



Residential Fcu SLIM

TECHNICAL MANUAL



SLIM Series 

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1-INTRODUCTION

The series SLIM units are designed for residential and commercial air conditioning, for indoor installation, not exposed to ice or extreme temperatures, non-dusty and non-explosive environments. The manufacturer is not responsible for incorrect use.

The SLIM series is offered with DC inverter motors, which allow low power consumption and high silence. Also available is the version with radiant panel, which permits irradiation heating, in addition to heating, cooling and dehumidification for forced ventilation.

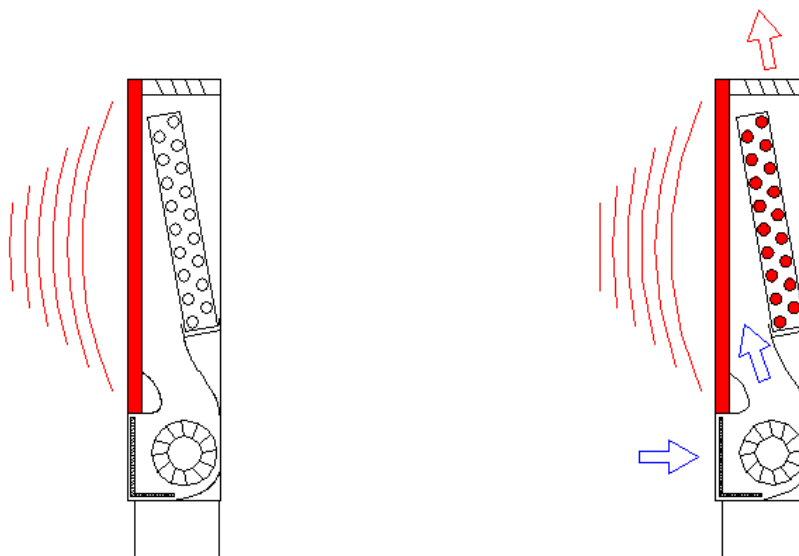
2-OPERATING RANGE

Power supply	220 ÷ 240V / 50Hz
Water inlet temperature	5 ÷ 70°C
Air inlet temperature	10 ÷ 35°C
Relative Humidity inlet air	15 ÷ 70%

It is recommended to operate at the extremes of the above operating limits only for short periods of time, as long periods of operation may reduce the normal life of the components.

3-RADIANT PLATE

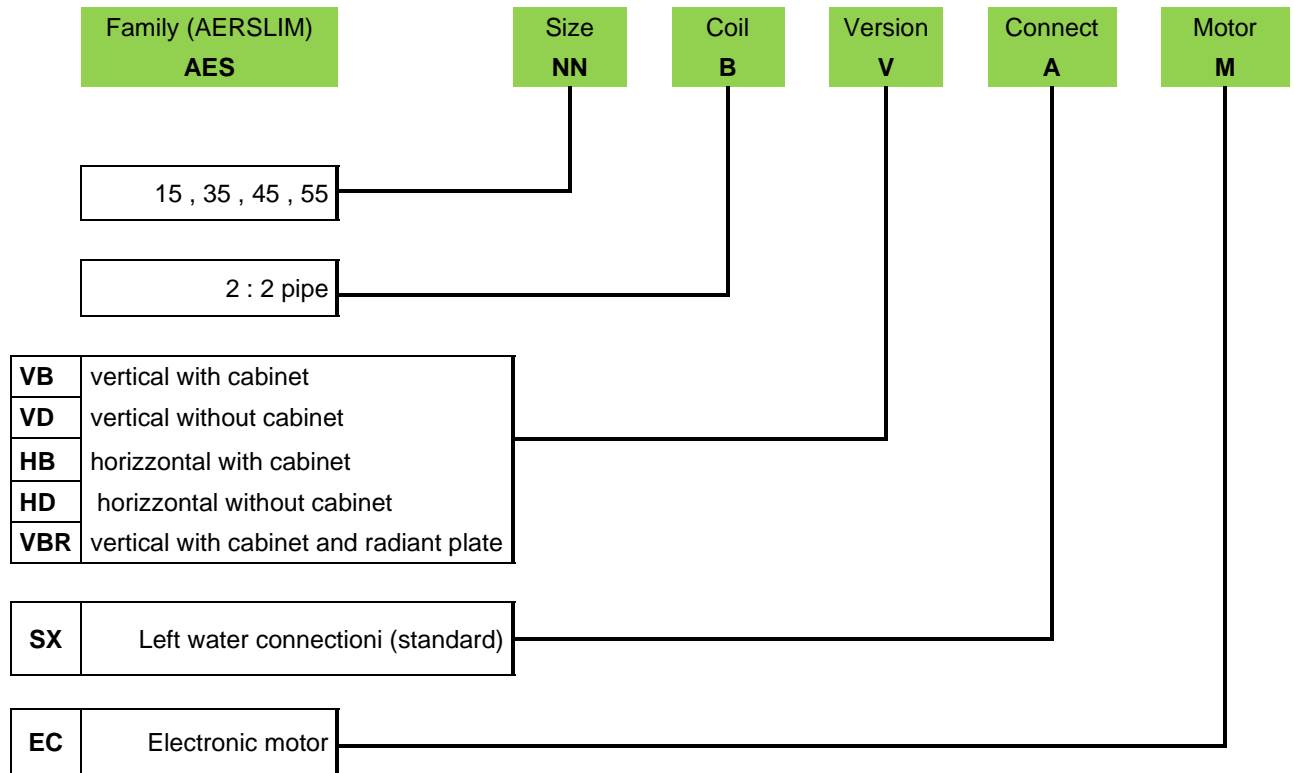
The SLIM units can be equipped with a radiant plate, available only in the vertical version with cabinets (VBR). The radiator plate allows to heat the environment even with a fan, so no sound emission and no electrical power consumption. When the environment is to be warmed up quickly (room temperature is much lower than the set-point), the fan is also activated, thus adding the effect of forced ventilation to the radiant plate warming.



