AERMEC air conditioning

TECHNICAL MANUAL

COANDA EFFECT FAN COIL

VEC

AERMEC COMPANY QUALITY SYSTEM ICIM ISO 9001:2000 - Cert. n° 0128/5 CISQ IQNet AERMEC S.P.A.

EUROVENT CERTIFIED PERFORMANCE

CE

IVECTY
0906
5074502_01
Replace : 5074502_00 / 0904

INDEX

REMARKS

Store the manuals in a dry location to avoid deterioration, as they must be kept for at least 10 years for any future reference.
Carefully and thoroughly read all the information referred to in this manual. Pay particular attention to the instructions for use accompanied by the words "DANGER" or "WARNING" because, if they are not complied with, the machine/property can damaged and/or people can be injured.
If any kind of malfunction is not included in this manual, contact the local After Sales Service immediately.
The device must be installed in such a way that maintenance and/or repair operations are possible.

The device warranty does not in any case cover costs due to automatic ladders, scaffolding or other lifting systems necessary for carrying out repairs under guarantee.
The normal wear of the components and filter is not covered by the warranty.
AERMEC S.p.A. declines all liability for any damage due to improper use of the machine, or the partial or superficial reading of the information contained in this manual.

This manual contains the following number of pages: 40

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www .aermec. com - info @aermec. com

DICHIARAZIONE DI CONFORMITÀ CE

Noi, firmatari della presente, dichiariamo sotto la nostra esclusiva responsabilità, che il prodotto:
VENTILCONVETTORE
serie VEC
al quale questa dichiarazione si riferisce è conforme alle seguenti norme armonizzate:
- CEI EN 60335-2-40
- CEI EN 55014-1
- CEI EN 55014-2
- CEI EN 61000-6-1
- CEI EN 61000-6-3

soddisfando così i requisiti essenziali delle seguenti direttive:
- Direttiva LVD 2006/95/CE
- Direttiva compatibilità elettromagnetica 2004/108/CE

VEC APC CON ACCESSORI
E' fatto divieto di mettere in servizio il prodotto dotato di accessori non di fornitura Aermec.

CE CONFORMITY DECLARATION

We the undersigned declare, under our own exclusive responsibility, that the product:
FAN COIL
VEC series
to which this declaration refers, complies with the following standardised regulations:
- EN 60335-2-40
- EN 55014-1
- EN 55014-2
- EN 61000-6-1
- EN 61000-6-3

thus meeting the essential requisites of the following directives:
- Directive LVD 2006/95/CE
- EMC Electromagnetic Compatibility Directive 2004/108/CE

VEC APC WITH ACCESSORIES
It is not allowed to use the unit equipped with accessories not supplied by Aermec.

CERTIFICAT DE CONFORMITÉ CE

Nous soussignés déclarons sous notre exclusive responsabilité que le produit:
VENTILO-CONVECTEURS
série VEC
auquel cette déclaration fait référence, est conforme aux normes harmonisées suivantes:
- EN 60335-2-40
- EN 55014-1
- EN 55014-2
- EN 61000-6-1
- EN 61000-6-3

satisfaisant ainsi aux conditions essentielles des directives suivantes:
- Directive LVD 2006/95/CE
- Directive compatibilité électromagnétique 2004/108/CE

VEC APC PLUS ACCESSOIRES
Il est interdit de faire fonctionner l'appareil avec des accessoires qui ne sont pas fournis de Aermec.

CE KONFORMITÄTSERKLÄRUNG

Wir, die hier Unterzeichnenden, erklären auf unsere ausschließlich Verantwortung, dass das Produkt:
GEBLÄSEKONVEKTOR
der Serie VEC
auf das sich diese Erklärung bezieht, den folgenden harmonisierten Normen entspricht:
- EN 60335-2-40
- EN 55014-1
- EN 55014-2
- EN 61000-6-1
- EN 61000-6-3

womit die grundlegenden Anforderungen folgender Richtlinien erfüllt werden:
- Richtlinie LVD 2006/95/CE
- Richtlinie zur elektromagnetischen Verträglichkeit 2004/108/CE

VEC APC + ZUBEHÖR
Falls das Gerät mit Zubehörteilen ausgerüstet wird, die nicht von Aermec geliefert werden, ist dessen Inbetriebnahme solange untersagt.

