UP PRO-REG

EN

INDEX

1. OVERVIEW

- We appreciate the trust you have placed in us by purchasing this device. You have purchased a high-quality product that has been manufactured in strict compliance with recognized technical regulations regarding safety, and in accordance with EC standards.
- Read this instruction booklet carefully, since it contains important information for your safety during the installation, use and maintenance of this product.
- Keep this booklet in case you need to consult it in the future.
- We ask that you make sure the equipment is in perfect condition when you unpack it, since any existing defect is covered by the S&P warranty.
- Technicians responsible for installing, start-up and maintenance must read the instructions and be familiar with them before starting work.

2. SAFETY STANDARDS AND "EC" MARKING

- S&P engineers are firmly committed to research and development to achieve products with improved efficiency that complies with current safety standards.
- The standards and recommendations indicated below reflect current standards in the field of safety, and therefore are based primarily on meeting standards of a general nature. Consequently, we recommend that all personnel exposed to risks adhere strictly to local regulations in force regarding hazard prevention.
- S&P is in no way responsible for any damage or injury caused to persons or objects resulting from failure to comply with safety standards, and any possible modifications to the product. The EC seal and statement of conformity serve as proof of the product's compliance with applicable European Community standards.

3. SAFETY WARNINGS

CAUTION: Read carefully the safety warnings before starting to install the product in order to reduce the risk of fire, electric shock or dagames.

- Check that the power supply corresponds to the rating plate on the back of the unit.
- Do not use the purifier close to baths or showers.
- Do not submerge the purifier in water.
- Prevents falling water and any liquid inside the appliance.
- Do not touch the plug with wet hands.
- Before disconnecting the unit to the electrical supply, ensure that switch is switched OFF.
- Put the switch in OFF position if not use the purifier or if there is any work to do on it (cleaning, maintenance, etc.).
- Do not place the appliance close to a heat source or in direct sunlight.
- Do not insert any object through the air inlet or output grilles.
- Before carrying out any maintenance work, or during long periods without use make sure that the purifier has been disconnected from the mains.
- The purifier is designed only for indoor use.
- Use the appliance as described in this instruction and as air purifier in recirculation applications.
- Do not use the air purifier in an area of flammable, combustible or explosive air.
- Do not use the appliance in areas with toxic vapors, flammable powders or oxygen tanks.

- To avoid danger of possible accidental start up ensure that the equipment is electrically isolated and locked. If this is not possible, warning signs should be placed on main distribution console that state:

"WARNING: Disconnect from the electrical network for maintenance"

- Periodically check product labels. If over time they are unreadable, must be replaced.

4. TECHNICAL CHARACTERISTICS

Ventilation section

The UP-1200 model incorporates a fan, while the UP-2300 to UP-5200 models have two. Each model has associated a certain size of fan and motor.
The integrated controller, makes it possible to adapt the working point to the needs of each local, obtaining a high efficiency at the required working point.

Model	Dimensions air connections (mm)	Nominal airflow (m^3/h)	Fans number	Total power fans* (kW)	Total maximum current (A)	Power supply	Weight (kg)
UP-1200 H14	690 x 300	1.200	1	0,46	2,0	1F /230V, 50-60Hz	124
UP-2300 H14	1040 x 350	2.300	2	0,9	3,9	1F /230V, 50-60Hz	180
UP-3600 H14	1440 x 350	3.600	2	1,7	7,5	1F /230V, 50-60Hz	253
UP-5200 H14	1840 x 440	5.200	2	2	3,7	3+N/400V, 50-60Hz	328

* In units with two fans, the value corresponds to the sum of both fans.

Filtered section

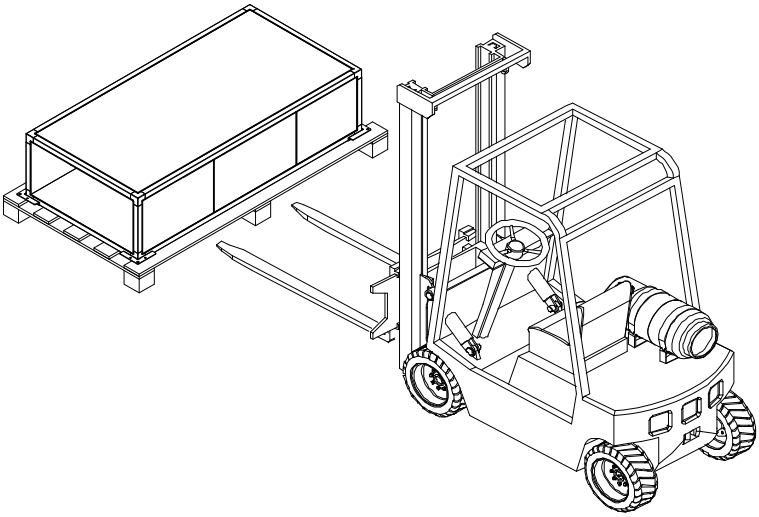
UP units include the following filtration stages:

- G4 prefiltration
- Intermediate filter F7 and PM_1 50%
- Absolute filter H14 (e≥99,995% s/EN-1822-1: 2019)

The continuous recirculation of the indoor air by the three stages of filtration guarantees the continuous purification of the indoor air, eliminating the particles and contaminants contained in it, such as: dust, pollen, spores, bacteria, viruses and fine particles PM_{10}, $PM_{2,5}$ and PM_1.

5. HANDLING

- When unit received, unpack and make sure. When unit received, the unit is unpacked checking that it is not damaged. In case of detecting any damage to the unit, contact the unit vendor. Not operate the unit until you are sure that unit damage has been repaired by an Official S&P Technical Service.
- Components should be transported using appropriate pallet trucks or forklifts.
- The UP PRO-REG units are delivered bolted in pallets.



- It is possible to manipulate by the unit using a forklift or crane. Handling machines must be adapted to the conditions of loading and lifting. In all cases, the lift must be carried out from the base of the device. The centre of gravity is NOT in the center of the unit. Before lifting the equipment ensure that gravity center of the device is entering the two blades of the forklift.
- The unit should be handled carefully and only horizontally.

6. RECEPTION

Inside the UP purifier you will find the following material:

- Remote control with 10m cable.
- Instructions manual.
- Numbered certificate of H14 absolute filter, proving that the filter has demonstrated its efficiency ≥99,995% in laboratory test.
- Adhesive badge that certifies that your local have adequate air quality.

7. LOCATION

When choosing the location, take into account the following recommendations:

Installation with vertical flow as autonomous unit

- Facilitate air intake to the unit, leaving a minimum of 30 cm. between the suction grille and any object or wall (Fig. 1).
- Do not obstruct the air outlet of the purifier, keep as much distance as possible in order to guarantee good air distribution throughout the room (Fig. 2).
- The air discharge grilles, available as accessories, are adjustable in one direction, allowing the orientation of the airflow to be regulated in different directions (Fig. 3)

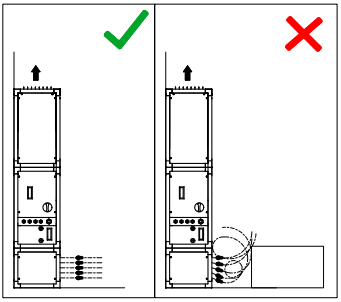


FIG.1

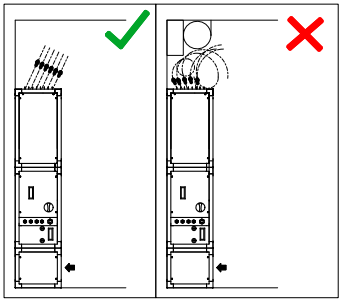


FIG.2

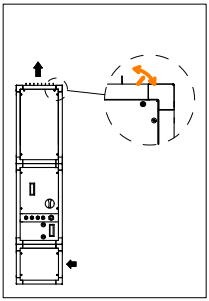


FIG.3

Installation in ceiling or false ceiling horizontal flow integrated in duct network:

- In false ceiling integration, take advantage of the possibilities offered by the ductwork to integrate anti-vibration elements and attenuators that will reduce vibrations and the noise level of the unit. See accessories section.
- As far as possible, locate the purifier away from places where staff are working regularly (offices, classrooms, meeting rooms).

Recommendations common to all types of installations:

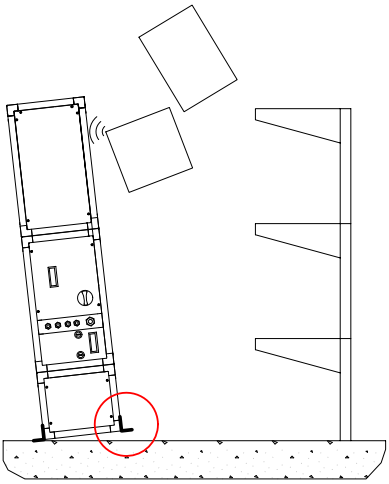
- UP purifiers are equipped with various filters, including an absolute filter with 99.99% efficiency. To ensure the proper functioning of the unit and enjoy during a longer time of good air quality, it is essential to locate the unit in a clean and dry environment (Maximum relative humidity 80%).

8. INSTALLATION

8.1. OVERVIEW

- The installer must ensure that the characteristics of the existing power supply agree with the electrical data on the unit's identification plate.
- Before installing the equipment in its final position, make sure that the place where it will be located is strong enough to support its weight.
- Under no circumstances should these units be installed in flammable or explosive environments, in environments that contain oil vapours, salt air, or corrosive environments.
- Equipment installation can present hazards due to the material used, pressures in the system and the electrical components. For this reason, only trained and qualified service personnel may install service or repair the equipment.
- As a precaution, when performing operations inside the equipment, shut off the power at a main breaker. This serves to prevent any accidents involving the equipment's moving parts, which can start accidentally, well as to prevent any direct or indirect contact with live parts.
- When installing the unit, it must be levelled to allow for a good fit between the different modules, perfect condensate drainage and proper opening of the doors.
- Ensure the stability of the unit by fixing it to the ceiling, floor or wall using all available anchor points.

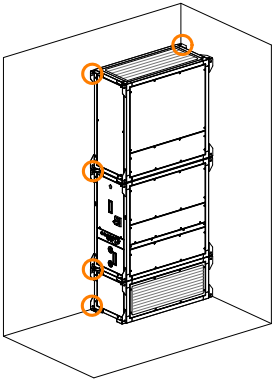
Especially in the case of vertical mounting bolted to the ground, due to its height and the low support base of the unit, stability could be compromised. In these cases, it is essential that a fixing system is used to guarantee the stability of the unit, even in the case that other loads strike or support its weight on the purifier (people, wheelbarrows, objects falling onto shelves, etc.).

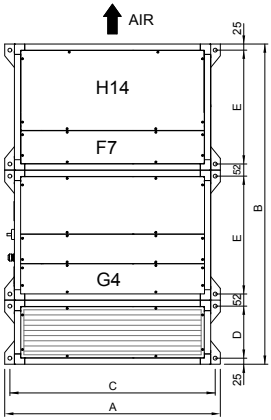


Anchor points depending on the type of installation

Vertical installation with wall fixation

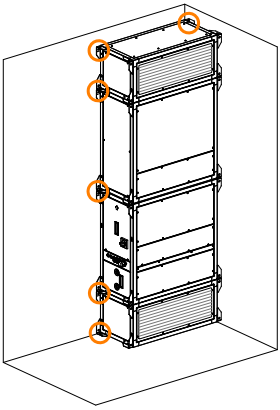
Vertical mounted unit with inlet plenum

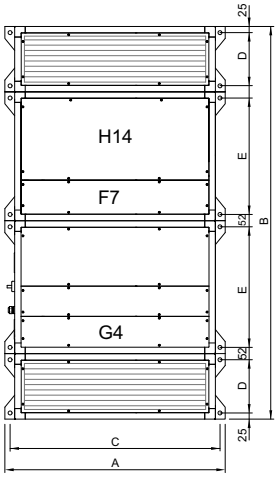




Model	A	C	D	E	B
UP 1200	822	790	310	704	1874
UP 2300	1172	1140	360	704	1924
UP 3600	1572	1540	360	704	1924
UP 5200	1972	1940	360	704	2014

Vertical mounted unit with inlet and outlet plenum



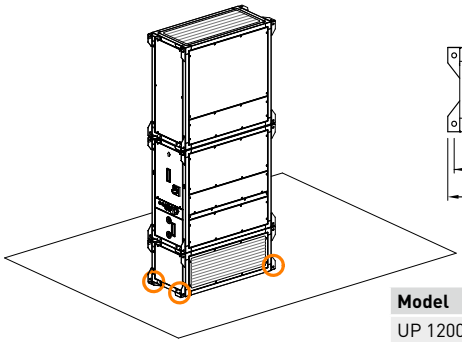


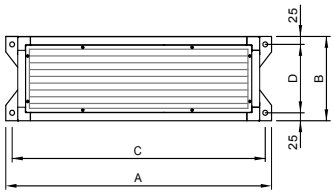
Model	A	C	D	E	B
UP 1200	822	790	310	704	1874
UP 2300	1172	1140	360	704	1924
UP 3600	1572	1540	360	704	1924
UP 5200	1972	1940	360	704	2014

Vertical installation with floor fixation

Ensure that the system provides the necessary resistance, even in the event that the unit receives external forces due to falling bodies or other situations.

Vertical mounted unit with inlet plenum

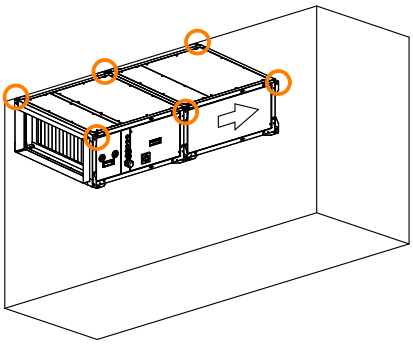




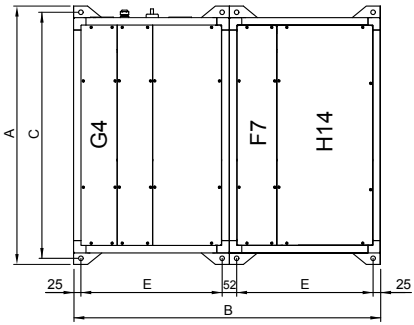
Model	A	B	C	D
UP 1200	822	360	790	310
UP 2300	1172	410	1140	360
UP 3600	1572	410	1540	360
UP 5200	1972	500	1940	360

False ceiling installation

Vertical mounted unit with inlet plenum
L version: Electrical connection on the left side



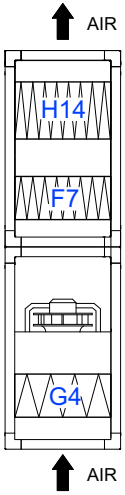
Unit seen from below



Model	A	B	C	E
UP 1200	822	1514	790	704
UP 2300	1172	1514	1140	704
UP 3600	1572	1514	1540	704
UP 5200	1972	1514	1940	704

8.2. IDENTIFICATION UNIT PARTS

The main module may consist of two different sections: In the first one there is a G4 pre-filter, fan and electronic control, while in the second one there is the intermediate filter F7 and the absolute filter H14. The following illustration identifies the main components of the main module.



