the correct flow of condensation water and avoid air suction, the condensation drain must always be equipped with the appropriate siphon supplied.

For the installation of the condensate drain, respect the following regulations:

- give a slope of at least 2% to the drain pipe;
- provide for the possibility of disconnecting the exhaust pipe for any maintenance (in particular in the case of ceiling installation);
- make sure that the drain end of the hose is at least below the water level of the siphon;
- make sure the siphon is always full of water.

Install the condensate drain siphon supplied to avoid unpleasant odors in the room air



3 AREAULIC CONNECTIONS

3.1.1 AREAULIC CONNECTIONS

The unit is equipped with 4 male circular connections of different Ø depending on the size: for optimal operation.

For the correct connection of the air ducts, refer to the following diagram and the stickers placed on the unit.

Table of unit aeraulic connection diameters

MODEL	URC 80	40	70	100	150	200	250	350	450
Diameter DN	OR	160	200	200	315	355	355	400	450

3.1.2 CONFIGURATIONS AND MODIFICATION OF AIR ORIENTATIONS

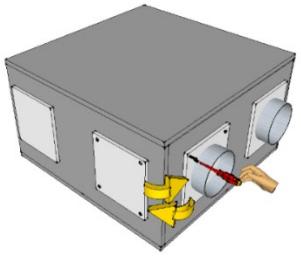
According to the system in which the unit is to be installed, it will be possible to appropriately orient the four aeraulic connections.

Below are the possible configurations:

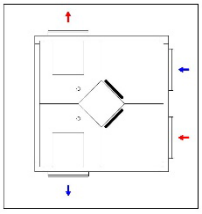
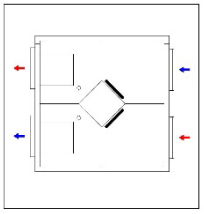
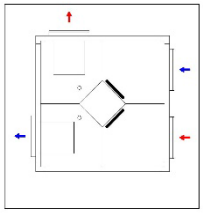
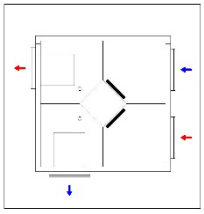
The air connections are configurable during installation through the removable panels.

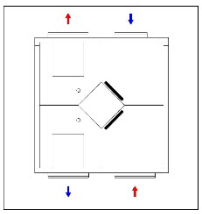
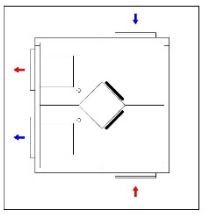
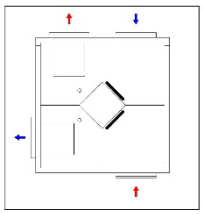
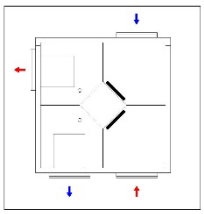
However, it is possible to have the unit already with the desired configuration.

When ordering, in addition to the unit code, the desired connection configuration must also be specified (e.g. URC 80 EC 440-H5)

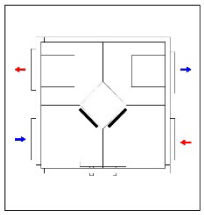
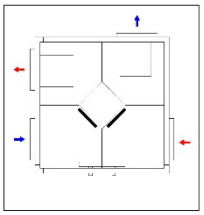
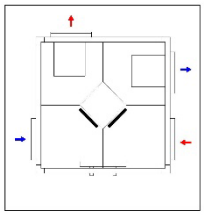
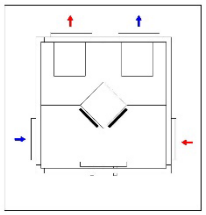


HORIZONTAL VERSION

			
H1	H2	H3	H4

			
H5	H6	H7	H8

VERTICAL VERSION V

			
V1	V2	V3	V4

The units are shown seen from above (H version) and frontally (V version)

Without indicating a configuration, the standard position of the four aeraulic connections in the horizontal version is marked by the abbreviation H5 while for the vertical version the standard position is marked by the abbreviation V1.

The units are shown in the configuration:

Configuration: fresh air = Blue arrows stale air expulsion = red arrows.

(condensate siphon installed on the fan side, red arrow)

Possibility to mirror the indicated configurations (on request)

4 ELECTRICAL CONNECTIONS

4.1.1 GENERAL INFORMATION'

-Before starting any operation to make the electrical connection, make sure that the unit is not electrically powered

-Carry out the necessary electrical connections by consulting exclusively the electrical diagram attached to this manual.

-Install a suitable interruption and differential protection device exclusively for the unit.

-it is essential that the unit is connected to an earthed socket.

-Check that the electrical components chosen for the installation (main switch, circuit breakers, cable section and terminals) are suitable for the electrical power of the installed unit and which take into account the compressor's inrush currents as well as the maximum load that can be reached. THE relative data are indicated on the attached electrical diagram and on the unit's identification plate

-It is forbidden to enter the unit with electrical cables unless specified in this document.

-Use cables and electrical conductors of adequate cross-section and compliant with the regulations in force in the various countries.