DECLARACIÓN DE CONFORMIDAD CE

Los que suscriben la presente declaran bajo la propia y exclusiva responsabilidad que el conjunto en objeto, definido como sigue:
FAN COIL
serie VEC
al que esta declaración se refiere, está en conformidad a las siguientes normas armonizadas:
- EN 60335-2-40
- EN 55014-1
- EN 55014-2
- EN 61000-6-1
- EN 61000-6-3

al que esta declaración se refiere, está en conformidad a las siguientes normas armonizadas:
- Directiva LVD 2006/95/CE
- Directiva compatibilidad electromagnétic 2004/108/CE

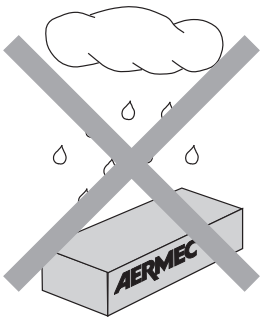
VEC APC CON ACCESORIOS
Está prohibido poner en marcha el producto con accesorios no suministrados por Aermec.

Bevilacqua, 02/03/2009

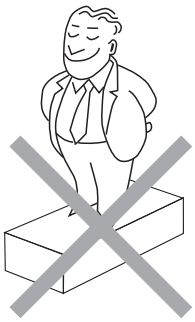
La Direzione Commerciale – Sales and Marketing Director
Luigi Zucchi

TRASPORTO • CARRIAGE • TRANSPORT • TRANSPORT • TRANSPORTE

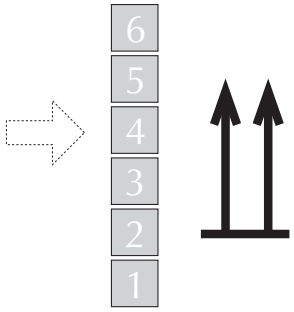
NON bagnare • Do NOT wet
CRAINT l'humidité • Vor Nässe schützen
NO mojar

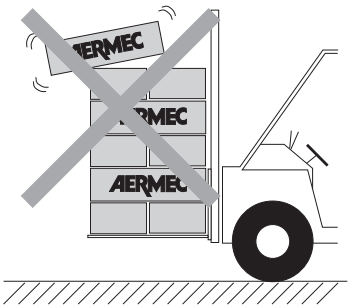


NON calpestare • Do NOT trample
NE PAS marcher sur cet emballage • Nicht betreten
NO pisar



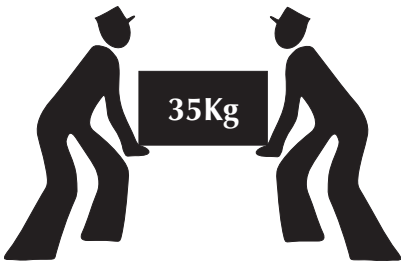
Sovrapponibilità: controllare sull'imballo la posizione della freccia per conoscere il numero di macchine impilabili.
Stacking: control the packing for the arrow position to know the number of machines that can be stacked.
Empilement: vérifier sur l'emballage la position de la flèche pour connaître le nombre d'appareils pouvant être empilés.
Stapelung: Anhand der Position des Pfeiles an der Verpackung kontrollieren, wieviele Geräte stapelbar sind.
Apilamiento: observe en el embalaje la posición de la flecha para saber cuántos equipos pueden apilarse.





NON lasciare gli imballi sciolti durante il trasporto.
Do NOT leave loose packages during transport.
ATTACHER les emballages pendant le transport.
Die Verpackungen nicht ungesichert transportieren.
NO lleve las cajas sueltas durante el transporte.

NON trasportare la macchina da soli se il suo peso supera i 35 Kg.
DO NOT handle the machine alone if its weight is over 35 Kg.
NE PAS transporter tout seul l'appareil si son poids dépasse 35 Kg.
Das Gerät NICHT alleine tragen, wenn sein Gewicht 35 Kg überschreitet.
NO maneje los equipos en solitario si pesan más de 35 kg.



