

Installation and maintenance manual
Manuel d'installation et de maintenance
Installations- und Wartungshandbuch
Manuale di installazione e di manutenzione
Manual de instalación y de mantenimiento

Aqu@Scop Advance DCI

6 ÷ 16



English

Français

Deutsch

Italiano

Español



3.5 kW
↓
18 kW



Air-water Heat Pump
Pompe à Chaleur air-eau
Wärmepumpe Luft-Wasser
Pompa di Calore aria-acqua
Bomba de Calor aire-agua

IOM ADVANCE 01-N-3GB

Part number / Code / Teil Nummer / Codice / Código : **3990608GB**

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INSTALLATION INSTRUCTION

NOTICE D'INSTALLATION

INSTALLATIONSHANDBUCH

ISTRUZIONI INSTALLAZIONE

INSTRUCCIONES DE INSTALACIÓN

English

Français

Deutsch

Italiano

Español

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POWER SUPPLY MUST BE SWITCHED OFF BEFORE STARTING WORK IN THE ELECTRIC CONTROL BOX

1. GENERAL RECOMMENDATIONS

The purpose of this Manual is to provide users with instructions for installing, commissioning, using and maintaining the units.

It does not contain the complete description of all the maintenance operations guaranteeing the unit's long life and reliability. Only the services of a qualified technician can guarantee the unit's safe operation over a long service life.

Please read the following safety precautions very carefully before installing the unit.

1.1. SAFETY DIRECTIONS

Follow the safety rules in forces when you are working on your appliance.

The installation, commissioning and maintenance of these units should be performed by qualified personnel having a good knowledge of standards and local regulations, as well as experience of this type of equipment.

This appliance has not been designed for use by persons (including children) with reduced physical, sensorial or mental faculties or by persons without any experience or knowledge of heating systems, unless they act under the safety and supervision of a responsible person or have received prior training concerning the use of the appliance.

Children should be supervised to ensure that they do not play with the appliance.

The unit should be handled using lifting and handling equipment appropriate to the unit's size and weight.

Any wiring produced on site must comply with the corresponding national electrical regulations.

Make sure that the power supply and its frequency are adapted to the required electric current of operation, taking into account specific conditions of the location and the current required for any other appliance connected to the same circuit.

The unit must be EARTHED to avoid any risks caused by insulation defects.

It is forbidden to start any work on the electrical components if water or high humidity is present on the installation site.

1.2. WARNING

Cutoff power supply before starting to work on the appliance.

When making the hydraulic connections, ensure that no impurities are introduced into the pipe work.

The manufacturer declines any responsibility and the warranty becomes void if these instructions are not respected.

If you meet a problem, please call the Technical Department of your area.

If possible, assemble the compulsory or optional accessories before placing the appliance on its final location. (see instructions provided with each accessory).

In order to become fully familiar with the appliance, we suggest to read also our Technical Instructions.

The information contained in these Instructions are subject to modification without advance notice.

1.3. EQUIPMENT SAFETY DATA

Safety Data	R410A
Toxicity	Low
In contact with skin	Skin contact with the rapidly evaporating liquid may cause tissue chilblains. In case of skin contact with the liquid, warm the frozen tissue with water and call a doctor. Remove contaminated clothing and footwear. Wash the clothing prior to re-use.
In contact with eyes	Vapours have no effect. Liquid splashes or sprays may cause freeze burns. In these cases rinse your eyes with running water or with a solution for eye lavages for at least 10 minutes. Immediately apply to a doctor.
Ingestion	In this case, burns may result. Do not attempt to make the patient vomit. If the patient is conscious, rinse the mouth with water. Call a doctor immediately.
Inhalation	In case of inhalation, move the patient to an area with fresh air and provide oxygen if necessary. Perform artificial respiration if the patient has stopped breathing or lacks air. In case of cardiac arrest, perform external cardiac massage. Call a doctor immediately.
Further Medical Advice	Exposure to high concentrations can be dangerous for individuals with cardiac problems, as the presence of catecholamines such as adrenalin in the bloodstream may lead to increased arrhythmia and possible cardiac arrest.
Occupational exposure limits	R410A: Recommended limits: 1,000 ppm v/v 8 hours TWA.
Stability	Stable product
Conditions to avoid	Increased pressure due to high temperatures may cause the container to explode. Keep out of the sun and do not expose to a temperature $>50^{\circ}\text{C}$.
Hazardous reactions	Possibility of dangerous reactions in case of fire due to the presence of F and/or Cl radicals
General precautions	Avoid the inhalation of high concentrations of vapours. The concentration in the atmosphere shall be kept at the minimum value and anyway below the occupational limits. Since vapours are heavier than air and they tend to stagnate and to build up in closed areas, any opening for ventilation shall be made at the lowest level.
Breathing protection	In case of doubt about the actual concentration, wear breathing apparatus. It should be self-contained and approved by the bodies for safety protection.
Storage Preservation	Refrigerant containers shall be stored in a cool place, away from fire risk, direct sunlight and all heat sources, such as radiators. The maximum temperature shall never exceed 50°C in the storage place.
Protection clothes	Wear boots, safety gloves and glasses or masks for facial protection.
Behaviour in case of leaks or escapes	Never forget to wear protection clothes and breathing apparatus. Isolate the source of the leakage, provided that this operation may be performed in safety conditions. Any small quantity of refrigerant which may have escaped in its liquid state may evaporate provided that the room is well ventilated. In case of a large leakage, ventilate the room immediately. Stop the leakage with sand, earth or any suitable absorbing material. Prevent the liquid refrigerant from flowing into drains, sewers, foundations or absorbing wells since its vapours may create an asphyxiating atmosphere.
Disposal	The best procedure involves recovery and recycle. If this is not possible, the refrigerant shall be given to a plant which is well equipped to destroy and neutralise any acid and toxic by-product which may derive from its disposal.
Combustibility features	R410A: Non-inflammable at ambient temperatures and atmospheric pressures.
Containers	If they are exposed to the fire, they shall be constantly cooled down by water sprays. Containers may explode if they are overheated.
Behaviour in case of fire	In case of fire wear protection clothes and self-contained breathing apparatus.

2. INSPECTION AND STORAGE

At the time of receiving the equipment carefully cross check all the elements against the shipping documents in order to ensure that all the crates and boxes have been received. Inspect all the units for any visible or hidden damage.

In the event of shipping damage, write precise details of the damage on the shipper's delivery note and send immediately a registered letter to the shipper within 48 hours, clearly stating the damage caused. Forward a copy of this letter to the manufacturer or his representative.

Never store or transport the unit upside down. It must be stored indoors, completely protected from rain, snow etc. The unit must not be damaged by changes in the weather (high and low temperatures). Excessively high temperatures (above 60 °C) can harm certain plastic materials and cause permanent damage. Moreover, the performance of certain electrical or electronic components can be impaired.

3. WARRANTY

The units are delivered fully assembled and tested.

Any modification to the units without the manufacturer's prior approval, shall automatically render the warranty null and void.

The following conditions must be respected in order to maintain the validity of the warranty:

- Commissioning shall be performed by specialised technicians from technical services approved by the manufacturer.
- Maintenance shall be performed by technicians trained for this purpose.
- Only Original Equipment spare parts shall be used.
- All the operations listed in the present manual shall be performed within the required time limits.



THE WARRANTY SHALL BE NULL AND VOID IN THE EVENT OF NON-COMPLIANCE WITH ANY OF THE ABOVE CONDITIONS.

4. CONTENTS OF PACKAGE

- 1 HEAT Pump Aqu@Scop Advance DCI**
- 1 Documentation pouch
- 4 Anti-vibration pads
- 1 Water filter kit
- 1 stop cock

5. PRODUCT PRESENTATION

The distinguishing feature of this **Aqu@Scop Advance DCI** Air/water heat pump range is its power variation capability, provided by its inverter compressor technology.

This technology provides remarkable "power output / heating requirement" adaptability. Depending on the heating power demand and the working temperature of the heat emitters, the regulator of the **Aqu@Scop Advance DCI** chooses the compressor frequency to be used.

6. ACCESSORIES

- Set of stop cocks with pressure tap
- Set of 2 flexible pipes (length 1 m)
- Hydraulic connection kit
- Water flow adjustment kit (requires the stop cocks with pressure take-off kit)
- Domestic Hot Water (DHW) tank
- 3 way valve Domestic Hot Water tank
- 140 litre buffer tank
- Anti-vibration pads
- 6 kW in-line electric heater (compatible with the boiler back-up version)
- Wired programmable ambiance terminal
- Wireless programmable ambiance terminal

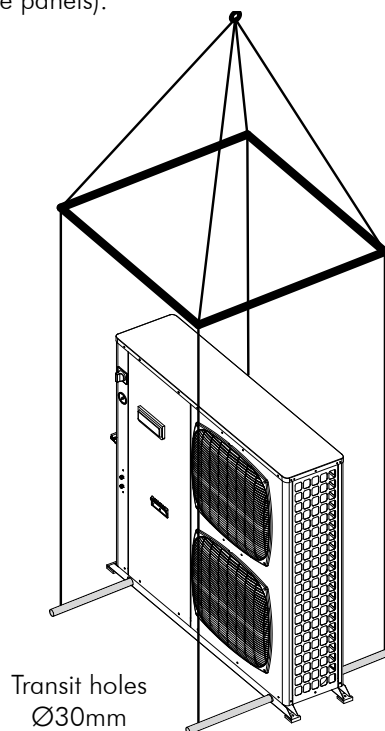
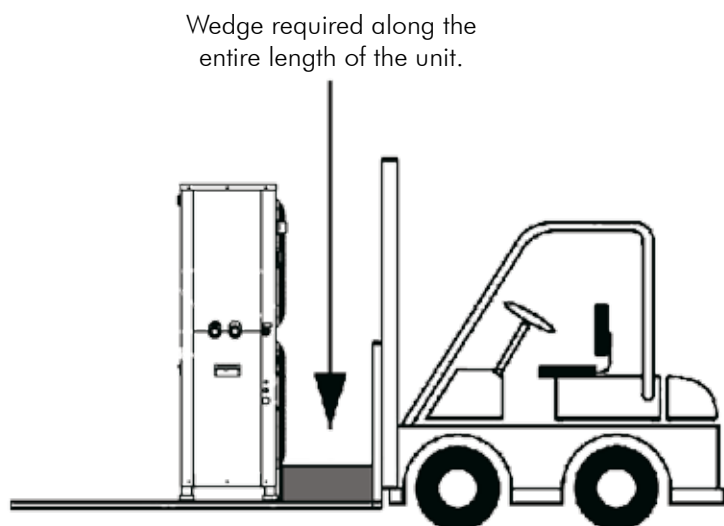
7. DIMENSIONS

SEE APPENDIX

8. HANDLING

Take care to avoid any rough handling or impacts when unloading and moving the appliance. Only push or pull the appliance by its base. Place a safety wedge between the unit base and the fork lift truck to avoid damaging the unit's structure and casing.

The handles present on the appliance's panels are intended for the removal/refitting of the latter and must not be used for handling the complete appliance (too heavy to be supported by the panels).



8.1. NET WEIGHT

6	12	16
125	190	



9. TECHNICAL SPECIFICATIONS

9.1. PHYSICAL CHARACTERISTICS

		6	12	16
REFRIGERANT				
Type		R410A		
Factory charge	g	SEE NAME PLATE		
HYDRAULIC LINKS				
Inlet water	gas	1" Female		
Outlet water	gas	1" Female		
WATER FLOW				
Nominal	l/h	1100	1850	2600
Minimum	l/h	850	1300	1500
Maximum	l/h	1500	2300	3100
FANS				
Number of fan		1	2	
ACOUSTIC PRESSURE				
Acoustic pressure	dB(A)	63.5	65	65.5

This equipment contains fluorinated gas with greenhouse gas effects covered by the Kyoto agreement.

9.2. ELECTRICAL CHARACTERISTICS

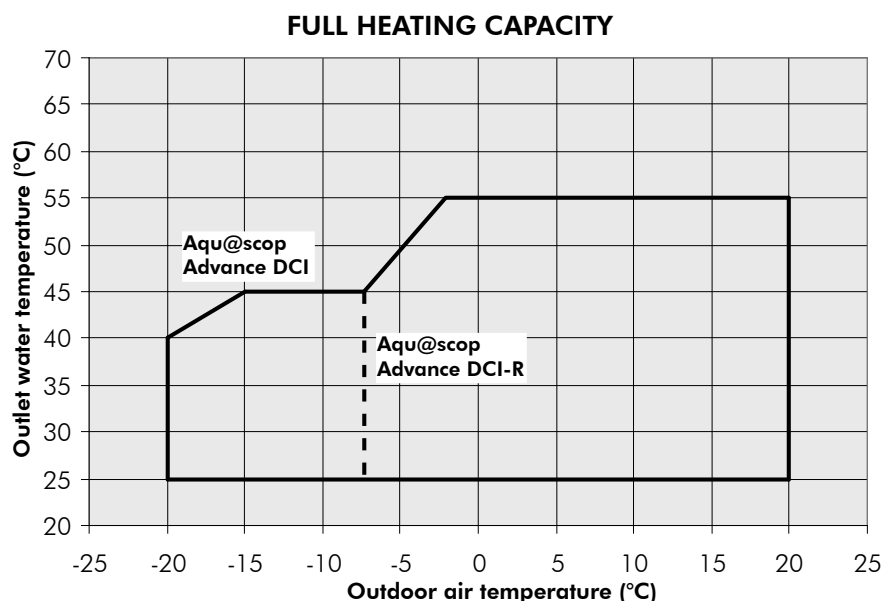
		6	12	16
SUPPLY VOLTAGE		230V / 1 Ph / 50Hz		
Maximum current (without electric heater)	A	18	26	27
Maximum current (with electric heater)	A	37	58	59

9.3. OPERATING LIMITS

Aqu@Scop Advance DCI heat pumps have a wide power range.

When heating requirements are low and when the necessary starting temperature is low, the **Aqu@Scop Advance DCI** operates at reduced power. Otherwise the **Aqu@Scop Advance DCI** uses a higher power rating to supply the heating needs up to the selected point.

The outlet water temperature is automatically adjusted to the water rule (heating curve) up to a maximum temperature of 55° C.



10. REFRIGERATION AND HYDRAULIC DIAGRAM

SEE APPENDIX

11. INSTALLATION



The unit is not designed to withstand weights or stresses from adjacent equipment, pipe work or constructions. Any foreign weight or stress on the unit structure could lead to a malfunction or a collapse with dangerous consequences for personnel and property. In such an event, the warranty shall be null and void.

11.1. SITING THE INSTALLATION

The outdoor unit must be installed outdoors with sufficient surrounding clearance to enable unobstructed air circulation through the appliance and access for maintenance work.

11.1.1. PREVAILING WIND

In the case of the unit being sited in areas exposed to high winds, you must avoid the wind hitting the fan blowing surface areas directly to avoid any risk of recycling cooled air. Strong wind can disrupt exchanger ventilation and create de-frosting problems.



Unit operation depends on air temperature. Any recycling of air extracted by the fan lowers the air intake temperature across the exchanger fins and alters the standard operating conditions.

The arrows show the direction of air circulation through the appliance. (Refer to Fig. § Floor location).

11.1.2. CONDENSATE WATER MANAGEMENT

Depending on temperature and outdoor air humidity conditions, water vapour contained in the air can condense on the finned heat exchanger and even form ice under low outdoor temperature conditions (around $< 5^{\circ}\text{C}$). This condensate water and defrosted water runs off via outlets provided under the exchanger. To assist drainage and to prevent frozen water remaining in the appliance in winter, we recommend that the unit is installed at a height of around 10cm off the ground and placed on plastic blocks or other suitable supports (damper feet proposed as an accessory). In this way, condensate and defrosted water can run off freely and be absorbed into the ground or channelled to a basin built under the appliance in order to protect the environment.

In areas where outdoor temperatures fall below 1°C , the system can be equipped with a condensate anti-freeze protection system (e.g. a heated pipe sheath).

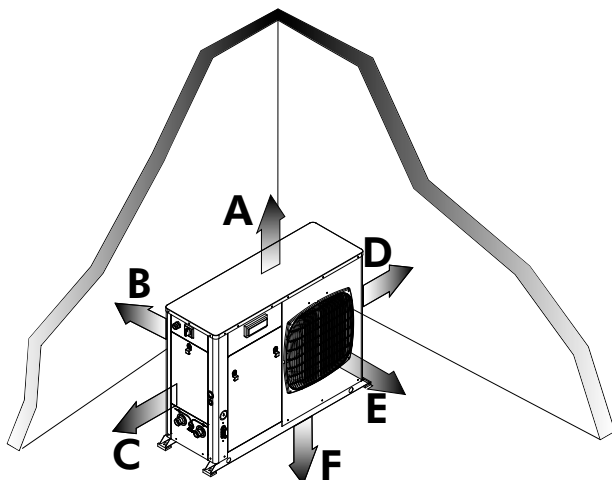
11.1.3. HOW TO REDUCE NOISE POLLUTION

To reduce the noise level, our machines are equipped with quiet fans and a soundproofed compressor. However, noise levels can be reduced even further by following a few installation precautions:

- Do not install the appliance near a bedroom window. Avoid locating the appliance in a corner (increased reverberated noise).
- Install the rubber pads supplied or anti-vibration pads (available as an option) under the appliance.
- Use flexible hoses (available as options) for connections between the appliance and the mains water network.
- Do not join the concrete slab supporting the appliance to the structure of the dwelling (structure-borne noise transmission)

11.2. CLEARANCE

When choosing the location for the appliance, take care to leave sufficient free clearance on all sides to ensure easy access for maintenance work. The minimum free clearance dimensions indicated must be observed to ensure both proper system operation and allow access for maintenance and cleaning.



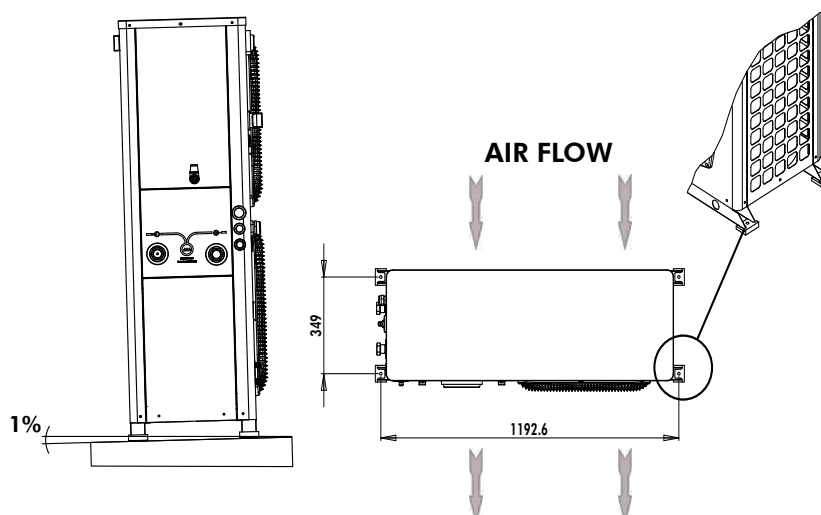
REF.	DIMENSION
A	800mm
B	500mm
C	500mm
D	400mm
E	800mm
F	100mm

11.3. ATTACHMENT TO THE GROUND

The appliance must be sited on a level and solid floor and preferably on a masonry surface.

The unit location dimensions are indicated on the figure below. A slope of 1 cm/m should be created to assist rainwater drainage.

Vibration dampers must be fitted during installation to overcome any risks of vibration being transmitted due to direct contact with a rigid support surface.



**THE UNIT MUST NEVER BE
INSTALLED ON A WALL BRACKET.**

12. HYDRAULIC LINKS

When choosing and installing water pipes, you must consult and observe all current local standards, regulations and instructions.

12.1. GENERAL RECOMMENDATIONS

- You must design the pipe network with the minimum number of bends and keep the number of changes in height to the strict minimum. This will reduce installation costs and ensure optimum system performance. The pipe network must include:
 - A vibration elimination system (e.g.: link hoses available as an accessory) on all pipes connected to the appliance in order to reduce vibrations and noise transmitted to the building fabric.
 - Stop cocks to isolate the hydraulic circuit during maintenance.
 - Manual or automatic bleed valves at the highest point on the water circuit.
 - A suitable system for maintaining water pressure in the circuit (all **Aqu@Scop Advance DCI** models have an internal expansion tank).
 - The installation of thermometers and pressure gauges on the heat exchanger inlet and outlet to facilitate day-to-day controls and system maintenance.

12.1.1. EXPANSION TANK

Aqu@Scop Advance DCI units are equipped with an expansion tank with the following volumes and pre-pressurisation pressures:

		6	12	16
Volume	l	3	5	
Pre-pressurisation pressure	bar	0.5		2

1. Check of the required volume
2. Adjustment of the pressurisation pressure

It is important to make sure that the pressure in the water supply system is sufficient to enable the installation to be filled correctly. It is necessary to ensure that the expansion tank is sufficiently large for the installation.

12.1.2. ANTI-CLOGGING PROTECTION

To avoid all risks of foreign object ingress and to preserve the performance of the machine, IT IS NECESSARY TO INSTALL THE WATER FILTER ACCESSORY (supplied) at the inlet of the machine.

When installing **Aqu@Scop Advance DCI** appliances in existing water circuits, a sludge trap and a removable mesh filter should be installed upstream of the appliance.

12.1.3. MINIMUM HEATED WATER VOLUME REQUIREMENTS – BUFFER TANK.

To ensure that the system operates correctly you must use suitably sized and properly routed pipes for the hydraulic links between the Heat pump and the mains network.

The volume of water in the installation must be sufficient to avoid short defrosting cycles and to operate without any loss of comfort. To ensure the **Aqu@Scop Advance DCI** functions efficiently, available installation water volume must be:



		6	12	16
available water volume	l	140	190	250

When water circulation through heat emitters can be interrupted (thermostatic radiator valves closed) or the heating supply halted, you must ensure that:

- The heat pump maintains its nominal water flow.
- The heat pump works in a loop with a useful volume that complies with the required minima.

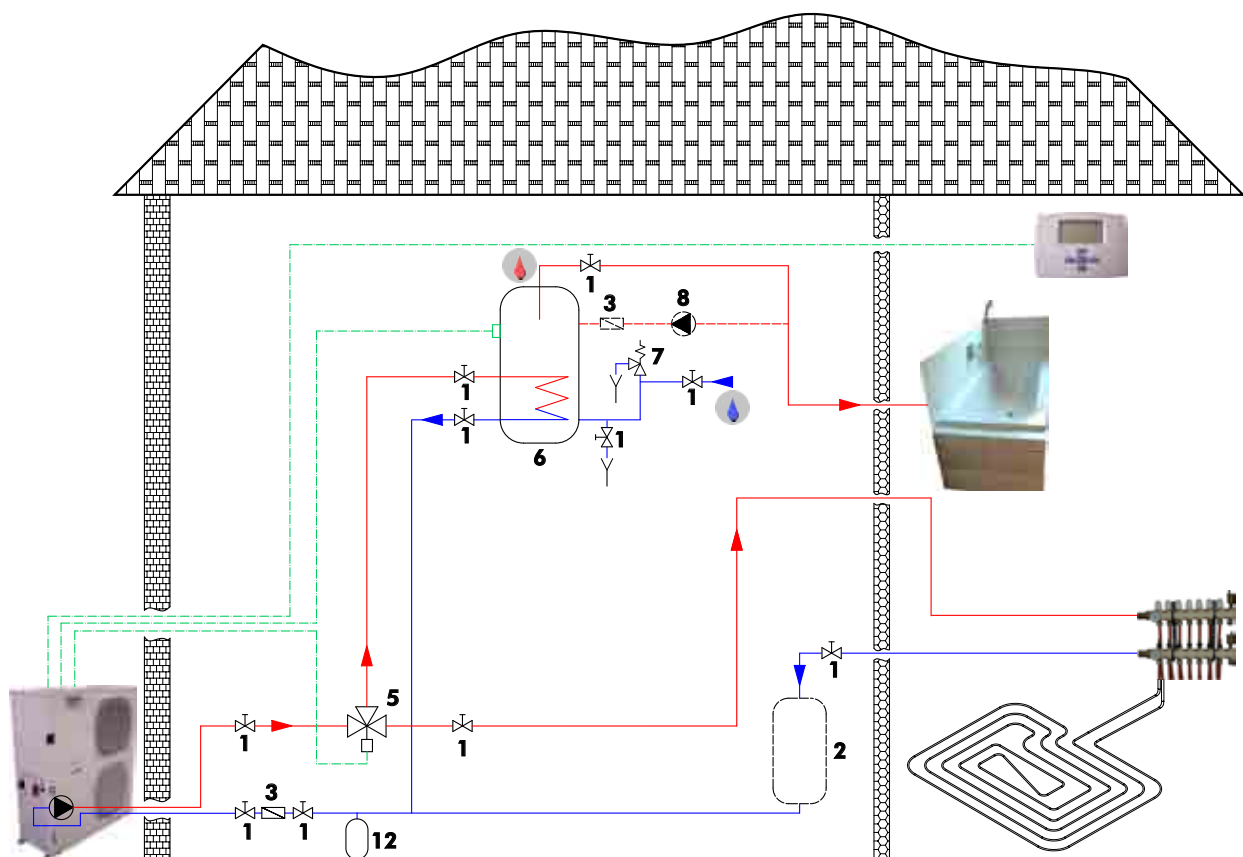
The use of a 3-speed circulation pump enables water flow through the appliance to be adapted to pressure losses in the system. *Pump delivered set to position MV for model 6 and to GV for models 12 and 16*). Refer to water flow graph.