8.3. DIMENSIONS AND MAINTENANCE SPACE

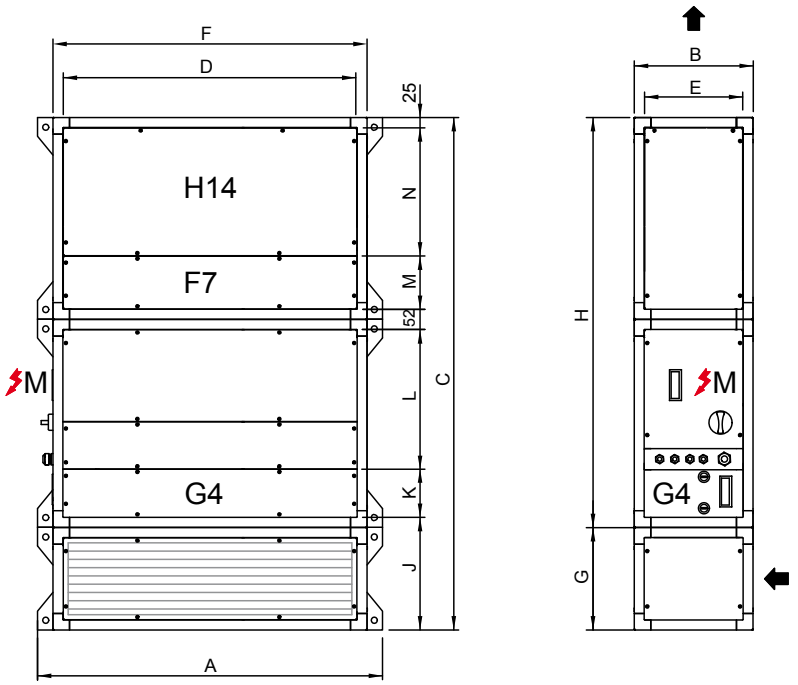
The installer should leave sufficient unobstructed space to ensure access to the unit during maintenance, including changing filters, cleaning and repairing in case of a breakdown.

8.3.1. Vertical installation with inlet plenum (accessory)

UP units can be ordered with maintenance side and connections in the right or left hand (seen from the front of the unit).
Filter access is done using the front panels. Access to the electrical panel is done from the side panel.

8.3.1.1. Dimensions

Version L: Electrical connection on the left side



AIR DIRECTION

M MOTOR TERMINAL BOX

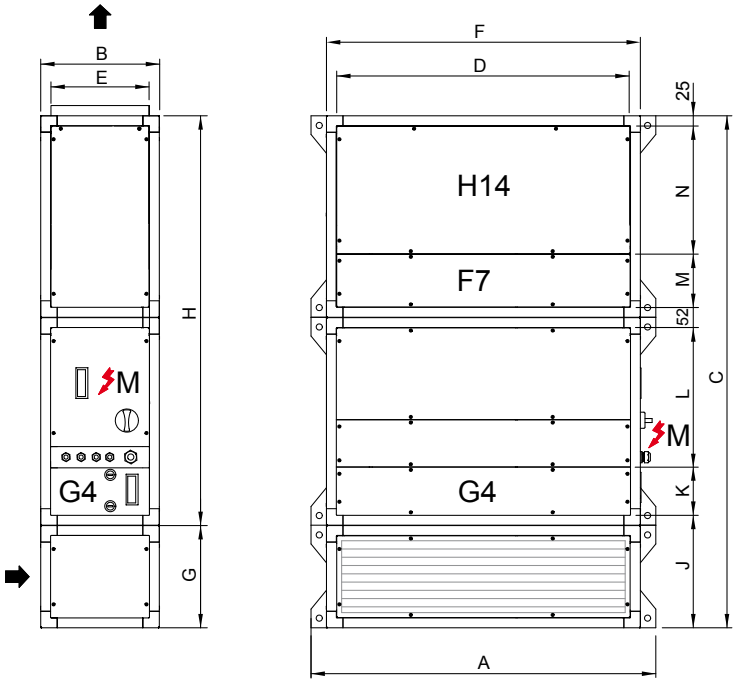
H14 FILTERS ACCESS H14

F7 FILTERS ACCESS F7

G4 FILTERS ACCESS G4

Model	A	B	C	D	E	F	G	H	J	K	L	M	N
UP 1200	822	360	1874	689	299	750	360	1514	398	205	485	182	505
UP 2300	1172	410	1924	1039	349	1100	410	1514	448	205	485	182	505
UP 3600	1572	410	1924	1439	349	1500	410	1514	448	205	485	182	505
UP 5200	1972	500	2014	1839	439	1900	500	1514	538	205	485	182	505

Version R: Electrical connection on the right side



AIR DIRECTION

M MOTOR TERMINAL BOX

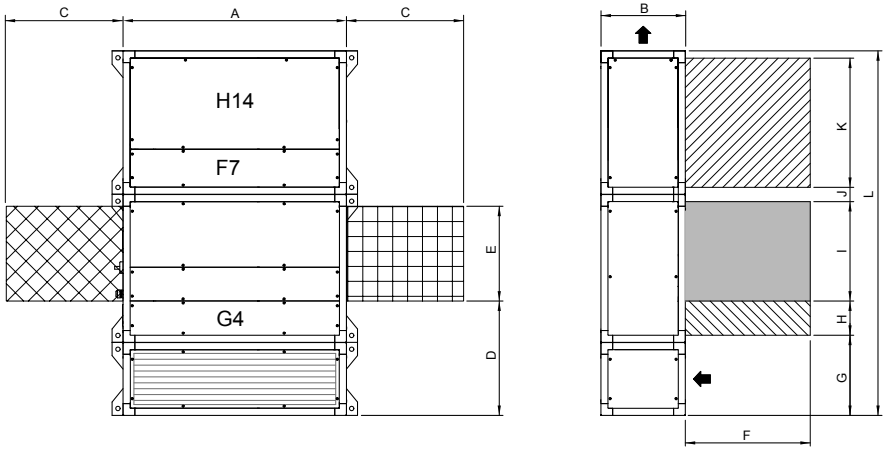
H14 FILTERS ACCESS H14

F7 FILTERS ACCESS F7

G4 FILTERS ACCESS G4

Model	A	B	C	D	E	F	G	H	J	K	L	M	N
UP 1200	822	360	1874	689	299	750	360	1514	398	205	485	182	505
UP 2300	1172	410	1924	1039	349	1100	410	1514	448	205	485	182	505
UP 3600	1572	410	1924	1439	349	1500	410	1514	448	205	485	182	505
UP 5200	1972	500	2014	1839	439	1900	500	1514	538	205	485	182	505

8.3.1.2. Free space for maintenance



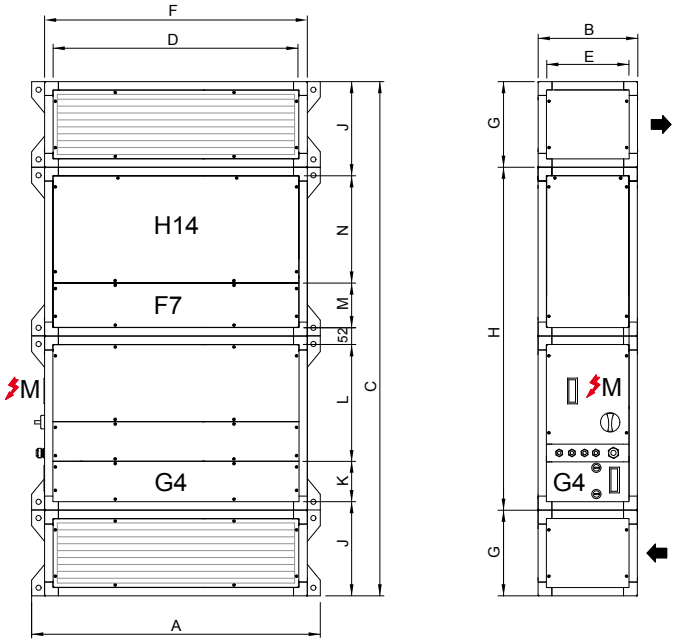
Model	A	B	C	D	E	F	G	H	I	J	K	L
UP 1200	750	360	500	603	485	500	400	205	485	52	687	1874
UP 2300	1100	410	500	653	485	550	450	205	485	52	687	1924
UP 3600	1500	410	500	653	485	550	450	205	485	52	687	1924
UP 5200	1900	500	500	743	485	650	550	205	485	52	687	2014

8.3.2. Vertical installation with inlet and outlet plenum (accessories)

UP units can be ordered with maintenance side and connections in the right or left hand (seen from the front of the unit).
Filter access is done using the front panels. Access to the electrical panel is done from the side panel.

8.3.2.1. Dimensions

Version L: Electrical connection on the left side



AIR DIRECTION

M MOTOR TERMINAL BOX

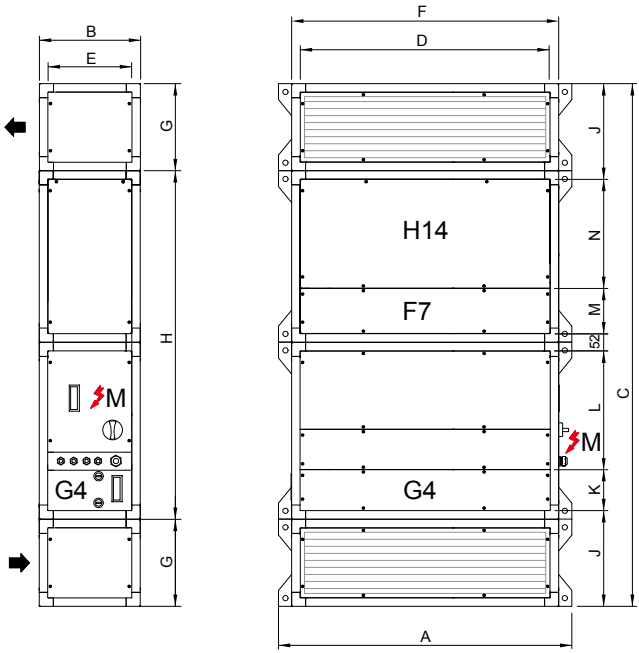
H14 FILTERS ACCESS H14

F7 FILTERS ACCESS F7

G4 FILTERS ACCESS G4

Model	A	B	C	D	E	F	G	H	J	K	L	M	N
UP 1200	822	360	2241	689	299	750	360	1521	398	205	485	182	505
UP 2300	1172	410	2341	1039	349	1100	410	1521	448	205	485	182	505
UP 3600	1572	410	2341	1439	349	1500	410	1521	448	205	485	182	505
UP 5200	1972	500	2341	1839	439	1900	410	1521	538	205	485	182	505

Version R: Electrical connection on the right side



AIR DIRECTION

M MOTOR TERMINAL BOX

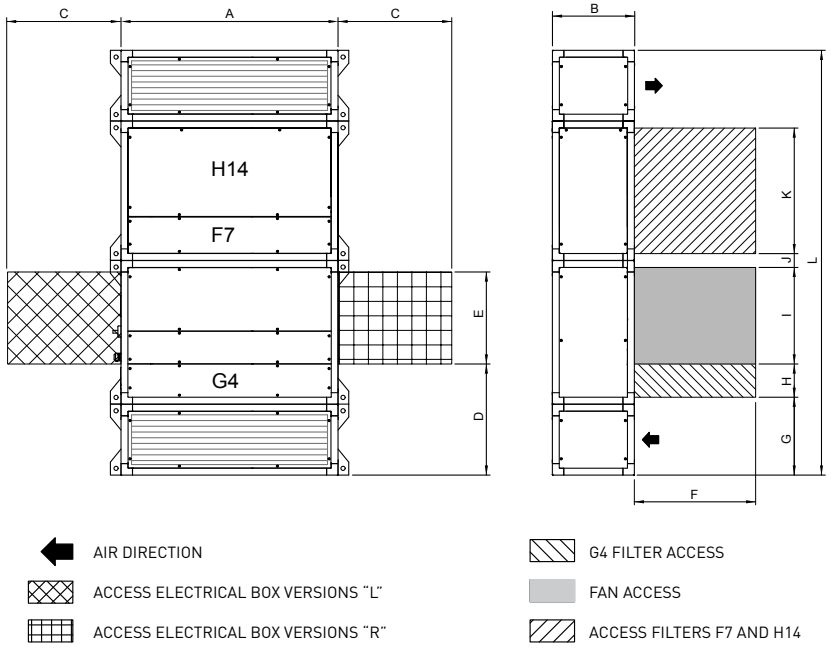
H14 FILTERS ACCESS H14

F7 FILTERS ACCESS F7

G4 FILTERS ACCESS G4

Model	A	B	C	D	E	F	G	H	J	K	L	M	N
UP 1200	822	360	2241	689	299	750	360	1521	398	205	485	182	505
UP 2300	1172	410	2341	1039	349	1100	410	1521	448	205	485	182	505
UP 3600	1572	410	2341	1439	349	1500	410	1521	448	205	485	182	505
UP 5200	1972	500	2341	1839	439	1900	410	1521	538	205	485	182	505

8.3.2.2. Free space for maintenance



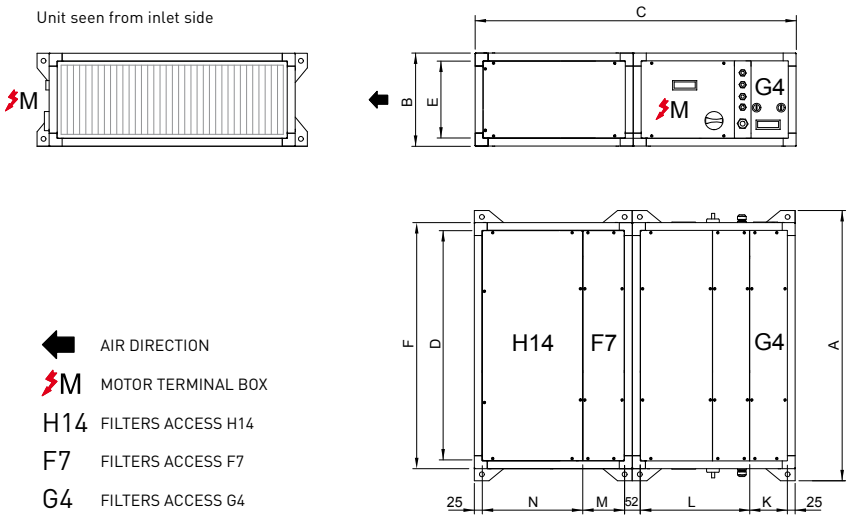
Model	A	B	C	D	E	F	G	H	I	J	K	L
UP 1200	750	360	500	603	485	500	400	205	485	52	687	2241
UP 2300	1100	410	500	653	485	550	450	205	485	52	687	2341
UP 3600	1500	410	500	653	485	550	450	205	485	52	687	2341
UP 5200	1900	500	500	743	485	650	550	205	485	52	687	2341

8.3.3. Installation in ceiling and false ceiling

The UP units can be ordered with access side in the desired hand (according to air sense)
Access to filters is done by dismantling of the inferior panels.
The access to the electrical cabinet is from the lateral panel.