SIMBOLI DI SICUREZZA • SAFETY SYMBOL • SIMBOLES DE SECURITE SICHERHEITSSYMBOLE • SÍMBOLOS DE SEGURIDAD

Pericolo:
Tensione

Danger:
Power supply

Danger:
Tension

Gefahr !
Spannung

Peligro:
Tensión

Pericolo:
Organi in movimento

Danger:
Movings parts

Danger:
Organes en mouvement

Gefahr !
Rotierende Teile

Peligro:
Elementos en movimiento

Pericolo!!!

Danger!!!

Danger!!!

Gefahr!!!

Peligro!!!

IMPORTANT INFORMATION

WARNING: electrical wirings, installation of the fan coils and relevant accessories should be performed by a technician who has the necessary technical and professional expertise to install, modify, extend and maintain systems, and who is able to check the systems for the purposes of safety and correct operation.

WARNING: the fan coil is connected to the power supply and a water circuit. Any operation by persons who do not possess the required technical skills can lead to personal injury to the operator or damage to the unit and surrounding objects.

WARNING:before carrying out any work, wear the proper personal protective equipment.

WARNING: the appliance must be fitted according to the national regulations on process plant engineering.

WARNING: check that the power supply is disconnected before carrying out any procedures on the unit.

WARNING: install a device, main switch or plug which allows to completely cut off the power supply from the unit.

WARNING! DANGER! Any use of the unit not expressly indicated by Aermec is strictly prohibited.

MALFUNCTIONS

In the event of a malfunction, cut off power supply to the unit, then restore the power and start the unit again. If the problem occurs again, call the local After-Sales Service immediately.

POWER THE FAN COIL ONLY WITH 230 VOLT, SINGLE PHASE, 50 Hz

Any other type of power supply could permanently damage the fan coil.

DO NOT TUG THE ELECTRIC CABLE

It is very dangerous to pull, tread on or crush the electric power cable, or fix it with nails or drawing pins.
A damaged power cable can cause short circuits and injure people.

DO NOT OBSTRUCT THE AIR OUTLETS BY PLACING OBJECTS INTO THEM

Do not put anything in the air outlet slots.
This could injure people and damage the fan.

DO NOT USE THE FAN COIL IMPROPERLY

Do not use the fan coil for animal husbandry applications (e.g. incubation).

AIR THE ROOM

Periodically air the room in which the fan coil has been installed. This is particularly important if the room is occupied by many people, or if gas appliances or sources of odours are present.

ADJUST TEMPERATURE ADEQUATELY

The room temperature should be adjusted in order to provide maximum comfort to the people in the room, especially if they are elderly, children or sick people; avoid differences over 7°C between the outdoor temperature and the temperature inside the room in summer.
Carefully choose the room temperature so as to save energy.

CORRECT AIR JET AIMING ADJUSTMENT

Air coming out from the fan coil must not reach people directly; in fact, even if the air is warmer than the room temperature, it could cause a cold sensation and result in discomfort.

DO NOT USE EXCESSIVELY HOT WATER

To clean the indoor unit, use soft cloths or sponges dampened with water at a maximum of 40°C. Do not use chemical products or solvents to clean any part of the fan coil. Do not spray water on the outer or inner surfaces of the fan coil (it might cause short circuits).

CLEAN THE FILTER FREQUENTLY

Cleaning the filter frequently guarantees enhanced operating efficiency.
Check whether the filter is very dirty: if it is, clean it more often.
Clean frequently; remove the accumulated dust with a vacuum cleaner.
Once the filter is clean, refit it to the fan coil following the removal instructions but in reverse order.
The normal wear and tear of germicidal lamps and filter is not covered by the warranty.

SUPPLEMENTARY CLEANING

The possibility to remove the basin and the shrouds of the examinable fans (done only by suitably trained and qualified personnel) allows to thoroughly clean even the internal parts - an essential condition when the unit is installed in very crowded areas or places requiring high standards of hygiene.

WHAT IS NORMAL

In the cooling function, water vapour may be present in the air delivery of the fan coil.

In the heating function, a slight hiss might be heard close to the fan coil.