12.2. STANDARD CIRCUITS

Layout 1: underfloor heating application without individual room regulation

This layout is recommended when the **Aqu@Scop Advance DCI** water flow is continuous and close to the nominal value (**no thermostatic valves**).

The buffer tank (2) provides extra circulating water volume to maintain the minimum volume.



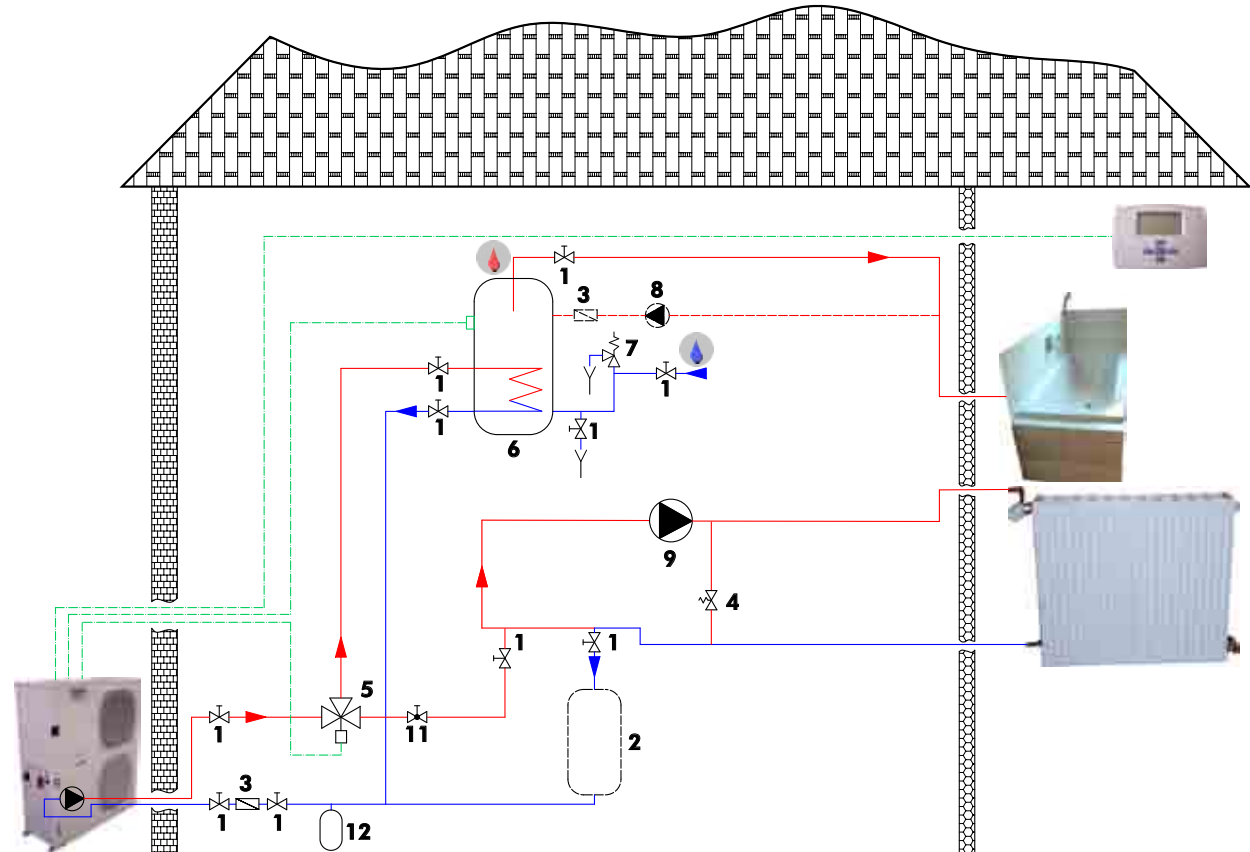
This drawing is not applicable to **Aqu@Scop Advance DCI 16** if heating water circuit pressure drop is higher than 20kPA.

1. Stop cocks
2. Buffer tank (optional)
3. Filter or sludge trap
4. Relief valve
5. 3-way valve – Domestic Hot Water
6. Domestic Hot Water tank
7. Safety devices
8. Recycling circulation pump (optional)
9. Circulation pump
10. Mixing tank
11. Flow regulating valve
12. Additional expansion tank (if required)

Layout 2: underfloor heating application without individual room regulation

This layout is recommended for heating installations with wide operating water flow variations (radiator thermostatic valves present in the system). We strongly recommend including the buffer tank (2) as it guarantees that the heating loop capacity is higher than the minimum volume when the maximum number of thermostatic valves are closed.

The flow regulating valve (11) is used to balance the flow in heating mode and domestic hot water production mode to always ensure optimum **Aqu@Scop Advance DCI** operation.

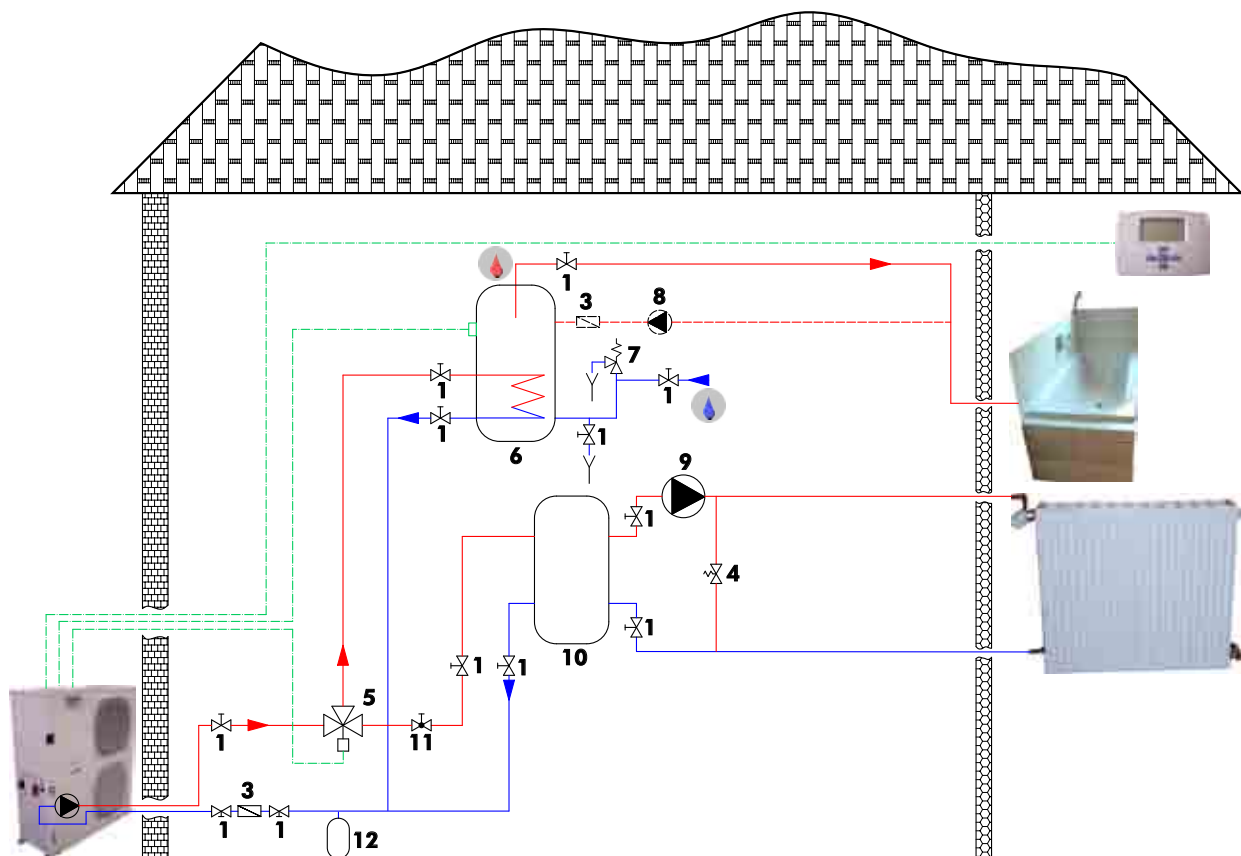


Layout 3: radiator application or underfloor heating application with individual room regulation

This layout is also recommended for heating installations with wide operating water flow variations (radiator thermostatic valves present in the system). Minimum system volume is guaranteed by a mixing tank (10). Take care when calculating the volume of water in the installation and only take account of 50% of the mixing tank's volume.

Example: For a useful volume of 100 litres the actual mixing tank volume will be 200 litres.

The flow regulating valve (11) is used to balance the flow in heating mode and domestic hot water production mode to always ensure optimum **Aqu@Scop Advance DCI** operation.



12.3. ANTI-FREEZE PROTECTION

We recommend that the installation is protected against freezing by adding anti-freeze.

The chart below indicates the concentration of anti-freeze to be used relative to the minimum outdoor temperature reached.

Concentration propylene glycol	%	10	20	30
Minimum outdoor temperature	°C	-3	-7	-13

The mixture considerably alters the installation's performances, particularly in terms of pressure losses.

12.4. WATER TREATMENT WARNING

Using untreated or inadequately treated water in this appliance can lead to a build-up of limescale, algae or sludge deposits and cause corrosion and erosion. As the manufacturer is not aware of the components used in the hydraulic network, or of the quality of water used, the installer or the owner should contact a specialised water treatment company. This issue is particularly important and every care should be taken to ensure that circuit water is properly treated in order to avoid problems associated with incorrect water distribution. A clogged water network will systematically lead to premature wear of the appliance's components.

12.5. CONNECTION TO THE CENTRAL HEATING LOOP

You must check water tightness and the cleanliness of the installation before connecting the **Aqu@Scop Advance DCI**.

For the **Aqu@Scop Advance DCI**'s WATER INLET and OUTLET connections, you must install manual stop cocks with the same diameter as the main pipe work. This will enable maintenance work to be carried out on the **Aqu@Scop Advance DCI** without having to bleed the entire system.

A link valve with pressure tap kit is available.

The **Aqu@Scop Advance DCI** must be protected by a water filter. Connect this subassembly to the water inlet of the unit, taking care to maintain the strainer of the water filter downwards. A sludge trap should be fitted in the event of high sludge build-ups.



THE MANUFACTURER'S WARRANTY IS VOID IF THE FILTER SUPPLIED WITH THE Aqu@Scop Advance DCI IS NOT INSTALLED TO PROTECT THE APPLIANCE

WARNING!

Take care not to damage the hydraulic pipe links by applying too much tightening pressure. Use a second wrench to compensate for the tightening torque.

You should always use a counter-wrench for tightening valves.



12.6. HEAT INSULATION

To guarantee proper energy efficiency and compliance with current standards, water pipes passing through uninhabited zones should be properly lagged to retain heat.

To achieve correct insulation with conductivity of 0.04 W/mK, lag the pipes with insulating material with a radial thickness between 25mm and 30 mm.

12.7. FILLING THE SYSTEM WITH WATER

All installation works must be completed and the system cleaned and drained, before filling the water circuit in accordance with current best practices. The system should be filled to obtain a service pressure not exceeding 2.5 bars.

The water supply should come either from the mains network or from the Heat Pump or from any other point on the installation.

Check that the automatic bleed valve operates correctly.

You must completely bleed the circuit of all air to ensure efficient operation.

Close the inlet water valve once the hydraulic circuit is filled correctly.

12.8. WATER FLOW CONTROLLER

A paddle type water flow controller is fitted to the water circuit connected to the condenser. The purpose of this safety component is to ensure that a minimum water flow is established before the unit is started up.

The appliance is equipped with a set of safety devices including a safety valve set at 3 bars and a manual pressure relief valve.

12.9. DETERMINING WATER FLOW

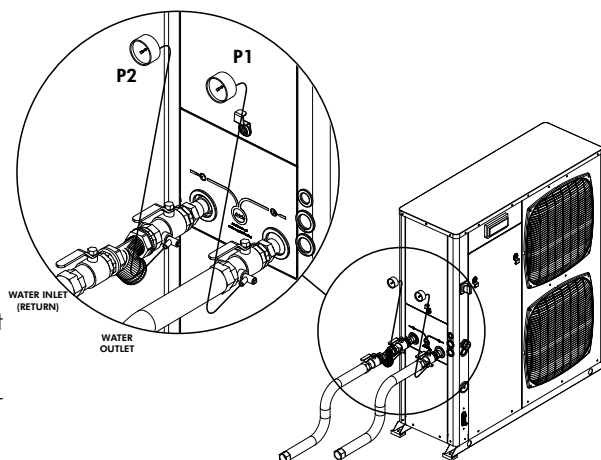
To ensure that the **Aqu@Scop Advance DCI** operates properly and to attain the required outlet water temperatures, the water flow through the appliance has to be within specifications. The water flow through the **Aqu@Scop Advance DCI** can be controlled and regulated by measuring the difference between:

- Both the outlet water and inlet water pressures.

12.9.1. METHOD BASED ON WATER PRESSURES

$$\text{AVAILABLE PRESSURE} = P1 - P2$$

- P1 = **Aqu@Scop Advance DCI** outlet water pressure.
- P2 = **Aqu@Scop Advance DCI** inlet water pressure.

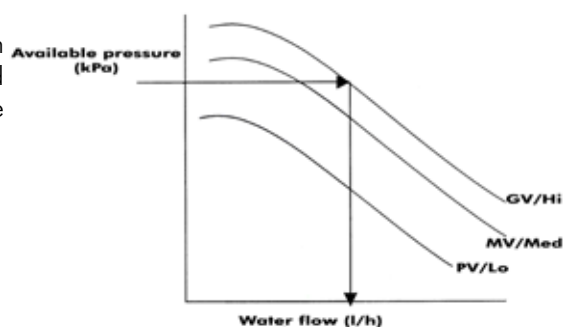


Reminder:

1bar = 100kPa = 10m water column

WATER FLOW CALCULATION GRAPH

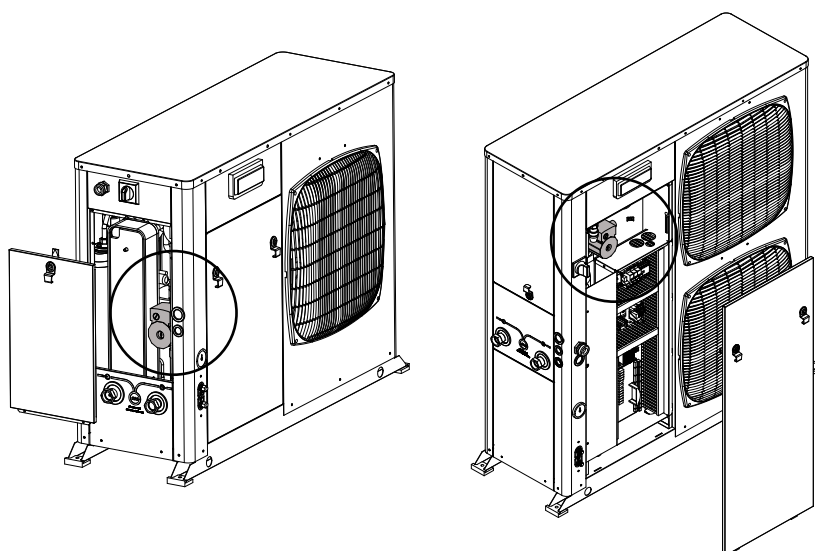
When you have measured the available pressure, expressed in kPa, refer to the graph corresponding to the appliance installed and read the flow value at the point where the pressure value crosses the speed curve for the pump.



SEE APPENDIX

12.9.2. WATER FLOW REGULATION

Pump output (flow) is adjustable in relation to the system's pressure losses, by means of the internal pump speed selector.



13. WIRING DIAGRAM AND LEGEND

13.1. WIRING DIAGRAM

SEE APPENDIX

13.2. LEGEND


N 776

SE3870	Aqu@Scop Advance DCI 6	Control	1-Phase	230V +/-10% 50Hz
SE3869	Aqu@Scop Advance DCI 6	Power	1-Phase	230V +/-10% 50Hz
SE3872	Aqu@Scop Advance DCI 12/16	Control	1-Phase	230V +/-10% 50Hz
SE3871	Aqu@Scop Advance DCI 12/16	Power	1-Phase	230V +/-10% 50Hz
SE3888	Aqu@Scop Advance DCI R 6	Control	1-Phase	230V +/-10% 50Hz
SE3887	Aqu@Scop Advance DCI R 6	Power	1-Phase	230V +/-10% 50Hz
SE3884	Aqu@Scop Advance DCI R 12/16	Control	1-Phase	230V +/-10% 50Hz
SE3883	Aqu@Scop Advance DCI R 12/16	Power	1-Phase	230V +/-10% 50Hz

13.2.1. POWER SUPPLY

Connection to the QG main disconnect switch

230V +/-10% 50Hz

- L : phase
- N : neutral
-  : ground

This supply comes from a CIRCUIT BREAKER or a FUSE HOLDER equipped with aM type fuses supplied by the installer. Fuse sizes are indicated on the charts on the following page.

The appliance's electrical installation and wiring must comply with the country's current standards.

13.2.2. WIRING DIAGRAM KEY DESCRIPTIONS

13.2.2.1. POWER

QG : Main cut-out switch	T1 : Ambience terminal 230/24V power supply transformer
M1 : Compressor	FER : Ferrite
FM1 : Internal safety device of the refrigeration compressor	LF : Supply filter
RV : 4-way cycle changeover valves	HF : Heater supply filter
RAG : Anti-freezing protection electric resistance	CD : Compressor driver
FFC : Control circuit protection fuse	CC : Coil

13.2.2.2. COMMAND AND REGULATION

μPC : Controller	ST4(OAT) : Outdoor air temperature
FFT : T1 transformer protection fuse (24V secondary circuit)	ST5(CDT) : Compressor discharge temperature
EEV : Electronic pressure relief valve	ST6(CST) : Compressor suction temperature
ST1(EWT) : Entering water temperature	ST8(DHWT) : Domestic hot water temperature (option)
ST2(LWT) : Leaving water temperature	ST9(DZLWT) : Dual-zone leaving water temperature (option)
ST3(OCT) : Outdoor coil temperature	

EP : Evaporating pressure transducer
HP1/2 : Automatic reset high pressure switch

CF : Fan motor speed controller
K2 : Start-up relay

13.2.2.3. VENTILATION - FAN

OF1 : Lower air exchanger fan motor
OF2 : Upper air exchanger fan motor
FOF1 : OF1 motor internal safety
FOF2 : OF2 motor internal safety

COF1 : OF1 motor capacitor
COF2 : OF2 motor capacitor
KOF1 : OF1 fan motor relay
KOF2 : OF2 fan motor relay

13.2.2.4. WATER CIRCUIT

FS : Water flow switch
WP : Water pump

KWP : WP water pump relay
CWP : Water pump capacitor

13.2.2.5. ELECTRIC HEATER

FFEH1 : Power circuit protection fuse (stage 1)
FFEH2 : Power circuit protection fuse (stage 2)
KEH1 : Heater element power relay (stage 1)
KEH2 : Heater element power relay (stage 2)
FCM : Heater safety device with manual reset

FCA : Heater safety device with automatic reset
KFCM: Power cut-off contactor (controlled by the "safety device with manual reset")
EH : Heater elements
EMH : Back-up heating switch

13.2.2.6. OPTIONS

WP2 : Water pump N°2
DHWV : Domestic hot water valve
DHWEH : Domestic hot water electric heater
DHWWP : Domestic hot water pump
DZWP : Dual-zone water pump (zone 1)

BOILER : Hot water boiler
BRV : Boiler relief valve
ON/OFF : Remote ON/OFF switch
DAY/NIGHT : DHW off-peak hours switch
EJP : Off-peak days switch

13.2.3. FUSE VALUES, NOMINAL CURRENT OF CONTACTORS AND POWER RELAYS

Supply voltages	230V +/-10% 50Hz					
	Aqu@Scop Advance DCI			Aqu@Scop Advance DCI R		
	6	12	16	6	12	16
General protection fuse rating aM type (not supplied)	40A	63A	63A	25A	32A	32A
Fuse ratings						
FFC aM type	4A	4A	4A	4A	4A	4A
FFEH1 Gg type	10A	10A	10A	/	/	/
FFEH2 Gg type	10A	20A	20A	/	/	/
FF T type T	0.6A	0.6A	0.6A	0.6A	0.6A	0.6A
Contactors and power relays						
KFCM	12A	12A	12A	/	/	/
K5	30A	30A	30A	/	/	/
K6	30A	30A	30A	/	/	/

* These values are provided for information purposes only and must be checked and adjusted in relation to currently applicable standards. They vary depending on the type of installation and the choice of conductors.

14. ELECTRICAL CONNECTIONS

WARNING



Before carrying out any work on the equipment, make sure that the electrical power supply is disconnected and that there is no possibility of the unit being started inadvertently. Non-compliance with the above instructions can lead to injury or death by electrocution.

The electrical installation must be performed by a fully qualified electrician, and in accordance with local electrical standards and the wiring diagram corresponding to the unit model.

Any modification performed without our prior authorisation may result in the unit's warranty being declared null and void.

The power supply cable section must be sufficient to provide the appropriate voltage to the unit's power supply terminals, both at start-up and under full load operating conditions.

The power supply cable shall be selected in accordance with the following criteria:

1. Power supply cable length.
2. Maximum unit starting current draw – the cables shall supply the appropriate voltage to the unit terminals for starting.
3. Power supply cables' installation mode.
4. Cables' capacity to transport the total system current draw.

Short circuit protection shall be provided. This protection shall comprise fuses or circuit breakers with high breaking capacity, mounted on the distribution board.

If the local control includes a remote ambient terminal, it shall be connected with shielded cable and shall not pass through the same conduits as the power supply cables as the voltages induced may create reliability faults in the unit's operation.

WARNING!

On-site wiring must be performed in accordance with the wiring diagram present in the appliance's electrical connection box.

Mains power supply cables to the appliance must have copper conducting cores and be sized in compliance with currently applicable IEC standards.

The installer must make sure that the installed power, the amperage and type of the protections and the cross-section of the cables are sufficient to avoid an overload, and tripping of the installation to protection mode.

The appliance must be grounded via a terminal block located inside the electrical connection box.

The power supply must not fluctuate by more than 10 %.

These appliances are equipped with a disconnect switch, fitted and wired at the factory.



The switch can be padlocked.

Press to unclip and withdraw the disconnect switch.