-Absolutely avoid running electrical cables in direct contact with pipes or components inside the unit

-After the first few moments of operation, check the tightness of the power terminal screws

Table for sizing the power supply line

Electrical Data

Size	**URC 80 400**	**URC 80 700**	**URC 80 1000**	**URC 80 1500**	**URC 80 2000**	**URC 80 2500**	**URC 80 3500**	**URC 80 4500**

Electrical Data

Supply voltage		230V/1/50Hz					400V / 3+N / 50Hz		
Max power absorbed	W	2 X 100	2 X 145	2 X 305	2 X 305	2 X 305	2 X 990	2 X 990	2 X 1100
Max current absorbed		1.6	2.4	2.8	2.8	2.8	3,4	3,4	3.6
Unit protection degree		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20

4.1.2 ADJUSTMENTS

Each URC 80 unit is equipped with a type of regulation, chosen by the customer.

4.1.3 BASIC ADJUSTMENT

The URC 80 unit is equipped with 2 circular connection boxes, positioned on the outside of the unit.

Each connection box contains the fan terminal block.

The by-pass servocontrol is visible outside the unit with the relative connection cables.

The basic (standard) command is supplied separately to the unit, and includes:

- A 0.10V potentiometer, model 106FE0008, for managing the speed of the fans in parallel.
- A button for manually activating/deactivating the by-pass control

The connections from the terminal blocks on the machine to the basic control are the responsibility of the customer.

For connection, refer to the diagrams below.

With the BASIC adjustment the user can set the speeds of the air supply and extraction fans by acting on the potentiometer knob.

By rotating the knob of the potentiometer 106FE0008 clockwise, you will increase the speed of the fans, and therefore the air flow guaranteed by the unit.

By rotating the knob of the potentiometer 106FE0008 anti-clockwise, the speed of the fans will be decreased, and therefore the air flow guaranteed by the unit.

By pressing the bypass control activation/deactivation button, the user can choose to activate or deactivate the freecooling/freeheating functionality.

If the temperature and humidity conditions of the external air are favorable (for example, particularly hot winter days, or particularly cool summer evenings), the bypass function can be activated.

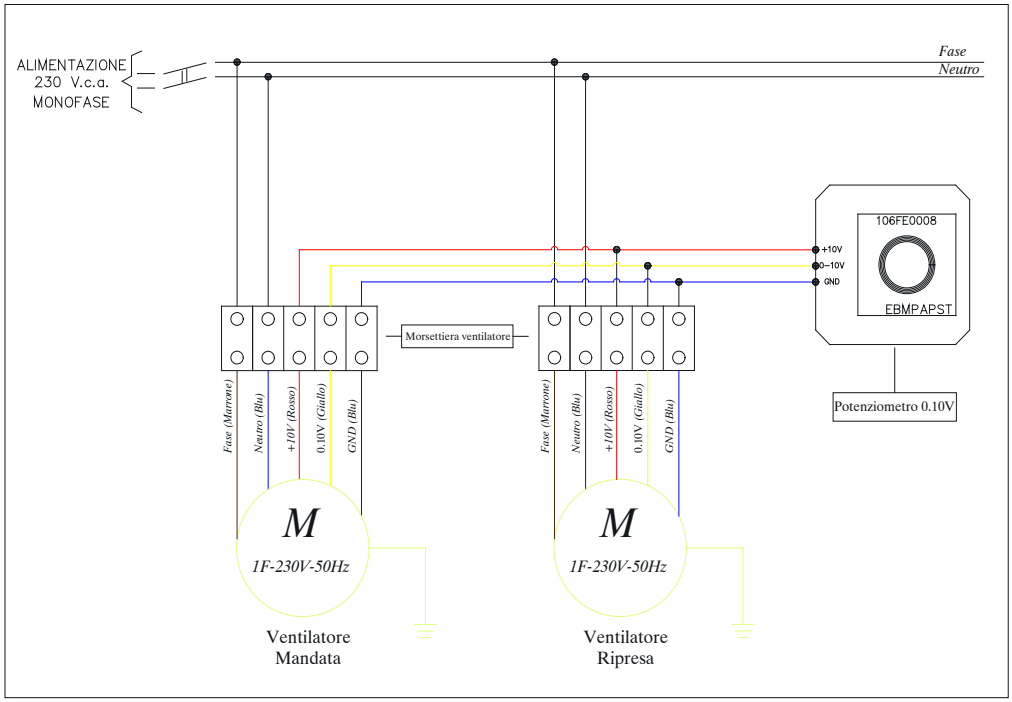
In this way, a channel inside the URC 80 unit will open, allowing a certain quantity of external air to pass (after filtration) directly towards the intake into the environment, and at the same time reducing the supply of external air arriving at the recuperator heat.

You will therefore obtain a more rapid lowering (in the case of freecooling) or higher (in the case of freeheating) of the intake temperature.

Once the favorable thermo-hygrometric conditions of the external air have ended, pressing the bypass control button will close the relevant internal channel of the URC 80 unit, restoring the total exchange of air flows through the heat recuperator.