Sometimes the fan coil might give off unpleasant smells due to the accumulation of substances present in the air of the room (clean the filter more often, especially if the room is not ventilated regularly).

While the unit is functioning, there could be noises and creaks inside the device due to the various thermal expansions of the elements (plastic and metal), but this does not indicate any malfunction and does not damage the unit unless the maximum input water temperature is exceeded.

PACKAGING

The fan coils are shipped in standard package which consists of expanded polystyrene foam and cardboard shells.

USE

Consult control panel manual for installation and use instructions.

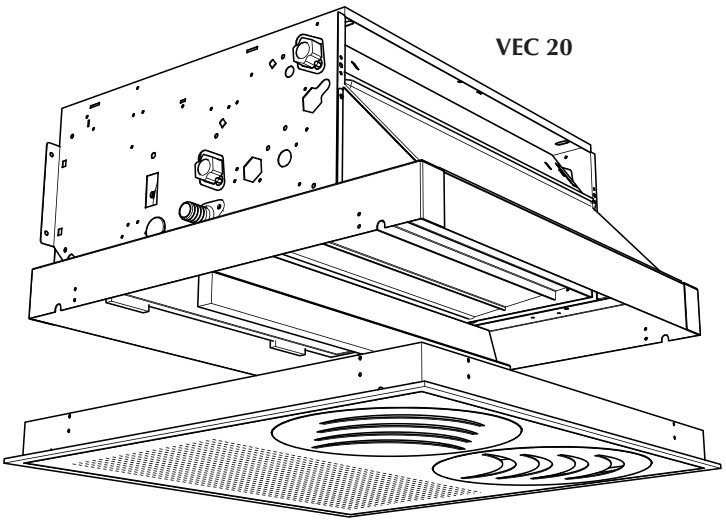
DESCRIPTION OF THE UNIT

Fan coil for treating air both in winter and summer.
The air is distributed throughout the room via outlets which, thanks to the COANDA effect, draw the air jet towards the ceiling.
Install the unit on the suspended ceiling.

AVAILABLE VERSIONS AND SIZES

VEC fan coils are available in:

4 sizes with a 3	**-row coil**	**compulsory accessory**
	VEC 20	**VEC 20 GL**
	VEC 30	**VEC 30 GL**
	VEC 40	**VEC 40 GL**
	VEC 50	**VEC 40 GL**



VEC 20

VEC 20 GL

System types

The VEC fan coils are designed for systems with 2 and 4 pipes, in the versions:
- without valve;
- with 3-way water valve (VCF);
- with 2-way water valve for variable flow rate systems (VCFD);
- with electric heater (RX);
- with electric heater (RX) and valve (VCF/VCFD);
- with hot water coil for systems with 4 pipes (BV) and 2 valves (VCF/VCFD).

Each configuration requires a control panel that manages the functions and accessories installed.

DESCRIPTION OF COMPONENTS

CONTROL PANEL

The control panel (accessory) can only be installed on the wall.

The AERMEC fan coil versions without a control panel can all be combined with the HSH AERDOMUS centralised control system, using wired or wireless connections.

Consult the control panel characteristics before selecting a panel.

ELECTRIC FAN ASSEMBLY

This consists of double suction centrifugal fans with lengthways blades to obtain a high air flow with a low number of revs. The electrical motor, protected against overloading, has three speeds with the running capacitor always on, directly coupled with the fans and cushioned with flexible supports.

BEARING STRUCTURE

Made of galvanised sheet metal of an adequate thickness. Hole in the back for wall mounting. A fan cover panel is available for front-mounted ceiling units. Each unit is equipped with a condensate collection tray.

CONDENSATE DRAIN

Every device is fitted with a tray for collecting condensation, with a connection for draining condensation produced by the unit in cooling mode. When there are differences in levels, it is possible to apply the accessory (DSC4) outside the unit, complete with pump and water level control device.

PLUMBING CONNECTIONS

The connections, located on the left hand side, are female. The coil may also be rotated.

English

SELECTION CRITERIA

The Coanda effect fan coil of the VEC range must be installed in suspended ceilings and is completed with the obligatory accessory VEC20GL.