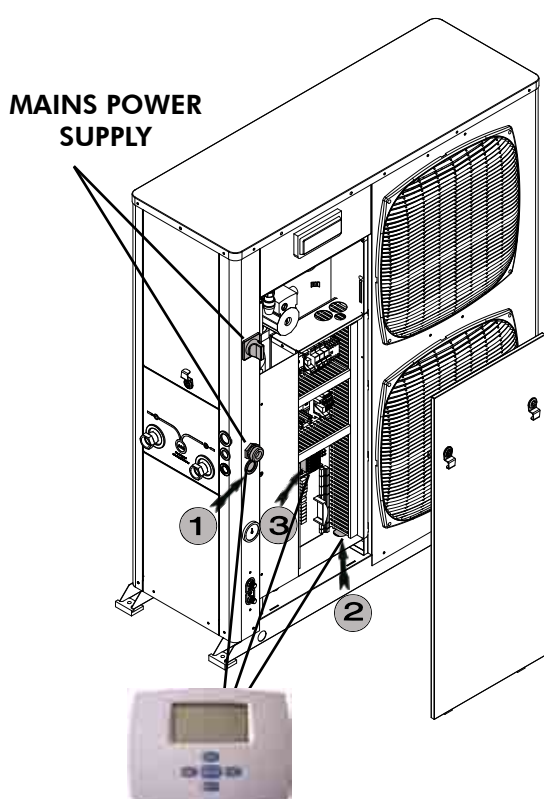
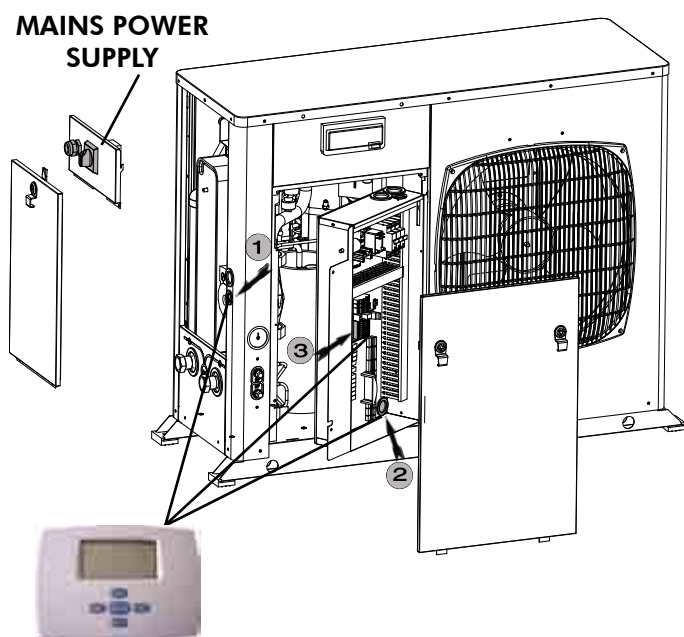


A circuit breaker or fuse holder (not supplied) must be installed on the main power supply of the unit in accordance with the circuit diagram; for the ratings, refer to the electrical specifications. Remove the inspection cover to gain access to the electrical connection box.

Pass the power supply cable through the cable passage provided on the appliance.

Install end fittings suitable for the cable section to ensure a good contact. Make the connections as shown.

14.1. CONNECTIONS



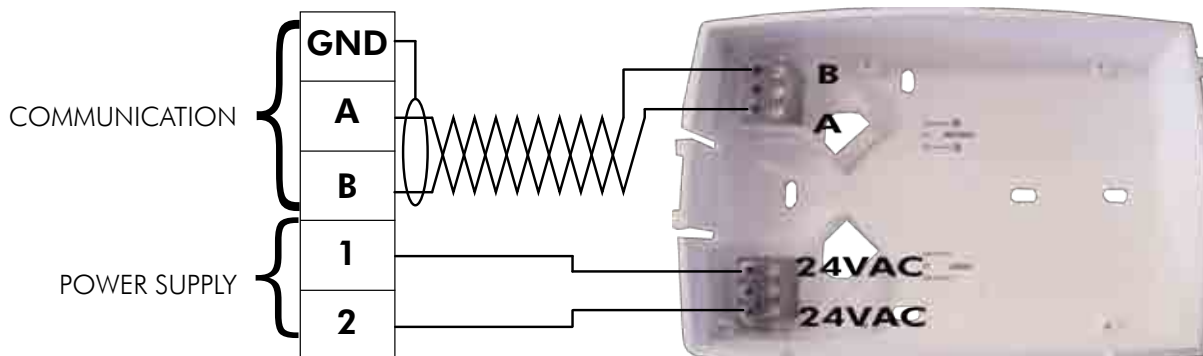
**ROOM TERMINAL CONNECTION
CABLE RUN**



2 separate cables for power supply (24V) and communication (A-B-GND).

Power supply:
Single pair cable: 1 mm²

Communication:
Shielded twisted single pair cable with screen 0.33 mm² to 0.5mm² (AWG 20/22)



15. COMMISSIONING

15.1. PRE-START CHECK LIST

Before commissioning the system, you must carry out a certain number of installation checks to ensure that the appliance will operate in the best possible conditions. The following list of checks is not exhaustive and only serves as a minimum reference guide.

15.1.1. APPLIANCE POSITIONING

- Check free clearances around the unit, including the exchanger air intake and outlet, and access for maintenance work.
- Check unit assembly in accordance with specifications.
- Check presence and tightness of all screws and bolts.
- Check that the rubber anti-vibration pads are in place.
- Check that the unit is level and that condensates drain freely away from the unit.
- Check that there is no possibility of blown air being recycled through the fans due to wind exposure.
- In arduous climates (sub-zero temperature, snow, high humidity), check that the appliance is raised 10 cm off ground.
- Check that the ambience terminal is located correctly (frequently occupied area, 1.5 m above ground level, etc.).

15.1.2. ELECTRICAL CHECK

- Electrical installation has been carried out according to unit wiring diagram and the Supply Authority Regulations.
- Check the circuit breaker setting or the fuse rating on the mains power supply.
- Supply voltages as specified on unit wiring diagram.
- Check the tightness of wire to component connections.
- The cables and wires are clear of or protected from pipework and sharp edges.
- Check the electrical grounding of the appliance.

15.1.3. HYDRAULIC CHECKS

- Check the presence, direction and position of the **water filter** upstream of the appliance. Rinse the filter after the first 2 hours of operation.
- Check that the external water circuit components are installed correctly in accordance with manufacturer's recommendations and that the water inlet and outlet connections have been made correctly.
- Check that the water quality complies with stated standards.
- Check that the hydraulic circuit is filled properly and that the fluid flows freely without any signs of leakage or air bubbles.
- Adjust water flow in accordance with the specifications.
- Check the presence and position of the stop cocks to isolate the appliance for maintenance.
- Check the presence of the air bleed valve. Check that it has been opened.
- Check the protection of the installation against freezing conditions (thermal insulation, percentage of anti-freeze in the water circuit if required...).

16. REGULATION

16.1. USER INTERFACE

The display acts as a system interface to perform all the operations associated with its use, and notably to:

- Set the operating values.
- Manage alarm situations.
- Check the state of the inputs/outputs

16.1.1. KEYPAD



Access to the inputs/outputs and datum points menu

In the "menu" mode:

- Navigate downwards in the menu (level ⇌ sub-level ⇌ value)
- Exit and save the new values



In the "menu" mode:

- Scroll the settings
- Increase the value.



In the "menu" mode:

- Scroll the settings
- Reduce the value.



+



In the "menu" mode:

- Navigate upwards in the menu (value ⇌ sub-level ⇌ level)
- Exit without saving the new values

In normal display mode, the following information is available:

- Entering (return) water temperature, in tenths of a degree Celsius, with one decimal point.
- The alarm code, if at least one alarm is active. In the case of several active alarms, the first alarm is displayed based on Alarm Chart hierarchy.
- OFF if the heating is in Off mode or there is no need for hot water.
- dEg if the unit is de-icing.
- In MENU mode, the data displayed depends on the device's status. Labels and codes are used to help the user identify a pre-programmed function.

16.1.2. INDICATOR LIGHT



On = heating by resistance or boiler operating

Flashing = back-up heating



On = compressor operating

Flashing = compressor waiting to start




On = alarm active, check the alarm codes

Flashing = back-up heating

16.1.3. ALARMS

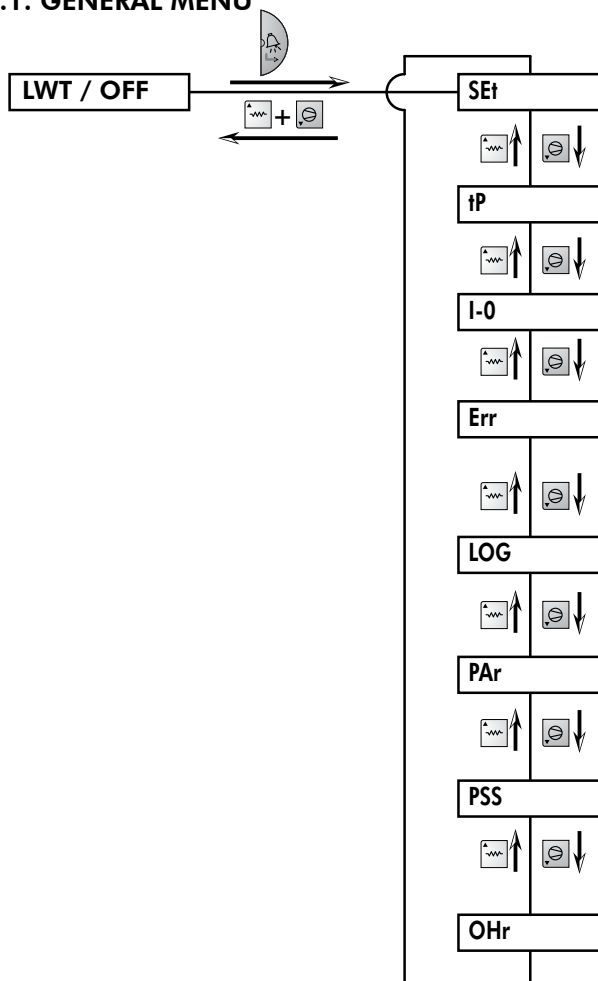
The red alarm indicator light is on and the beep sounds if one or several alarms is/are active.

Press the alarm button  to stop the audible warning and reset the alarm. Check the presence of other alarms in the Err menu.

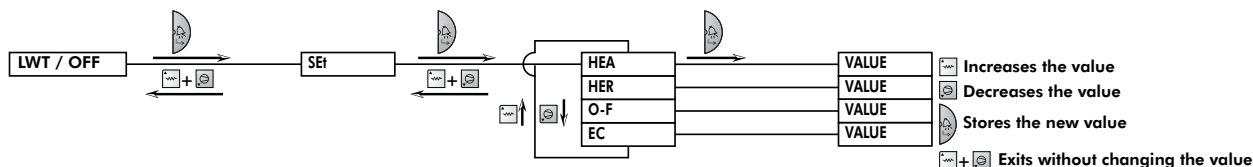
16.1.4. MENUS

The display comprises several menus. Some have unrestricted access and one (the Installation menu) is password protected.

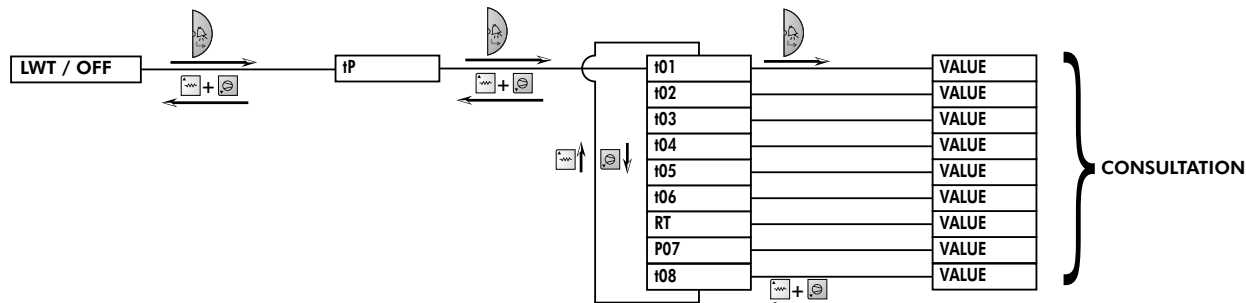
16.1.4.1. GENERAL MENU



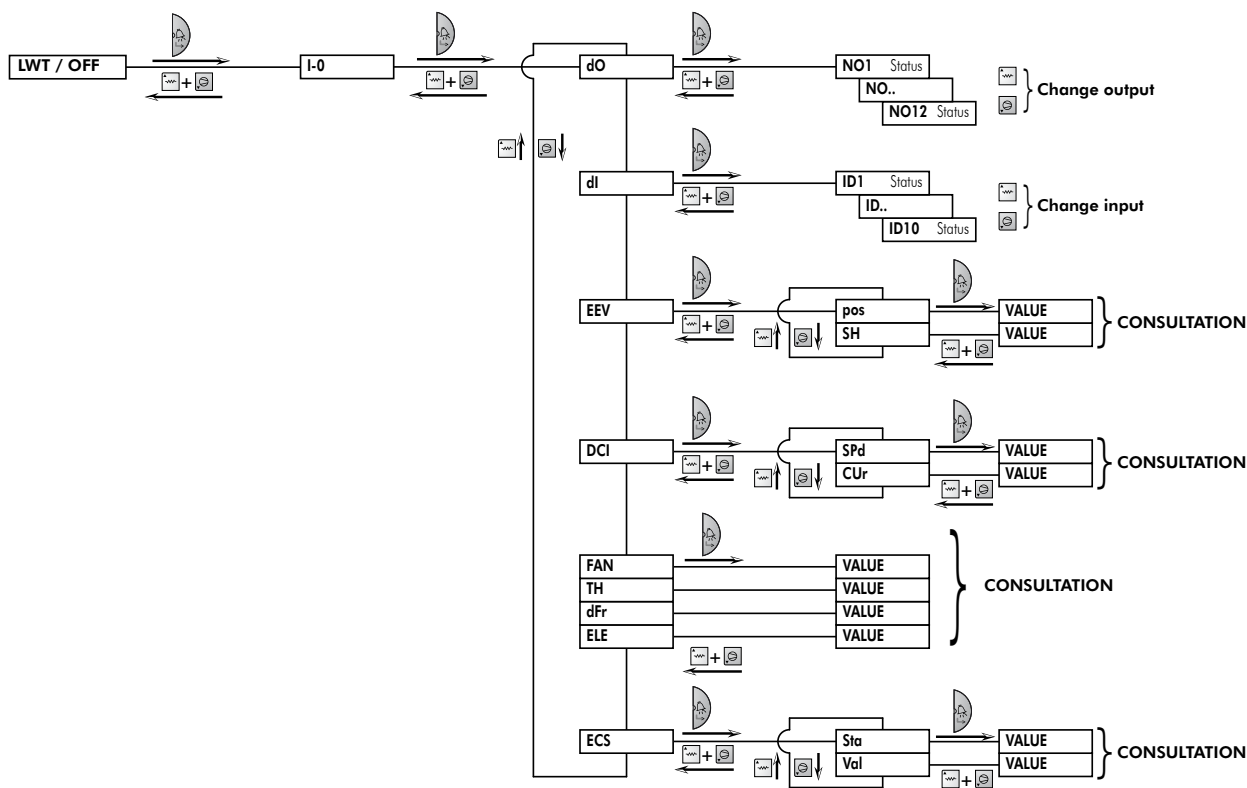
16.1.4.2. SET MENU - SETPOINTS AND ON/OFF



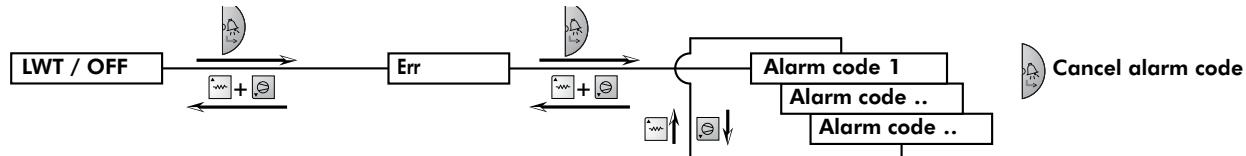
16.1.4.3. TP MENU - TEMPERATURE / PRESSURE



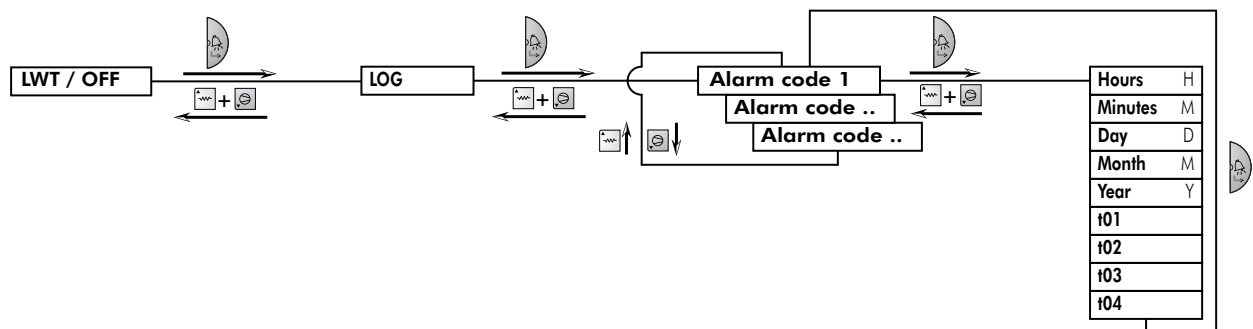
16.1.4.4. I-O MENU - INPUT / OUTPUT



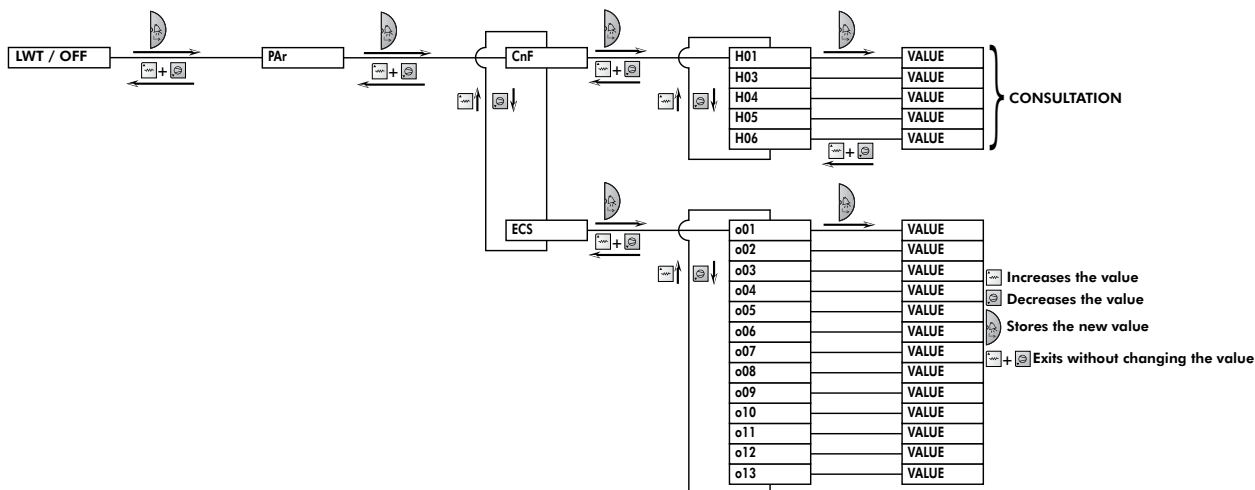
16.1.4.5. ERR MENU - ALARM / ERROR



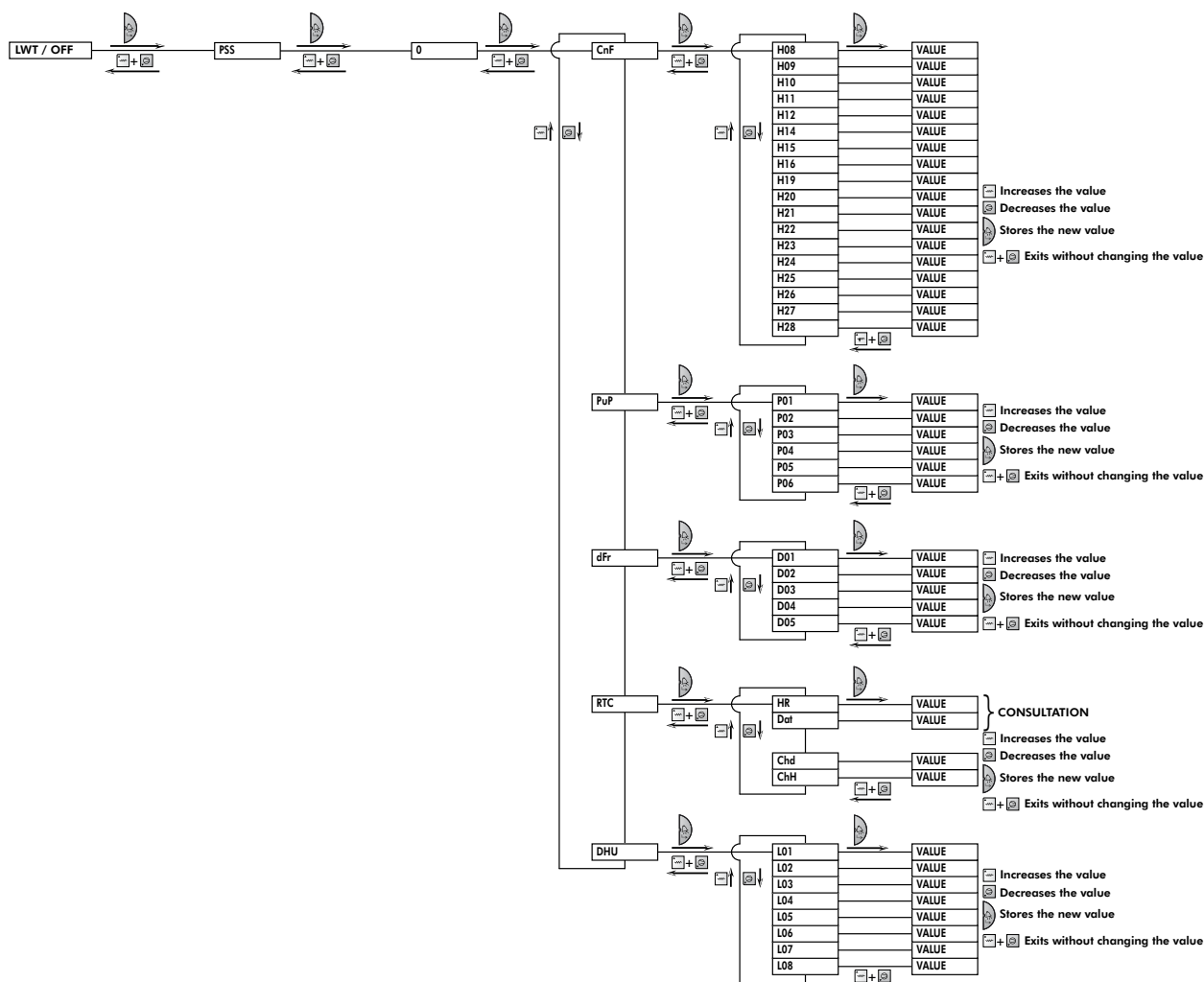
16.1.4.6. LOG MENU - ALARM LOG HISTORY



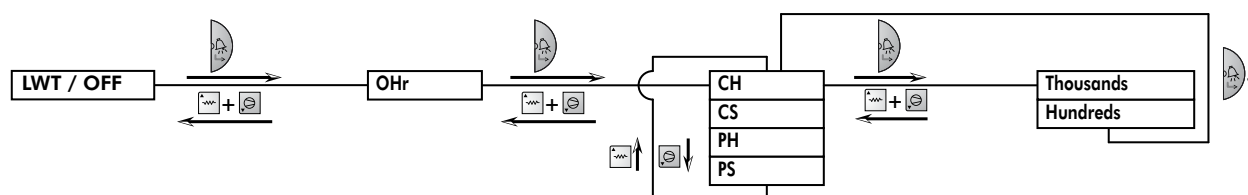
16.1.4.7. PAR MENU - SETTINGS



16.1.4.8. PSS MENU - INSTALLER ADJUSTMENTS



16.1.4.9. OHR MENU - OPERATING TIME / STARTS



16.2. PRINCIPLE

Regulation will ensure optimal operation of the **Aqu@Scop Advance DCI** in accordance with user comfort requirements. Two factory-configured versions are available:

- **Aqu@Scop Advance DCI** with electric heater
- **Aqu@Scop Advance DCI** with boiler back-up

An ambience thermostat, which includes the start command, is used for regulation as a function of the temperature in the room and as a limiter. It comes into action for fine adjustment of the ambient temperature proposed by the electronic regulator, and it switches off the heating if there is a lot of sunshine or if a fireplace is used at the same time, for example. It must be installed in a main room..