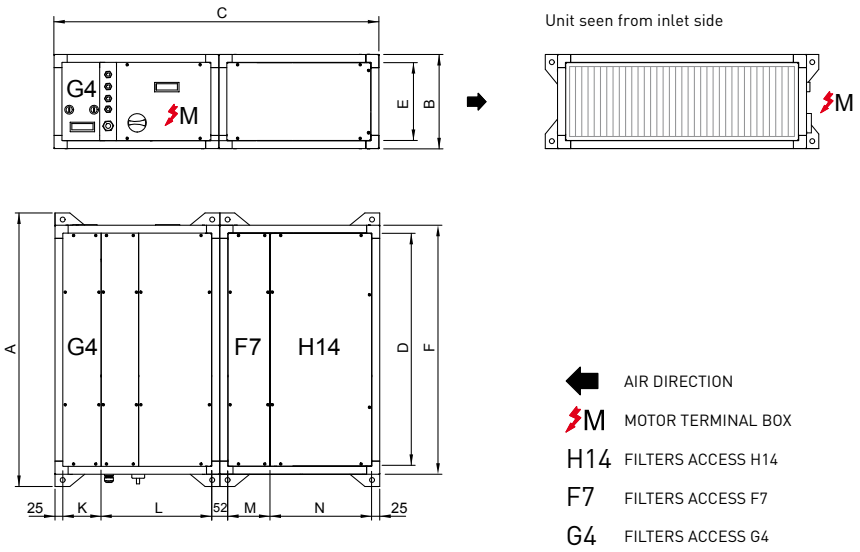
8.3.3.1. Dimensions

Version R: Electrical connection on the left side



Model	A	B	C	D	E	F	K	L	M	N
UP 1200	822	360	1514	689	299	750	205	485	182	505
UP 2300	1172	410	1514	1039	349	1100	205	485	182	505
UP 3600	1572	410	1514	1439	349	1500	205	485	182	505
UP 5200	1972	500	1514	1839	439	1900	205	485	182	505

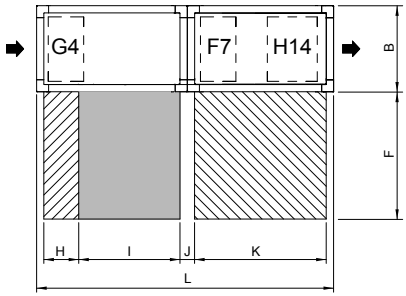
Version R: Electrical connection on the right side



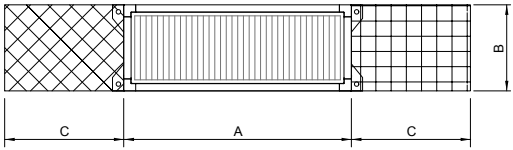
Model	A	B	C	D	E	F	K	L	M	N
UP 1200	822	360	1514	689	299	750	205	485	182	505
UP 2300	1172	410	1514	1039	349	1100	205	485	182	505
UP 3600	1572	410	1514	1439	349	1500	205	485	182	505
UP 5200	1972	500	1514	1839	439	1900	205	485	182	505

8.3.3.2. Free space for maintenance

Ceiling-mounted unit with horizontal flow



Inlet view



AIR DIRECTION

ACCESS ELECTRICAL BOX VERSIONS "L"

ACCESS ELECTRICAL BOX VERSIONS "R"

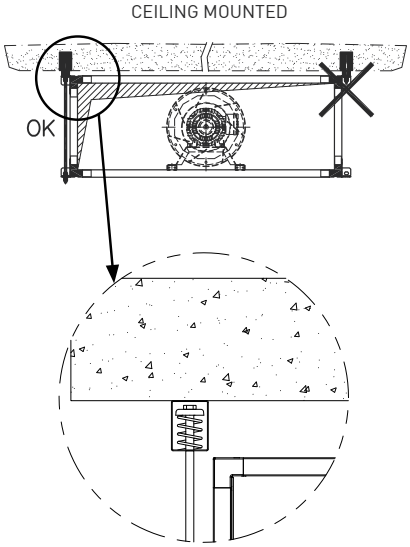
G4 FILTER ACCESS

FAN ACCESS

ACCESS FILTERS F7 AND H14

Model	A	B	C	F	H	I	J	K	L
UP 1200	750	360	600	500	205	485	52	687	1514
UP 2300	1100	410	600	650	205	485	52	687	1514
UP 3600	1500	410	700	650	205	485	52	687	1514
UP 5200	1900	500	700	800	205	485	52	687	1514

For ceiling and floor-mounted applications, the unit must be suspended from the four angle brackets on each module, as follows:



To prevent transmission of motor vibrations until wrought, it is necessary to install antivibrations on each of the anchor points. Use antivibration kits recommended in the following table:

Model	Antivibration support	Quantity for UP	Nominal load (kg)	Vertical displacement (mm)
UP-1200	AM. DE MUELLE TM-50	4	50	21-27
UP-2300	AM. DE MUELLE TM-50	4	50	21-27
UP-3600	AM. DE MUELLE TM-75	4	75	21-27
UP-5200	AM. DE MUELLE TM-100	4	100	21-27

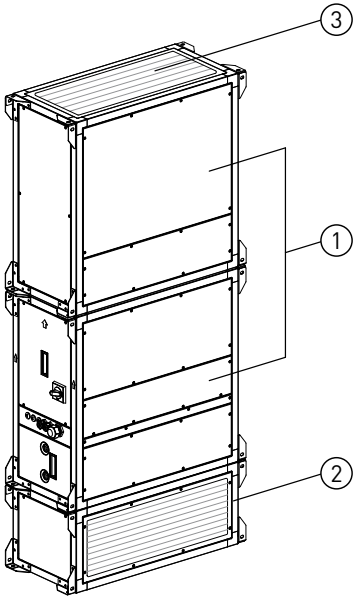
WARNING! Due to the length and weight of the units, each module must be suspended separately.

8.4. ASSEMBLING THE MODULES

Accessories that can be combined with UP module:

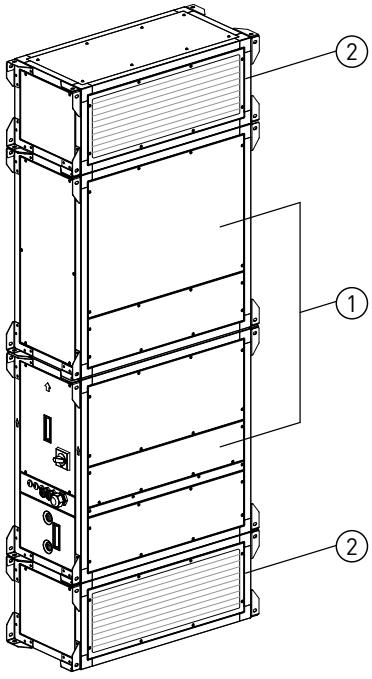
Vertical mounting

Front inlet - Top discharge



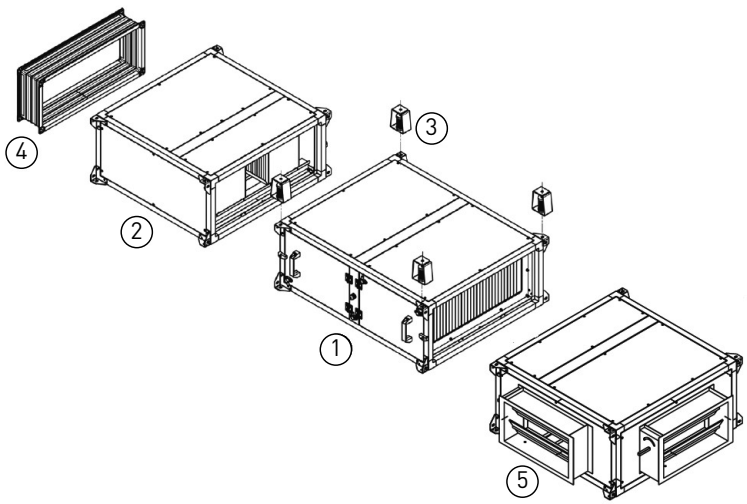
1	2	3
Purifier module	**Plenum with grill**	**Air outlet grille**
UP-1200	PB-VR-2	REJILLA UTBS-2
UP-2300	PB-VR-3	REJILLA UTBS-3
UP-3600	PB-VR-5	REJILLA UTBS-5
UP-5200	PB-VR-8 UP	REJILLA UTBS-8

Front inlet - Front discharge



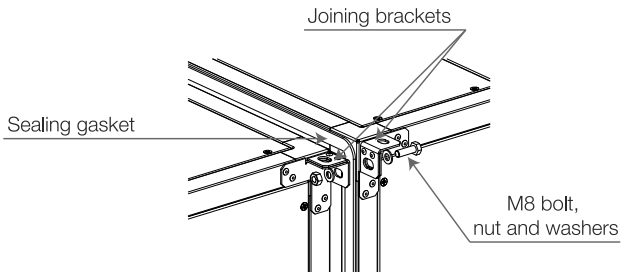
1	2
Purifier module	**Plenum with grill**
UP-1200	PB-VR-2
UP-2300	PB-VR-3
UP-3600	PB-VR-5
UP-5200	PB-VR-8 UP

Horizontal mounting



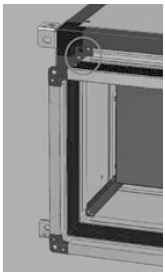
1	2	3	4	5			
Purifier model	Attenuator	Anti-vibration kit	Flexible connection	Mixing section (2-way)			
				Front damper and upper / lower	Front and side damper	Side dampers	Side damper and upper / lower
UP-1200	SIL-2 750	AMORTIGUADOR DE MUELLE TM-50	JF-UTBS 650x250	2MA-2	2MB-2	2MD-2	2ME-2
UP-2300	SIL-3 750	AMORTIGUADOR DE MUELLE TM-50	JF-UTBS 1000x300	2MA-3	2MB-3	2MD-3	2ME-3
UP-3600	SIL-5 750	AMORTIGUADOR DE MUELLE TM-75	JF-UTBS 1400x300	2MA-5	2MB-5	2MD-5	2ME-5
UP-5200	SIL-8 750	AMORTIGUADOR DE MUELLE TM-100	JF-UTBS 1800x400	2MA-8	2MB-8	2MD-8	2ME-8

The module frames have mounting brackets on each corner that are used to secure the equipment to the ceiling and to join the various modules to one another. If the unit is made up of different modules, it will be supplied with a joining kit with 4 sets of bolts, washers, nuts and a sealing gasket.



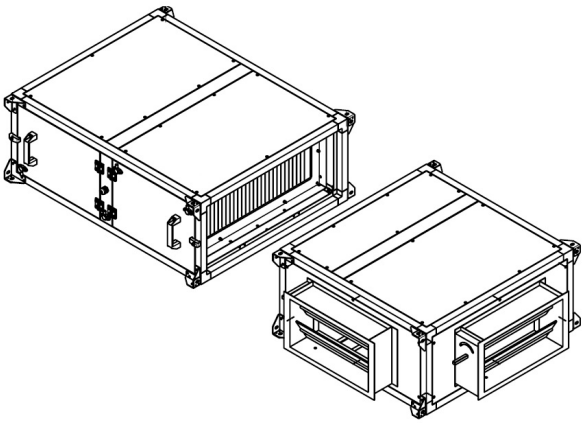
8.4.1. Assembling flexible connections

If you have ordered flexible connections for the ends of the units, they will be supplied separately.



8.4.2. Mixing module installation

The mixing module is installed in the intake air side and allows to realize the the mixing between the outdoor air and the recirculated air with proportional regulation of existent dampers in either air intakes.



The mix module and the corresponding servomotors are supplied both as accessories.
The installer should mount the damper module, using the screws and bolts supplied with the unit. After that, mount the servomotor on the damper shaft.
Once mounted the servomotor, make the electrical connection between the servomotor and the electrical cabinet according to the indications in the electrical diagram.
Check that the rotation sense of the actuator is correct. If it is necessary, modify the damper rotation sense via the selector in the frontal of the actuator 

8.5. CONNECTING THE UNIT TO THE DUCT SYSTEM

- Never use the unit as a support or weight-bearing structure for ductwork, they must have its own specific support that avoids that the weight falls on the UP PRO-REG.
- Connect the unit to the air ducts using flexible connectors to prevent vibrations from being transmitted to the duct system.
- Check to make sure air intake and flow are not being blocked and that there are no obstacles avoiding good air circulation. Otherwise the efficiency of the system will be affected.

8.6. ELECTRICAL CONNECTION

- The unit installation must be done by a qualified professional.
- Before putting the unit in place, make sure that the nominal supply voltage matches that listed on the unit's identification plate.
- It should be installed with cables whose cross-section meets current regulations and prevents overheating and voltage drops that exceed permissible limits. Current regulations must be obeyed, and the designer's instructions must be followed at all times.
- Before connecting the cables, make sure that the electricity is turned off and that there is no voltage present in any of them.
- The unit installation must meet the following regulations:
  - Low Voltage Directive 2014/35/EU
  - Machinary Directive 2006/42/CE
  - Electromagnetic Compatibility 2014/30/EU
- The instructions in current regulations regarding the protection of electrical lines against defects and direct and indirect contact must be obeyed at all times.
- After these steps are performed, check to make sure all electrical connections are secure (loose wiring connections can cause irreparable damage).
- Check to make sure the electrical resistance between earth and any electrical terminal is greater than 1 megohms. If it is not, do not start up the unit until the electrical short has been located and repaired.
- As a safety measure, if there is no power to the fan, the necessary interlocks must be performed so that all other electrical components are also de-energised.

8.7. TEMPERATURE PROBES LOCATION

The UP PRO-REG units are delivered with two integrated air temperature probes.

All the versions include 3 different temperature probes to manage air heating and/or cooling demand:
- T_{SUP}: Supply air temperature. Mounted at the UP module air outlet. Factory wired, this probe is used to control the supply air temperature. This sensor should not be manipulated.
- T_{ODA}: Outdoor air temperature. This probe is delivered inside the electric cabinet. Although the probe is factory wired to the PCB controller, the installer must fit the sensor inside the duct system depending on the type of installation performed.
- T_{ETA}: Extract air temperature. This probe is delivered inside the electric cabinet. Although the probe is factory wired to the PCB controller, the installer must fit the sensor inside the duct system depending on the type of installation performed.

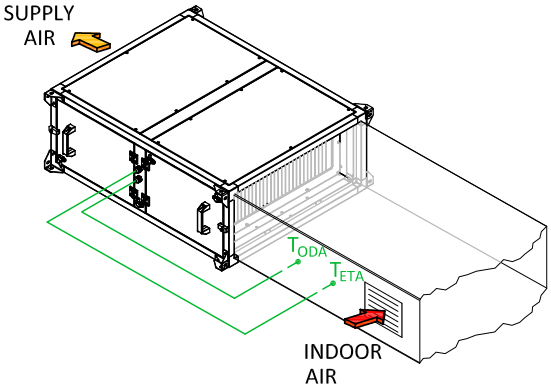
Outdoor air (ODA) and Extract air (ETA) temperature probes are 4m lengh, allowing that each probe will be mounted in the desired position.

IMPORTANT: Regardless of the type of installation performed, the three air probes must always be wired to the control cabinet. If any of the temperature probes is missing, it will cause the unit malfunction as well as the alarm message on the controller display.

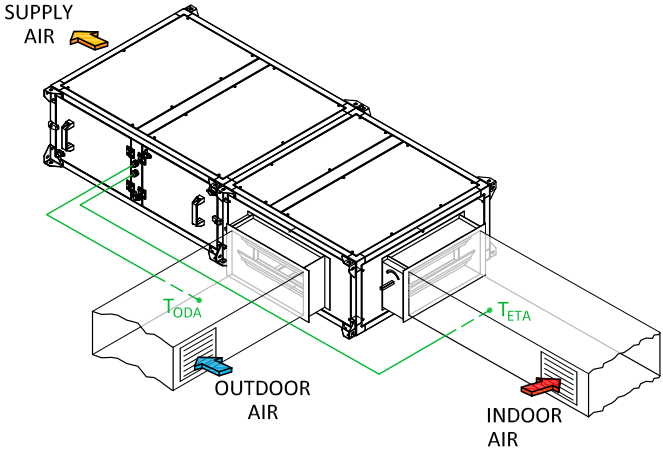
During the unit installation, the installer should retire the temperature probes from into the electrical cabinet and fit them in the definitive position according depending on the operation mode.