The accessory VEC20GL consists of the panel with suction from below and delivery with adjustable diffusers that allow the air to be distributed throughout the room, taking advantage of the COANDA effect.

VEC must be combined with a control panel to be mounted on the wall. Consult the characteristics and compatibility of the control panels supplied as an accessory.

Some control panels can control a network of fan coils if they are used in combination with the interface cards SIT3 and SIT5 supplied as accessories.

The AERMEC fan coil versions without a control panel can all be combined with the HSH AERDOMUS centralised control system, using wired or wireless connections.

The main technical data of the VEC fan coils are summarised in the tables.

The table shows the sensible and total refrigerating yield at maximum speed, on the basis of the inlet water temperature, its temperature change, and the dry bulb and wet bulb air temperature, for sensitive yield and total yield respectively, for versions with a 3-row coil. Performance levels at average and minimum speed are obtained by multiplying the values by the correction factors indicated.

The water side pressure drops are shown in the diagrams.

The correction factors when the unit operates with glycol water for cooling and heating function modes are shown in the graphs in percentages of glycol of 10%, 20% and 35%.

The heating capacity yield, on the basis of the water flow rate and the difference in temperature between the incoming water and the incoming air, is represented in a graph and refers to the maximum speed. Performance levels at average and minimum speed are obtained by multiplying the values shown on the graph (at maximum speed) by the correction factors indicated.

The pressure level and sound output of the fan coils at the various speeds are shown in the tables.

The installation information is included in the manuals supplied together with each fan coil or its accessory. This manual is limited to provide general information in order to obtain a correct installation; it also contains drawings with fan coil dimensions and the wiring diagrams with the connections to control panels.

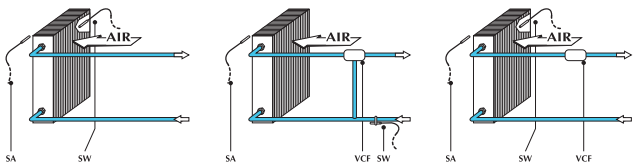
CONFIGURATIONS FOR SYSTEMS WITH VEC

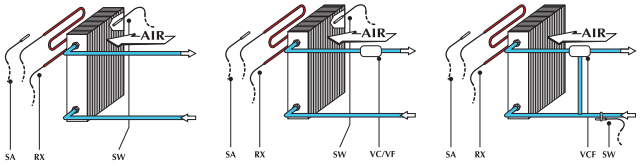
Key:

SW Water temperature sensor
VCF Solenoid valve (Heating / Cooling)
VC Solenoid valve (Heating)
VF Solenoid valve (Cooling)

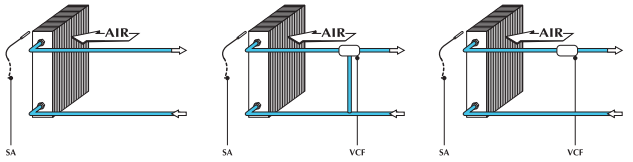
SA Room temperature sensor
V3,V2,V1 Maximum, Average or Minimum fan speed
RX Electric heater