16.2.1. AQU@SCOP ADVANCE DCI WITH ELECTRIC HEATER

The **Aqu@Scop Advance DCI** produces hot water for conveyance to the floor via its heat pump and its integrated back-up electrical heating functions,.

The electronic regulator has two regulation stages:

- The first stage governs the production of thermodynamic energy (compressor operation control).
- The second stage governs the back-up electrical heating. The back-up electrical heating resistances themselves comprise two stages.

In order to maximise energy savings, **the regulator always gives priority to running the compressor** rather than to running the back-up electrical heating, **irrespective of outdoor temperature conditions**.

The regulator only moves up to the second stage if the thermodynamic capacity is not capable of maintaining the water at the temperature required by the **water logic**.

16.2.2. AQU@SCOP ADVANCE DCI WITH BOILER BACK-UP

Generally, on its own, the **Aqu@Scop Advance DCI** is not capable of meeting all heating needs for extremely low outdoor temperatures, either due to a lack of capacity or due to systems shut-downs caused by excessively high inlet (return) water temperatures. The lowest temperature at which the **Aqu@Scop Advance DCI** can heat the building without back-up heating is known as the balance point. This balance point depends of the building's heat losses and the **Aqu@Scop Advance DCI**'s capacity. This outdoor temperature value is vital for managing the installation and is used as the set temperature point on the parameter H21.

Accordingly, the regulation has to manage three different regimes, i.e.:

- A Aqu@Scop Advance DCI only**- Outdoor temperature above the balance point.
- B Aqu@Scop Advance DCI and the boiler** - Outdoor temperature below the balance point and radiator return water temperature below 42°C.
- C Boiler only** - Outside air temperature less than the equilibrium point and radiator return temperature higher than 47 °C, or outside air temperature less than the compressor shut-down setting.

16.2.2.1. A) OUTDOOR TEMPERATURE ABOVE THE BALANCE POINT

In this case, the **Aqu@Scop Advance DCI** operates on its own:

- The existing circulation pump is switched to continuous operation.
- In order not to supply the boiler, the zone valve, if it exists, must be placed in the 100% open position on the by-pass.
- If possible, the boiler will be switched to "no heating" or "hot water only" depending on the type of boiler. The system is then regulated via the ambience thermostat (open position) or another contact device.

COMMENTS: The zone valve placed in the 100% by-pass position prohibits any despatch of hot water from the boiler to the radiators. In this way, the boiler burner is restricted to simply maintaining the temperature of the boiler casing and possibly to producing hot water for cooking and washing purposes.

- The **Aqu@Scop Advance DCI** starts and stops to maintain its leaving water temperature at the value required by the water logic relative to the factory-set outdoor temperature. This logic is adapted to operation with a radiator circuit. If used on a network of low-temperature heat emitters such as fan-convectors or underfloor heating, it is simply necessary to change the H09 setting (refer to the § WATER LAW TYPE ADJUSTMENT).
- The ambience terminal stops the **Aqu@Scop Advance DCI** if the ambient temperature rises more than 0.6 °C above the setpoint (H27 setting).

16.2.2.2. B) OUTDOOR TEMPERATURE BELOW THE BALANCE POINT AND RADIATOR RETURN WATER TEMPERATURE BELOW 42°C

In this case, the **Aqu@Scop Advance DCI** and the boiler operate at the same time:

- The zone valve will be in the 100% open position on the boiler.
- Boiler operation will be authorised.
- The **Aqu@Scop Advance DCI** operates in exactly the same manner as described in the preceding paragraph for as long as the radiator return temperature remains lower than 42° C.

16.2.2.3. C) OUTDOOR TEMPERATURE BELOW THE BALANCE POINT AND RADIATOR RETURN WATER TEMPERATURE ABOVE 47°C OR OUTSIDE AIR TEMPERATURE LESS THAN THE COMPRESSOR SHUT-DOWN SETTING.

In this case, only the boiler operates and the **Aqu@Scop Advance DCI** is shut down by the integrated regulator. In this configuration, the **Aqu@Scop Advance DCI** can support return water temperatures up to 90°C without its safety systems being triggered.

17. STARTING THE APPLIANCE

After checking all the electrical connections and making any rectifications as required, proceed with starting up the installation.

17.1. SIMPLIFIED START-UP PROCEDURE

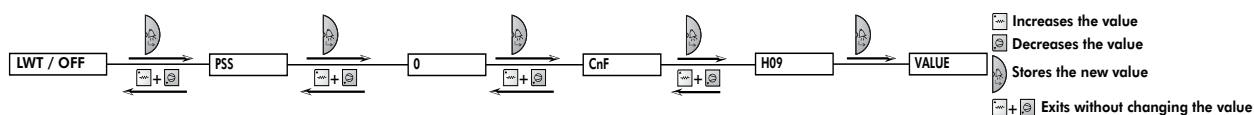
17.1.1. CHECKS

On the display of the **Aqu@Scop Advance DCI**, check the coherence of the temperature probes on the tp screen, and also check that communication is correctly established with the ambience terminal. It is preferable to adjust the settings of the water law before starting up the **Aqu@Scop Advance DCI**.

17.1.2. ADJUSTMENT OF THE TYPE OF HEAT CURVE

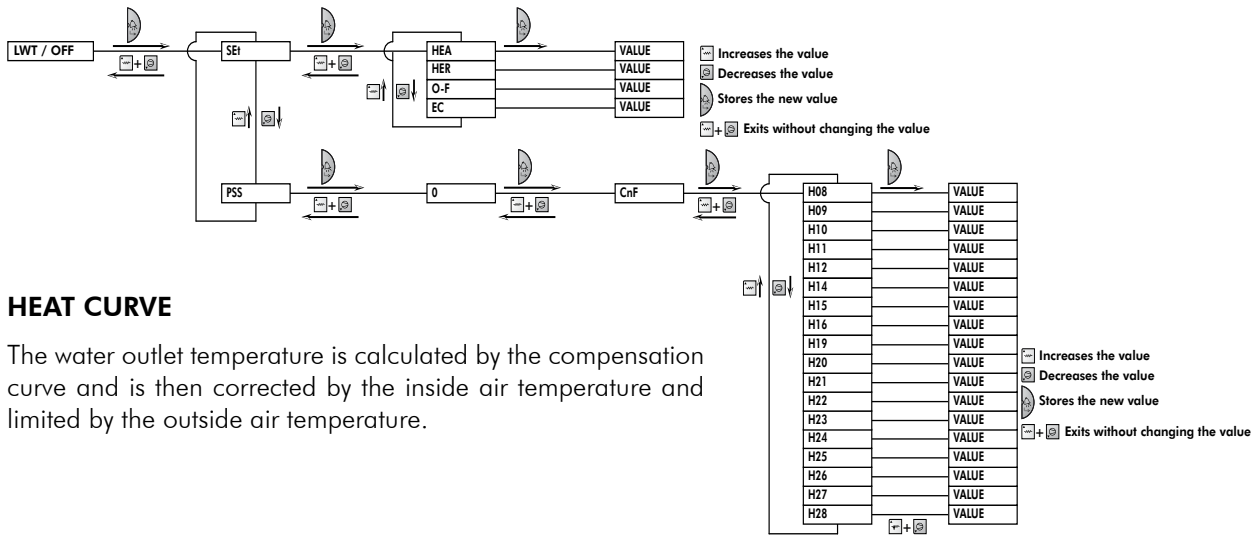
The H09 setting is used to pre-adjust the heat curve.

- 0 = radiator or fan-coil
- 1 = underfloor heating
- 2 = fixed, no change in the temperature as a function of the outside air temperature.



Operation in fixed mode can result in a much higher electricity consumption than with the heat curve.

17.1.3. HEATING CURVE SETTING..



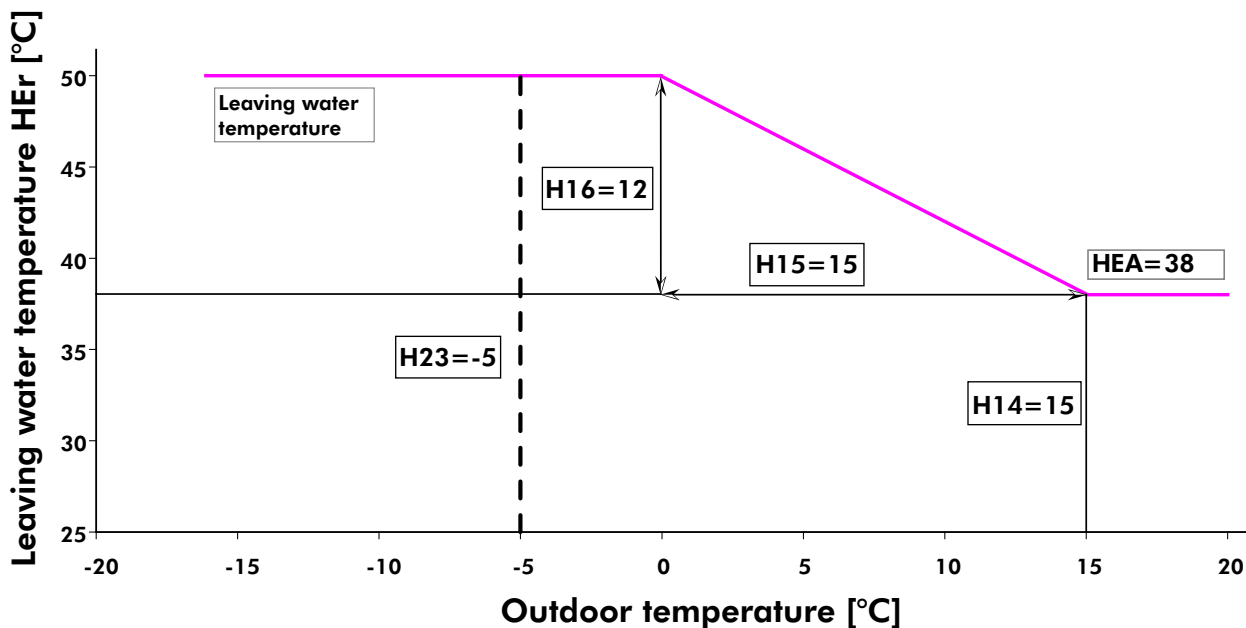
HEAT CURVE

The water outlet temperature is calculated by the compensation curve and is then corrected by the inside air temperature and limited by the outside air temperature.

17.1.3.1. COMPENSATION FOR RADIATOR OPERATION

FACTORY SETTINGS

HEA	Set point before correction	38°C
H16	Maximum HEA correction	$\Delta = 12^\circ\text{C}$
H14	Foot of temperature slope	15°C
H15	Proportional correction band	$\Delta = 15^\circ\text{C}$



The HEA dynamic set temperature point is equal to 38°C.

With this mode of regulation, the leaving water temperature is capped as a function of the outside air temperature.

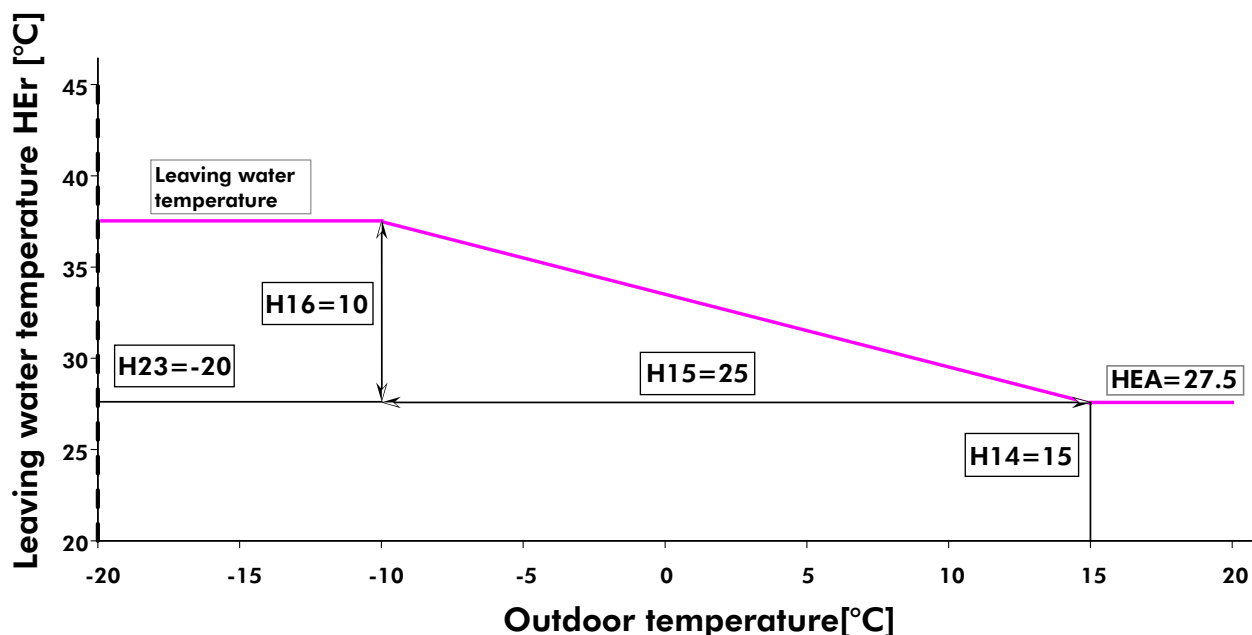
If the HEA is set at 38°C, the leaving water temperature is at the maximum of 50°C, and the entering water temperature is 47°C, being the maximum operating limit for the **Aqu@Scop Advance DCI** for this application.

The **Aqu@Scop Advance DCI** must be sized to have a balance point within 4°C and 0°C of the outdoor temperature.

17.1.3.2. COMPENSATION FOR UNDER-FLOOR HEATING OPERATION

FACTORY SETTINGS

HEA	Set point before correction	27.5°C
H16	Maximum HEA correction	$\Delta = 10^{\circ}\text{C}$
H14	Foot of temperature slope	15°C
H15	Proportional correction band	$\Delta = 25^{\circ}\text{C}$

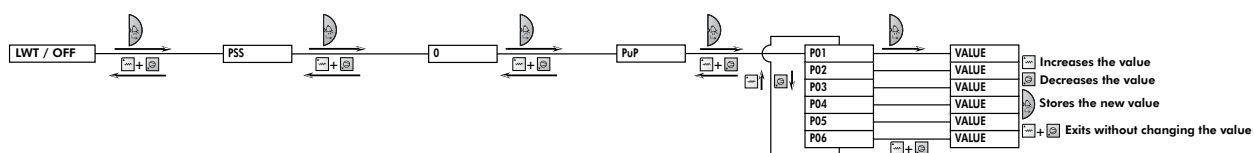


The minimum operating temperature for the **Aqu@Scop Advance DCI** for this application is limited by the parameter H23 to -20°C. The leaving water temperature is always below the limit and the appliance can operate with the boiler down to temperatures of -20°C. The boiler start-up temperature is determined by **Aqu@Scop Advance DCI**'s capacity (balance point).

17.1.4. WATER PUMP ADJUSTMENT, IF NECESSARY

The P01 setting is used to adjust the operation of the water pump.

- 0 = continuous operation even when the unit is in off mode.
- 1 = continuous operation except when the unit is in off mode.
- 2 = continuous operation on demand. The water pump stops when the ambient temperature exceeds the setpoint.



18. AQU@SCOP ADVANCE DCI EMERGENCY OPERATION SWITCH

Switch situated on the outdoor module control panel.

IMPORTANT: This function should only be used in the event of a fault in the **Aqu@Scop Advance DCI's** thermodynamic systems that has caused the compressor to stop running.

The change-over of the switch to its back-up position cancels the switch-on conditions for the extra electric heating or of the boiler.

In the emergency position, the triggering of the back-up electrical heating resistances or the boiler depends on demand for back-up heating from the regulator in accordance with the water logic and the ambient temperature.



If the back-up heating is switched on, alarm E36 is displayed on the screen of the ambience terminal.



Using the back-up heating mode when the Aqu@Scop Advance DCI is not in a failed state will result in excess electrical power consumption.

19. DOMESTIC HOT WATER

19.1. CONNECTION TO THE CENTRAL HEATING LOOP

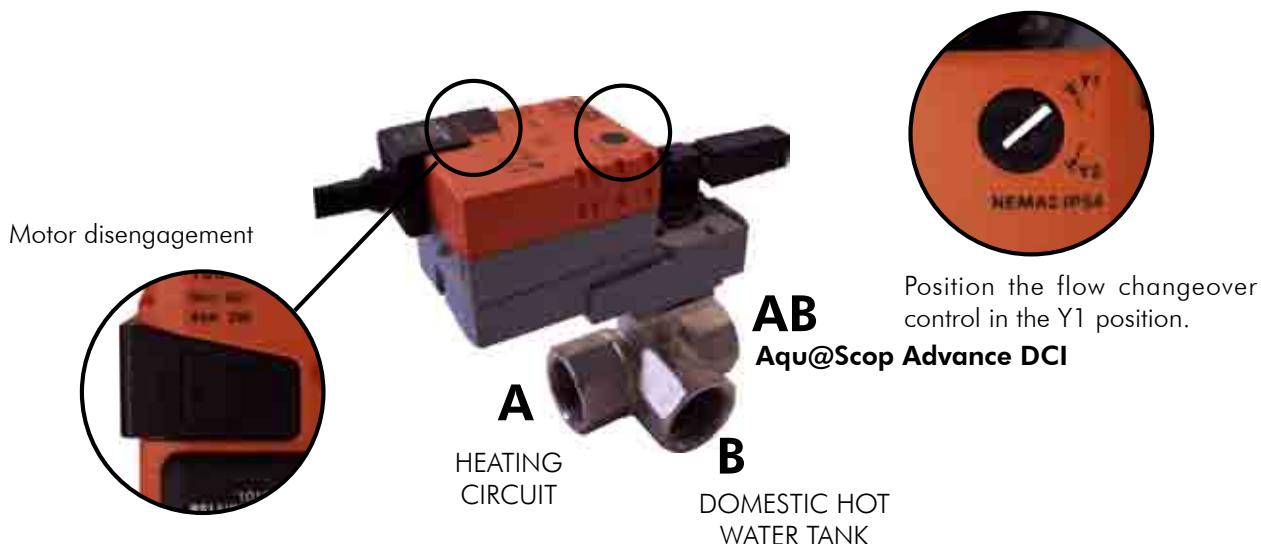
An On-Off 3-way valve directs hot water produced by the **Aqu@Scop Advance DCI** to either the heating circuit or the domestic hot water tank. Hydraulic connections must be made in accordance with the circuit layout diagrams provided.

Warning: You must ensure that the 3-way valve orifices (marked A, B and AB) are connected correctly to the circuit in order for the valve to operate in accordance with the electrical diagram provided.

19.1.1. 3-WAY HEATING / DOMESTIC HOT WATER VALVE

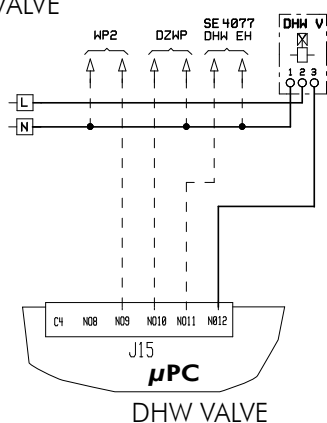
Fit the valve in accordance with the flow direction marks etched on the valve.

THE CONNECTIONS MUST CORRESPOND EXACTLY WITH THE FLOW DIRECTIONS INDICATED ON THE LAYOUT DIAGRAM FOR THE TYPE OF INSTALLATION.

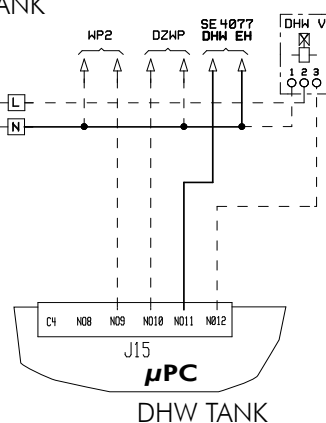


19.2. ELECTRICAL CONNECTIONS

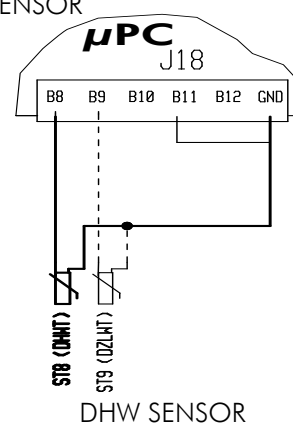
DHW
VALVE



DHW
TANK



DHW
SENSOR



DOMESTIC HOT WATER TANK

The **Aqu@Scop Advance DCI** can control a DHW tank electric heater via a relay supplier by the installer. The DHW heater power supply must not come from the **Aqu@Scop Advance DCI**.

SEE APPENDIX

19.3. DOMESTIC HOT WATER PRODUCTION MODES

The **Aqu@Scop Advance DCI** controller manages domestic hot water production in accordance with the following operating modes:

- PERMANENT COMFORT MODE
Setting o01 = On
Domestic hot water production has priority over heating except when the ambient temperature / set temperature difference is greater than 2° C (Maximum one hour). Comfort setpoint o02 is used permanently.
- ECONOMY MODE
Domestic hot water is produced during off-peak hours (dry contact) or in accordance with times programmed in the controller. Comfort setpoint o02 is used during off-peak hours, and setpoint o03 is used at all other times.
Option: Possibility to restart domestic hot water production outside off-peak hours if the water temperature has reached a programmable minimum temperature.
- IMMEDIATE DOMESTIC HOT WATER PRODUCTION
The **Aqu@Scop Advance DCI**'s regulator enables domestic hot water production to be forced as required. At the end of the cycle, the system returns to its usual operating mode. This mode of operation uses the compressor and the electric heater simultaneously.

The Legionnaires' Disease protection treatment managed by the **Aqu@Scop Advance DCI**'s controller is fully programmable (frequency, temperature threshold, treatment length).

The PERMANENT COMFORT and ECONOMY modes prioritise the use of thermodynamic heating. For an excessively high hot water temperature, and if the environmental conditions are not suitable for the compressor to operate, the electric heater is put into service. In order to save energy, it is important to use the lowest possible setpoints.

20. OPERATING CHECK LIST

20.1. GENERAL

Check for any unusual noises or vibration in the running components, particularly the indoor fan drive system.

20.2. OPERATING VOLTAGE:

1. Recheck voltage at unit supply terminals.

20.3. CONTROL

1. Verify all sensor inputs, using the controller display.

20.4. FAN & DRIVE

1. Check that the fans rotate freely without rubbing.

20.5. COMPRESSOR AND REFRIGERATION SYSTEM

1. Checking operation: Start the **Aqu@Scop Advance DCI**. Check for any abnormal noises or vibrations.
2. Suction superheat should be $6K \pm 2K$ at outdoor temperatures less than $10^{\circ}C$.(*)

* These checks can be performed at the time of commissioning with the help of qualified technical personnel.

20.6. FINAL CHECK

1. All panels and fan guards are in place and secured.
2. The ground wires of the panels are correctly connected.
3. Unit clean and free of remainder installation material.

21. FINAL TASKS

If needed, fix the cables and the pipes on the wall with clamping collars.

Operate the heat pump in the presence of the user and explain all functions.

22. IN CASE OF WARRANTY - MATERIAL RETURN PROCEDURE

Material must not be returned without permission of our After Sales Department.

To return the material, contact your nearest sales office and ask for a "return voucher". The return voucher shall be sent with the returned material and shall contain all necessary information concerning the problem encountered.

The return of the part is not an order for replacement. Therefore, a purchase order must be entered through your nearest distributor or regional sales office. The order should include part name, part number, model number and serial number of the unit involved.