Detail of the location of the Outdoor Air temperature probe (T_{ODA}) and the Extract Air temperature (T_{ETA}) depending on the type of installation:

Installation with 100% of Indoor Air (Recirculation)



Installation with mixing module (Variable % Outdoor Air / Indoor Air)



9. START-UP PROCEDURE

IMPORTANT

- Before access the unit, it is obligatory to switch off the electrical supply by means of the general switch placed in the cabinet box.
- UP units include absolute H14 filters inside. To prevent contamination, these are supplied in plastic bags. Prior to the start-up of the unit, it is necessary to remove these bags and reassemble the filters ensuring that the air direction matches that indicated in the filter frame.

To remove the bags from the filters, follow the procedure below:

- Make sure the unit is not connected to the electrical supply.
- Wear protective gloves when handling unit.
- Access to HEPA H14 filters.
  Due to the dimensions and weight of the H14 filters and the access panel to them, their maintenance must be carried out by two operators.
- Loosen and remove the screws that secure the access cover to H14 filters. (Fig.1)
- Remove the cover (Fig.2)
- For units mounted with vertical airflow, disassemble the metal tabs that act as a filter mounting guide (fig.3-1). Release the filters by loosening the threaded knobs (Fig.3-2). Once released, remove the filters by pulling them outwards (Fig.3-3).
- For ceiling-mounted units (with horizontal airflow), release the filters by loosening the threaded knobs (Fig.4-1). Once released, remove the filters downwards, saving the tab that acts as a anti-fall (Fig.4-2).

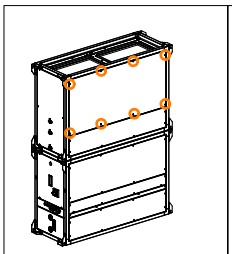


FIG. 1

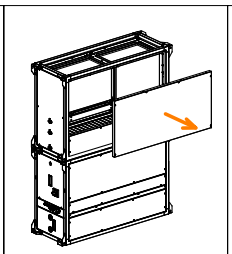


FIG. 2

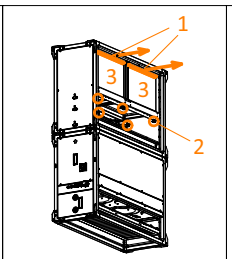


FIG. 3

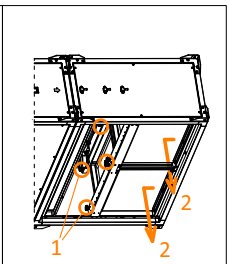


FIG. 4

- When repositioning the filters make sure that the air direction of the filter label matches with the airflow in the unit.
- All access panels on the unit must be closed once the filters have been disbursed and before starting.
- Make sure that the earth connection is securely connected.
- Turn on the external main power switch to the unit, keeping the control switch in the off position. After that, check to make sure the input voltage at the unit's electrical terminals matches the one indicated on the identification plate (the minimum voltage will be 10% below the rated voltage indicated on the identification plate).
- Test the total current drawn by the unit as a whole, also checking to make sure there are no phase lags between the currents on the different lines.

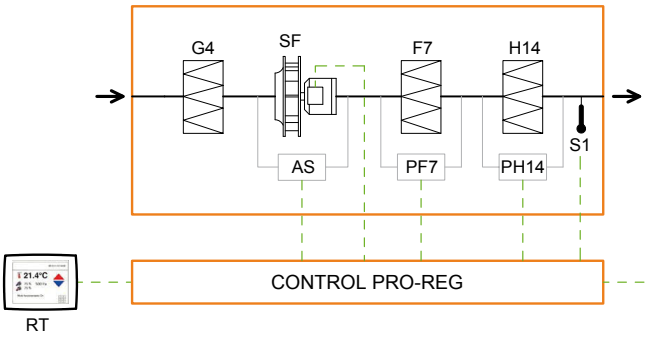
10. CONTROL FUNCTIONS

The UP PRO-REG units are supplied with integrated electronic control in the unit. It allows to perform the following functions:

MAIN COMPONENTS
General proximity switch over the electrical box
Fresh air temperature probe
Extract air temperature probe
Supply air temperature probe
Airflow transmitter
Cloged filters switch
FEATURES
ON/OFF function (Remote ON/OFF via external contact free of voltage)
Automatic airflow adjustment, according to time period (internal Timer)
Flow control in CAV mode. Constant airflow regardless of the state of fouling of the filters
Automatic airflow adjustment in VAV mode, according to external signal 0-10V (CO_2 accessory)
Automatic speed adjustment of the fans in Constant Pressure mode (Increase of fan speed when pressure in the duct system decreases). It is necessary TDP-S accessory
BOOST function (Forced speed preset via external contact free of voltage)
Speed-control of an external fan (slave) with analogic signal 0-10V available
SUPERVISION
Control of polluted filters via pressure switches (included)
Failure in temperature probes
Failure in fan via pressure switches (included)
Alarm display
COMMUNICATION
Control via touch-screen included
Modbus RTU (RS-485)
BACNET TCP/IP

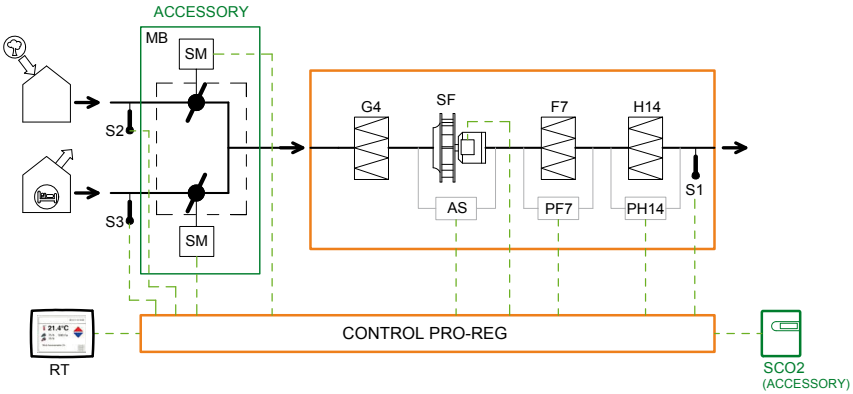
11. CONTROL DIAGRAM

Units with 100% air recirculation



SF	Fan	PF7	Intermediate filter F7 pressure switch
S1	Supply temperature probe	PH14	Absolute filter H14 pressure switch
G4	Pre-filter G4	AS	Airflow transmitter
F7	Intermediate filter F7	RT	Remote control (wired)
H14	Absolute filter HEPA H14	SCO2	CO_2 sensor (accessory)

Units with recirculation and external air supply

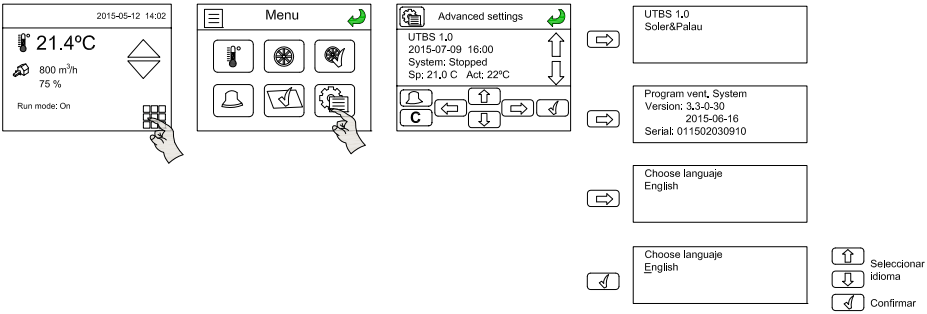


SF	Fan	PF7	Intermediate filter F7 pressure switch
S1	Supply temperature sensor	PH14	Absolute filter H14 pressure switch
S2	Outdoor air temperature probe	AS	Airflow transmitter
S3	Return temperature probe	RT	Remote control (wired)
G4	Pre-filter G4	SCO2	CO_2 sensor (accessory)
F7	Intermediate filter F7	MB	Mixing module (accessory)
H14	Absolute filter HEPA H14	SM	Damper servomotor (accessory)

12. REMOTE CONTROL OPERATION

12.1. CHANGE LANGUAGE

Before starting to use the remote control, select the desired language. To make the change, once the unit is turned on, follow the next sequence:



12.2. SIMPLIFIED MENUS / ACCESSES

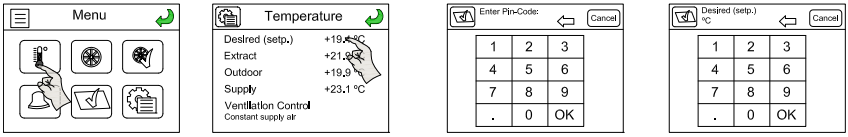
The unit has a quick access to the main functions.
Accesses: There are 3 access levels to the controller:

- User level (without password) - Access to stop / start functions - Normal speed / reduced or automatic speed and increase in the setpoint temperature (+/- 3°C).
- Installer level (with password) - Read and write access in settings and parameters, but not to the system configuration.
- Administrator level (with password) - Read and write access in settings and parameters, as well as the system configuration.

12.2.1. User level

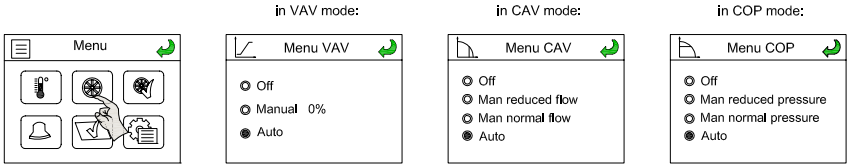
To adjust the temperature set point and the operation mode selection of the unit (use of the time program, stop the unit or possible forcing to a particular speed).
These two temperatures and ventilation functions are accessible in two specific menus specially dedicated to this usage:

Adjustment the temperature setpoint



To modify the temperature is necessary to enter the code 1111.

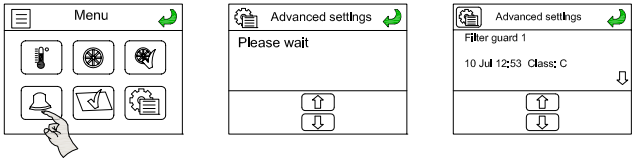
Operating mode selection



12.2.2. Installer level

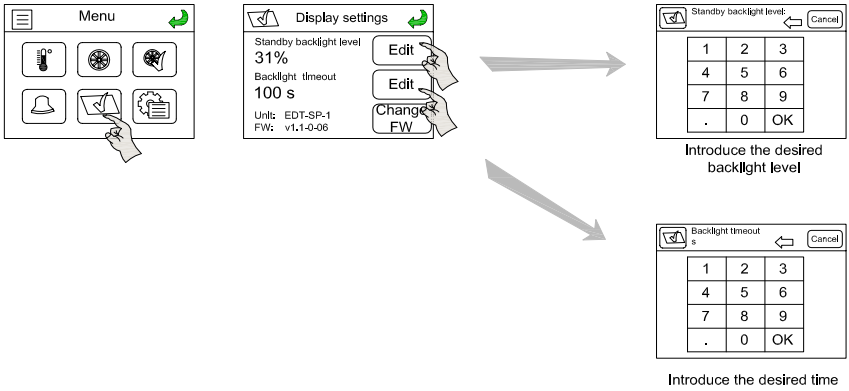
Alarm display

In this level is possible to adjust the operating parameters of the unit: Fan, heating, display, errors, etc..



Screen display settings

Adjust the brightness and display feedback.

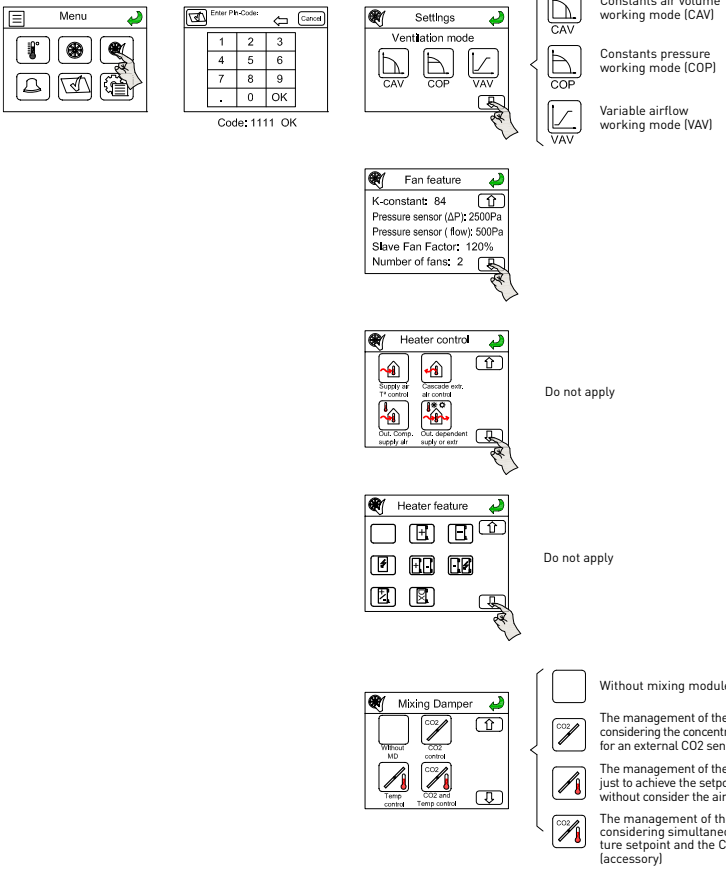


Access settings

Remember that the equipment is supplied configured and tested in factory. Only will be necessary to change the settings if you have reset the controller or if it has been replaced by another.

By accessing settings can be selected:

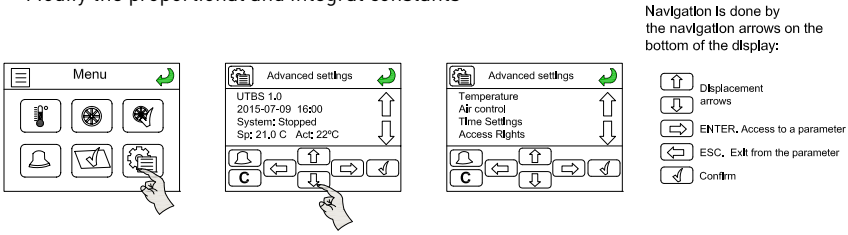
- Working mode of the fans.
- Settings used fan.
- Enable the mixing module control and configurate the type of control.



Advanced parameter setting

Access to advanced parameters allows:

- Weekly Timing: Schedule
- Activate the nightly free-cooling function
- Activate Modbus RTU / Bacnet TCP / IP communication
- Modify the proportional and integral constants



Once in the advanced settings menu navigation is done by the arrows.

12.3. OPERATION FAN MODES

The Pro-Reg units can operate in 3 operating modes:
CAV: Operation at constant flow
VAV: Operation at variable flow
COP: operation at constant pressure

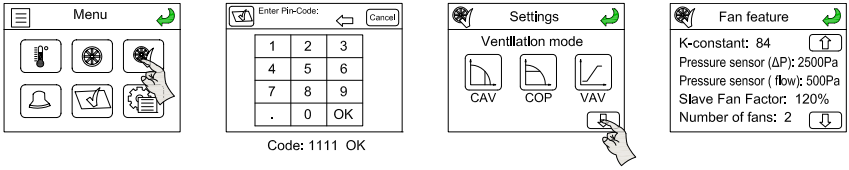
12.3.1. CAV mode: Constant airflow operation (default mode)

Mode recommended in installations where it is necessary to maintain a constant airflow. The speed of the fans is defined to correspond to a precise airflow and to keep it constant.