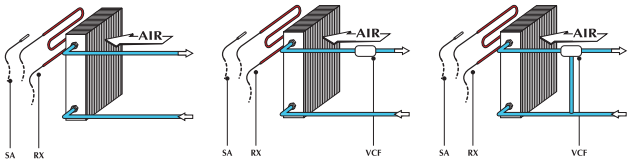
System with 2 pipes, with water sensor



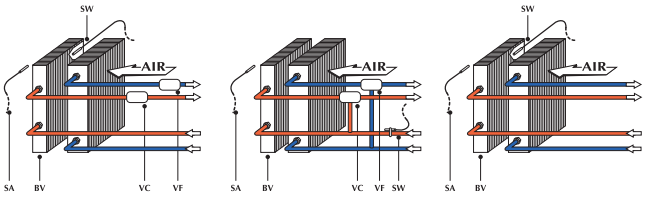


System with 2 pipes, without water sensor

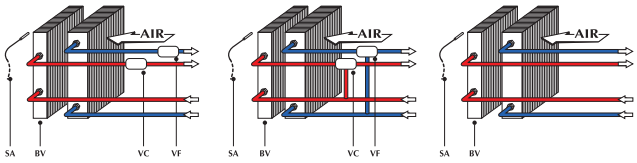




System with 4 pipes, with water sensor



System with 4 pipes, without water sensor



English

TECHNICAL DATA

VEC with a 3-row coil

Mod.		VEC 20	VEC 30	VEC 40	VEC 50
Heating					
Heating capacity	W (max)	1835	2770	3745	4285
	W (med)	1505	2340	3105	3785
	W (min)	1105	1950	2505	2840
Electric heater heating capacity	W	950	1300	1650	1950
Cooling					
Total cooling capacity	W (max)	1320	1950	2985	3610
	W (med)	1085	1645	2470	3170
	W (min)	805	1370	1985	2350
Sensible cooling capacity	W (max)	1085	1535	2410	2595
	W (med)	885	1285	1980	2275
	W (min)	640	1055	1580	1680
Water flow rate	l/h	227	335	514	621
Water pressure drop	kPa	4,6	13,3	11,3	14,8
air flow rate	m^3/h (max)	247	383	511	613
	m^3/h (med)	194	309	406	529
	m^3/h (min)	130	241	306	371
Number of fans	n.	1	2	2	2
♪ Sound pressure	dB (A) (max)	39,5	36,5	40,0	44,5
	dB (A) (med)	33,5	31,5	34,5	41,5
	dB (A) (min)	26,5	26,5	29,5	34,5
Sound power	dB (A) (max)	48,0	45,0	48,5	53,0
	dB (A) (med)	42,0	40,0	43,0	50,0
	dB (A) (min)	35,0	35,0	38,0	43,0
Water contents	l	0,79	1,11	1,48	1,48
Max. motor power	W	25	44	57	67
Max. input current	A	0,12	0,21	0,28	0,35
Max. motor power with electric heater	W	975	1344	1707	2017
Input current with electric heater	A	4,25	5,86	7,45	8,83
Coil connections 3R	ø	1/2"	1/2"	3/4"	3/4"
Coil connections 1R	ø	1/2"	1/2"	1/2"	1/2"
Power supply		**230V ~ 50Hz**			

Performance values refer to the following conditions:
♪ Sound pressure measured in semi-reverberating chamber, 85m^3, and with reverberation time Tr = 0.5s.

Cooling:
- room air temperature 27°C D.B., 19°C W.B.;
- maximum speed:
  - water inlet temperature 7°C; Δt water 5°C.
- average and minimum speed:
  - water inlet temperature 7°C;
  - water flow rate as at maximum speed.

Heating:
room air temperature 20°C D.B.;
- maximum speed:
  - water inlet temperature 50°C; Δt water 10°C.
  - water flow rate as for cooling operation.
- average and minimum speed:
  - water inlet temperature 50°C;
  - water flow rate as at maximum speed.

OPERATING LIMITS

Maximum water input temperature ..... 65°C
Maximum operating pressure..... 8 bar
Operating voltage .....230V(±10%) ~ 50Hz
Room temperature ..... 0-40°C
Air humidity .....<85% U.R.

Output limits (3-row coil):

MOD.	VEC	20	30	40	50
Minimum output	[l/h]	100	100	150	150
Maximum output	[l/h]	750	750	1100	1100

Water temperature

In order to prevent air stratification in the room, and therefore to achieve improved mixing, it is obligatory not to supply the fan coil with water at a temperature over 65°C.
The use of water at high temperatures could cause squeaking due to the different thermal expansions of the elements (plastic and metal), this does not however cause damage to the unit if the maximum operating temperature is not exceeded.