TYPICAL FAN / POTENTIOMETER CONNECTION

SINGLE-PHASE VERSIONS (UP TO URC 80-2000)



For the connection between fans and 0.10V potentiometer:

- Make sure that the single-phase power supply line is suitable for supporting the loads of the 2 fans (see table for the sizing of the power supply line).
- Make sure fans are properly grounded.
- Connect the NEUTRAL of each fan (BLUE cable of the fan terminal block) to the power supply neutral
- Connect the PHASE of each fan (BROWN cable of the fan terminal block) to the power supply phase
- Connect the GND of each fan (BLUE cable of the fan terminal block) to the GND contact of the 0.10V potentiometer (BLUE cable of the potentiometer).
- Connect the +10V of each fan (RED cable of the fan terminal block) to the +10V contact of the 0.10V potentiometer (RED cable of the potentiometer).
- Connect the 0.10V of each fan (YELLOW cable of the fan terminal block) to the 0.10V contact of the 0.10V potentiometer (YELLOW cable of the potentiometer).

To connect the signals between the fan terminal blocks and the 0.10V potentiometer, use a shielded/braided cable (Belden 8772 type with a minimum section of 1mm).

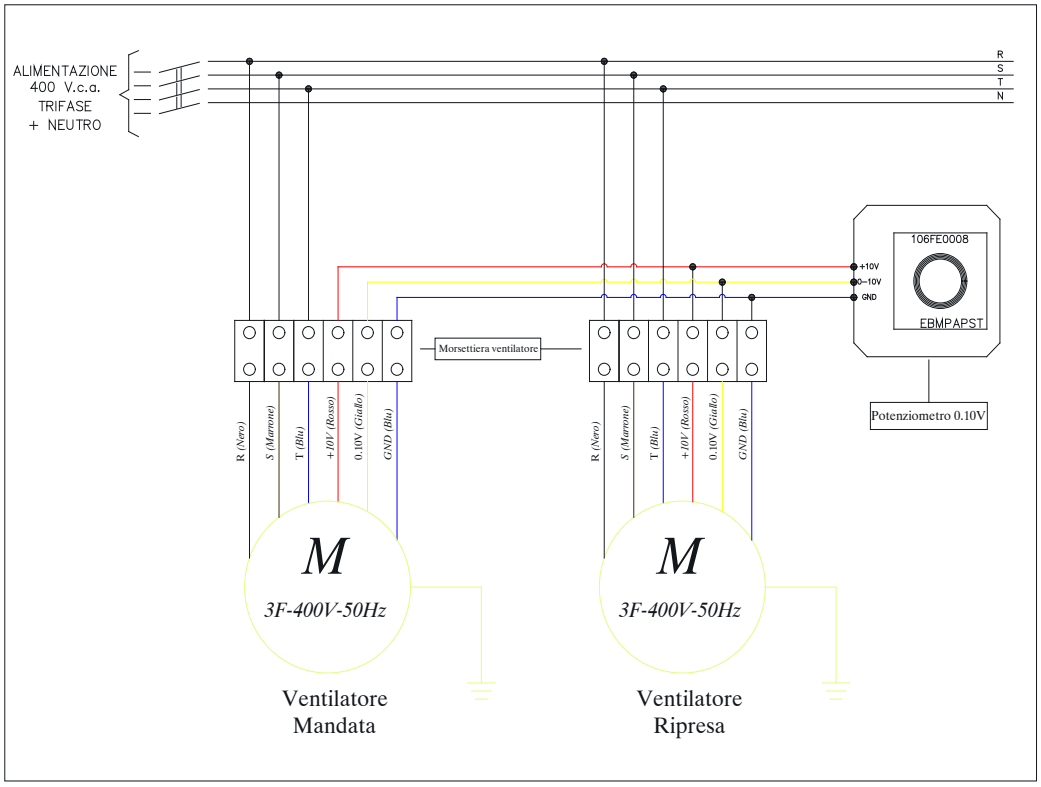
Do not connect different fan signal terminals to the same contact of the 0.10V potentiometer

CHECK THAT THE ABSORBED CURRENT OF THE FANS COMPLIES WITH THE RATED CURRENT STATED ON THE UNIT.

NB: THE COLORS OF THE TERMINAL BLOCK CABLES MAY VARY DEPENDING ON THE UVNR MODEL. ALWAYS REFER TO THE DIAGRAMS ATTACHED IN THE JUNCTION BOX IN CASE OF DIFFERENCES IN THE COLORS

TYPICAL FAN / POTENTIOMETER CONNECTION

THREE-PHASE VERSIONS (from URC 80 2800)



For the connection between fans and 0.10V potentiometer:

- Make sure that the three-phase power supply line is capable of supporting the loads of the 2 fans (see table for the sizing of the power supply line).
- Make sure fans are properly grounded.
- Connect the R phase of each fan (BLACK cable of the fan terminal block) to the R phase of the power supply
- Connect the S phase of each fan (BROWN cable of the fan terminal block) to the S phase of the power supply
- Connect the T phase of each fan (BLUE cable of the fan terminal block) to the T phase of the power supply
- Connect the GND of each fan (BLUE cable of the fan terminal block) to the GND contact of the 0.10V potentiometer (BLUE cable of the potentiometer).
- Connect the +10V of each fan (RED cable of the fan terminal block) to the +10V contact of the 0.10V potentiometer (RED cable of the potentiometer).
- Connect the 0.10V of each fan (YELLOW cable of the fan terminal block) to the 0.10V contact of the 0.10V potentiometer (YELLOW cable of the potentiometer).