Following our personal inspection of the returned part, and if it is determined that the failure is due to faulty material or workmanship, and in warranty, credit will be issued on customer's purchase order. All parts shall be returned to our factory, transportation charges prepaid.

23. ORDERING SERVICE AND SPARE PARTS ORDER

The part number, the order confirmation and the unit serial number indicated on the name plate must be provided whenever service works or spare parts are ordered.

For any spare part order, indicate the date of unit installation and date of failure. Use the part number provided by our service spare parts, if it not available, provide full description of the part required.

24. MAINTENANCE

The user is responsible for ensuring that the appliance is in a proper working condition and that technical installation as well as the regular maintenance operations are performed by properly trained technicians and in accordance with the instructions contained in this manual.



Some alarms can only be cancelled by switching the **Aqu@Scop Advance DCI** to **OFF**.

Generally, an alarm means that there is an anomaly present on the appliance. We **strongly** recommend that you refrain from repeatedly resetting an alarm without rectifying its cause in order to avoid the risk of **causing irrevocable damage** to one or several components.

24.1. REGULAR MAINTENANCE

These units have been designed for minimum maintenance through the use of permanently lubricated components. However, there are operational maintenance requirements that require regular attention to ensure optimum performance.

Maintenance must be performed by appropriately experienced personnel only.

WARNING : Isolate unit from power supply before working on unit.

24.2. GENERAL INSPECTION

Carry out a visual inspection of the complete installation in service.

Check the general cleanness of the installation, and check if the condensate evacuation is not blocked.

24.3. REFRIGERATION CIRCUIT

Clean the heat exchanger using a special product for aluminium-copper heat exchangers, and rinse with water. Do not use hot water or steam, as this could cause the pressure of the refrigerant to rise.

Check that the surface of the aluminium fins of the heat exchanger is not damaged by impacts or scratches, and clean with an appropriate tool if necessary.

The refrigeration system is hermetically sealed and should require no regular maintenance. However, it is recommended to leak test the refrigerant system and check the general operating conditions and control devices on a regular basis. The operating pressures should be checked particularly as they are an excellent guide for maintenance.

24.4. ELECTRICAL SECTION

Check that the main power supply cable is not damaged or altered in such a way as to affect the insulation.

The contact surfaces of relays and contactors should be inspected regularly by an electrician and replaced as judged necessary. On these occasions the control box should be blown out with compressed air to remove any accumulation of dust or other contaminants.

Check the earth grounding connection.



CAUTION

BEFORE CARRYING OUT ANY OPERATION ON THE EQUIPMENT, CHECK THAT THE ELECTRICAL POWER SUPPLY IS SWITCHED OFF AND THAT IT CANNOT BE SWITCHED ON INADVERTENTLY.

IT IS RECOMMENDED THAT THE DISCONNECT SWITCH BE PADLOCKED

24.5. SERVICING CHECKLIST

24.5.1. CASING

1. Clean the outer panels.
2. Remove the panels.
3. Check that the insulation is not damaged. Repair as required.

24.5.2. REFRIGERATION CIRCUIT

1. Check the absence of gas leaks.
This equipment must be subjected to regular tightness checks conducted by qualified personnel. Please refer to national requirements to determine the frequency of these checks.
2. Check that the copper tubes or the capillary tubes do not rub against any metal or vibrate.
3. Check that the compressors do not generate any abnormal noises or vibrations.
4. Check the compressor discharge temperature.

24.5.3. COILS

1. Clean the fin surfaces as required.
2. Check the condition of the fans and the fan motors.

24.5.4. ELECTRICAL EQUIPMENT

1. Check nominal current draw and the condition of the fuses.
2. Check the tightness of the screw terminals.
3. Perform a visual check of the condition of the contacts.
4. Check the general tightness of all cable connections.

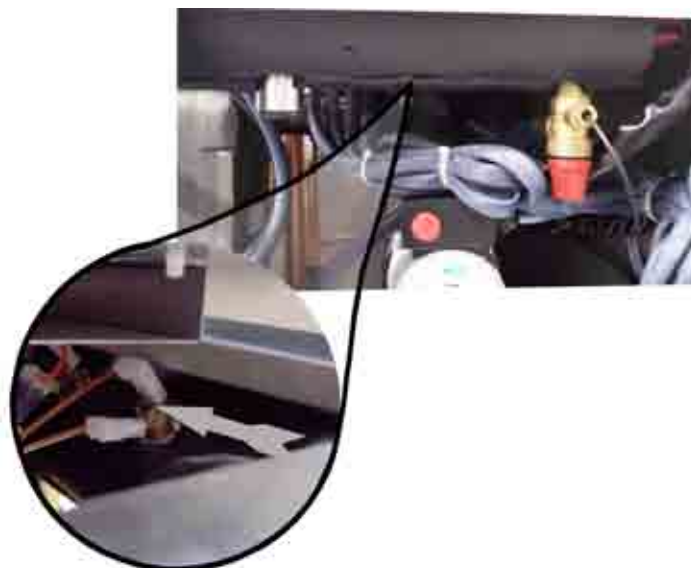
Replace the panels and add any missing screws.

24.5.5. HYDRAULIC CIRCUIT

1. Check that the hydraulic circuit is filled properly and that the fluid flows freely without any signs of leakage or air bubbles.
2. Check the cleanness of the filter.

24.6. RESET SAFETY DEVICE

The electric heating system is equipped with **1 SAFETY DEVICE** with automatic reset and **1 SAFETY DEVICE** with manual reset. It cuts off electrical supply to the heating resistances as soon as an operating anomaly is detected.



25. LIST OF SETTINGS

PARAMETRE			UNIT	MIN	MAX	DEFAULT	TYPE
SEt	HEA	Initial setpoint for the heating law	°C	20 °C underfloor or 30 °C radiator	40°C underfloor or 50°C radiator	27.5/38	modifiable
	HEr	Water setpoint after correction	°C				read only
	O-F	ON OFF	On/ OFF	On	Off	OFF	modifiable
	EC	ECS comfort setpoint	°C	10	60	48	modifiable
tP	t01	Water inlet temperature B1	°C	-50°C	90 °C		read only
	t02	Water outlet temperature B2	°C	-50°C	90 °C		read only
	t03	Outside coil temperature B3	°C	-50°C	90 °C		read only
	t04	Outside air temperature B4	°C	-50°C	90 °C		read only
	t05	Discharge temperature B5	°C	0	120 °C		read only
	t06	Sunction temperature B6	°C	-50°C	90 °C		read only
	RT	Ambience temperature	°C	0°C	40°C		read only
	P07	Sunction pressure B7	bar	0	15		read only
I-O /dO	1 -	Status of output NO1		0 = output open	1 = output energised		read only
	2 -	Status of output NO2		0 = output open	1 = output energised		read only
	3			0 = output open	1 = output energised		read only
	et....12Status of output NO12		0 = output open	1 = output energised		read only
I-O / DI	1 -	Status of input ID1	0 or 1	0 = output not energised	1 = output energised		read only
	etc....10 Status of input ID10	0 or 1	0 = output not energised	1 = output energised		read only
I-O / EEV	pos	Position of expansion valve	pitch	0	480		read only
	SH	Superheating	K	0	40		read only
I-O / DCI	SPd	Compressor speed	Hz	0	80		read only
	CUr	Current	A	0	30		read only
I-O	FAN	Fan speed	%	0	100		read only
	TH	Thermostat setpoint	°C	0	30		read only
	dFr	Time until next defrost	minutes	0	60		read only
	ELE	Estimated consumption in kWh.	kWh	0	999999		read only
I-O / ECS	Sta	Hot water status		"Off" = DHW stopped "On" = DHW operating "LEg" = anti-legionellosis operating			read only
	Val	Current value of hot water setpoint	°C	10	65		read only
Err		Alarms	code				read only
LOG		Alarm LOG	code				read only
PAr / CnF	H01	Software version					read only
	H03	Type of water CURVE		0 = radiator 1 = underfloor 2 = no heat curve			read only
	H04	Type of DCI		Model 6, 12 or 16			read only
	H05	SPH or DCI		Compressor configuration 0 = fixed 1 = variable			read only
PAr / ECS	o01	Permanent comf. mode		On = permanent comfort mode Off = dry contact or programmed mode		On	modifiable
	o02	comfort period setpoint	°C	10	60	48	modifiable
	o03	eco period setpoint	°C	10	55	45	modifiable
	o04	Start time for comfort period 1	Hr	0	23	23:00	modifiable

PARAMETRE		UNIT	MIN	MAX	DEFAULT	TYPE	
PAr / ECS	o05	Stop time 1	Hr	0	23	03:00	modifiable
	o06	Start time for comfort period 2	Hr	0	23	0	modifiable
	o07	Stop time 2	Hr	0	23	0	modifiable
	o08	Anti-legionellosis function On/OFF		On	Off	Off	modifiable
	o09	Water setpoint in anti-legionellosis mode	°C	0	70	60	modifiable
	o10	day of anti-legionellosis cycle	day	1 (Monday)	7	1	modifiable
	o11	Start time of anti-legionellosis cycle	Hr	0	23	01:00	modifiable
	o12	Duration of anti-legionellosis cycle	min	0	90	30	modifiable
	o13	manual rapid charge		On = hot water tank heated by compressor and resistance Off = normal			modifiable
PSS / CnF	H08	Activation of Hot Water		On = DHW activated Off = no DHW		OFF	modifiable
	H09	Selection of heat curve		0 = radiator 1 = underfloor 2 = fixed (no heat curve))		1	modifiable
	H10	Selection of unit		0 = Electric heater 1 = Boiler back-up 2 = no additional heating			modifiable
	H11	Activation of outside air temperature sensor		OFF = use inside sensor ON = use a wall-mounted air temperature sensor		OFF	modifiable
	H12	Activation of ambience remote control		ON = room terminal activated (recommended) OFF = no room terminal		ON	modifiable
	H14	Heat curve Outside air temperature setpoint	°C	0	25	15°C	modifiable
	H15	Heat curve Outside air delta temperature setpoint	°C	0	40	15 °C underfloor 25 °C radiator	modifiable
	H16	Heat curve Max compensation of water temperature	°C	0	20	10° underfloor 12° radiator	modifiable
	H19	Electric heater differential	°C	0	6	3	modifiable
	H20	Electric heater hysteresis	°C	0	3	1	modifiable
	H21	Outside air temperature for shut-down of EH1 or boiler	°C			5	modifiable
	H22	Outside air temperature for shut-down of EH2	°C			2	modifiable
	H23	Outside air temperature for shut-down of compressor	°C	-20	20	-5°C (back-up) 20°C (resistance)	modifiable
	H24	Reversal of boiler bypass outlet direction		0 = The bypass valve is energised when the boiler is off. 1 = The bypass valve is energised when the boiler is on		0	modifiable
	H25	Reversal of "EJP" tariff intake logic		dir = Input closed = "EJP" tariff mode ON inv = Input open = "EJP" tariff mode ON		0	modifiable
	H26	Supply voltage used for kWh estimation	V	200	250	225	modifiable
	H27	ΔT for compressor restart	°C			0.2°C	modifiable
H28	ΔT for compressor shut-down	°C			0.6°C	modifiable	
H29	Input 9 selection On / Off or Electric heat load shedding		OF = On / Off LS = Electric heat load shedding		OF	modifiable	

PARAMETRE		UNIT	MIN	MAX	DEFAULT	TYPE	
PSS / CnF	H30	Reverse Input 9 (On/Off or load shedding)		dir = Input closed = On inv = Input open = On		inv	modifiable
	H31	Maximum possible water temperature for floor heating	°C	30	55	45	modifiable
PSS / PuP	P01	Type of water pump operation		0 = Continuous operation even when in off mode. 1 = Continuous operation except when in off mode. 2 = Operation on demand from compressor		2	modifiable
	P02	Interval between anti-seize cycles	hours	0	99	24	modifiable
	P03	Length of anti-seize cycle	s	0	999	60	modifiable
	P04	Configuration of water pump WP2		0 = Used with a mixing tank. On / Off as a function of ΔT below. 1 = Operation as boiler back-up. On with bypass valve.		0	modifiable
	P05	Restart water pump WP2	°C	-2.0	2.0	0.2	modifiable
	P06	Shut-down of water pump WP2	°C	-2.0	2.0	0.6	modifiable
PSS / dFr	D01	Time remaining until defrost	min				read only
	D02	Corrected temperature at start of defrost timer	°C				read only
	D03	Temperature at start of de-ice timer before correction	°C			-2	read only
	D04	Interval between de-icing cycles	min	40	60	50	modifiable
	D05	End of de-ice	°C			16	read only
PSS / RTC	HR	Time used	Hr / min				read only
	Dat	Date used	dd / mm / yy				read only
	Chd	Update the date					modifiable
	ChH	Update the time					modifiable
PSS / DHU	L01	Selection of switch-over mode between comfort and eco		Prg = Uses hour programming In = Uses day / night INPUT		Prg	modifiable
	L02	DHW cycle start time if $\Delta T < 2$	min	0	240	60	modifiable
	L03	Type of DHW kit		0 = DHW tank	1 = DHW module with pump	0	modifiable
	L04	DHW module pump cycle time interval	min	10	300	120	modifiable
	L05	Use the internal elec heat for DHW additional heat		ON = Internal elec heat OFF = DHWEH used		OFF	modifiable
	L06	Compressor can be used for DHW for boiler relief and low OAT		ON = Compressor used OFF = compresseur not used		OFF	modifiable
	L07	Comp and DHWEH used for boiler back-up config only		ON = DHW by comp and DHWEH OFF = DHW by comp and boiler		OFF	modifiable
	L08	Reverse input 10 (Day / Night)		dir = Input closed = night mode inv = Input open = night mode		dir	modifiable
OHr	CH	Compressor operating hours	hours	0	999999		read only
	CS	Nbr of compressor starts.		0	999999		read only
	PH	Pump operating hours	hours	0	999999		read only
	PS	Nbr of pump starts.		0	999999		read only

26. ALARM LIST AVAILABLE ON THE AQU@SCOP ADVANCE DCI DISPLAY

Ref.	Alarm description	Aqu@Scop Advance DCI action	Alarm cancellation	Time delay	Possible cause(s)	Recommended action(s)
E0	Communication error between display and board	Normal operation	Automatic		Interconnection Board not started up	Normal for the first 30 seconds after power-up.
E01	Entering water sensor EWT disconnected or damaged	Reduced capacity operation	Automatic	10 s		
E02	Leaving water sensor LWT disconnected or damaged	Complete shutdown	Automatic	10 s		
E03	Outdoor temperature sensor OAT disconnected or damaged	Reduced capacity operation	Automatic	10 s	Disconnected or faulty sensor	Check the wiring of sensor, replace if defective
E04	Domestic hot water sensor disconnected or damaged	Shut-down of ECS function		10 s		
E05	Outdoor coil sensor OCT disconnected or damaged	Reduced capacity or stop if coil con freeze	Automatic	10 s		
E06	Lack of water flow, risk of freezing	Complete shutdown	Automatic once then manual	26s after start of circulation pump	Seized water pump Water flow too low or air in the system	Check water pump operation Check the PAC's temperature difference in operation. Increase the flow (change the water pump speed)
E08	Fan fault		Auto twice then manual	2 s	Internal temperature protection cut-out in one of the fans	Reset the alarm after allowing the motors to cool. Check which fan is overheating. Replace the defective fan.
E11	High Pressure safety tripped	Complete shutdown	Automatic once then manual	None	Refer to the fault diagnosis guide in the Installation and Maintenance Manual Water flow too low or air in the system	Refer to the fault diagnosis guide in the Installation and Maintenance Manual Re-establish nominal water flow or bleed the system
E12	Low Pressure safety trips	Complete shutdown	Auto twice then manual	5 s	Refer to the fault diagnosis guide in the Installation and Maintenance Manual Coil blocked Incomplete de-icing (lack of refrigerant charge) Fan fault	Refer to the fault diagnosis guide in the Installation and Maintenance Manual Clean the finned coil Check the amount of refrigerant charge Check the fans

Ref.	Alarm description	Aqu@Scop Advance DCI action	Alarm cancellation	Time delay	Possible cause(s)	Recommended action(s)
E16	PAC/terminal communication failure	Switchover to forced Heating mode	Manual	Variable depending on the cause of the problem (clean trip or trip due to electrical interference)	Ambiance terminal is not connected One of the communication cables is disconnected Too much interference on the communication bus	Deactivate it via the Aqu@Scop Advance DCI keypad Check the connections on the Aqu@Scop Advance DCI and the terminal as well as the polarities (A and B) Use shielded cable as recommended
E22	De-icing ended abnormally by maximum time limit.	De-icing stopped	Auto. Alarm displayed for 2 minutes for information purposes	None	De-icing has lasted over 10 minutes. This is abnormal as de-icing usually takes between 3 and 4 minutes	Monitor the appliance to see if this fault is a one-off occurrence, if not, check all possible causes of poor de-icing (lack of refrigerant charge)
E23	De-icing ended abnormally by low outlet water temperature	De-icing stopped	Auto. Alarm displayed for 2 minutes for information purposes	None	Outlet water temperature during de-icing has fallen below 10° C	Check that there is sufficient water volume in the system, as recommended in the Installation and Maintenance Manual
E24	Compressor discharge temperature thermostat	Complete shutdown	Manual	None	Tripped out by the compressor discharge temperature thermostat	Monitor the appliance to see if this fault is a one-off occurrence, if not check the charge or for compressor superheating (perhaps too high)
E25	Compressor overheat thermostat FM1				Shut-down by compressor discharge temperature sensor	Monitor the appliance to see if this fault is a one-off occurrence, if not check the charge or for compressor superheating (perhaps too high)
E32	Inlet /outlet water sensors inverted	Complete shutdown	Manual (Aqu@Scop Advance DCI OFF via keypad)	90 s	Automatic detection by management system if the water temperature sensors are inverted	Invert the sensors at the level of the controller. Check the sensor values during operation of compressor
E33	EWT/LWT temperature difference too high	Information only	Automatic		Low water flow.	Check water flow

Ref.	Alarm description	Aqu@Scop Advance DCI action	Alarm cancellation	Time delay	Possible cause(s)	Recommended action(s)
E36	--Information-- Boiler/Electric heat. backup activated	Information	Stop backup mode	None	Emergency heat switch is ON (see § Aqu@Scop Advance DCI EMERGENCY OPERATIONS SWITCH)	
E37	Frost protection Water temperature below limit	Compressor stop Heaters ON	Automatic		Reversing valve stuck Unit in Off mode	Check reversing valve Heat water using auxiliary heat
E50	Compressor discharge temperature sensor CDT disconnected or damaged	Reduced capacity operation	Automatic	10 s	Disconnected or faulty sensor	Check the wiring of the sensor, replace the sensor if it is faulty.
E51	Compressor suction temperature sensor CST disconnected or damaged	Complete shutdown	Automatic	10 s	Disconnected or faulty sensor	Check the wiring of the sensor, replace the sensor if it is faulty.
E52	Compressor suction pressure transducer EP disconnected or damaged	Complete shutdown	Automatic	10 s	Transducer disconnected or faulty	Check the wiring of the transducer, replace the transducer if it is faulty.
E53	The compressor does not start	Complete shutdown	twice then then manual		Driver problem Compressor wiring Compressor unserviceable	Switch the power supply off and then on Check the voltage Check the wiring between the driver and the compressor Replace the compressor
E54	ECS water return temperature too high	Information			ECS temperature sensor incorrectly located or heat exchanger undersized	
E55	Overheating of electric heater resistance	Resistance shut-down	Auto twice then manual		Insufficient water flow Excessive water temperature	
E60	DCI driver temperature too high	Complete shutdown	Automatic		Dirty heat sink Operating conditions outside limits	Clean the heat sink Check the operating conditions
E61	DCI driver voltage too low	Complete shutdown	Automatic		Supply voltage	Check the power supply
E62	DCI driver voltage too high	Complete shutdown	Automatic		Supply voltage	Check the power supply
E63	DCI current too high	Complete shutdown	Automatic		Supply voltage	Check the power supply

Ref.	Alarm description	Aqu@Scop Advance DCI action	Alarm cancellation	Time delay	Possible cause(s)	Recommended action(s)
E64	DCI communication error with driver	Complete shutdown	Automatic		Communication problem between the driver and the NPC board	Check the communication cable between the driver and the board. Check the communication board J6.
E65	DCI4 power supply frequency (ZX)		Automatic		Unstable power supply	Check the power supply and the frequency (50 Hz)
E66	DCI4 IPM fault (PIN)		Automatic		Overheated driver Faulty component	Replace the driver if several alarms are triggered
E67	DCI4 comp transducer fault (CS)		Automatic		Overheated driver Faulty component	Replace the driver if several alarms are triggered
E68	DCI4 radiator sensor fault (HSB)		Automatic		Overheated driver Faulty component	Replace the driver if several alarms are triggered
E69	DCI4 IPM on current (IPM)		Automatic		Compressor current too high Faulty components	Check the operating conditions Replace the driver
E70	DCI4 PFC sensor fault (PS)		Automatic			Replace the driver if several alarms are triggered
E71	DCI6 IC fault		Automatic			Replace the driver if several alarms are triggered
E72	DCI6 current sensor fault		Automatic			Replace the driver if several alarms are triggered
E73	DCI6 short current cut-out		Automatic		micro power cut	Check the power supply
E74	DCI6 Micro restart		Automatic		Unstable power supply	Check the power supply
E75	DCI6 loss of synchronisation		Automatic		Compressor wiring Excessive coolant charge	Check the wiring between the compressor and the driver Check the coolant charge
com	refer to E16		Automatic		No communication with the terminal	Check the wiring
RF	Loss of com between receiver and RF thermostat		Automatic		No communication between the receiver and the transmitter.	Bring the two elements closer together. Replace the batteries New components not matched



Generally, an alarm means that there is an anomaly with the appliance. We strongly **advise against** repeatedly resetting an alarm at the risk of causing **irreparable damage** to one or several components.