Static heating

Static heating+ forced ventilation for the coil

4-CODE COMPARISION SYSTEM



5-TECHNICAL SPECIFICATION

STRUCTURE: made of galvanized steel sheet thickness 0,80-1,00mm. The robust structure prevents vibrations and includes fixing brackets.

CABINET : Made of painted sheet of 0.8mm thick. The pleasing design and reduced thickness (only 129mm) perfectly fits into any environment. The delivery grid can be easily rotated by 180 ° to turn the air flow to the environment or to the wall.

ACCESSIBILITY: The filter can be removed by opening the front suction panel. Accessibility to internal components (fan, electric panel and valve) is guaranteed

by removing the entire cabinet. Hydraulic connections are standard on the left side (looking in front of the fan coil); The electric panel on the opposite side

FILTER: G1 class (EN779), polypropylene net

IMPELLER: The impeller is tangential type, made of reinforced plastic material, balanced and equipped with rubber vibration dampers to ensure no vibration.

MOTOR: DC inverter motor with high-efficiency permanent magnets, power and speed regulated with an electronic device that eliminates vibration and noise, reduced fuel consumption and a wide range of fan speed modulation.

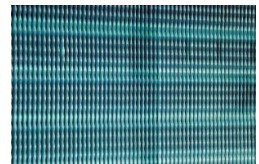
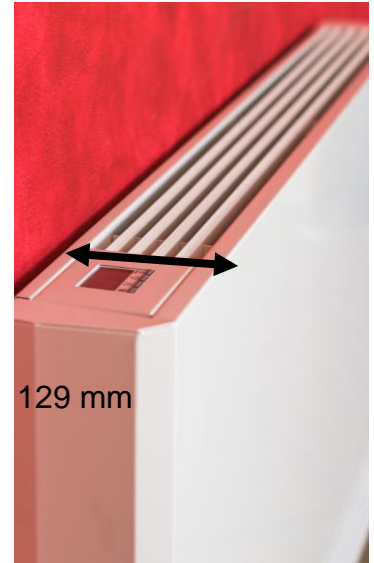
COIL : Made with high efficiency copper corrugated tubing and aluminium fins, with manual air vent valve at the top. Nominal pressure PN10. Hydrophilic treatment to increase heat exchange even in the presence of high humidity.

RADIANT PLATE: Made with a copper coil, transfers the water heat to the fan-coil front plate without ventilation.

DRAIN PAN: Made of ABS plastic, material free of corrosion in contact with condensate water. The shape of the pan facilitates the outflow and guarantees absence of water stagnation.

INSULATION: fan coil body insulated with expanded polyethylene 3mm thick foam. Insulated front panel with expanded polyurethane thickness 20mm.

ELECTRICAL PANEL: Made of galvanized steel sheet and positioned on the opposite side of the hydraulic connections.