The fan flow is controlled by a pressure transmitter integrated into the equipment in all versions.

The controller performs the conversion of the signal received from the pressure transmitter to flow, using the relation $q_v = k\sqrt{\Delta P}$. This parameter K depends on the fan construction and is different for each model.

In case CAV mode is selected, in the Main screen it is showed the actual m^3/h of the fans with pressure transmitters and also a percentage of the maximum fan speed (Note that the unit has already been configured at the factory, so it is not necessary to make these adjustments except when replacing the controller or reset it):

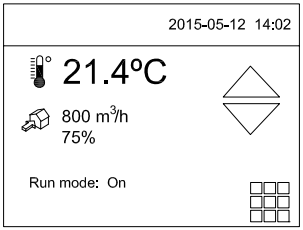


In order to obtain the actual flow, the parameter K has to be defined.

Factory settings

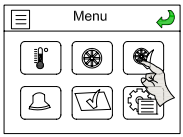
Model	K factor	Pressure sensor	Pressure sensor (Airflow)	Slave fan factor	Number of fans
UP-1200	62	2500 Pa	3000 Pa	100%	1
UP-2300	75	2500 Pa	1000 Pa	100%	2
UP-3600	100	2500 Pa	1000 Pa	100%	2
UP-5200	116	2500 Pa	3000 Pa	100%	2

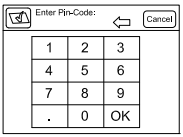
Appearance main screen when the unit is configured in CAV mode.



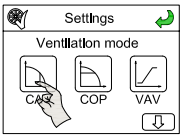
CAV control mode selection

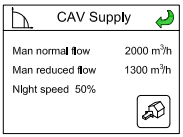
Access to the simplified parameter setting menu (via the password 1111) allows:
- The selection of Normal flow and Reduced flow of each fan.
- The night set point value of the fans.





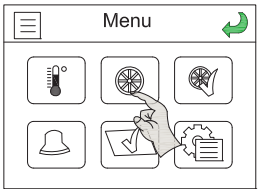
Code: 1111 OK

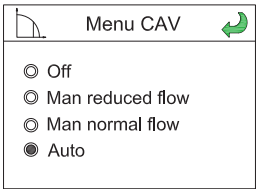




The choice between normal or reduced flow can be performed:
- manually
- automatically by programme schedule (see section Time programming)
- remotely, by external digital contact (see section stop-start remote)

The switch over between the various set points will be done manually or automatically by a time programming.
A third set point, the "night speed", may be entered via the control panel. The value in % corresponds to the percentage of the fan's maximum capacity; it will be used during the night for free cooling (see corresponding function).
The selection of CAV mode in this installer menu automatically configures the screen of the user menu. The user can then change the unit's operation without modifying the settings.



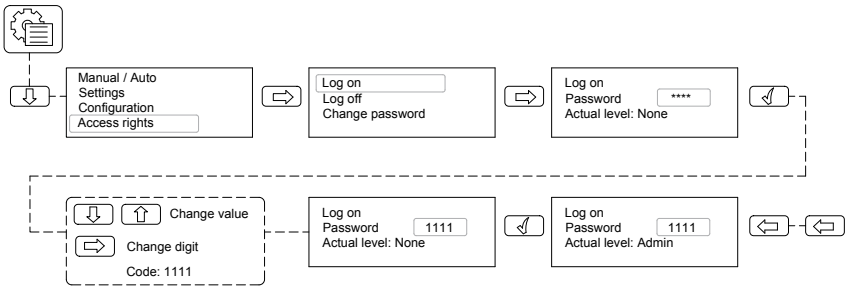


Off: stop the unit.
Manual Reduced flow, Manual Normal flow: set point manually selection.
Auto: selection of setpoint is done according to time programming.

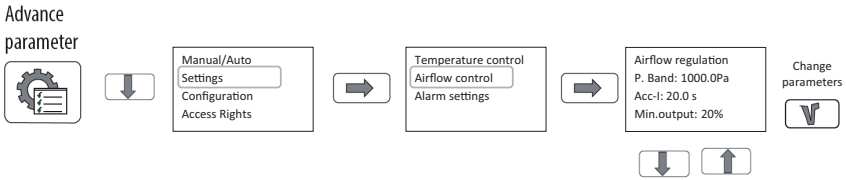
Advanced level

To modify the proportional and integral bands, from the advanced parameters menu follow the following sequence:

1- Access to system level



2- Adjust the CAV parameters



Factory setting data according to sizes

Model	Proportionnal band	Integral band
UP-1200	5000 Pa	25s
UP-2300	5000 Pa	25s
UP-3600	5000 Pa	25s
UP-5200	5000 Pa	25s

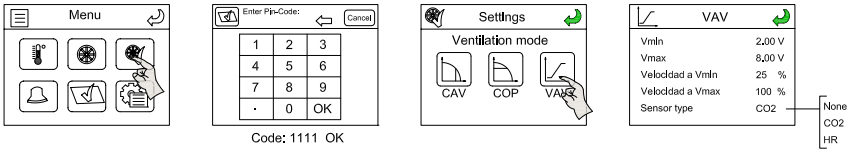
12.3.2. VAV mode: Variable airflow operation

Mode recommended in single area configuration for variable airflow applications depending on a signal type 0-10v.
The set point value depends on a signal 0-10 V coming from an outdoor probe (CO_2, temperature, relative humidity, etc.) or a manual percentage.

Functional parameter setting:

Access to the simplified parameter setting menu (via the password 1111) allows:

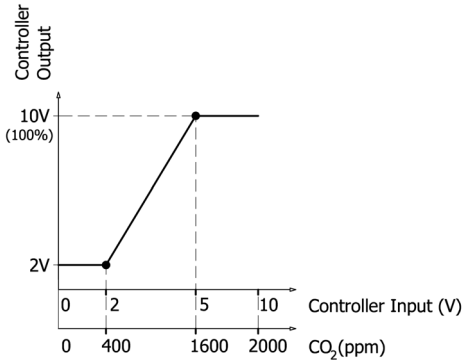
- The selection of the usage range of the signal 0-10V (see example below).
- The variation range of the supply fan's speed.



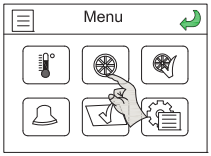
Usage example:

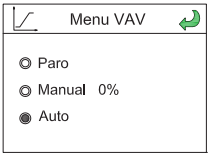
Connection of a CO_2 probe of a measurement range 0-2000 ppm (0-10V). Speed minimum (25%) below 400 ppm and maximum (100%) over 1600 ppm

Vmin = 2 V (400ppm)
Vmax = 8V (1600 ppm)
Speed at Vmin = 25%
Speed at Vmax = 100%



The selection of VAV mode in this installer menu automatically configures the screen of the user menu. The user can then change the unit's operation without touching the settings.

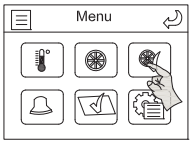


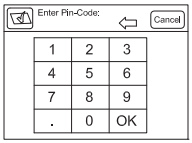


Off: Stop the unit.
Manual: Manually selection of fan's speed.
Auto: Automatic control according to external probe.

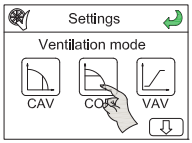
12.3.3. COP mode: Constant pressure operation

Mode recommended in a multi-area configuration for variable airflow applications with several modulation systems of the airflows installed at the network level.
Airflows automatically modulated to maintain a constant pressure value measured by an outdoor pressure sensor TDP-S (accessory).
The access to the configuration menu of the COP mode is performed as follows:

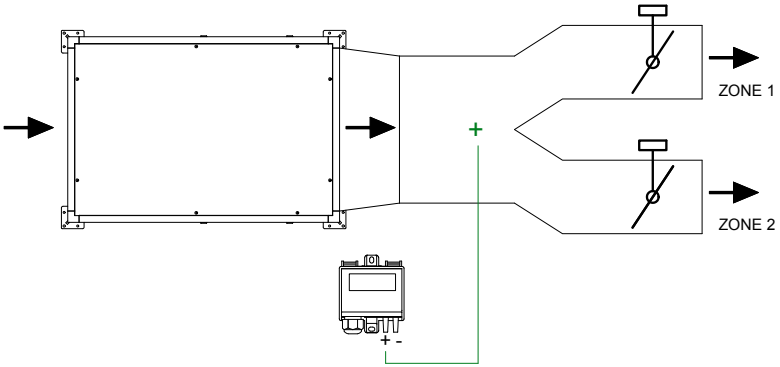




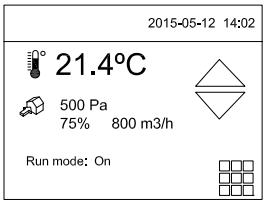
Code: 1111 OK



Installation diagram pressure sensor

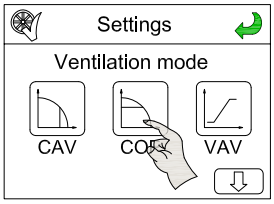


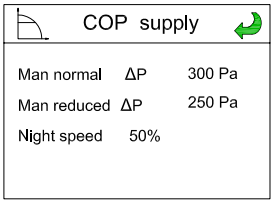
In case COP mode is selected, in the Main screen it is showed the actual Pa of the fans with pressure transmitters and also the speed of the fans (as a percentage of the maximum fan speed).



COP parameter settings mode

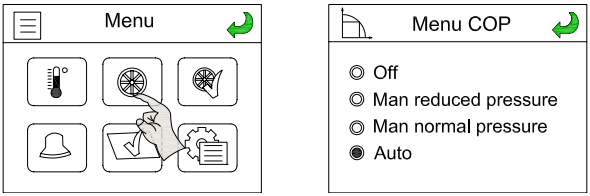
Access to the simplified parameter setting menu (via the password 1111) allows:
- The selection of Normal flow and Reduced flow of each fan.
- The night set point value of the fans.





The choice between normal and reduced pressure can be performed:
- manually
- automatically with programme schedule (see section Time programming)
- remotely, by external digital contact (see section force normal speed)

A third set point, the "night speed", may be entered via the control panel. The value in % corresponds to the percentage of the fan's maximum pressure; it will be used during the night for free cooling (see corresponding function).
The selection of COP mode in this installer menu automatically configures the screen of the user menu. The user can then change the unit's operation without modyfing the settings.

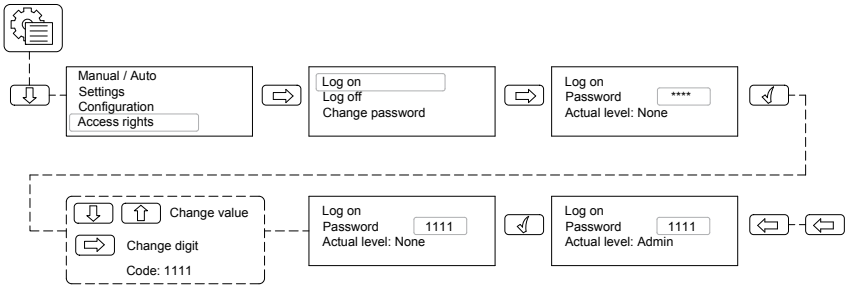


Off: stop the unit.
Manual Reduced pressure / Manual Normal pressure: Setting manually selection.
Auto: Selection of set point is done according to time programming (see Programme schedule section).

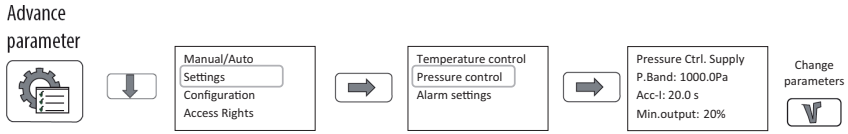
Advanced level

To modify the proportional and integral bands, from the advanced parameters menu follow the following sequence:

1- Access to system level



2- Adjust the COP parameters



Factory setting data according to sizes

Model	Proportionnal band	Integral band
UP-1200	5000 Pa	25s
UP-2300	5000 Pa	25s
UP-3600	5000 Pa	25s
UP-5200	5000 Pa	25s

12.4. TIME PROGRAMMING

The controller has several clocks which allow the individual programming of: Normal Speed, Reduced Speed and Stop.

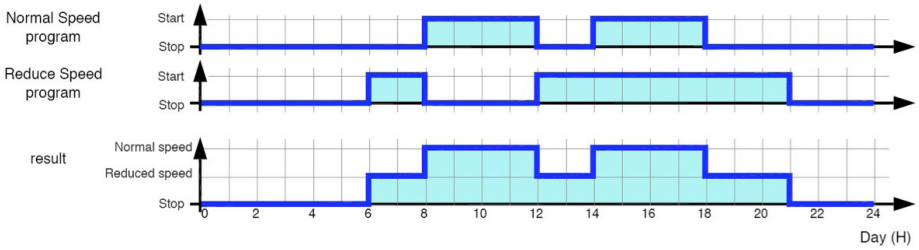
Clock parameter setting:

The programmer works for intervals (outside these intervals the fans are stopped).
The installer can thus define two operation intervals in normal speed (only in CAV and COP modes).
It is possible define the maximum of the two intervals per day and of speed.

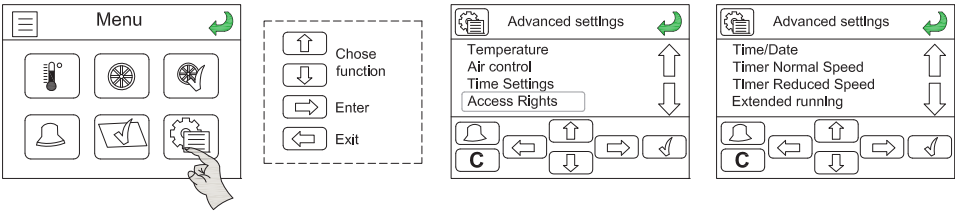
For example:

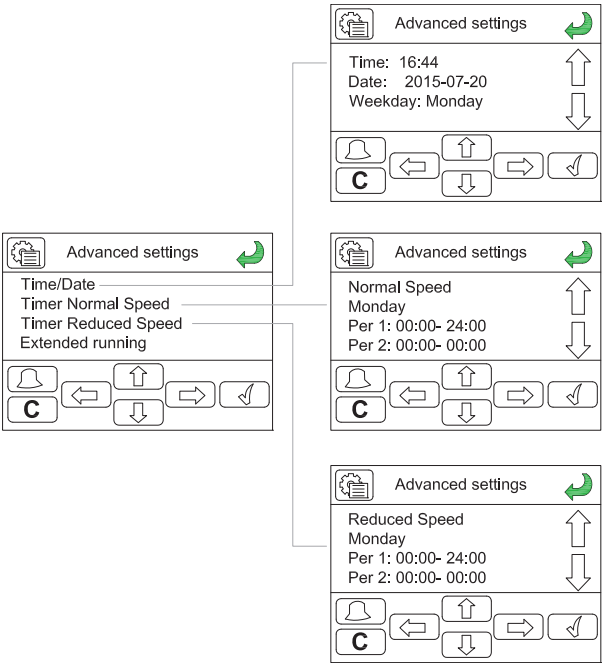
The Normal Speed can be defined	*from 8:00 am to 12:00 pm*	*in period 1*
	and from 2:00 pm to 6:00 pm	*in period 2*
and the Reduced Speed	*from 6:00 am to 8:00 am*	*in period 1*
	and from 12:00 pm to 9:00 pm	*in period 2*

The programmable logic controller will then control the fans as follows:



To access to the programme schedule, select "Time settings" in the ADVANCE PARAMETERS.