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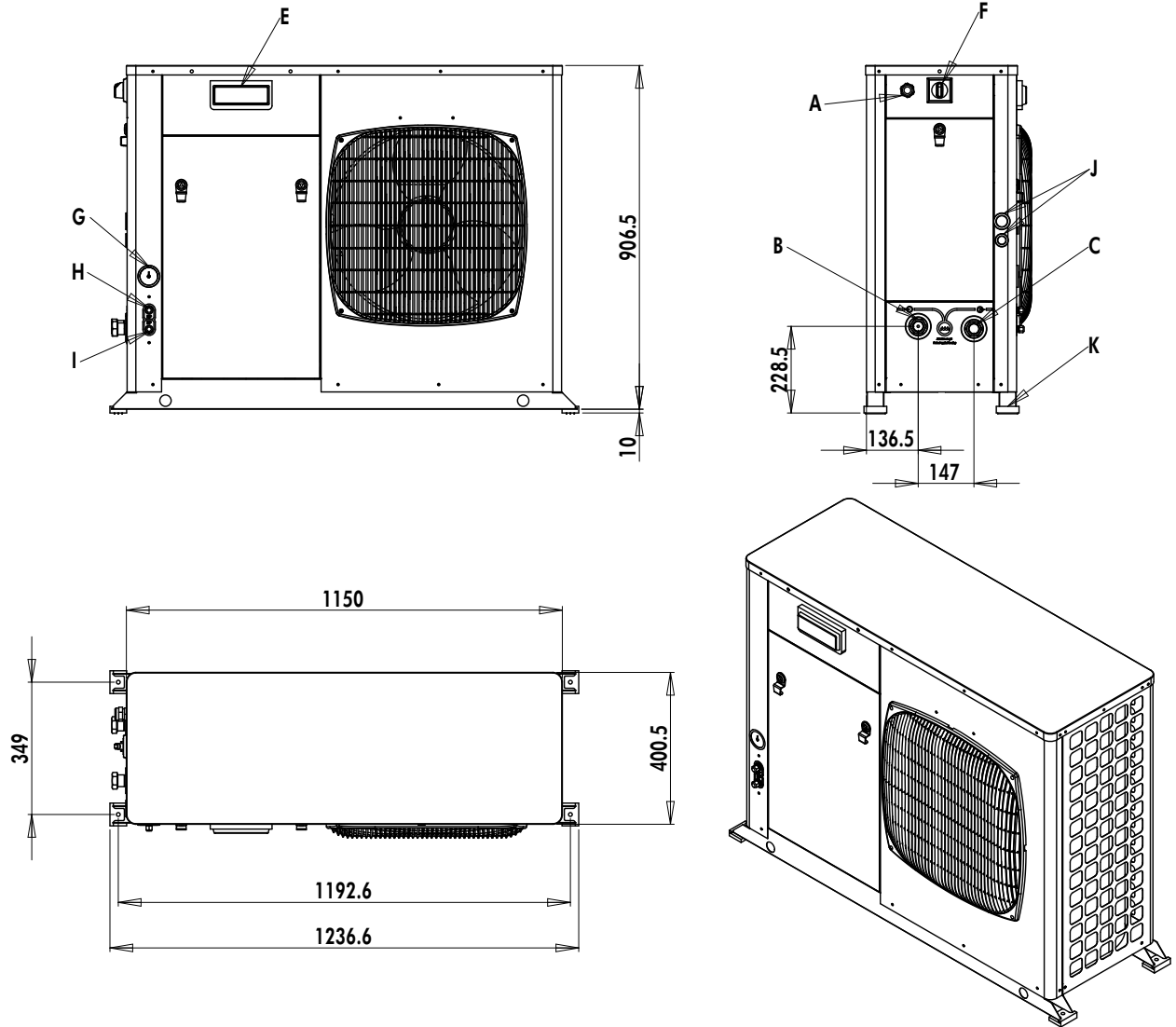
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DIMENSIONS

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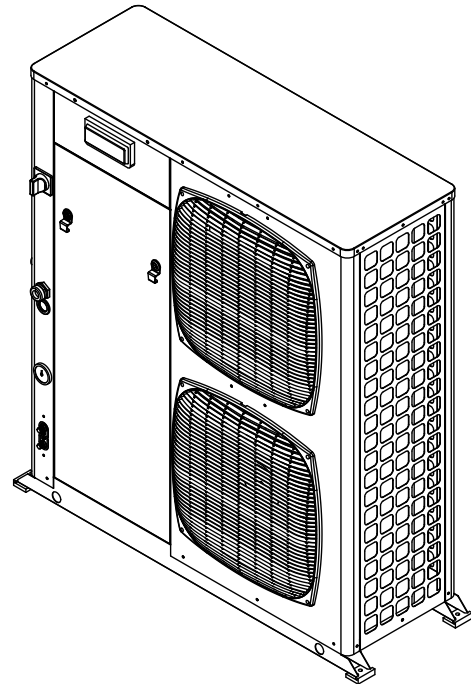
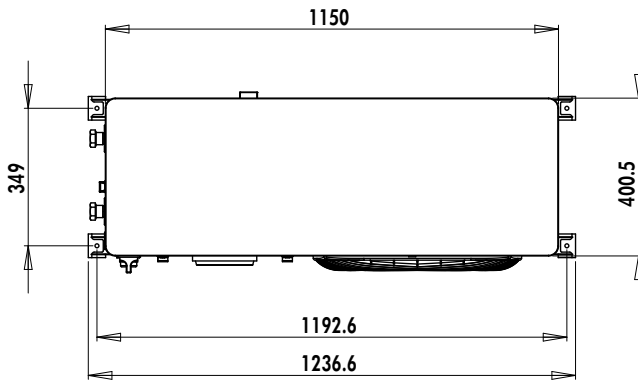
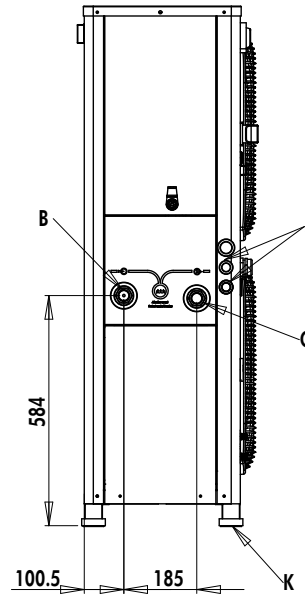
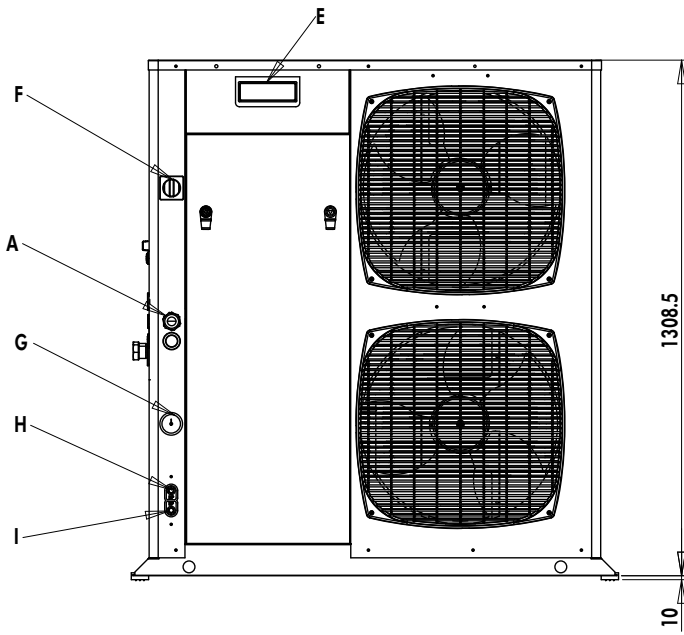
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DIMENSIONES



	GB	F	D	I	E
A	Main power supply	Alimentation électrique	Stromversorgung	Alimentazione elettrica	Alimentación eléctrica
B	Water inlet 1" female gas	Entrée eau 1" gaz femelle	Wassereintritt 1" Innengewinde Gas	Ingresso acqua 1" gas femmina	Entrada agua 1" gas hembra
C	Water outlet 1" female gas	Sortie eau 1" gaz femelle	Wasseraustritt 1" Innengewinde Gas	Uscita acqua 1" gas femmina	Salida agua 1" gas hembra
E	Display	Afficheur	Display	Display	Display
F	Circuit breaker	Sectionneur	Trennschalter	Sezionatore	Seccionador
G	Water pressure gauge	Manomètre pression d'eau	Manometer Wasserdruck	Manometro pressione dell'acqua	Manómetro presión de agua
H	High pressure tap	Prise haute pression	Hochdruckanschluss	Presa alta pressione	Toma de alta presión
I	Low pressure tap	Prise basse pression	Niederdruckanschluss	Presa bassa pressione	Toma de baja presión
J	Remote control	Commande à distance	Fernbetätigung	Comando a distanza	Mando a distancia
K	Anti-vibration device	Dispositif anti vibrations	Schwingungsdämpfende Vorrichtungen	Dispositivo antivibrations	Dispositivo antivibraciones

APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO



	GB	F	D	I	E
A	Main power supply	Alimentation électrique	Stromversorgung	Alimentazione elettrica	Alimentación eléctrica
B	Water inlet 1" female gas	Entrée eau 1"gaz femelle	Wassereintritt 1" Innengewinde Gas	Ingresso acqua 1" gas femmina	Entrada agua 1" gas hembra
C	Water outlet 1" female gas	Sortie eau 1"gaz femelle	Wasseraustritt 1" Innengewinde Gas	Uscita acqua 1" gas femmina	Salida agua 1" gas hembra
E	Display	Afficheur	Display	Display	Display
F	Circuit breaker	Sectionneur	Trennschalter	Sezionatore	Seccionador
G	Water pressure gauge	Manomètre pression d'eau	Manometer Wasserdruck	Manometro pressione dell'acqua	Manómetro presión de agua
H	High pressure tape	Prise haute pression	Hochdruckanschluss	Preso alta pressione	Toma de alta presión
I	Low pressure tape	Prise basse pression	Niederdruckanschluss	Preso bassa pressione	Toma de baja presión
J	Remote control	Commande à distance	Fernbetätigung	Comando a distanza	Mando a distancia
K	Anti-vibration device	Dispositif anti vibrations	Schwingungsdämpfende Vorrichtungen	Dispositivo antivibrations	Dispositivo antivibraciones

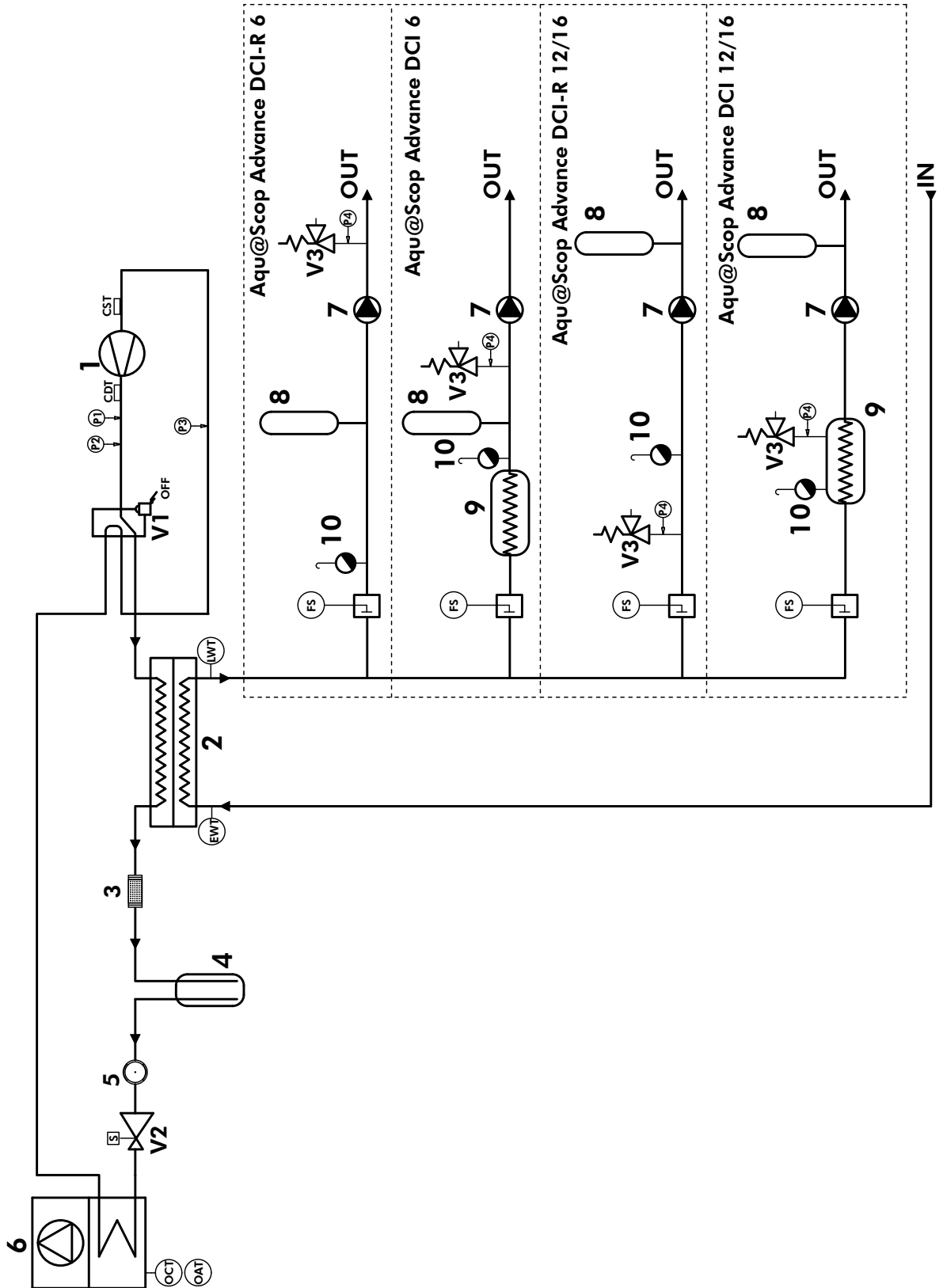
REFRIGERATION AND HYDRAULIC LINKS DIAGRAM

SCHÉMA FRIGORIFIQUE ET HYDRAULIQUE

KÜHL- UND HYDRAULIKDIAGRAMM

SCHEMA FRIGORIFERO ED IDRAULICO

ESQUEMA FRIGORÍFICO E HIDRÁULICO



APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

1	Compressor
2	Plate heat exchangers. Counter-current heating
3	Dryer filter
4	Liquid tank
5	Liquid sight glass
6	Finned coil and fans
V1	Four-way valve
V2	Electronic expansion valve
CDT	Discharge temperature
CST	Suction temperature
P1	High Pressure pressostat
P2	Defrost system high pressure control pressostat
P3	Suction pressure
OCT	Outdoor coil temperature sensor
OAT	Air temperature sensor
LWT	Water temperature sensor (leaving)
EWT	Water temperature sensor (entering)
7	Water pump
8	Expansion tank
9	Electric heaters
10	Automatic bleed
FS	Flow switch
V3	Safety valve (3.5 bar)
P4	Water pressure gauge

1	Compresseur
2	Echangeur à plaques Contre courant chauffage
3	Filtre déshydrateur
4	Réservoir liquide
5	Voyant liquide
6	Echangeur à ailettes et ventilateurs
V1	Vanne 4 voies
V2	Détendeur électronique
CDT	Température de refoulement
CST	Température d'aspiration
P1	Pressostat haute pression
P2	Pressostat contrôle haute pression dégivrage
P3	Pression d'évaporation
OCT	Sonde contrôle de condensation
OAT	Sonde de température d'air
LWT	Sonde de température d'eau (sortie)
EWT	Sonde de température d'eau (entrée)
7	Circulateur
8	Vase d'expansion
9	Chauffage électrique
10	Purgeur automatique
FS	Détecteur de débit
V3	Soupape sécurité (3.5 bar)
P4	Manomètre pression d'eau

1	Kompressor
2	Plattenwärmeaustauscher. Gegenstrom Heizung
3	Filtertrockner
4	Flüssigkeitsbehälter
5	Anzeigelampe Flüssigkeit
6	Lamellenwärmetauscher und Ventilatoren
V1	Vierwegventil
V2	Elektronisches Minderventil
CDT	Fördertemperatur
CST	Ansaugtemperatur
P1	Hochdruck-Pressostat
P2	Hochdruckkontrollpressostat Abtauen
P3	Verdampfungsdruck
OCT	Messfühler Verflüssigungskontrolle
OAT	Lufttemperaturfühler
LWT	Wassertemperaturfühler (Austritt)
EWT	Wassertemperaturfühler (Eintritt)
7	Umlaufpumpe
8	Expansionsgefäß
9	Elektroheizung
10	Automatischer Ablasshahn
FS	Wassermelder
V3	Sicherheitsventil (3.5 Bar)
P4	Wasserdruckmesser

1	Compresor
2	Scambiatori di calore a piastrine Contracorrente calefacción
3	Filtro deshidratador
4	Depósito líquido
5	Spia liquido
6	Intercambiador de aletas y ventiladores
V1	Valvola a quattro vie
V2	Riduttore di pressione elettronico
CDT	Temperatura di espulsione
CST	Temperatura di aspirazione
P1	Presostato alta presión
P2	Presostato de control alta presión descongelación
P3	Pressione di evaporazione
OCT	Sonda controllo di condensazione
OAT	Sonda de temperatura de aire
LWT	Sonda de temperatura de agua (salida)
EWT	Sonda de temperatura de agua (entrada)
7	Circulador
8	Vaso di espansione
9	Riscaldamento elettrico
10	Purgador automático
FS	Rilevatore del flusso
V3	Valvula de seguridad (3.5 bares)
P4	Manómetro de presión de agua

1	Compressore
2	Intercambiador térmico de placas Contracorrente riscaldamento
3	Filtro disidratante
4	Serbatoio liquido
5	Indicador luminoso líquido
6	Scambiatore ad alette e ventilatori
V1	Válvula de cuatro vías
V2	Reductor electrónico
CDT	Temperatura de descarga
CST	Temperatura de aspiración
P1	Pressostato alta pressione
P2	Pressostato controllo alta pressione sbrinamento
P3	Presión de evaporación
OCT	Sonda de control de condensación
OAT	Sonda di temperatura aria
LWT	Sonda di temperatura acqua (uscita)
EWT	Sonda di temperatura acqua (ingresso)
7	Circolatore
8	Vaso de expansión
9	Calentamiento eléctrico
10	Valvola di scarico automatica
FS	Detector del flujo
V3	Valvola di sicurezza (3.5 bar)
P4	Manometro pressione acqua

WATER FLOW CALCULATION GRAPH

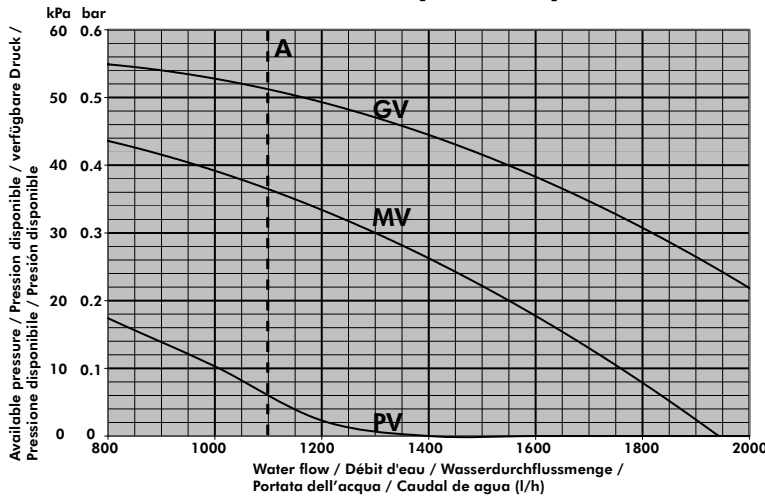
ABAQUE DE CALCUL DE DÉBIT D'EAU

BERECHNUNGSKURVE DER WASSERDURCHFLUSSMENGE

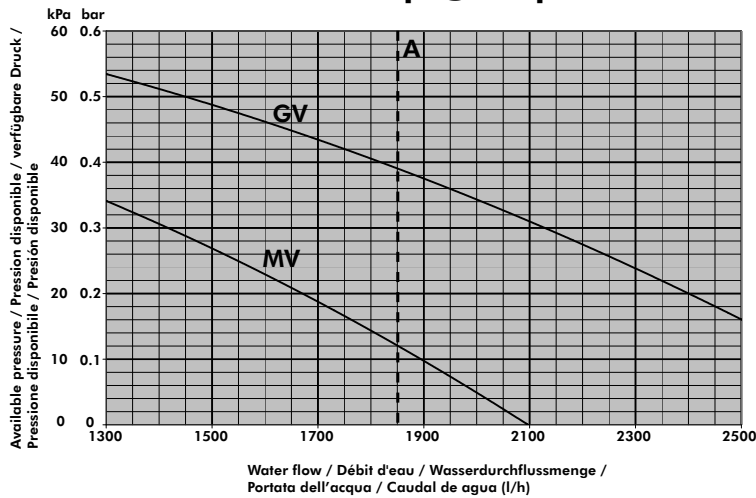
ABACO DI CALCOLO DELLA PORTATA DELL'ACQUA

ÁBACO DE CÁLCULO DE CAUDAL DE AGUA

Aqu@Scop Advance DCI 6

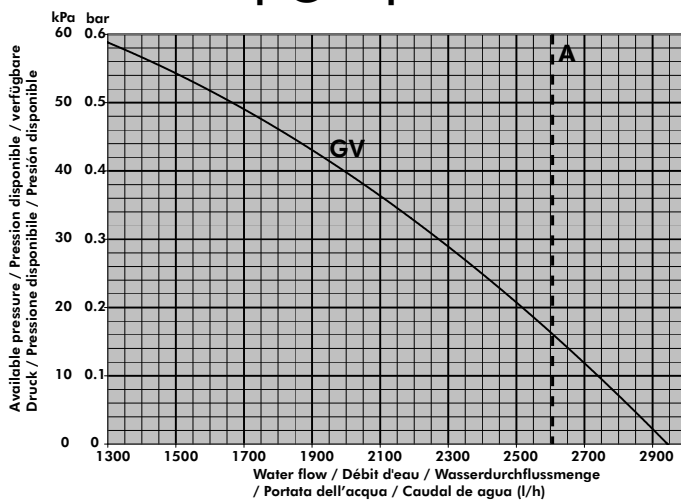


Aqu@Scop Advance DCI 12



- A** Nominal flow
- A** Débit nominal
- A** Nenndurchflussmenge
- A** Portata nominale
- A** Caudal nominal

Aqu@Scop Advance DCI 16



This drawing is not applicable if heating water circuit pressure drop is higher than 20kPa.

Ce schéma ne s'applique pas si les pertes de charges du circuit de chauffage sont supérieures à 20kPa.

WIRING DIAGRAM

SCHEMAS ELECTRIQUES

STROMLAUFPLANS

SCHEMA ELETRICO

ESQUEMA ELECTRICO

TAKE CARE!

These wiring diagrams are correct at the time of publication. Manufacturing changes can lead to modifications. Always refer to the diagram supplied with the product.

ATTENTION

Ces schémas sont corrects au moment de la publication. Les variantes en fabrication peuvent entraîner des modifications. Reportez-vous toujours au schéma livré avec le produit.

ACHTUNG!

Diese Stromlaufplans sind zum Zeitpunkt der Veröffentlichung gültig. In Herstellung befindliche Varianten können Änderungen mit sich bringen. In jedem Fall den mit dem Produkt gelieferten Stromlaufplan hinzuziehen.

ATTENZIONE !

Questi schemi sono corretti al momento della pubblicazione. Le varianti apportate nel corso della fabbricazione possono comportare modifiche. Far sempre riferimento allo schema fornito con il prodotto.

ATENCIÓN !

Esto esquemas son correctos en el momento de la publicación. Pero las variantes en la fabricación pueden ser motivo de modificaciones. Remítase siempre al esquema entregado con el producto.