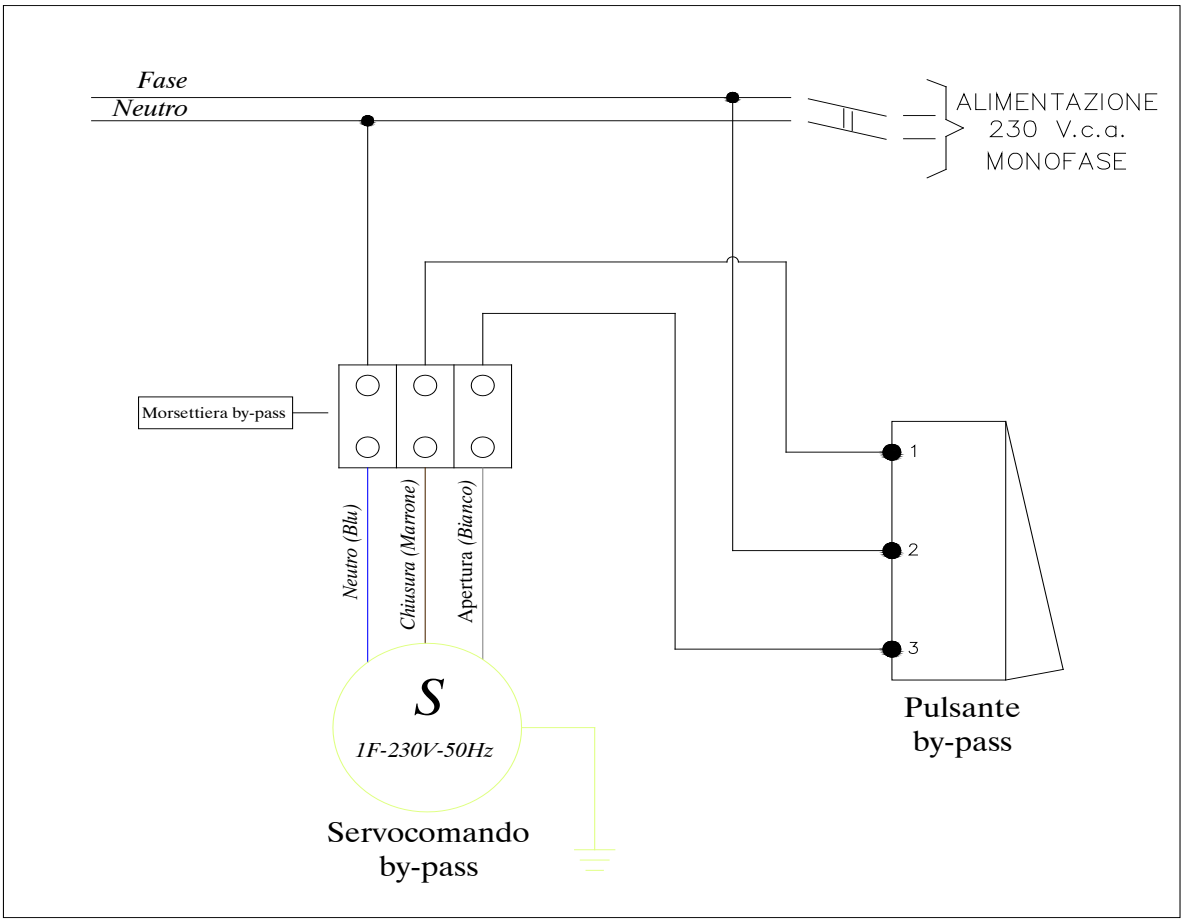
To connect the signals between the fan terminal blocks and the 0.10V potentiometer, use a shielded/braided cable (Belden 8772 type with a minimum section of 1mm).

Do not connect different fan signal terminals to the same contact of the 0.10V potentiometer

CHECK THAT THE ABSORBED CURRENT OF THE FANS COMPLIES WITH THE RATED CURRENT STATED ON THE UNIT.

NB: THE COLORS OF THE TERMINAL BLOCK CABLES MAY VARY DEPENDING ON THE UVNR MODEL. ALWAYS REFER TO THE DIAGRAMS ATTACHED IN THE JUNCTION BOX IN CASE OF DIFFERENCES IN THE COLORS

TYPICAL BY-PASS DAMPER CONNECTION (FREE COOLING)



For the connection between the by-pass servocontrol (standard in the unit) and the button for manual activation/deactivation of the by-pass:

- Make sure that the single-phase power supply line is suitable for supporting the loads of the 2 fans (see table for the sizing of the power supply line).
- Connect the NEUTRAL of the by-pass servocontrol (BLUE cable of the by-pass terminal block) to the neutral of the power supply
- Connect the by-pass CLOSURE (BROWN cable of the by-pass terminal block) to contact 1 of the switch.
- Connect the by-pass OPENING (WHITE cable of the by-pass terminal block) to contact 3 of the switch.
- Connect the PHASE from the power supply to contact 2 of the switch.

4.1.4 EVO REGULATION

The URC 80 unit is equipped with a PVC electrical panel, with IP54 protection class.

The CPRO3 electronic regulation board is wired inside the electrical panel.