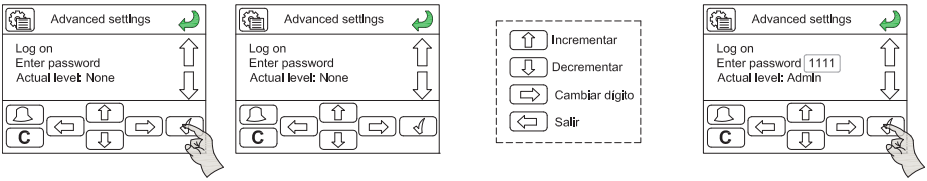


First make sure that the date and the hour set in the controller are correct.

Define the time periods when the unit will work at normal fan speed.

Define the time periods when the unit will work at reduce fan speed.

Before modify the programming it is necessary to access as "Administrator level".



In the time menu, before programming the intervals, make sure that the date and time are exact.

Time intervals parameter setting menu:

A "reduced speed prg" menu is also visible and is made up in the same way as the "normal speed prg" menu.

Time settings	Time/date	Time: hh:mm Date: aaaa:mm:dd Weekday: dddddd	
	Timer Normal Speed	Normal Speed Monday Per 1: 00:00- 00:00 Per 2: 00:00- 00:00	Normal Speed Monday->Friday Per 1: 00:00- 00:00 Per 2: 00:00- 00:00
		Normal Speed Tuesday Per 1: 00:00- 00:00 Per 2: 00:00- 00:00	
		...	
		Normal Speed Thurday Per 1: 00:00- 00:00 Per 2: 00:00- 00:00	
		Normal Speed Friday Per 1: 00:00- 00:00 Per 2: 00:00- 00:00	
		Normal Speed Saturday Per 1: 00:00- 00:00 Per 2: 00:00- 00:00	Normal Speed Saturday->Holiday Per 1: 00:00- 00:00 Per 2: 00:00- 00:00
		Normal Speed Sunday Per 1: 00:00- 00:00 Per 2: 00:00- 00:00	
		Normal Speed Holiday Per 1: 00:00- 00:00 Per 2: 00:00- 00:00	

The intervals are programmed day by day or copied by selecting either the same programming from Monday to Friday and/or the same Saturday and Sunday and Holidays.
Holiday periods are to be selected at the end of the table (24 possible periods).

Time Settings *(following)*	Holidays	Holidays (mm:dd) 1: 01:01 - 01:01 2: 01:01 - 01:01 3: 01:01 - 01:01
		Holidays (mm:dd) 4: 01:01 - 01:01 5: 01:01 - 01:01 6: 01:01 - 01:01

12.5. MIXING MODULE CONTROL (3 WAYS)

By installing a mixing module, a part of the air passing through the purifier may be air from the outside.
If it exists a mixing module instalated, it is necessary to specify the control type that it want to perform on it. It is possible to select between 3 control modes:

12.5.1. Without mixing module

Factory configurated by default, option for equipment installations where all air circulating through the purifier is recirculated air.

12.5.2. CO_2 control

The management of the dampers depends on the quality of indoor air (it is necessary to install CO_2 sensor). When the air quality is low (high level of CO_2), the system facilitates the entry of outdoor air. As the CO_2 level approaches to the introduced value as setpoint, it is closing the outside air damper, at the same time that opening the recirculated air.

12.5.3. Temperature control

Not used.

12.5.4. CO_2 control and temperature

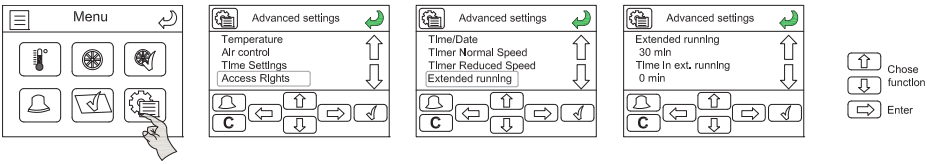
Not used.

12.6. CONTROL OF ISOLATION DAMPER (in installations with outdoor air intake)

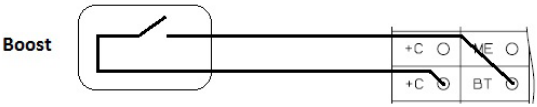
In the case of use the isolation damper, it is not necessary to perform an specific configuration nor enable the functionability in the unit. It is only necessary to install the dampers and wiring, as indicated in the wiring diagram.
When you start the unit the damper will open. To stop the unit, it will stop.

13. BOOST FUNCTION (only available in CAV and COP modes)

By closing an external digital contact, it is possible to force the fan operation at normal speed for a setted time.
The speed corresponds to the normal pressure setpoint set in COP mode or to the normal airflow specified in CAV mode.
The Boost function can be activated, only when the unit is not within a timer period of normal speed. In this case, even if boost is executed, the timer will start to count once the period of normal speed is finished (the boost order gets delayed).
This function is not available in VAV mode.
The duration of the Boost function is adjustable; the default time is 30 min.



The activation of the Boost function has to be activated with an external switch. To activate, it is necessary to close the contact between +C and BT for 3" and then open it.

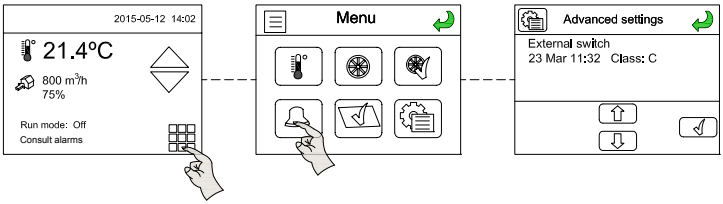


Once the Boost function has been activated, to cancel the forced normal speed period, it is necessary to do a Remote ON-OFF (see next point).

14. REMOTE STOP-START

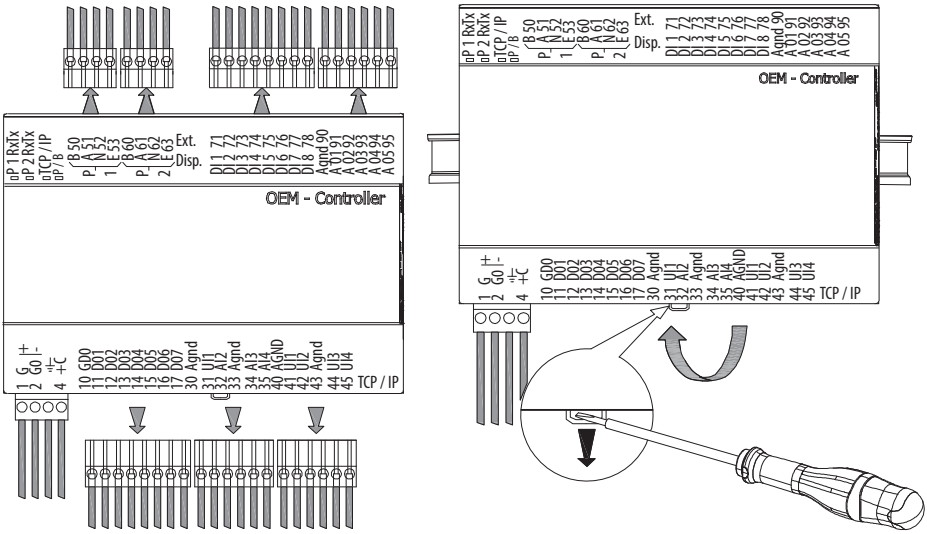
It is possible to start-stop the unit by means of an external digital contact (see electric diagrams). The contact closure between +C and ES, will produce the unit stop.

When the equipment is stopped remotely the control hand terminal displays an alarm message. Although this is not a real anomaly, this way it is intended to warn about the possibility that the unit will be start up from remote at any time.
When Access to alarm menú it is shown the message "External Switch".

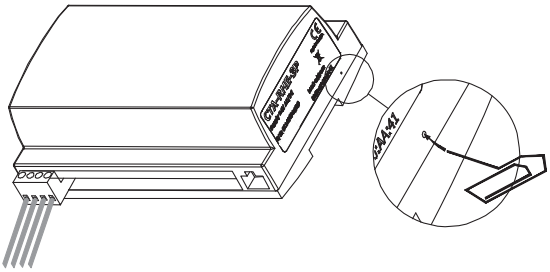


15. RESET THE CORRIGO CONTROLLER

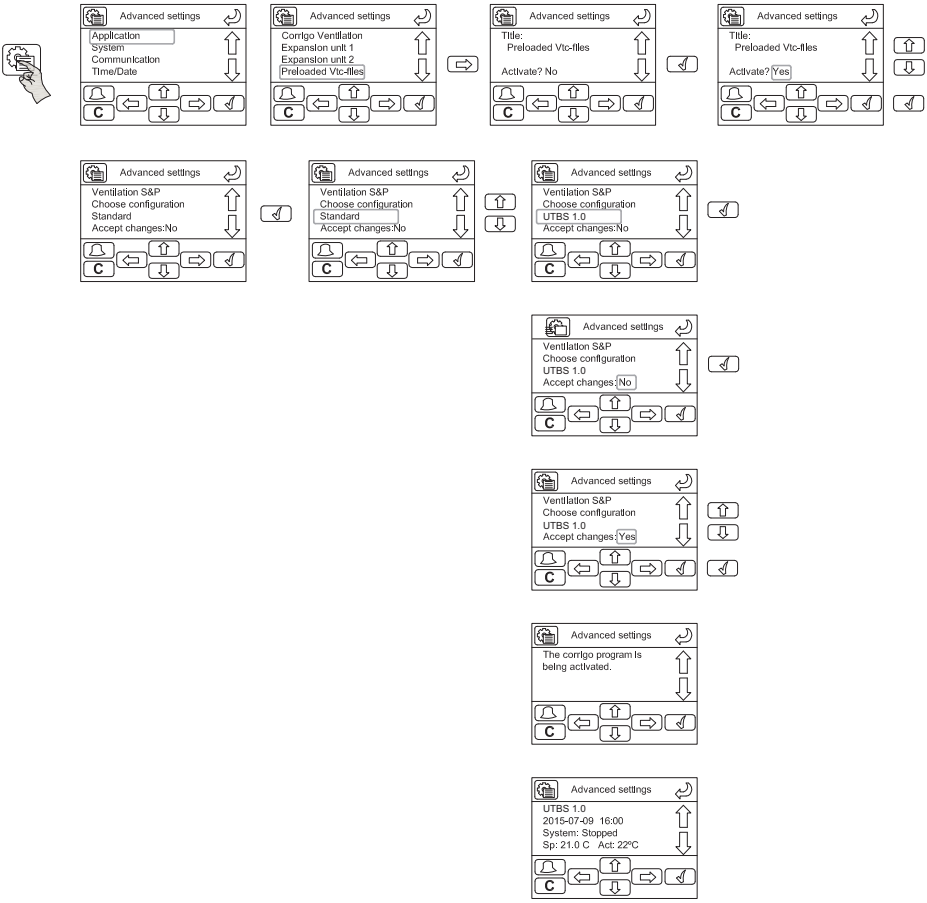
In some cases, after several adjustments or due to a bad working, it could be necessary to reset the controller. After isolating the unit and switching-off the main switch, open the door which gives access to the electronic board. Remove all the connectors attached to the controller with the exception of the 4-way electrical supply green plug connected to terminals 1,2, Earth and 4.



With a screwdriver, release the controller from the DIN rail on which it is mounted.
To reset the controller, it must be under voltage so re-energise the UTBS PRO-REG at the isolator and also on the unit by switching back on the main switch.
To reset the controller use a clip as shown in the picture: connect the ETD remote control cable and hook the Corrigo back onto the DIN rail. DO NOT CONNECT ANY OTHER PLUGS – AT THIS POINT, ONLY THE ETD REMOTE CONTROL AND 4-WAY ELECTRICAL SUPPLY PLUG SHOULD BE CONNECTED TO THE CORRIGO.



When the ETD cable and 4-Way electrical supply plug have been connected, perform the following sequence of operations:



Turn off the power, reconnect the controller connectors, and close the unit.

Controller reconfiguration

¡IMPORTANT!
After reset the controller, it is necessary to reconfigure the unit, as the factory settings are deleted.

Necessary reconfiguration:
- Language
- Cold and/or hot battery type: without batteries
- Temperature control: supply control
- Initial temperature setpoint
- Fan operation mode: CAV

- K factor
  K values corresponding to each model:

Model	K-factor	Number of motors
UP 1200	62	1
UP 2300	75	2
UP 3600	84	2
UP 5200	116	2

- Pressure sensor
  Values of the set pressure range:

Model	Set pressure range
UP 1200	0-3000 Pa
UP 2300	0-1000 Pa
UP 3600	0-1000 Pa
UP 5200	0-3000 Pa

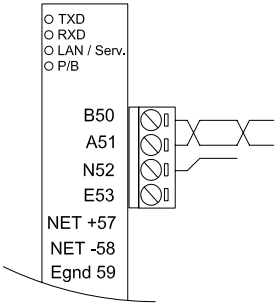
- Mixing module configuration (in case if it exists)
- Advanced parameters

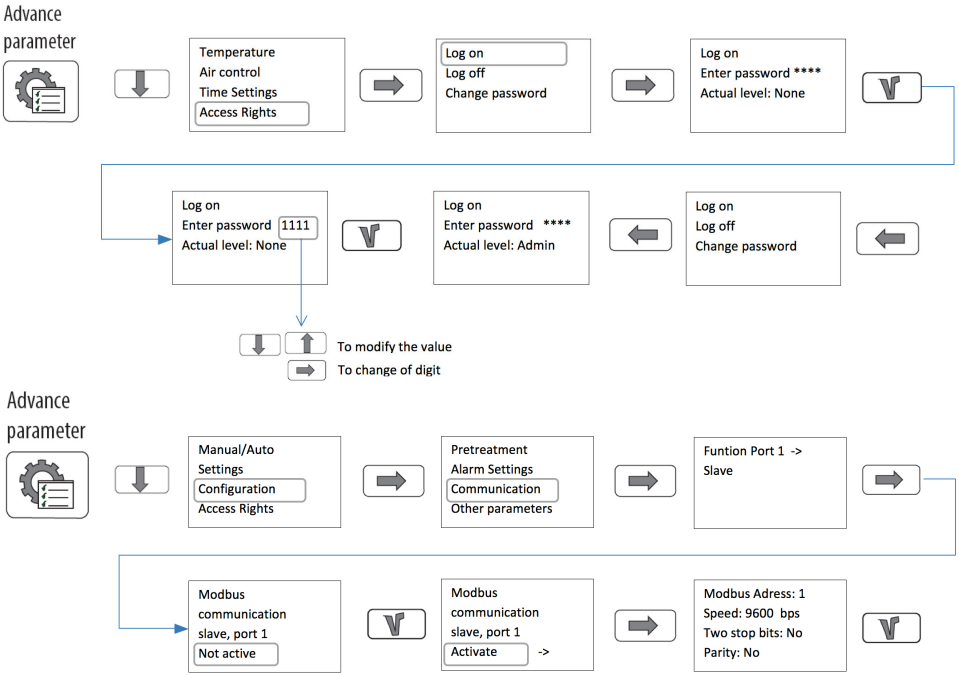
Advanced parameters must also be configured after the Reset:
- Time settings
- Bacnet communication activation

16. CONNECTION TO BUILDING MANAGEMENT SYSTEMS (BMS)

16.1. RTU MODBUS

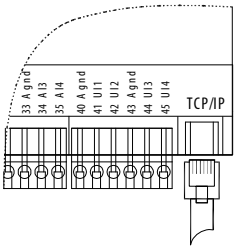
The controller in its standard version has an integrated RS485 communication port (to be used with an STP cable).
The standard controller can communicate in Modbus via its RS485 port by simply activating an internal parameter "Advance Parameters".
If you need to integrate your UP PRO-REG unit into a system Modbus RTU, request our communication manual where appear Modbus technical specifications and list of available registers..
To enable Modbus communication it is necessary to access the system as administrator.