6-TECHNICAL DATA

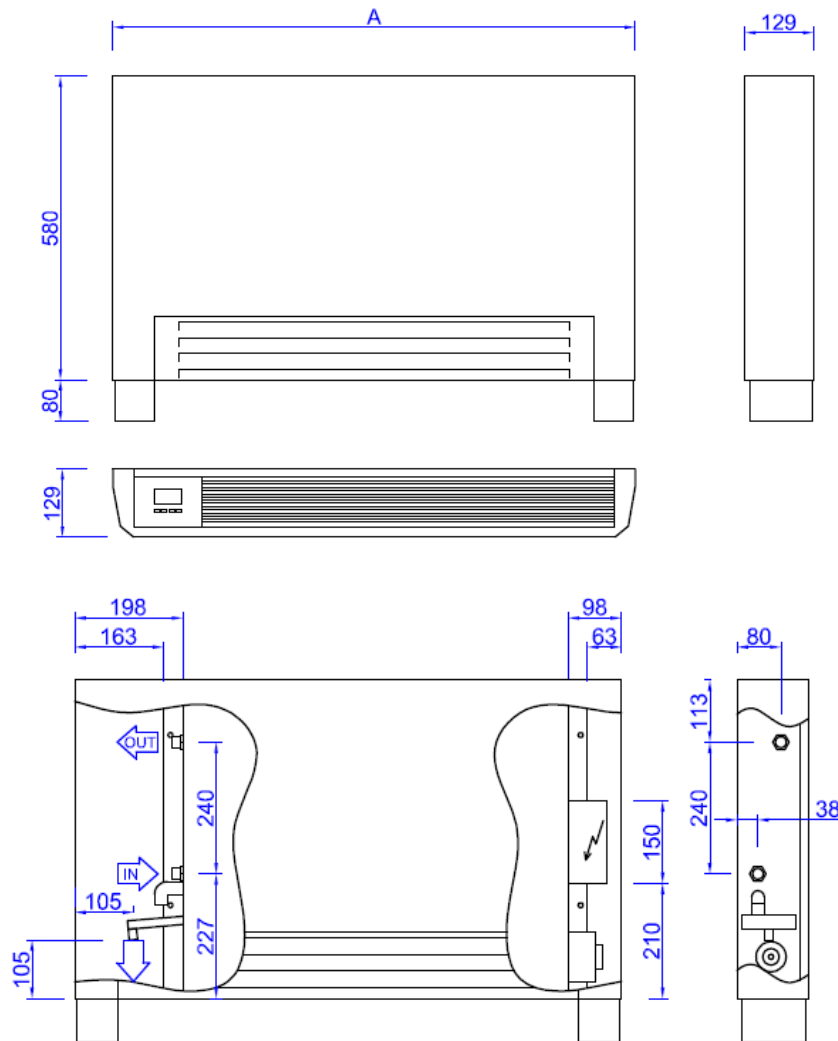
SIZE	15			35			45			55			
	min	med	max	min	med	max	min	med	max	min	med	max	
Speed													
Air flow capacity	mc/h	60	130	180	120	235	340	175	340	500	215	415	600
COOLING – air 27°C d.b. , 19°C w.b. – inlet water 7°C , outlet water 12°C													
Total capacity	kW	0.37	0.66	0.83	0.74	1.24	1.61	1.14	1.93	2.56	1.46	2.48	3.28
Sensible capacity	kW	0.28	0.53	0.68	0.56	0.98	1.32	0.85	1.49	2.02	1.07	1.88	2.53
Water capacity	l/h	63	114	142	127	214	277	196	332	440	250	427	564
Pressure drop Δp	kPa	2	6	9	2	4	6	4	11	18	8	20	33
HEATING – air 20°C – inlet water 45°C outlet water 40°C													
Total capacity	kW	0.40	0.75	0.97	0.80	1.40	1.88	1.18	2.07	2.83	1.47	2.59	3.51
Water capacity	l/h	69	131	168	137	242	325	204	359	490	254	449	607
Pressure drop Δp	kPa	2	7	10	2	5	7	4	11	19	7	19	33
POWER CONSUMPTION													
Power	W	5	6	11	6	11	19	7	12	20	9	15	24
Max current	A	0,1			0,2			0,2			0,2		
NOISE DATA													
Sound Power	dB(A)	37	45	53	38	46	53	38	46	54	38	46	54
Sound Pressure	dB(A)	28	36	44	29	37	44	29	37	45	29	37	45
ENERGY LABEL													
FCEER													
FCCOP													

Only for radiant panel version

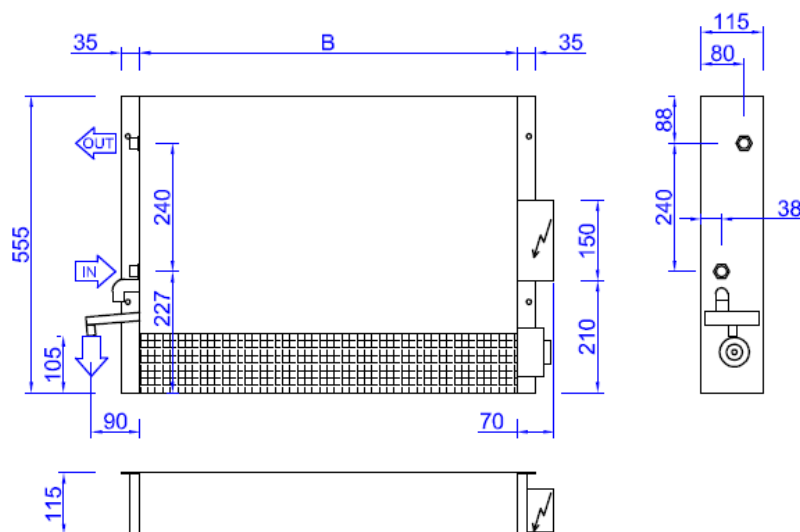
STATIC HEATING CAPACITY – air 20°C – water inlet 50°C water outlet 45°C						
Total Capacity	kW	0.37		0.42	0.50	0.62
STATIC HEATING CAPACITY – air 20°C – water inlet 70°C water outlet 60°C						
Total Capacity	kW	0.59		0.71	0.84	1.04