The panel is set up with protection fuses for all the electrical components (fans, bypass servocontrol, any additional accessories such as 3-way valves for batteries, electrical resistors, active type probes).

If the configuration of the URC 80 unit requires it, a 230V-24V transformer is wired.

A remote display is also supplied, to be installed in the room, to control all the functions guaranteed by the electronic regulation board.

The URC 80 is supplied plug and play.

The installer must therefore:

- Bring the power supply line (single-phase or three-phase, depending on the size of the URC 80 unit) to the terminals in the electrical panel. To size the power supply line, always refer to the table on page 14.
- Connect the remote display supplied to the electronic regulation board, following the instructions in the diagrams present.

All remaining electrical connections are made at the factory.

With the EVO adjustment the user will be able to:

- Check the fan speeds, both in parallel (fans at the same speed) and with a settable differential (one of the 2 fans faster than the other).
- Choose between 8 different fan adjustment options (manual, time bands, constant pressure, constant flow, air quality set, modulating, on/off ramp, thermoregulation set). Some of these features are only available with the addition of accessories.
- Control the switching on and off of the URC 80 unit based on time bands (4 possible bands: comfort, eco, night, off).
- Control up to 2 3-way valves for water coils (cold and hot), with modulating signal. The batteries and their valves are available as accessories
- Control and up to 2 pre- or post-heating electric coils, with on/off or modulating signal. Electric batteries are available as accessories.

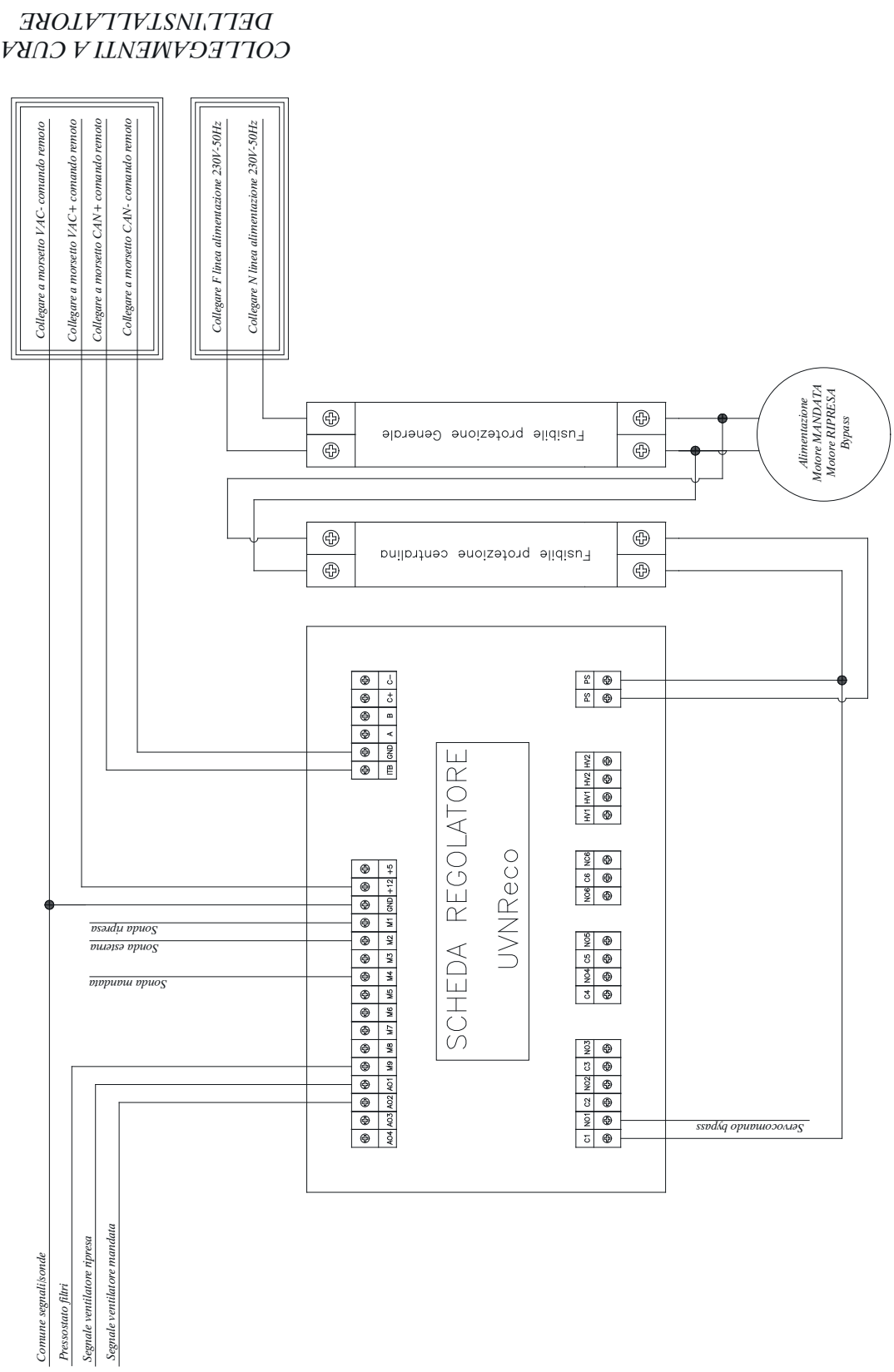
  Control up to 4 calibration dampers with on/off signal. The calibration dampers and related actuators are available as accessories.
- Control of external air, return air and supply air temperatures.
- Automatic control of the bypass function for freecooling/freeheating.
- Automatic control of dirt on the filters, to signal the need for replacement.
- Automatic machine defrost control.
- Possibility of supervision via Modbus protocol
- Possibility of remote display with integrated temperature probe (accessory)
- Possibility of remote viewer with integrated Bluetooth sensor, for unit management via app (accessory)

For further information regarding the EVO regulation and the possible configurations, contact us. Technical office.