16.2. TCP/IP BACNET

PRO-REG controller is equipped with an integrated RJ45 port for TCP/IP communication, as support for BACnet IP communication.
It's necessary to configure the IP address on each controller, and activate and address the BACnet IP using ETOOL software (E tool© is delivered as a self-installing program and can be downloaded from http://www.regincontrols.com/Root/Documentations/42_105786/CorrigoEVentilation%203.4-1-24.zip)
It is necessary to indicate the names, IP fixed directions, subnet masks and default gateway of each unit connected to the same network.



17. REPLACEMENT OF THE BATTERY FROM THE CORRIGO PROGRAMMABLE LOGIC CONTROLLER

When the "battery low" alarm appears and the red indicator light is lit, it means that the backup battery to save the memory and the real time clock is too low.
The procedure to change the battery is described below.
A capacitor allows backing up the memory and running the clock for approximately 10 minutes after the power is switched off.
If the battery can be changed in less than 10 minutes, the program does not have to be reloaded and the clock will continue to run normally.

The spare battery is type CR2032.

- Using a small screwdriver, pry up the clips on each side of the case to release the cover from the base.
- Hold the base and remove the cover.
- Grasp the battery and pull up gently until the battery exits from its holder.
- Replace the battery with a new. Warning: be sure to respect the polarity when inserting the battery.

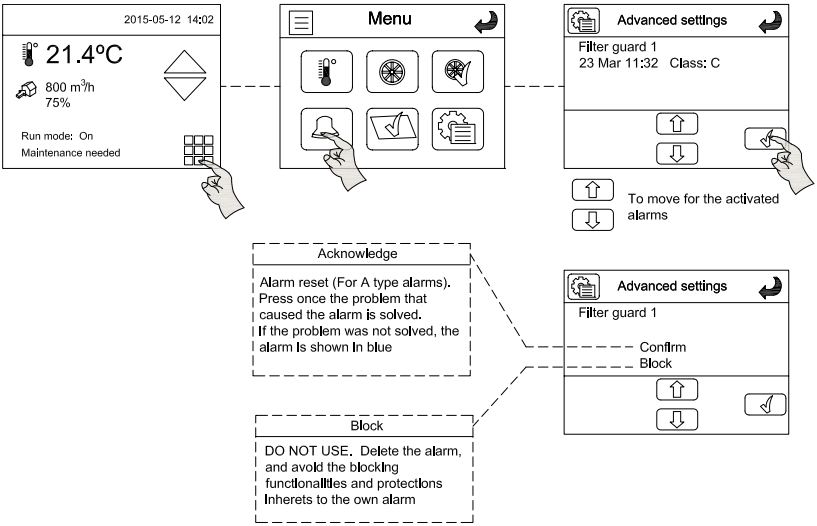
18. OPERATION ANOMALIES

18.1. GENERAL ANOMALIES

Anomaly	Cause	Solution
Difficult to start.	Reduced power supply voltage. Insufficient static torque of motor.	Check motor specification plate. Close the air inlets to reach the maximum speed.Change the motor is necessary. Contact the **S&P** Post-Sales service.
Insufficient airflow. Insufficient pressure.	The ducts are blocked or the regulation dampers are closed. Fan obstructed. Clogged filters. Insufficient rotation speed.	Check the condition of ducts and dampers. Clean fan. Clean or replace filter. Check power supply voltage.
Reduction in performance after a period of acceptable operation.	Leaks in the circuit before and/or after the fan. Damaged roller.	Check the circuit and restore original conditions.Check the impeller and if necessary, replace with an original spare part. Contact the **S&P** post sales service.
Air pulsation.	Fan working in flow conditions almost 0. Flow instability, obstruction or bad connection.	Modification of the circuit and/or replacement of the fan. Clean and/or readjust the inlet channels. Operate the electronic regulator, increasing the minimum speed (insufficient voltage). Contact the **S&P** Customer Advice service.

18.2. FAILURE LIST

In case an alarm or a failure occurs, a "Maintenance To Do" message appears in red on the main screen. The alarm can then be consulted in the advanced menu. The error is then clearly identified on the screen. The list of error messages is given in the following subsection.
Alarms type A: they have to be acknowledged once the error has been solved to return to normal working.
Alarms type C: once the error has disappear they turns automatically off (not needed to acknowledge).



The following table shows the mode to proceed to detect and resolve any incidents shown:

Alarm number	Alarm text	Description	Alarm type
1	Run Error Supply Air Fan	Malfunction of supply air fan	A
6	Change Filter	Intermediate filter need replacement	C
10	Fire Alarm	Fire alarm activated	C
11	Remote off active	Remote On/Off active	A
27	Sensor error outdoor temp	Malfunction of outdoor air temperature sensor	C
48	Internal battery error	Internal battery needs replacing	A
49	Sensor error Supply Air temp	Malfunction of supply air temperature sensor	A
50	Sensor error Extract Air temp	Malfunction of extraction air temperature sensor	A
55	Sensor error SAF pressure	Malfunction of supply air pressure sensor	A
58	Sensor error Frost Protection temp	Malfunction of water temperature sensor	C
90	Change External Filter	Absolute filter (HEPA H14) needs replacement	

19. EMERGENCY OPERATIONS

- If any problems are noted on the unit, turn it off using the emergency shut-off device.
- In the event of fire, it must be extinguished using suitable extinguishers. Extinguishers should be appropriate for use on electrical fires.

20. PREVENTIVE MAINTENANCE

Although maintenance operations are not usually complicated, we recommend that they be carried out by qualified personnel. At S&P we have an extensive network of Technical Services that will be able to offer technical assistance for both equipment startup and filter maintenance and interior cleaning of the unit. On our page www.solerpalau.com you will find information about the Technical Services that cover your region.

20.1. FILTERS

UP purifiers equip absolute filters with a filtration efficiency of ≥99,995%. In order to enjoy the purifier's performance for a long time, it is essential to properly maintain the filters.

Filter handling considerations

The UP-850 units have three filtration stages of G4 + F7 + H14.
Depending on the environment in which UP purificator was used, the dirty filters could contain a large number of particles and polluting substances and / or toxic.
HEPA H14 filters have a very high efficiency for the retention of viruses and bacteria.
When perform the manipulation of used filters, follow these recommendations:

- Protect yourself with a FFP-2 or FFP-3 mask and wear disposable gloves during the manipulation of the filter.
- Minimize contact time with filters.
- Once removed, deposit the filters in hermetic plastic bags and contact a professional with a Waste Manager qualification to treat the filters according to the procedures established in your community.

Cleaning and replacing of filters

G4 pre-filter

It has the function of retaining the largest particles and at the same time protecting the rest of the filters, extending their useful life. A visual check of the G4 filter should be carried out periodically. Cleaning of the pre-filter should be done gently to avoid damaging the filter material. With the help of a dry or slightly damp cloth (never wet), remove the particles accumulated on the filter surface, lint, dust accumulation and larger particles.
Do not blow with compressed air neither use vacuum cleaners, as in both cases the filter element could be damaged, considerably reducing the efficiency of the filter.

F7 high efficiency filter

It has the function of retaining fine particles of size between 2.5 and 10 microns, and at the same time protect the HEPA H14 filter, extending its useful life. The F7 filter is not cleanable, it must be replaced when the pressure drop of this reaches a high value. We recommend replacing the filter at pressure drops between 200 and 250Pa.

H14 absolute filter

These filters do not need maintenance. Once the filters have been clogged, they must be replaced.

Maintenance frequency

The maintenance frequencies of the filters will depend on several factors such as the hours of use, airflow of regulation, as well as the degree of cleanliness of the environment. Due to this factor dependence, it is not possible to establish exact maintenance frequencies. As a guide, the following guidelines can be followed:

- Visual check / G4 pre-filter cleaning: Every 2 months.
- G4 Pre-filter replacement: Between 6 months and 1 year depending on use.
- F7 filter replacement: Between 6 months and 1 year depending on use.
- H14 Absolute filter: Between 1 year and 2 years depending on use.

Process for the filter disassembly

Access to filters is done from the front of the unit when the unit is mounted vertically, and from the bottom when it is mounted on ceilings. To access these, follow the next procedure:

- Make sure the unit is not connected to the network. Disconnect the existing cut-off switch on the unit.
- Wear protective gloves in the manipulation of the appliance.

Access to G4 pre-filters

- Loosen and remove the screws that hold the G4 pre-filters access cover (Fig. 1-A). In the case of access from the side, the panel is released by loosening two quick releases. (Fig. 1-B).
- The G4 filter can be removed through the side panel (Fig. 2-A) or through the front panel (Fig. 2-B).
- The G4 pre-filter is mounted on a metal rail. To remove it by the side, simply pull the filter outside making it slide along its guide. To remove the filters from the front, it is necessary to release it from its location, for this, press on the metal part that holds the filter (Fig. 3-A) and at the same time pull the filter upwards until it is released (Fig. 3-B).

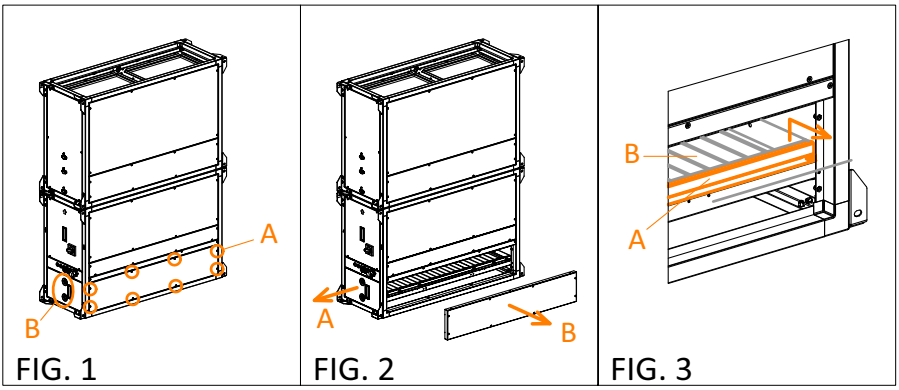


FIG. 1 FIG. 2 FIG. 3

Access to F7 filters

- Loosen and remove the screws that hold the access cover to the F7 filters. (Fig. 1).
- Remove the cover (Fig. 2).
- To access the filter, it is necessary to remove a metal part that acts as a stop. Remove the screws that hold the part (Fig.3-1) and remove the part (Fig.3-2).
- Remove the filter from its location (Fig.4).

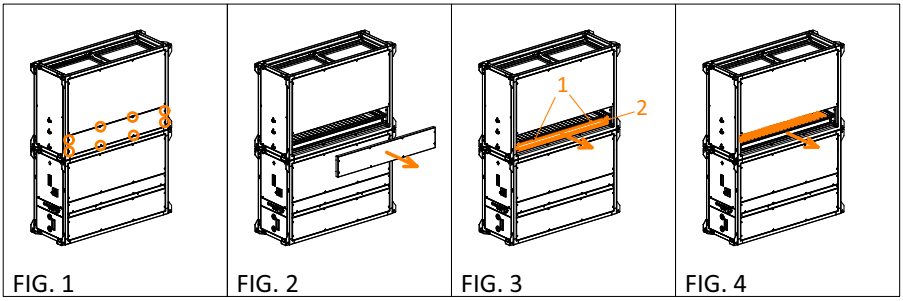


FIG. 1 FIG. 2 FIG. 3 FIG. 4

Access to HEPA H14 filters

Due to the dimensions and weight of the H14 filters and their access panel, their maintenance must be carried out by two operators.

- Loosen and remove the screws that hold the access cover to the H14 filters (Fig. 1).
- Remove the cover (Fig.2).
- On units mounted with vertical airflow, remove the metal tabs that act as a filter mounting guide (Fig. 3-1). Release the filters by loosening the threaded knobs (Fig. 3-2). Once released, remove the filters by pulling them outwards (Fig.3-3).
- On ceiling mounted units (with horizontal airflow), release the filters by loosening the threaded knobs (Fig. 4-1). Once released, extract the filters downwards, saving the tab that acts as an anti-fall stop (Fig. 4-2).

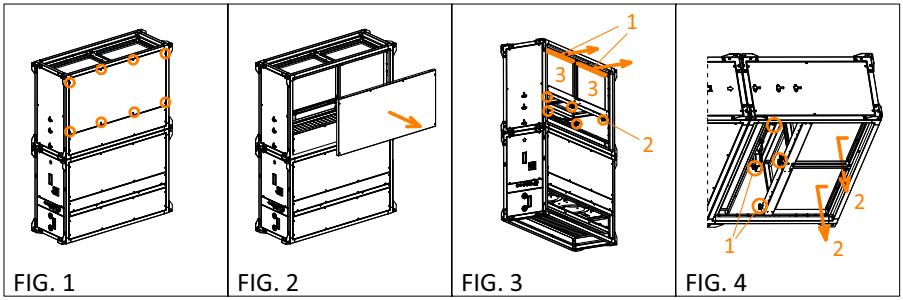


FIG. 1 FIG. 2 FIG. 3 FIG. 4

When installing the new filters make sure that the air direction of the filter label matches with the airflow in the unit. Once the filters have been maintained / replaced, follow the previous steps in reverse order before commissioning of the unit.