7-DIMENSION AND WEIGHT

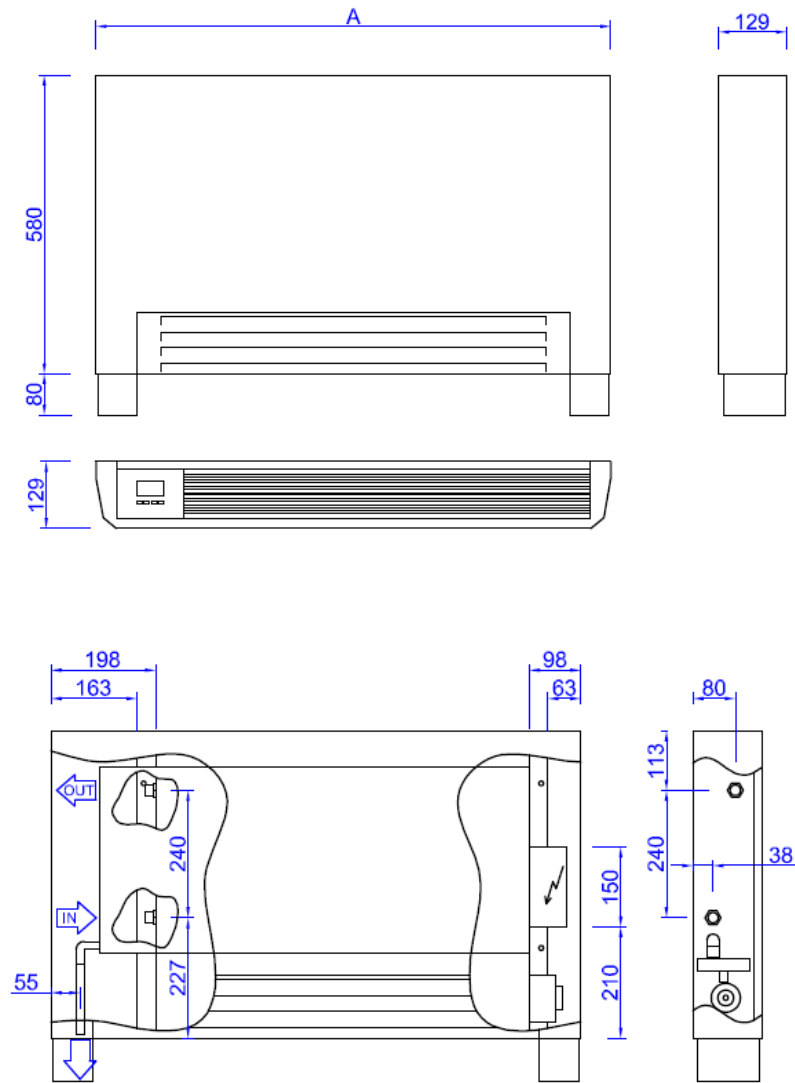
7.1-Vertical version VB



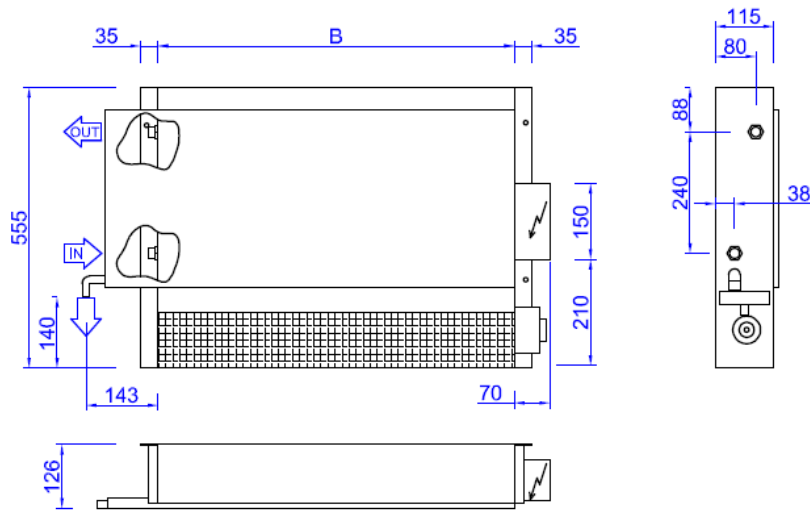
7.2-Vertical version VD



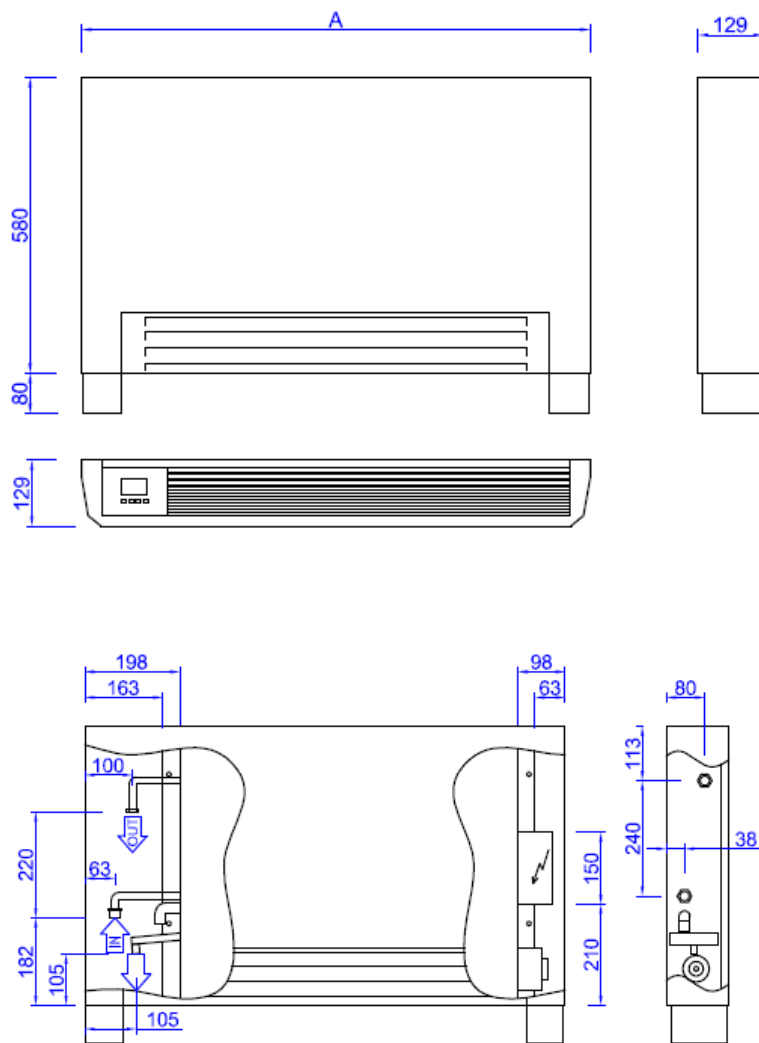
7.3-Vertical version HB



7.4-Vertical version HD



7.5-Vertical version VBR



DIMENSION		15	35	45	55
A	mm	600	800	1000	1200
B	mm	305	505	705	905
Water connections	“	1/2”	1/2”	1/2”	1/2”
Drain pipe connection	mm	d.14	d.14	d.14	d.14

PESI		15	35	45	55
Weight model (VB-HB)	kg	17	20	23	26
Weight model (VD-HD)	kg	9	12	15	18
Weight model (VBR)	kg	19	22	26	30
Total water in the coil	liters	0.47	0.8	1.13	1.46
Total water in the radiant plate	liters	0.3	0.5	0.6	0.7

8-ACCESSORIES

Accessories availables:

	Hydraulic accessories	A/K/C
V22	2 way valve ON-OFF 230V	A/K
V23	3 way valve ON-OFF 230V	A/K
V22R	2 way valve ON-OFF 230V version with radiant plate	A/K
V23R	3 way valve ON-OFF 230V version with radiant plate	A/K
ADPB	Auxiliary drain pan (included in the standard supply)	K
CZ	Feet set	K
	CONTROLLI	
TOP-3	Wall mounting display	B
TOP-3-BI	On board display	A