**POWER SUPPLY MUST BE SWITCHED OFF BEFORE STARTING TO
WORK IN THE ELECTRIC CONTROL BOX!**



**MISE HORS TENSION OBLIGATOIRE AVANT TOUTE INTERVENTION
DANS LES BOITIERS ELECTRIQUES.**

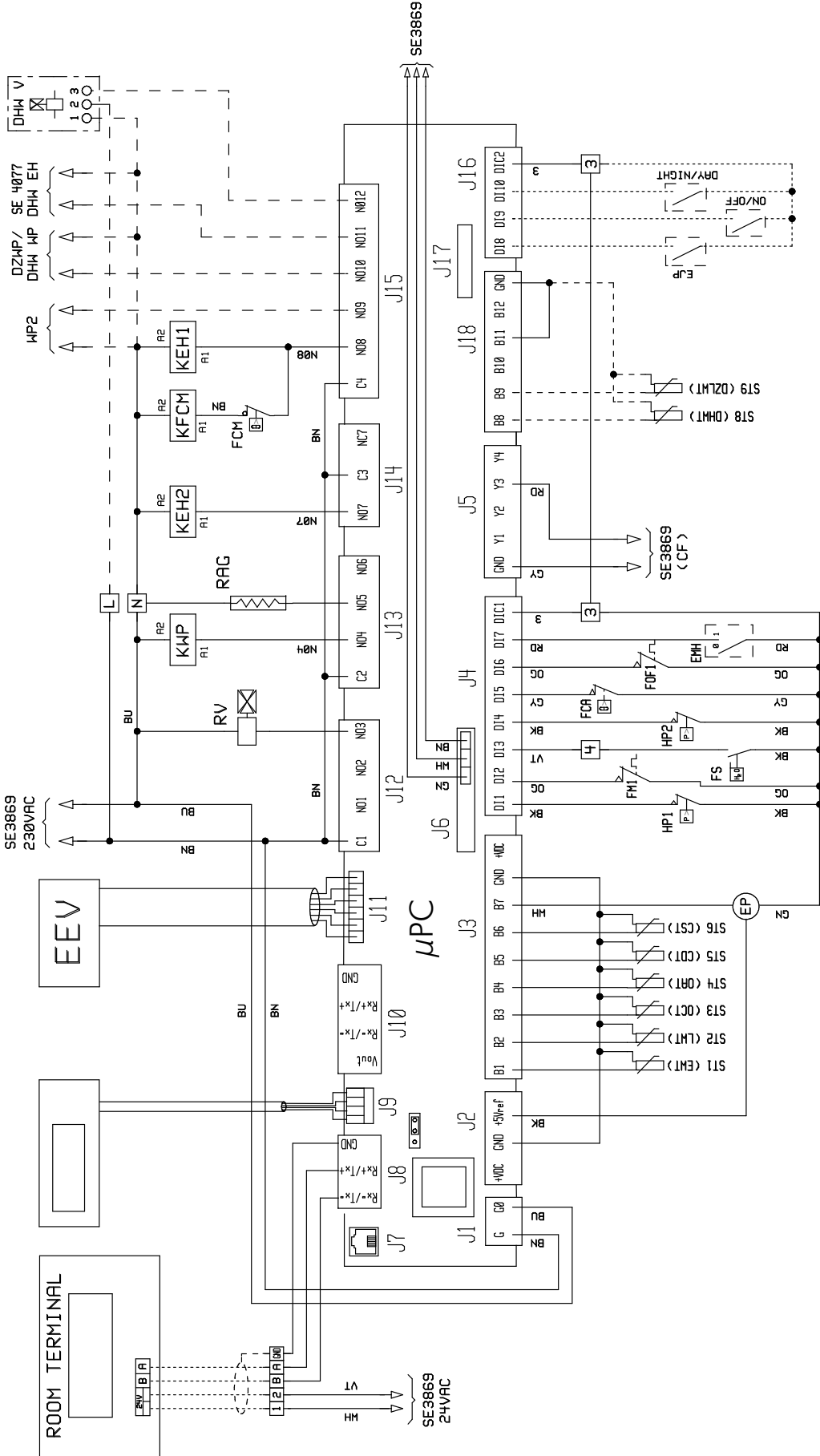
**VOR JEDEM EINGRIFF AN DEN ANSCHLUßKÄSTEN UNBEDINGT
DAS GERÄT STROMLOS SCHALTEN!**

**PRIMA DI OGNI INTERVENTO SULLE CASSETTE ELETTRICHE
ESCLUDERE TASSATIVAMENTE L'ALIMENTAZIONE !**

**PUESTA FUERA DE TNESIÓN OBLIGATORIA ANTES DE CUALQUIER
INTERVENCIÓN EN LAS CAJAS ELÉCTRICAS!**

APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

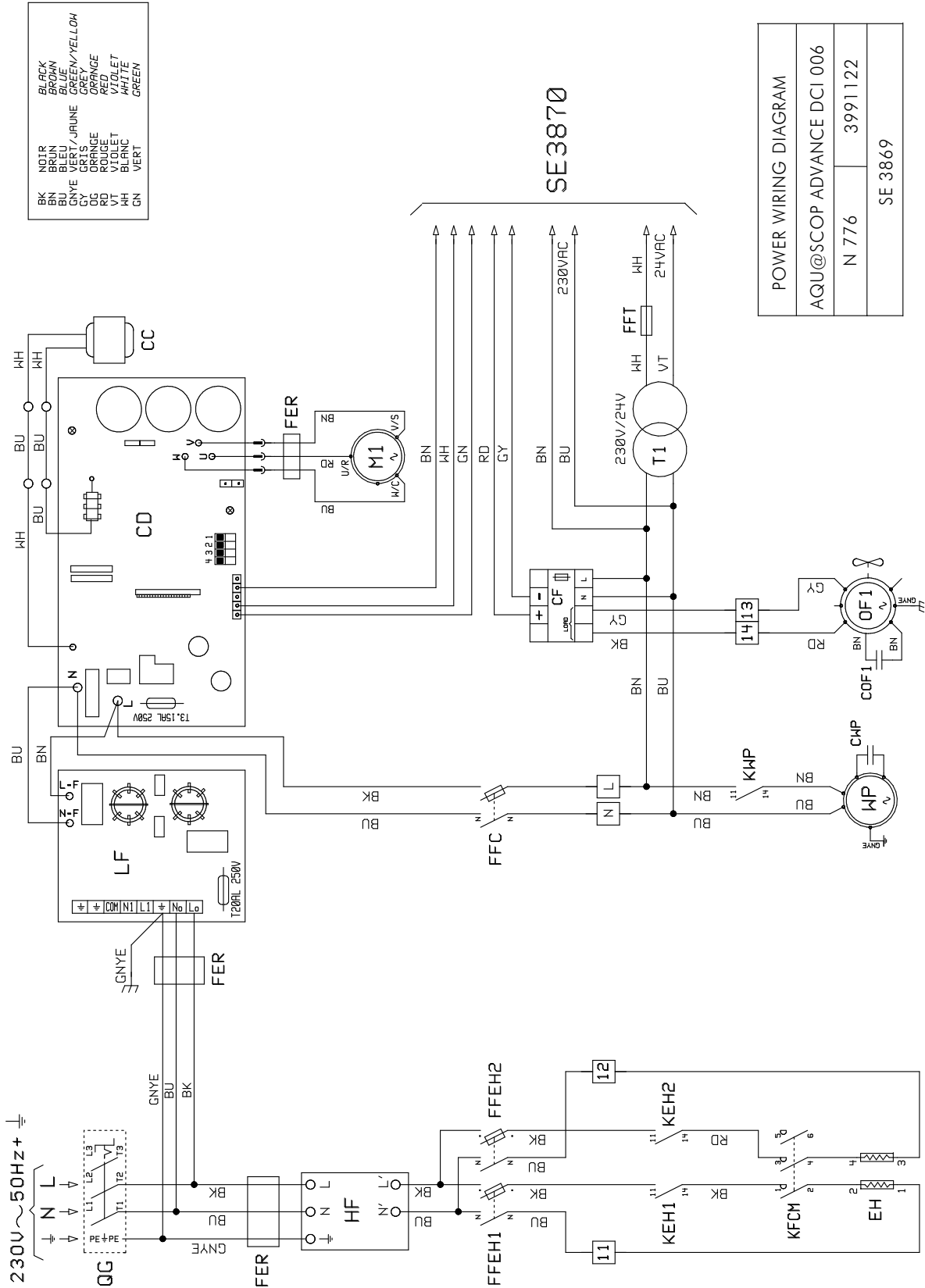
AQU@SCOP ADVANCE DCI 6



--- OPTIONS
 CUSTOMER INPUTS

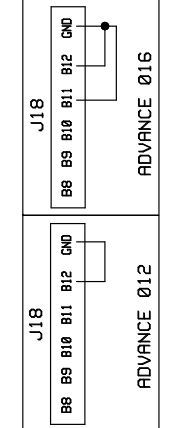
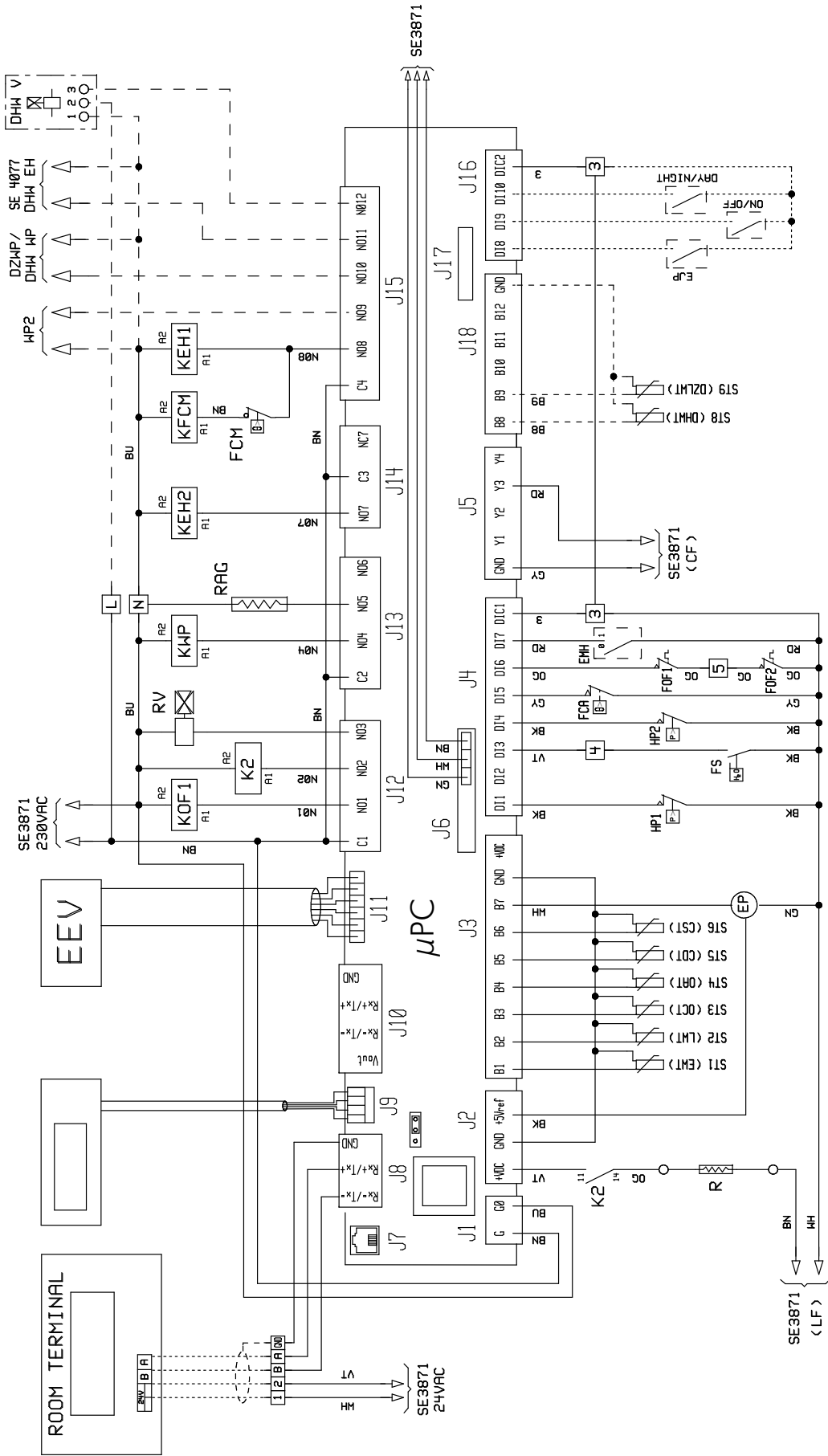
BK	N01R	BLACK
BN	N01N	BROWN
BU	BLEU	BLUE
GY	GNVE VERT/JAUNE	GREEN/YELLOW
GG	GRIS	GREY
PG	PURPLE	PURPLE
OR	ORANGE	ORANGE
VT	VIOLET	VIOLET
WH	BLANC	WHITE
GN	VERT	GREEN

CONTROL WIRING DIAGRAM	
AQU@SCOP ADVANCE DCI 006	
N 776	3991123
SE 3870	



APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

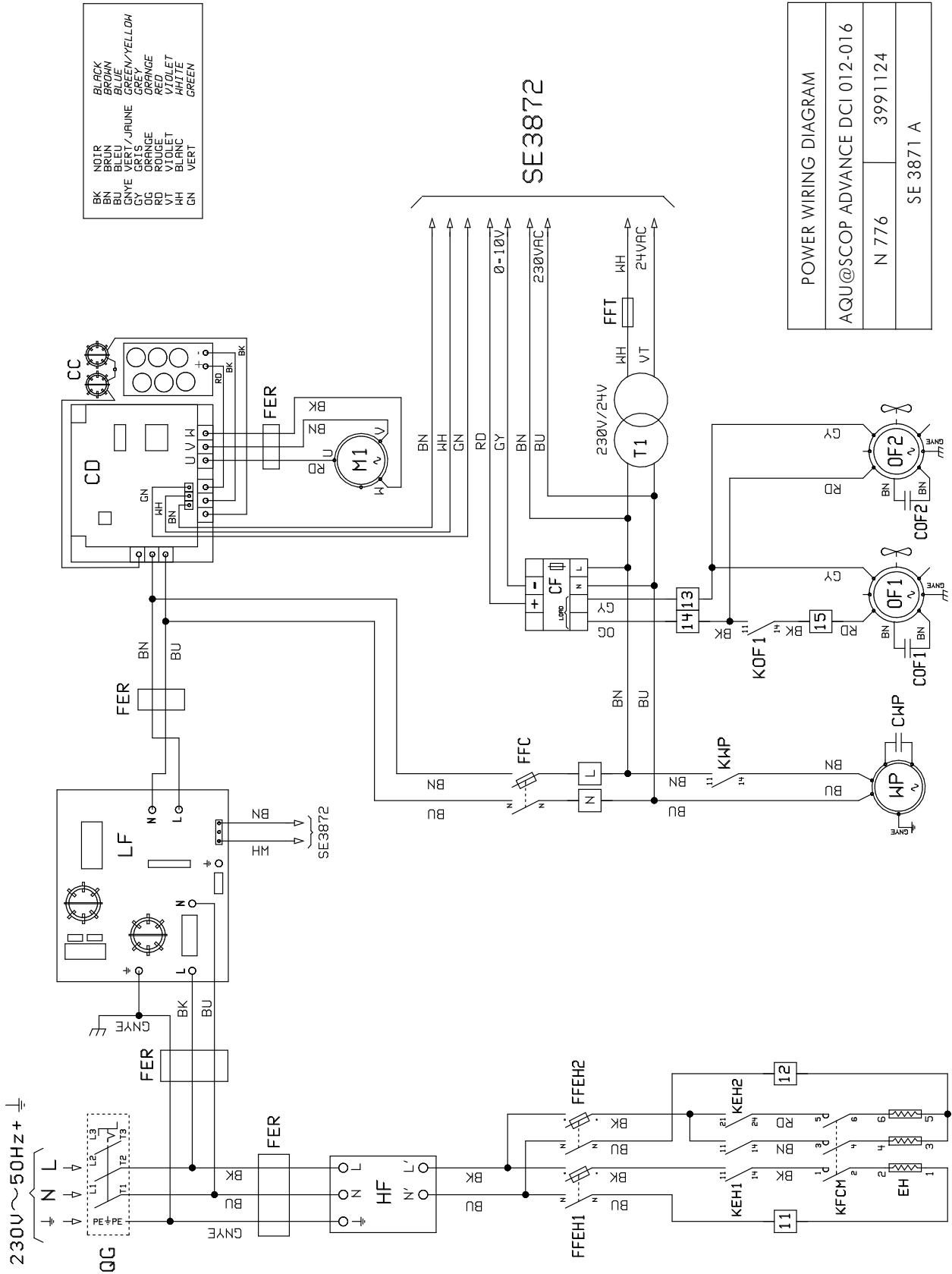
AQU@SCOP ADVANCE DCI 12 / 16



--- OPTIONS
- - - - - CUSTOMER INPUTS

NOTE	BLACK
BK	BROWN
BN	BLUE
BU	VERT/JURINE
BY	GREY
CY	GREEN/YELLOW
GY	GREY/WHITE
OR	ORANGE
PK	RED
PT	VIOLET
VT	WHITE
WH	BLANC
GN	VERT

CONTROL WIRING DIAGRAM	
AQU@SCOP ADVANCE DCI 012-016	
N 776	3991125
SE 3872	

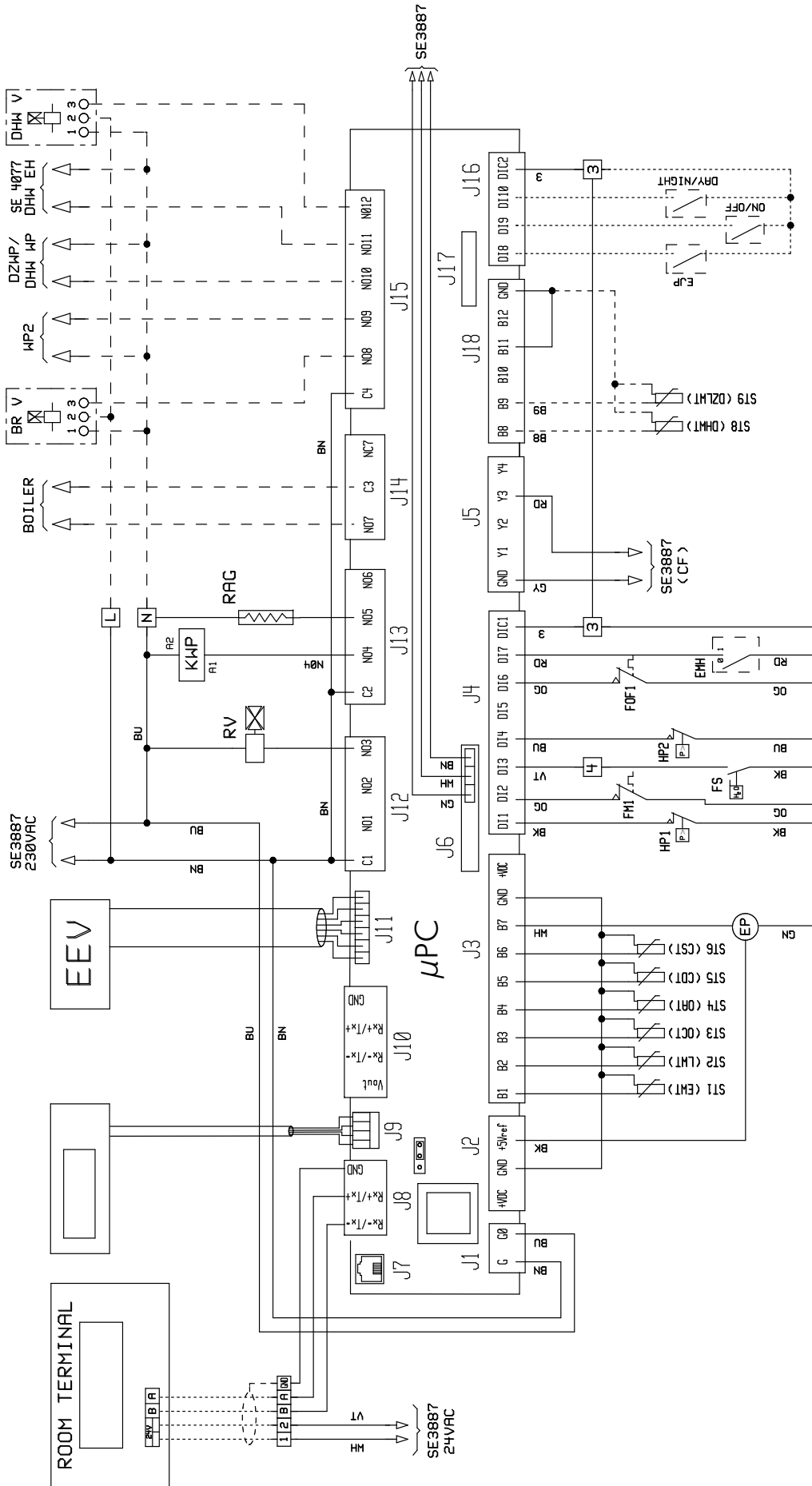


BK	NOIR	BLACK
BN	BRUN	BROWN
BU	BLEU	BLUE
CC	VERT/YEL	GREEN/YELLOW
GG	ORANGE	ORANGE
RD	ROUGE	RED
VT	VIOLET	VIOLET
HH	BLANC	WHITE
GN	VERT	GREEN