TYPICAL SIMPLIFIED SCHEME

SINGLE-PHASE VERSIONS (UP TO URC 80 2000)

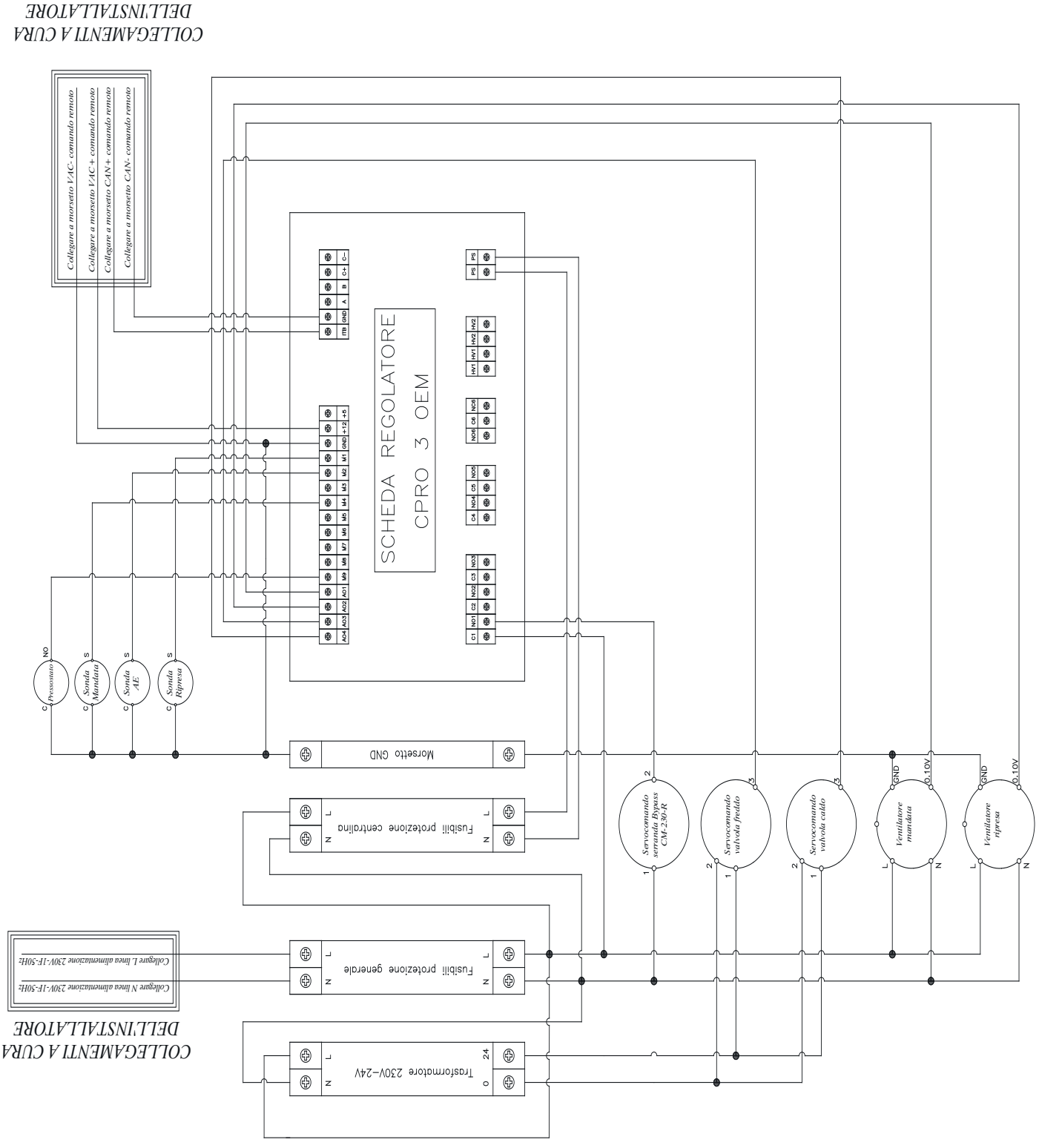
WITHOUT ACCESSORIES



TYPICAL SIMPLIFIED SCHEME

SINGLE-PHASE VERSIONS (UP TO URC 80 2000)

WITH HOT WATER COIL and COLD WATER COIL



4.1.5 ON-OFF ELECTRIC BATTERY ACCESSORY CONNECTION -BE-

The electric pre/post heating units with circular section are made up of a galvanized sheet metal frame with wire resistance.