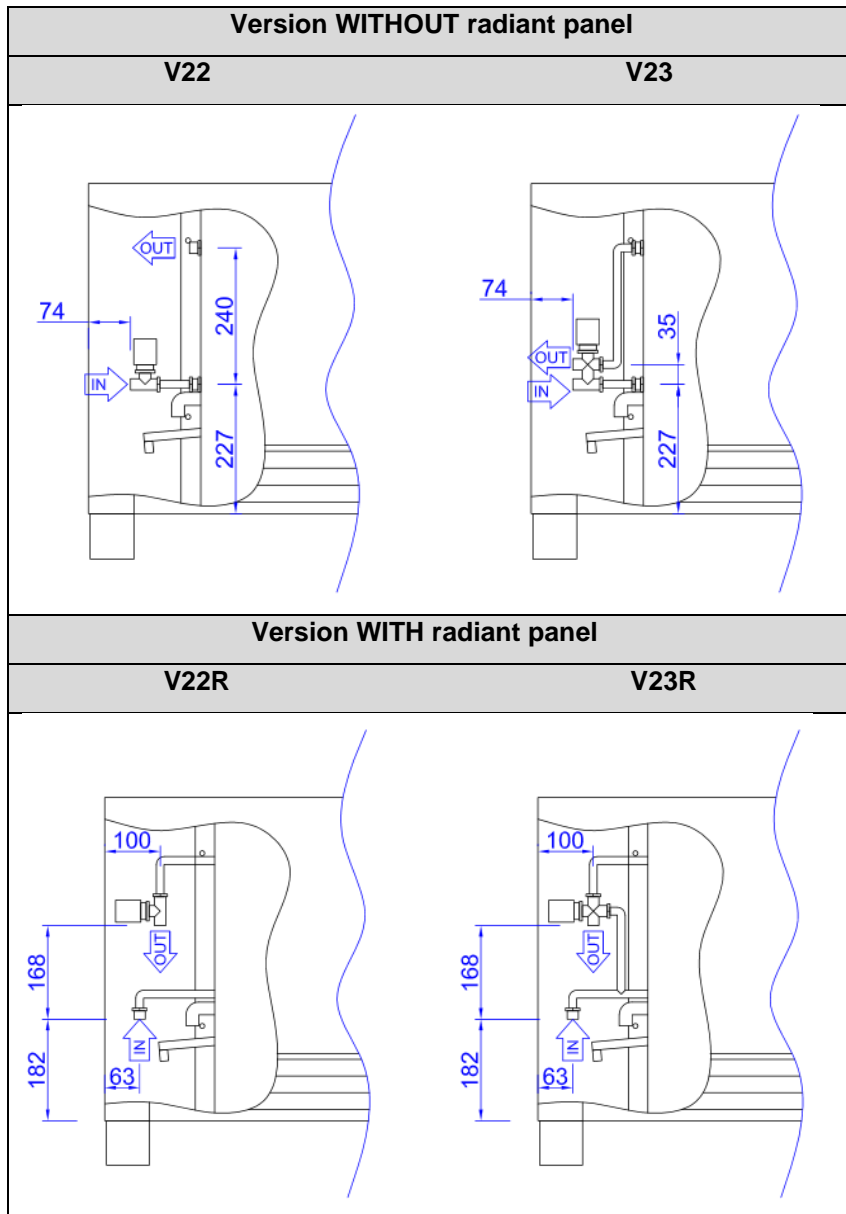
A/K/C : A=accessory supplied installed on the unit ; K=accessory supplied not installed (kit) ; B= Assembled supplied assembled, but not installed on the main unit

8.1-Valve(V) and auxiliary drain pan (ADPB)

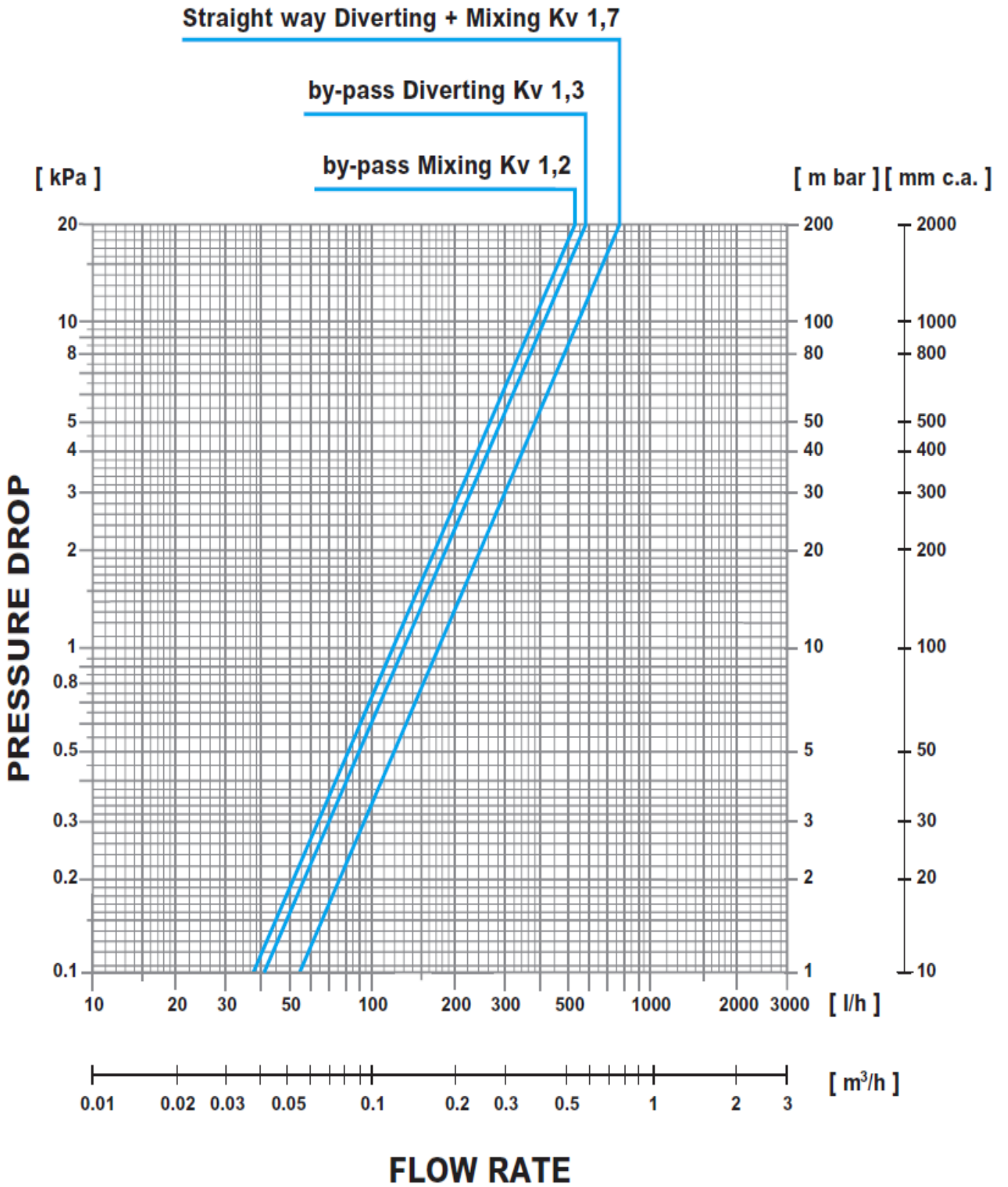
The use of motorized valves is recommended to avoid condensation on the surface of the unit when the fan is in stand-by.