Minimum average water temperature

If the fan coil is working in cold continuous mode inside an environment where the relative humidity is high, condensate might form on the air delivery. This condensate might be deposited on any objects underneath and on the floor.
To avoid condensate on the external structure of the device while the fan is functioning, the average temperature of the water must not be lower than the limits shown in the table below, that depend on the thermo-hygrometric conditions of the air in the room.
The limits mentioned above refer to operation while the fan is set to its minimum speed level.
In the event of prolonged fan inactivity and with cold water passing through the coil, condensate may form on the external case of the unit. **As a result, we recommend including the three-way valve accessory.**

MINIMUM AVERAGE WATER TEMPERATURE

		Temperature of the air in the room with dry bulb °C					
		21	23	25	27	29	31
Temperature of the air in the room with wet bulb °C	15	3	3	3	3	3	3
	17	3	3	3	3	3	3
	19	3	3	3	3	3	3
	21	6	5	4	3	3	3
	23	-	8	7	6	5	5

COOLING CAPACITY

VEC20		TOTAL COOLING CAPACITY [W]					SENSIBLE COOLING CAPACITY [W]					
Water temp. °C		Wet bulb air temperature [°C]					Dry bulb air temperature [°C]					
Inlet	Δt	**15**	**17**	**19**	**21**	**23**	**21**	**23**	**25**	**27**	**29**	**31**
5	3	1089	1523	1984	–	–	932	1096	1255	1391	1525	1655
	4	977	1390	1839	2299	2783	851	1017	1181	1323	1460	1595
	5	834	1207	1666	2147	2643	756	917	1082	1251	1395	1532
	6	762	1027	1476	1980	2487	712	836	984	1157	1322	1464
	7	–	923	1264	1785	2315	672	794	904	1056	1231	1392
6	3	955	1368	1836	2299	–	858	1019	1183	1322	1459	1587
	4	847	1221	1687	2147	2635	766	935	1096	1253	1392	1527
	5	737	1054	1497	1987	2487	688	836	1000	1167	1325	1463
	6	686	893	1301	1815	2323	649	772	908	1075	1244	1395
	7	–	832	1097	1594	2144	611	735	848	979	1150	1321
7	3	834	1207	1666	2147	–	774	933	1104	1253	1390	1519
	4	740	1062	1513	1987	2479	685	855	1019	1181	1324	1458
	5	660	909	**1320**	1823	2323	629	760	924	**1085**	1253	1396
	6	622	799	1126	1620	2152	589	712	834	997	1160	1324
	7	–	745	974	1405	1964	549	670	792	907	1070	1242
8	3	737	1054	1497	1987	–	695	860	1019	1180	1320	1454
	4	658	920	1331	1823	2315	613	780	939	1103	1251	1391
	5	601	793	1154	1639	2155	568	688	850	1005	1173	1325
	6	–	719	985	1430	1976	528	649	772	918	1081	1251
	7	–	–	875	1223	1757	488	609	734	846	988	1161
9	3	660	909	1344	1823	–	625	779	944	1103	1250	1384
	4	590	798	1156	1653	2147	547	694	861	1020	1181	1322
	5	542	689	1001	1443	1980	508	627	768	928	1094	1255
	6	–	649	850	1250	1777	467	589	711	845	1004	1170
	7	–	–	782	1054	1551	426	549	670	791	916	1076
10	3	601	793	1154	1639	2155	554	699	863	1018	1179	1317
	4	522	700	998	1454	1972	485	622	785	939	1103	1252
	5	–	627	860	1261	1793	446	567	691	857	1014	1177
	6	–	–	755	1075	1566	406	528	648	774	929	1089
	7	–	–	–	926	1357	363	488	609	735	847	1000
11	3	–	688	1001	1443	1980	482	629	781	943	1100	1246
	4	–	630	861	1261	1788	425	550	701	863	1021	1180
	5	–	568	752	1089	1580	386	507	627	777	934	1096
	6	–	–	675	934	1368	344	467	589	711	853	1007
	7	–	–	–	821	1170	299	426	549	669	791	926
12	3	–	627	860	1261	1793	409	558	704	865	1017	1175
	4	–	561	752	1097	1585	364	485	630	788	941	1102
	5	–	–	663	944	1376	324	446	567	699	862	1016
	6	–	–	617	808	1188	282	406	528	648	778	936
	7	–	–	–	739	1006	233	363	488	609	732	852
13	3	–	568	752	1089	1580	343	487	633	784	943	1096
	4	–	–	671	931	1374	303	424	558	708	865	1019
	5	–	–	597	810	1188	262	385	506	630	784	936
	6	–	–	–	709	1016	215	344	467	587	711	860
	7	–	–	–	–	869	158	299	426	549	669	789