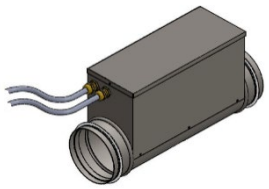
They are equipped with circular flanges which facilitate installation on the duct.

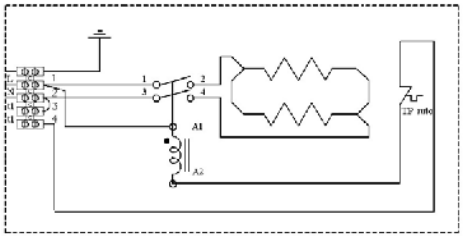
The side electrical box already complete with cable gland allows access to the components inside:

Automatic reset thermo protector; -Thermal protector with manual reset; - Contactor; Terminal block.

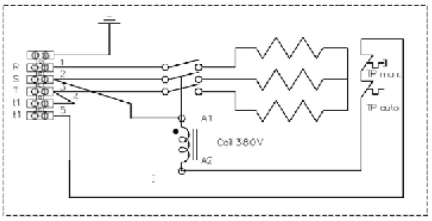
The electric heater is intended for stand-alone installation without any communication with the unit.

The battery must be controlled through the contact on the terminal board which enables the operation and shutdown of the battery.





Single-phase version 230/1/50



Three-phase version 400/3/50

BE electric battery connection diagram

4.1.6 ELECTRIC BATTERY ACCESSORY CONNECTION COMPLETE WITH ADJUSTMENT -BER-

The electric pre/post heating units with circular section are made up of a galvanized sheet metal frame with wire resistance.

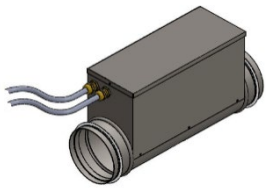
They are equipped with circular flanges which facilitate installation on the duct.

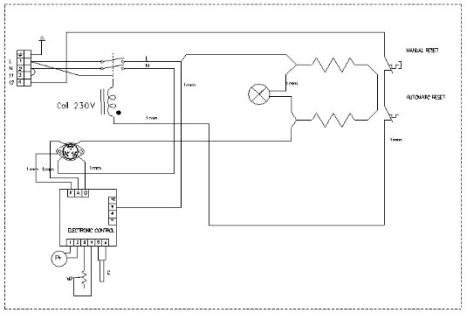
The side electrical box already complete with cable gland allows access to the components inside:

Automatic reset thermo protector; Thermo protector with manual reset; Contactor; -Terminal block; Adjustable electronic temperature control;

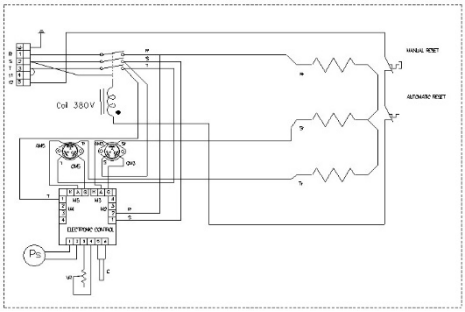
The electronic step regulator complete with temperature probe to be installed at least 1 meter from the coil which allows the control of the delivery air temperature after the resistance with maximum precision. The electric heater is intended for stand-alone installation without any communication with the unit.

Terminals 3-4 EXTERNAL 10K NTC probe





Single-phase version 230/1/50



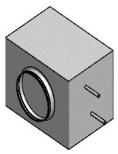
Three-phase version 400/3/50

BER electric battery connection diagram

4.1.7 ACCESSORY CONNECTION OF WATER HEATING COIL -BAC-

The pre/post water heating coils are made up of two galvanized sheet metal flanges and a heat exchange coil made up of copper pipes and aluminum fins.

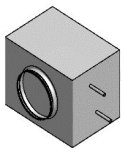
They are equipped with circular flanges which facilitate installation on the duct.
They are equipped with threaded connections.
The water coil is intended for stand-alone installation without any communication with the unit.



BAC

4.1.8 ACCESSORY CONNECTION BAF WATER COOLING COIL -BAF-

The water coils are made up of a galvanized sheet metal frame and a heat exchange coil made up of copper pipes and aluminum fins. They are equipped with circular flanges which facilitate installation on the duct.They are equipped with threaded connections including valves for air venting and battery draining. It is necessary to provide a condensation drain for the summer function of the battery. The water coil is intended for stand-alone installation without any communication with the unit.



BAF

4.1.9 RAINPROOF ROOF CONNECTION FOR EXTERNAL INSTALLATION-TVE / THE-

Rainproof roof made of pre-painted sheet metal to protect the unit from bad weather in the case of external installation.

It is supplied with a self-drilling screw complete with a gasket suitable for watertightness.

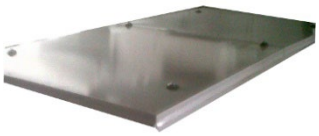


Image TVE / THE and screws with gasket for fixing to the unit

5 MAINTENANCE

To always guarantee the correct and optimal functioning of the unit, it is necessary to periodically carry out all maintenance operations.