Valves can be supplied assembled to the unit or kits (disassembled components).

The auxiliary condensate drain pan is supplied as standard with the cassette without extra costs. (ADPB).



VALVE FOR MAIN COIL	15-35-45-55
MAIN DATA	
Connection dimension	1/2"
Kv (2 way valve)	1,7
Kv (3 way valve, straight)	1,7
Kv (3 way valve, by-pass)	1,2
Max pressure drop	2,0bar
Nominal pressure	16bar
Water temperature range	4-110°C
Power supply	230V-50Hz
Power adsorbed	2,5W
Valve Open/Close time	180s
Type (valve+actuator)	N.C. (Normally closed)
Protection/insulation	IP44



8.2-Electronic Control

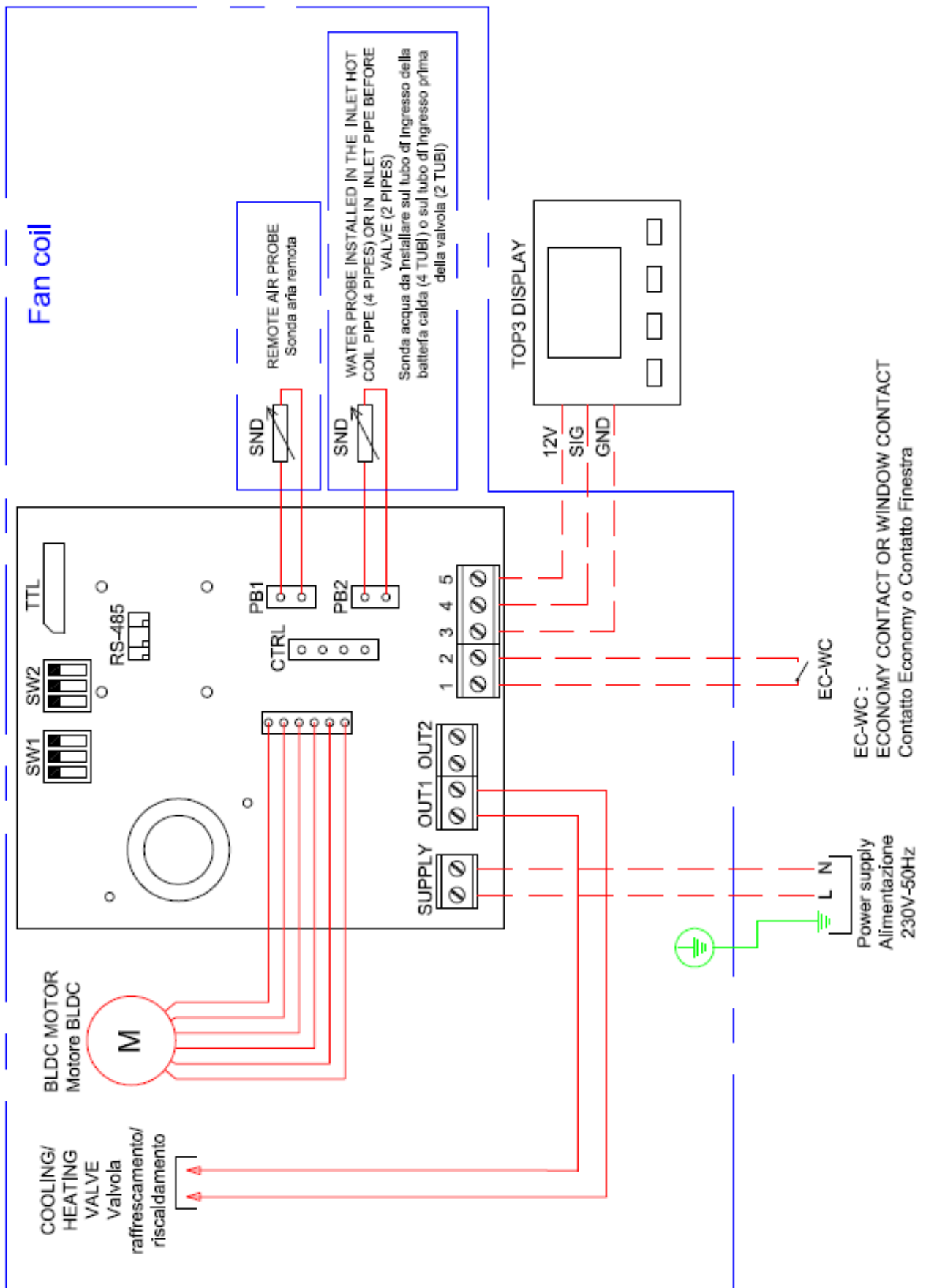
The unit comes with a SP3-BLDC power board already mounted on the machine board. The unit can be operated in one of the following ways:

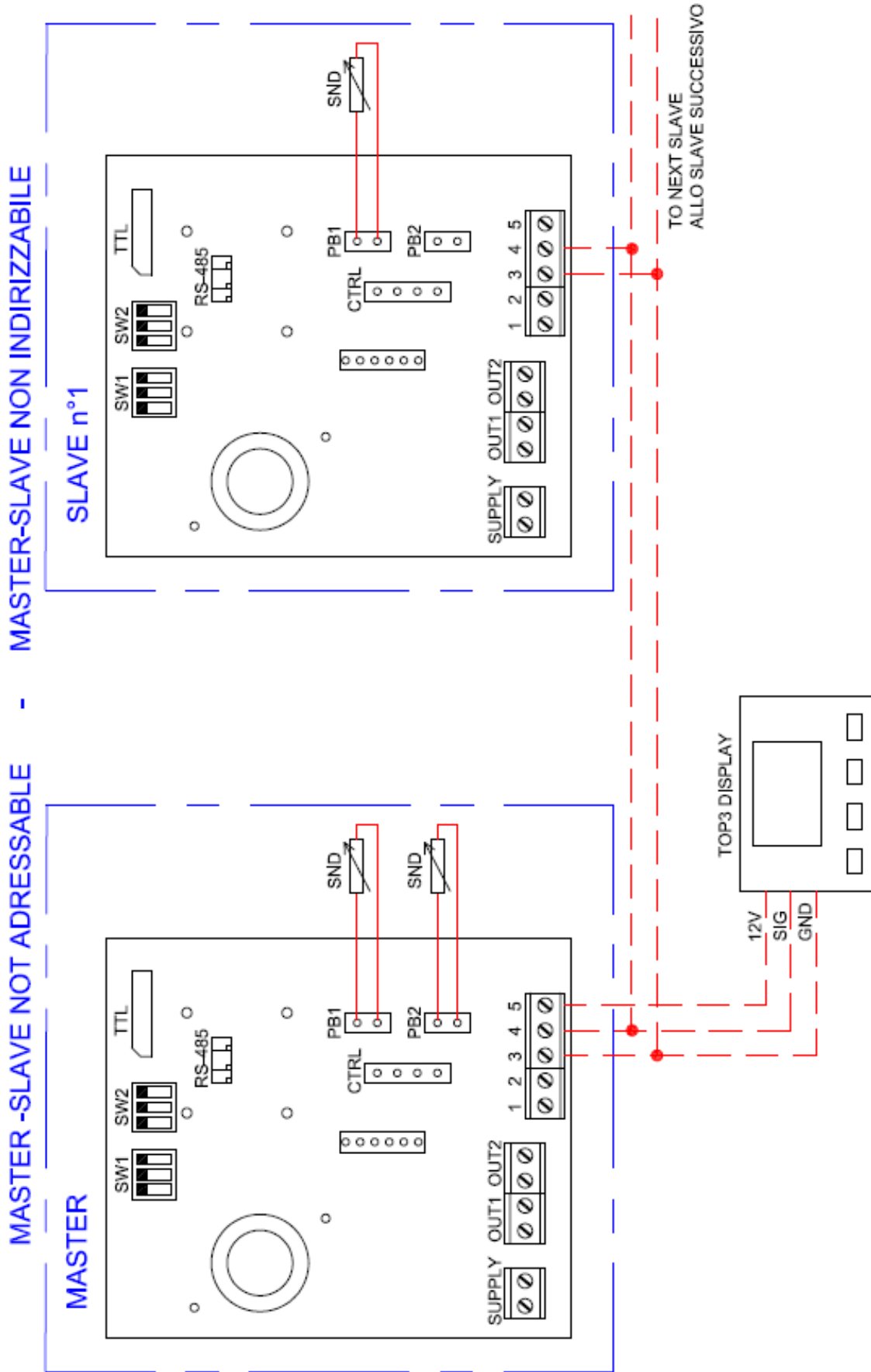
- From the TOP3 keyboard wall mounted
- From keyboard TOP3 – BI (on board)
- As slave from a master unit
- From a main PC with a BMS system (MODBUS) with optional BMS board installed

In front of the configuration selected, air and / or water temperature probes may be required; refer to the control manual for more information.



9-ELECTRICAL DIAGRAM





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