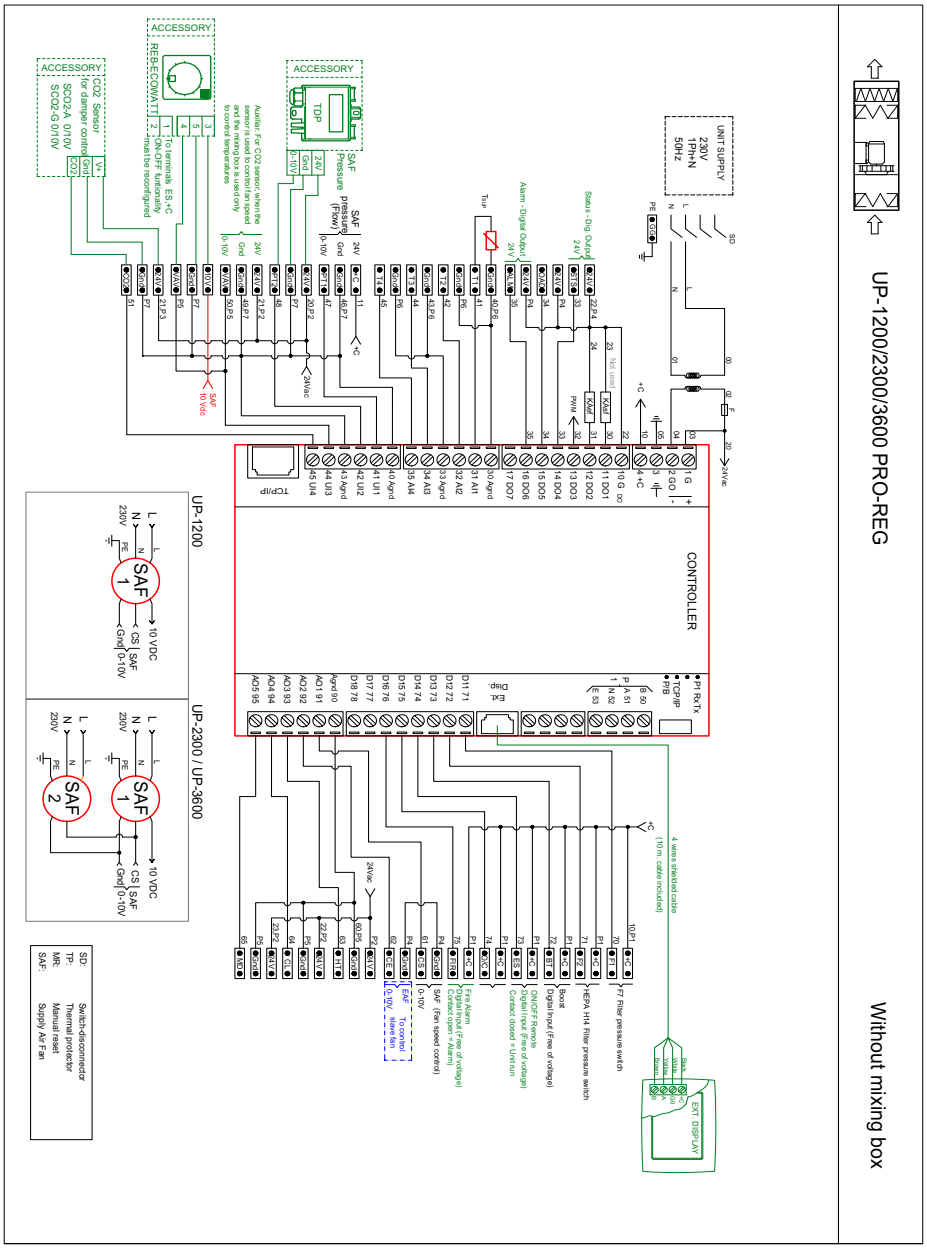
Filter parts table

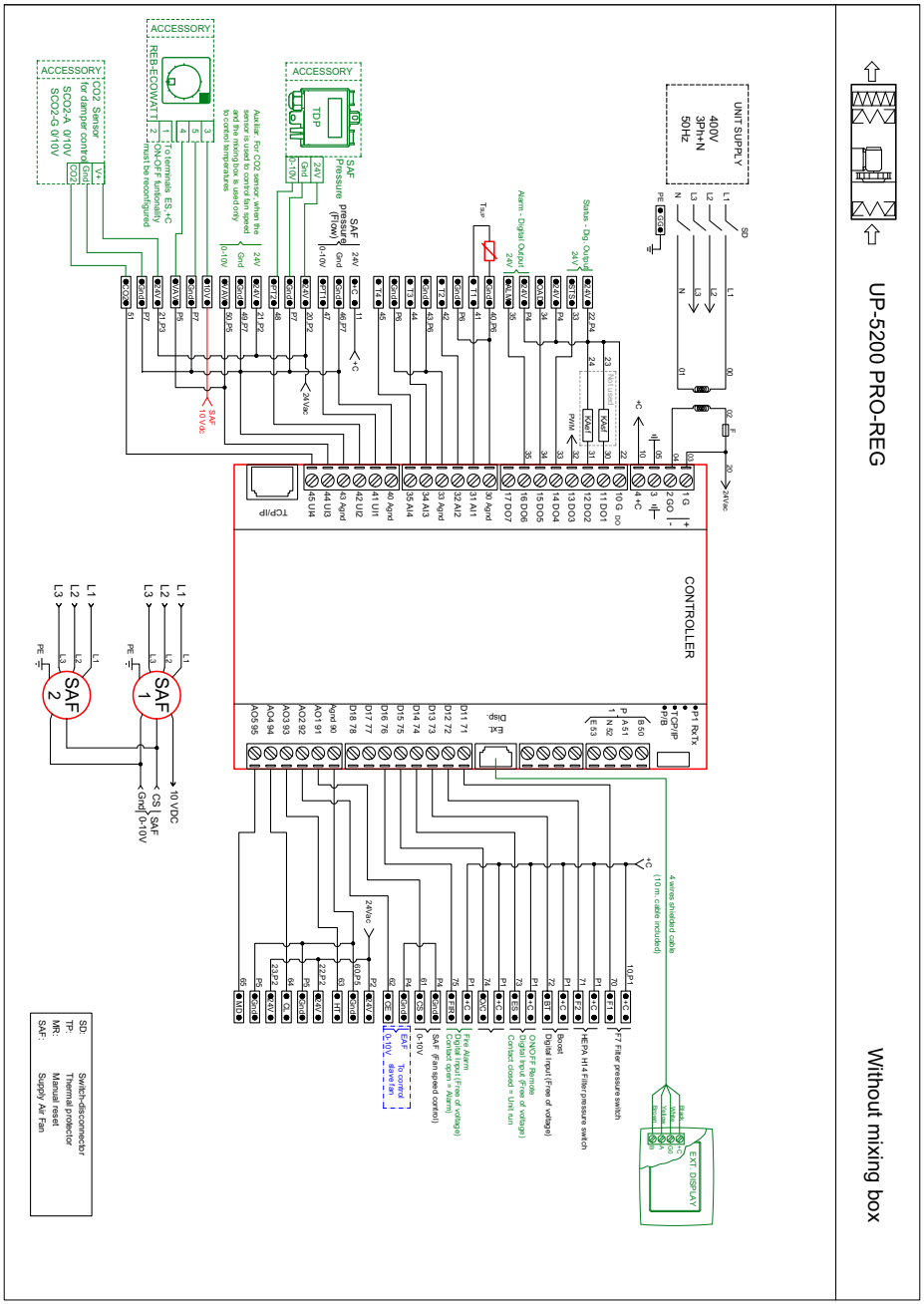
Model	G4 pre-filter	F7 filter	HEPA H14 filter
UP-1200	AFR-UTBS-2-G4	AFR-UTBS-2-F7	AFR H14 UP 1200
UP-2300	AFR-UTBS-3-G4	AFR-UTBS-3-F7	AFR H14 UP 2300
UP-3600	AFR-UTBS-5-G4	AFR-UTBS-5-F7	AFR H14 UP 3600
UP-5200	AFR-UTBS-8-G4	AFR-UTBS-8-F7	AFR H14 UP 5200

20.2. FANS

- It is recommended to check the status of the fan every 6 months.
- In case that dust or dirt accumulation is detected on the impeller surfaces, first clean it with a damp cloth and then with some disinfectant product.
- Preventive maintenance is a preset programme of checks that is followed regularly to prevent equipment breakdowns.
- The supplemental Building Facility Technical Regulations are applicable at all times to maintenance standards, except when justified otherwise for technical reasons.
- The maintenance supervisor should keep a copy of the preventive maintenance recommendations given below on file, making as many copies as needed for use.
- According to the equipment's operating needs, it is crucial to make a list of those elements that are needed to quickly resolve equipment faults. This list will serve to determine the spare parts inventory needed to be able to perform repairs quickly.
- A maintenance log should record each component serviced during maintenance, as well as activities performed or repairs made.
- Maintenance staff must be knowledgeable about the unit and have adequate training in its use and maintenance.
- Before starting maintenance operations on the unit, turn off the unit's main switch. Electrical shock can cause personal injury.
- Keep the following in mind when performing maintenance operations:

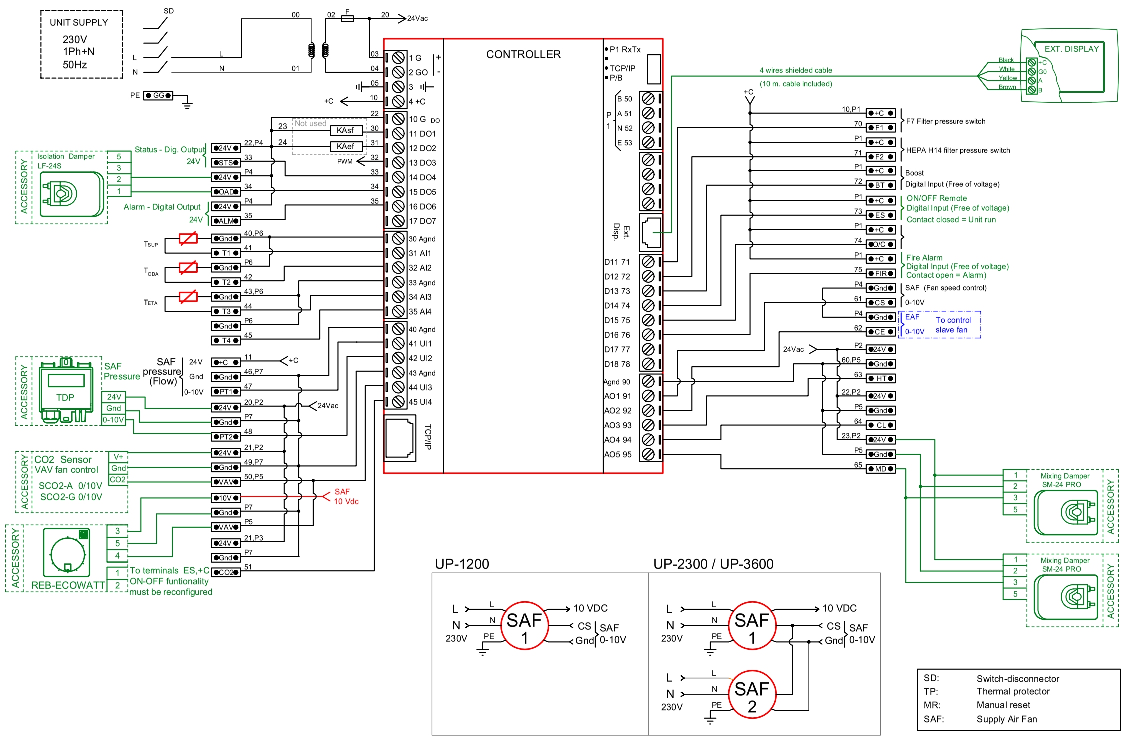
21. WIRING DIAGRAMS



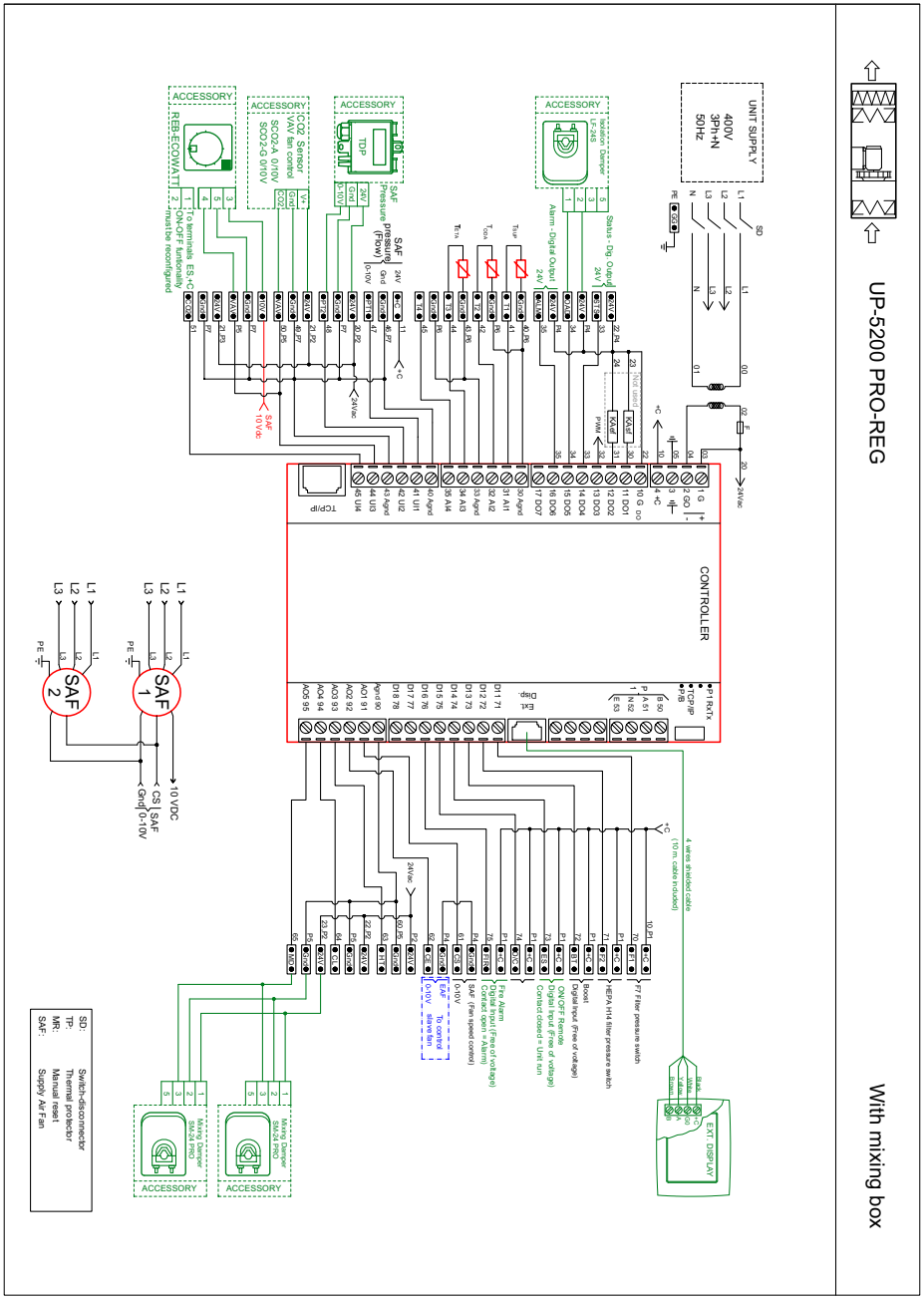

UP-5200 PRO-REG
Without mixing box
UNIT SUPPLY
400V
3PH+N
50Hz
CONTROLLER
EXT DISPLAY
ACCESSORY
TDP
REB-ECOWATT 2
SCO2-A 0'10V
SCO2-3 0'10V
CO2 Sensor for damper control
ON/-OFF functionality
must be reconfigured
4 wires shielded cable (10m. cable included)
HEPA H14 Filter pressure switch
Filter pressure switch
Boost
Digital Input (Free of voltage)
ON/OFF Remote
Digital Input (Free of voltage)
Contact closed = Unit run
Fire Alarm
Digital Input (Free of voltage)
Contact open = Fire Alarm
SAF (Fan speed control)
0-10V
To control
SAF fan
Alarm - Digital Output
Status - Dig. Output
Auxiliar. For CO2 sensor, when the sensor is used to control fan speed and the mixing box is used only to control temperature
SAF
0-10Vdc
+10 VDC
SAF
0-10V
CS
SAF 1
SAF 2
SD: Switch-disconnector
TP: Thermal protector
MR: Manual reset
SAF: Supply Air Fan

UP-1200/2300/3600 PRO-REG

With mixing box



SD:	Switch-disconnector
TP:	Thermal protector
MR:	Manual reset
SAF:	Supply Air Fan


UP-5200 PRO-REG
With mixing box
UNIT SUPPLY
400V 3PH+N 50Hz
CONTROLLER
TCP/IP
EXT. DISPLAY
ACCESSORY
TDP
REB-ECOWATT
SAF 1
SAF 2
Mixing Damper SM-24 PRO
4 wires shielded cable (10 m. cable included)
Switch-disconnector
Thermal protector
Manual reset
Supply Air Fan

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