5.1.1 CLEANING OR REPLACING FILTERS

To replace the filters or clean them, proceed as follows:

remove power to the unit;

open the filter covers using the dedicated screws;

remove dirty filters;

gently insert the new filters;

close the lid with the dedicated knobs;

If the conditions of the filters allow it, they can be cleaned using a vacuum cleaner or a low pressure compressor.

.

Filter extraction view

5.1.2 CLEANING THE HEAT EXCHANGER

It is advisable to check the condition of the heat exchanger at each cleaning/change of filters and to clean it if deemed appropriate. This operation must only be carried out by qualified personnel (installer).

To clean the heat exchanger proceed as follows:

- remove power from the unit
- in case of ceiling installation, disconnect the condensate drain pipe;
- open the unit cover by turning the 4 latches on it through 90° using a wide-head screwdriver;
- remove the heat exchanger
- proceed with cleaning very delicately using a vacuum cleaner or a low pressure compressor (to prevent dirt from entering the heat exchanger, clean in the opposite direction to that of the air flow);
- insert the exchanger back into place;
- close the cover, locking it in position with the 4 catches;

Attention!Never touch the fins of the exchanger, handle the exchanger by holding it only on the closed sides.

View of unit for exchanger removal

5.1.3 GENERAL UNIT CLEANING

It is advisable to occasionally check and, if necessary, clean the fans, the condensate drain and the internal walls of the unit. These operations must only be carried out by qualified personnel (installer).

To carry out the above operations, proceed as follows:

- remove power from the unit
- in case of ceiling installation, disconnect the condensate drain pipe;
- open the unit cover by turning the 4 latches on it through 90° using a wide-head screwdriver;
- proceed to check and, if necessary, clean the fans, the condensate drain and the walls;
- close the cover, locking it in position with the 4 catches;
- connect the power cord and turn on the unit from the switch on the side panel.

For cleaning you can use a vacuum cleaner, a cloth slightly moistened with water, a soft bristle brush or a low pressure compressor.

Attention!There are small metal clips on the blades for balancing the blades themselves, DO NOT remove them.

General cleaning of the unit

6 ALARMS

6.1.1 GENERAL INFORMATION

In the event of problems or faults, take note of the model and serial number of the unit you have (found on the identification plate attached to the side of the unit) and contact your installer.

Below is the table of unit operating anomalies

ANOMALY DESCRIPTION	CAUSE	REMEDY
The fans are not active	-The power is not turned on -The adjustment device does not work fan speed -Incorrect electrical connections -Fans with thermal protection	-Check the power supply on the fan -Check the adjustment device fan speed -Check that the fan is not overheated and in thermal protection
Insufficient air flow or useful pressure	-Filters clogged -Insufficient rotation speed -Pipes or exchanger clogged	-Clean the filters -Increase rotation speed -Clean pipes or exchanger
Insufficient exchanger performance	-Clogged exchanger fins	-Clean the surfaces of the exchanger
Excessive vibrations and noise	-Incorrect installation of the unit -Incorrect installation of pipes -Imbalance of the fan impeller	-Check the unit's brackets and fixings -Check pipe brackets and fixings -Check the condition of the fan impellers
Water leaks from the unit	-Condensate drain blocked -Siphon not installed correctly	-Clean the condensate drain -Check the correct installation of the siphon
Difficult starting	-Power supply voltage too low -Insufficient engine torque	-Check the power supply voltage that is not below 10% of the voltage nameplate rating -Power the unit with partially closed dampers in order to reduce the starting torque of the motor. In case of correct starting, replace the engine with a larger one.

7 REGULATORY COMPLIANCE

7.1.1 GENERAL INFORMATION

Thanks to the various available sections, air handling units can be designed for traditional applications or for use with advanced technologies. Their construction allows for operation with:

- Special systems with high air purity requirements, for hospital use, laboratories, etc.;
- Service systems for environments with high acoustic requirements (recording studios, theaters, etc.);
- Constant airflow systems, double duct, single-zone, or multi-zone;
- Energy recovery systems;
- Variable airflow systems, with various fan options and flow control systems.
- For all these applications, where simple air renewal and purification with heat recovery is sufficient, for airflow rates below 4,500 m3/h, the units can provide a valid and effective solution.

Design, industrialization, and production are carried out entirely in Italy at the headquarters in Garbagnate Milanese (Milan).

7.1.2 REGULATIONS

The URC series air renewal and purification units with heat recovery are assembled and tested prior to shipment, in compliance with UNI EN 12100 standards (Machine safety - General design principles - Risk assessment and risk reduction) and CE marking directives, according to an ISO 9001 certified quality assurance system. Specifically, the units are also designed and manufactured in accordance with the following main directives, regulations, and reference standards (indicative and not exhaustive):

- Machinery Directive 2006/42/EC;
- Low Voltage Directive 2006/95/EC;
- EMC Directive 2014/30/EU;
- ERP Directive 2009/125/EC concerning the eco-design requirements for energy-related products;
- Commission Regulation (EU) No 327/2011 of 30 March 2011, implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to eco-design requirements for fans driven by motors with an electric input power between 125 W and 500 kW;
- Commission Regulation (EU) No 1253/2014 of 7 July 2014, implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to eco-design requirements for ventilation units.

8 NOTES AND MAINTENANCE INFORMATION

02-2024 rev.3

The data contained in this manual may be changed by the manufacturer without prior notice.