POWER WIRING DIAGRAM	
AQU@SCOP ADVANCE DCI012-016	
N 776	3991124
SE 3871 A	

APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

AQU@SCOP ADVANCE DCI R 6



CONTROL WIRING DIAGRAM

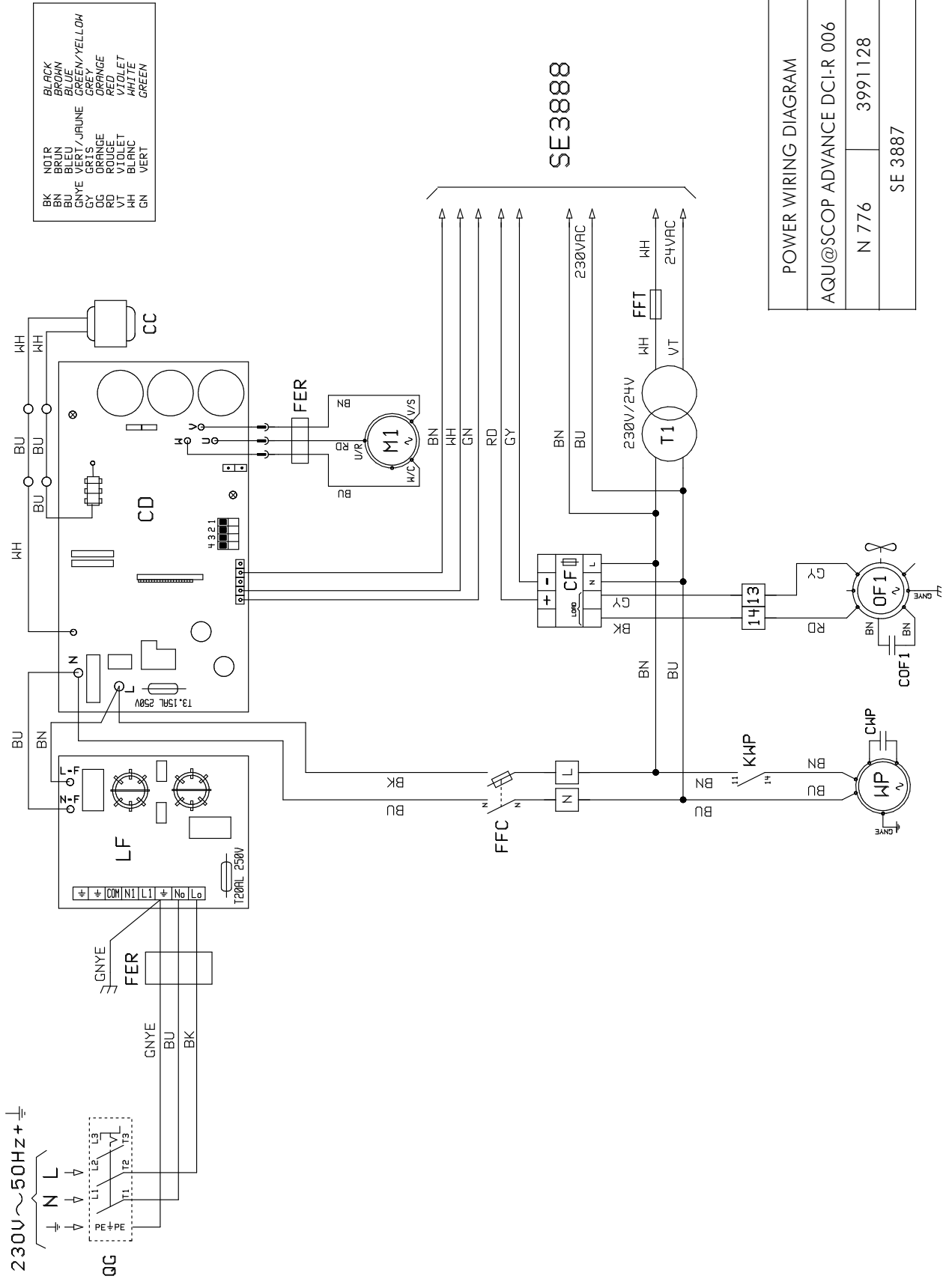
AQU@SCOP ADVANCE DCI-R 006

N 776 3991129

SE 3888

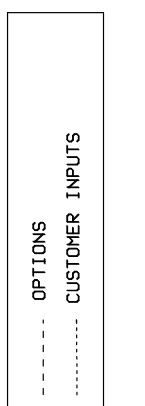
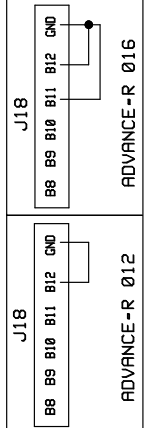
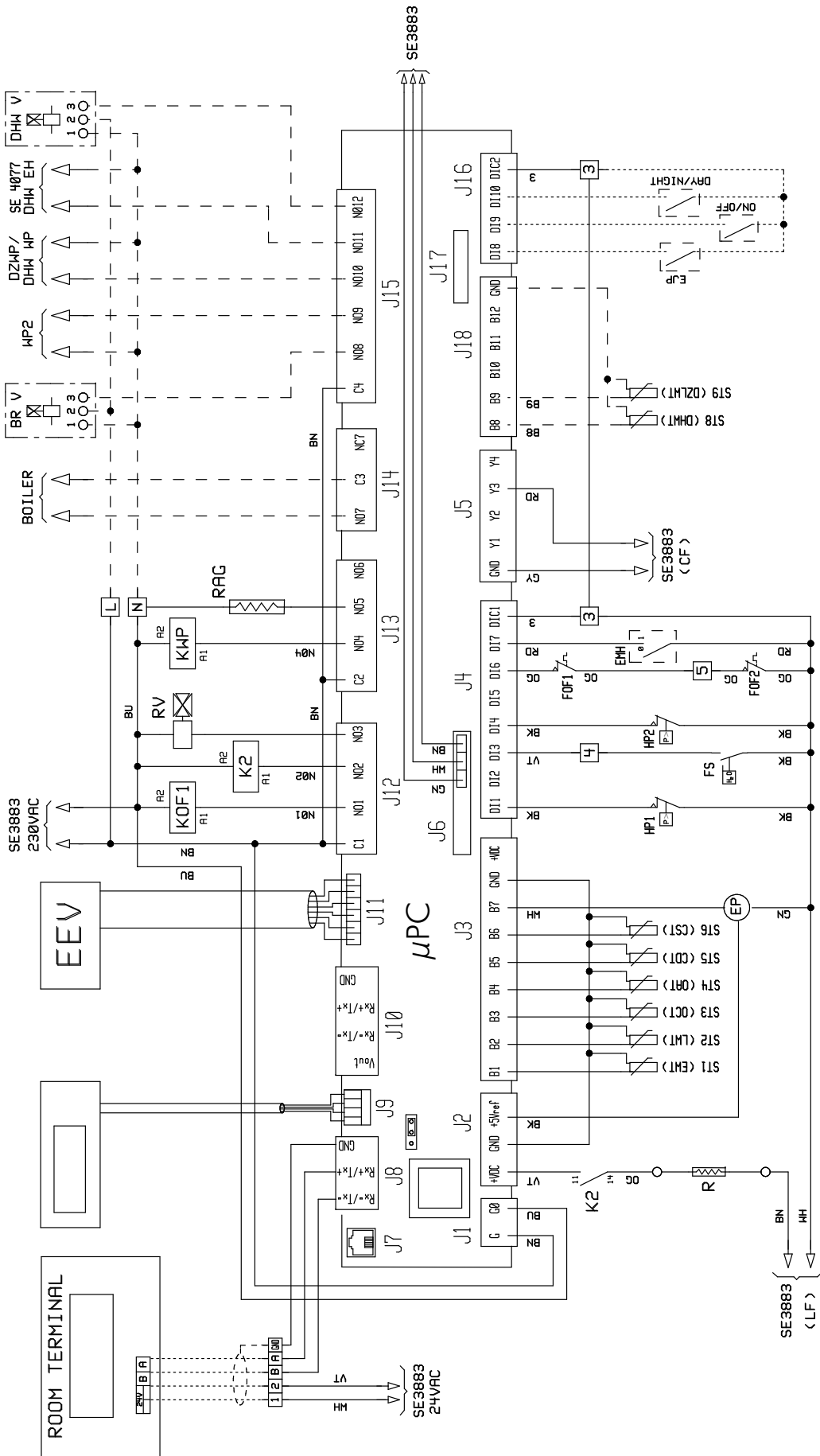
BK BLACK
 BRN BROWN
 BLU BLUE
 GRN/YEL GREEN/YELLOW
 GY GREY
 WHT WHITE
 RD RED
 VLT VIOLET
 WH WHITE
 VRT VERT

--- OPTIONS
 CUSTOMER INPUTS



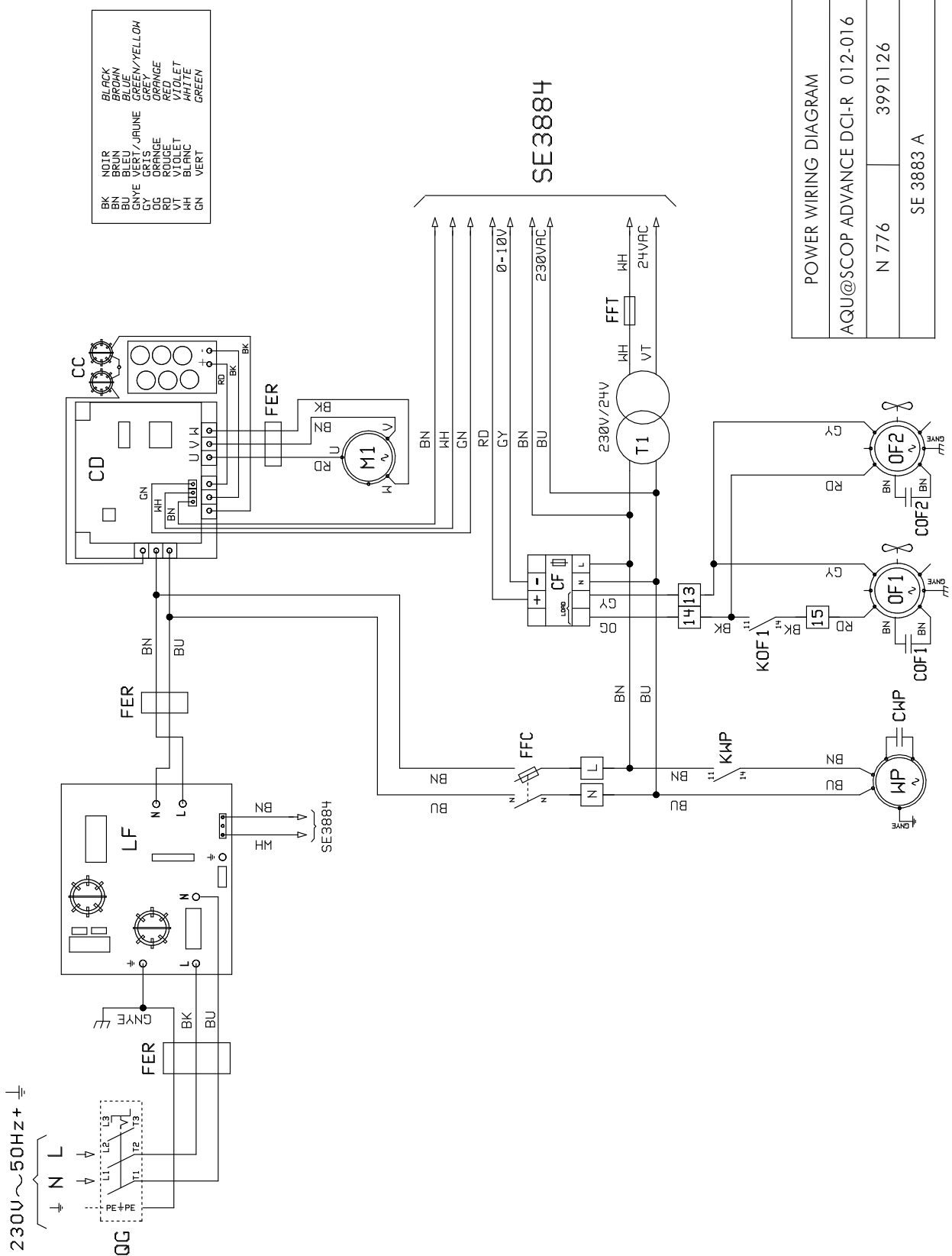
APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

AQU@SCOP ADVANCE DCI R 12 / 16



- OPTIONS
 - - - - - CUSTOMER INPUTS
- BK NOTR
 - BRUN BRUN
 - BU BNVE
 - CY GREY
 - GG BRNCE
 - HP2 VIOLET
 - HH BLANC
 - GN VERT
 - BLCK
 - BROAN
 - BLUE
 - GREEN/YELLOW
 - GREY
 - ORANGE
 - RED
 - VIOLET
 - WHITE
 - GREEN

CONTROL WIRING DIAGRAM	
AQU@SCOP ADVANCE DCI-R 012-016	
N 776	3991127
SE 3884	



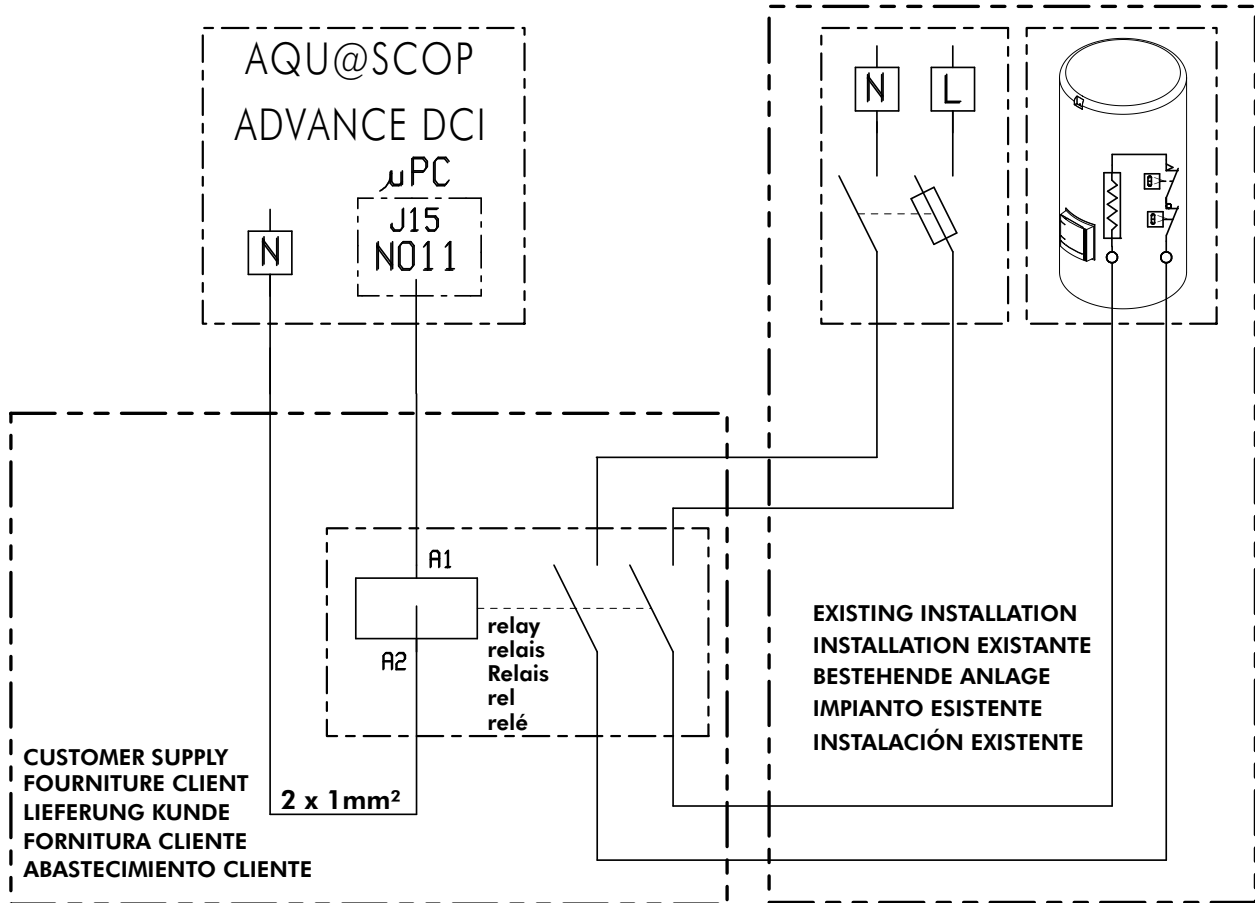
BK	NDR	BLACK
BU	BLU	BLUE
GY	VERT / RIUNE	GREEN / YELLOW
GG	GRIS	GREY
OR	ORANGE	ORANGE
RD	ROUGE	RED
BH	BLANC	WHITE
GN	VERT	GREEN

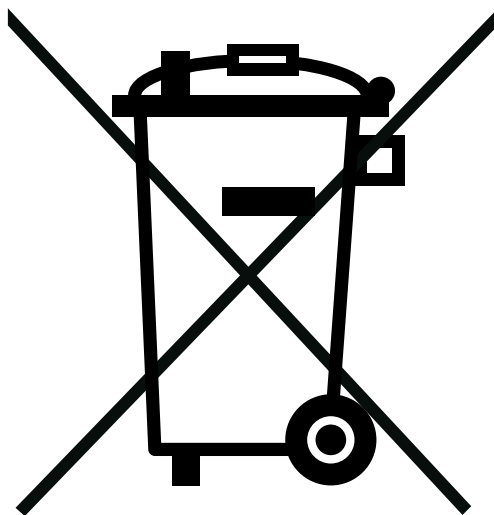
SE3884

POWER WIRING DIAGRAM	
AQU@SCOP ADVANCE DCI-R	012-016
N 776	3991126
SE 3883 A	

APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO

DHW TANK
BALLON ECS
SPEICHER WARMWASSER
PALLA ACS
ACUMULADOR DE ACS





English

The meaning of the above logo representing a crossed-out wheeled bin is that this unit must not be disposed of as unsorted municipal waste but should be collected separately as WEEE (Waste Electrical and Electronic Equipment).

The presence of hazardous substances in electrical and electronic equipment or an improper use of such equipments or of parts thereof as well as the hazards of not separating WEEE from unsorted domestic waste, may affect the environment and human health.

As an End User, you are required to place WEEE in a collection separate from that for unsorted domestic waste. Please contact a point of sale or installer to find out the collection system available at your local community. You may return your old air conditioning unit for free to the point of sale or the installer when purchasing a new one.

As an End User, it is your role to contribute to the reuse, recycling and other forms of recovery of such wastes so as to reduce the disposal of waste. This will help preserve your environment.

Français

Le logo ci-dessus représentant une "poubelle barrée" signifie qu'il ne faut pas se débarrasser de cet appareil comme d'un déchet classique mais que celui-ci doit être collecté séparément en tant que DEEE (Déchet d'Équipement Électrique et Électronique).

La présence de substances dangereuses dans les équipements électriques et électroniques, l'utilisation inappropriée de tels équipements ou partie de tels équipements ainsi que le danger représentant la collecte non centralisée de matériels DEEE peuvent être préjudiciables à l'environnement et à la santé publique.

En tant qu'utilisateur final, il vous est demandé de collecter les DEEE séparément des déchets ordinaires. Vous êtes priés de prendre contact avec votre revendeur ou votre installateur pour qu'il vous indique le mode de collecte de votre commune. Lors du renouvellement de votre appareil, vous avez la possibilité de rendre votre ancien appareil gratuitement à votre installateur ou votre revendeur qui se chargera d'en assurer la collecte.

En tant qu'utilisateur final, il est de votre devoir de participer à la réutilisation, au recyclage, et à toute autre forme de récupération de tels déchets afin d'en diminuer la quantité. Cela contribuera à la préservation de l'environnement.

Deutsch

Die Bedeutung des Logos mit der durchgestrichenen Mülltonne besteht darin, dass es sich bei diesem Gerät nicht um Hausmüll (Wertstoffmüll oder Restmüll) handelt.

Dieses Gerät ist nach der Elektro- und Elektronikgerätegesetz (ElektroG (WEEE) zu sammeln und zu entsorgen.

Durch das Vorhandensein von gefährlichen Substanzen in elektrischen oder elektronischen Bauteilen kann die missbräuchliche Verwendung solcher Teile oder das Entsorgen solcher Geräte über den Hausmüll zu nicht unerhebliche Umwelt- und/ oder Gesundheitsschäden führen.

Sie als Endkunde sind angehalten, Geräte, welche unter die ElektroG (WEEE) fallen, separat vom Hausmüll zu entsorgen. Bitte informieren Sie den Händler, Installateur oder Ihre Stadt- oder Gemeindeverwaltung, um einen Entsorgungsbetrieb in Ihrer Nähe ausfindig zu machen. Eine Möglichkeit besteht darin, das Gerät kostenlos bei Ihrem Händler oder Installateur abzugeben, wenn Sie sich ein neues Gerät kaufen.

Als Endkunde beteiligen Sie sich so an der Wiederverwendung, Rückgewinnung oder Wiederverwertung von derartigen Rohstoffen. Sie helfen, Müll zu vermeiden und leisten so Ihren Beitrag zu einer sauberen Umwelt.

Italiano

Il significato del logo qui sopra rappresentato indica che il apparecchio non deve essere rottamato come rifiuto nella spazzatura indifferenziata, ma deve essere smaltito separatamente in base alle direttive WEEE (Waste Electrical and Electronic Equipment - rifiuti elettrici ed elettronici), in accordo con il decreto legislativo n.151/2005.

A causa della presenza di sostanze tossiche nella componentistica elettrica o elettronica, uno smaltimento di queste o di parti di esse nei rifiuti non riciclabili, può avere effetti nocivi sull'ambiente e sulla salute umana.

Il Cliente è tenuto a separare i prodotti o parte di essi etichettati in base alle normative WEEE dai rifiuti domestici solidi. Per ulteriori informazioni si contatti un punto vendita o un installatore per conoscere il punto di raccolta più vicino alla propria città. Il Cliente può smaltire gratuitamente il vecchio apparecchio presso il punto vendita o l'installatore contestualmente all'acquisto di un nuovo apparecchio.

Qualora il punto vendita o l'installatore non si prendano carico delle incombenze necessarie allo smaltimento del vecchio apparecchio secondo la normativa prevista, potranno essere soggetti ad un'ammenda compresa tra i 150 ed i 400 euro per ogni unità. E' compito del Cliente provvedere al riutilizzo, al riciclo e ad altre forme di riduzione degli sprechi in modo tale da ridurre la quantità di rifiuti da smaltire. Questa normativa viene introdotta a sostegno di politiche ambientali.

Il mancato rispetto della legislazione vigente prevede quattro sanzioni pecuniarie comprese tra 25,82 euro e 619,74 euro.

Español

El significado de este logo que representa un cubo de basura con ruedas tachado, es que esta unidad no debe ser desechada como residuo doméstico sin clasificar, sino que deberá ser recogida de forma separada como RAEE (residuos aparatos eléctricos y electrónicos). La presencia de sustancias peligrosas en los aparatos eléctricos y electrónicos o un uso impropio de tales aparatos o de partes de los mismos, así como los peligros de no separar RAEE de los residuos domésticos sin clasificar, puede afectar al medio ambiente y a la salud.

Como usuario final, se le requiere para que ponga los RAEE en una recogida distinta de los residuos domésticos sin clasificar. Por favor, contacte con un punto de venta o instalador para averiguar el sistema de recogida disponible en su comunidad. Puede devolver gratis su antigua unidad al punto de venta o instalador cuando compre una unidad.

Como usuario final, su papel es contribuir a la reutilización, reciclado y otras formas de recuperación de dichos residuos para reducir la eliminación de basura. Esto ayudará a mantener el medio ambiente.

EC Compliance declaration

Under our own responsibility, we declare that the product designated in this manual comply with the provisions of the EEC directives listed hereafter and with the national legislation into which these directives have been transposed.

Déclaration CE de conformité

Nous déclarons sous notre responsabilité que les produits désignés dans la présente notice sont conformes aux dispositions des directives CEE énoncées ci- après et aux législations nationales les transposant.

EG-Konformitätserklärung

Wir erklären in eigener Verantwortung, das die in der vorliegenden Beschreibung angegebenen Produkte den Bestimmungen der nachstehend erwähnten EG-Richtlinien und den nationalen Gesetzesvorschriften entsprechen, in denen diese Richtlinien umgesetzt sind.

Dichiarazione CE di conformità

Dichiariamo, assumendone la responsabilità, che i prodotti descritti nel presente manuale sono conformi alle disposizioni delle direttive CEE di cui sott e alle legislazioni nazionali che li recepiscono

Declaración CE de conformidad

Declaramos, bajo nuestra responsabilidad, que los productos designados en este manual son conformes a las disposiciones de las directivas CEE enunciadas a continuación, así como a las legislaciones nacionales que las contemplan.

Aqu@Scop Advance DCI PAC 6 - 12 - 16

MACHINERY DIRECTIVE 2006 / 42 / EEC
LOW VOLTAGE DIRECTIVE (DBT) 2006 / 95 / EEC
ELECTROMAGNETIC COMPATIBILITY DIRECTIVE 2004 / 108 / EEC
PRESSURISE EQUIPMENT DIRECTIVE (DESP) 97 / 23 / EEC
SUB-MODULE A CATEGORY I

DIRECTIVE MACHINES 2006 / 42 / C.E.E.
DIRECTIVE BASSE TENSION (DBT) 2006 / 95 / C.E.E.
DIRECTIVE COMPATIBILITE ELECTROMAGNETIQUE 2004 / 108 / C.E.E.
DIRECTIVE DES EQUIPEMENTS SOUS PRESSION (DESP) 97 / 23 /C.E.E.
SOUS-MODULE A CATEGORIE I

RICHTLINIE MASCHINEN 2006 / 42 / EG
RICHTLINIE NIEDERSPANNUNG (DBT) 2006 / 95 / EG
RICHTLINIE ELEKTROMAGNETISCHE VERTRÄGLICHKEIT 2004 / 108 / EG
RICHTLINIE FÜR AUSRÜSTUNGEN UNTER DRUCK (DESP) 97 / 23 / EG
UNTER MODUL A, KATEGORIE I

DIRETTIVA MACHINE 2006 / 42 / CEE
DIRETTIVA BASSA TENSIONE (DBT) 2006 / 95 / CEE
DIRETTIVA COMPATIBILITA ELETTROMAGNATICA 2004 / 108 / CEE
DIRETTIVA DEGLI IMPIANTI SOTTO PRESSIONE (DESP) 97 / 23 / CEE
SOTTOMODULO A, CATEGORIA I

DIRETTIVA MAQUIAS 2006 / 42 / CEE
DIRETTIVA BAJA TENSION (DBT) 2006 / 95 / CEE
DIRETTIVA COMPATIBILIDAD ELECTROMAGNETICA 2004 / 108 / CEE
DIRETTIVA DE LOS EQUIPOS A PRESION (DESP) 97 / 23 / CEE
BAJA MODULO A, CATEGORIA I

And that the following paragraphs of the harmonised standards have been applied.
Et que les paragraphes suivants les normes harmonisées ont été appliqués.
Und dass die folgenden Paragraphen der vereinheitlichten Normen Angewandt wurden.
E che sono stati applicati i seguenti paragrafi delle norme armonizzate.
Y que se han aplicado los siguientes apartados de las normas armonizadas.

EN 378-2:2002
EN 61000-6-1:2007
EN 61000-3-3:1995
EN 60 335-1: 2003+A1 2005+A2 2006+A11 2004+A12 2006

EN 61000-6-3:2007
EN 61000-3-2:2006
EN 60 335-2-21
EN 60 335-2-40:2005+A11 2005+A12 2005+A1 2006

A Tilfères sur Avre
27570 - FRANCE
tél: 01/07/2010
Sébastien Blard
Quality Manager
AIRWELL Industrie France

AIRWELL INDUSTRIE FRANCE

Route de Verneuil
27570 Tillières-sur-Avre
FRANCE

☎ : +33 (0)2 32 60 61 00

☎ : +33 (0)2 32 32 55 13



As part of our ongoing product improvement programme, our products are subject to change without prior notice. Non contractual photos.

Dans un souci d'amélioration constante, nos produits peuvent être modifiés sans préavis. Photos non contractuelles.

In dem Bemühen um ständige Verbesserung können unsere Erzeugnisse ohne vorherige Ankündigung geändert werden. Fotos nicht vertraglich bindend.

A causa della politica di continua miglioria posta in atto dal costruttore, questi prodotti sono soggetti a modifiche senza alcun obbligo di preavviso. Le foto pubblicate non danno luogo ad alcun vincolo contrattuale.

Con objeto de mejorar constantemente, nuestros productos pueden ser modificados sin previo aviso. Fotos no contractuales.