The cooling capacities yielded shown in the table must be multiplied by the following factors:

MOD.		**VEC 20**
Maximum speed	total power	1.00
	sensible power	1.00
Average speed	total power	0.82
	sensible power	0.82
Minimum speed	total power	0.61
	sensible power	0.59

COOLING CAPACITY

VEC30		TOTAL COOLING CAPACITY [W]					SENSIBLE COOLING CAPACITY [W]					
Water temp. °C		Wet bulb air temperature [°C]					Dry bulb air temperature [°C]					
Inlet	Δt	**15**	**17**	**19**	**21**	**23**	**21**	**23**	**25**	**27**	**29**	**31**
5	3	1150	1646	2216	2778	–	995	1200	1414	1594	1758	1916
	4	1428	2013	2577	–	–	1185	1407	1624	1803	1976	2138
	5	1249	1788	2407	3017	–	1080	1303	1535	1731	1909	2080
	6	1086	1582	2208	2848	3501	954	1193	1424	1650	1833	2010
	7	939	1373	1982	2656	3326	875	1072	1310	1538	1755	1938
6	3	1400	1977	–	–	–	1182	1397	1606	1780	1947	2113
	4	1241	1776	2376	–	–	1079	1296	1520	1714	1888	2053
	5	1091	1571	2198	2814	3462	967	1198	1424	1638	1821	1993
	6	932	1369	1958	2633	3293	854	1084	1310	1539	1745	1924
	7	847	1175	1733	2434	3113	795	968	1200	1430	1662	1847
7	3	1203	1755	–	–	–	1069	1297	1514	1691	1860	2029
	4	1063	1551	2167	2769	–	960	1189	1407	1622	1802	1970
	5	943	1369	**1950**	2600	3248	866	1088	1305	**1535**	1731	1907
	6	829	1183	1726	2411	3079	770	977	1208	1430	1653	1833
	7	769	1016	1504	2167	2887	717	875	1095	1317	1543	1758
8	3	1036	1520	2120	–	–	951	1183	1397	1603	1774	1940
	4	932	1344	1935	2554	–	868	1082	1295	1530	1710	1885
	5	831	1180	1710	2376	3034	770	977	1203	1425	1639	1817
	6	742	1024	1509	2160	2848	689	868	1101	1317	1539	1745
	7	–	893	1315	1915	2644	638	795	982	1212	1435	1663
9	3	919	1301	1908	–	–	860	1071	1296	1510	1685	1855
	4	840	1165	1687	2337	–	773	977	1190	1417	1621	1795
	5	744	1016	1489	2129	2808	670	878	1095	1309	1537	1728
	6	–	890	1299	1904	2611	610	773	989	1216	1431	1651
	7	–	804	1125	1660	2376	557	717	880	1108	1106	1553
10	3	831	1115	1652	–	–	767	955	1182	1396	1596	1766
	4	747	998	1459	2105	2746	679	875	1088	1308	1529	1709
	5	–	895	1277	1864	2571	582	782	995	1207	1424	1635
	6	–	794	1121	1645	2365	546	689	884	1110	1327	1539
	7	–	–	974	1432	2098	475	638	795	1004	1218	1437
11	3	740	966	1412	2047	–	675	862	1074	1293	1505	1679
	4	–	889	1253	1834	2516	580	782	973	1192	1417	1617
	5	–	802	1110	1616	2326	503	682	886	1100	1318	1534
	6	–	–	972	1428	2078	449	610	785	1007	1221	1433
	7	–	–	850	1234	1834	393	557	717	890	1117	1337
12	3	–	875	1203	1796	–	580	772	957	1183	1392	1590
	4	–	798	1069	1582	2276	479	687	880	1089	1308	1524
	5	–	–	959	1397	2044	424	585	791	1001	1210	1423
	6	–	–	857	1226	1791	368	531	691	896	1117	1331
	7	–	–	–	1067	1579	304	475	638	799	1017	1232
13	3	–	786	1034	1534	–	484	679	866	1061	1291	1499
	4	–	–	938	1354	2000	396	589	788	977	1192	1412
	5	–	–	857	1193	1760	343	503	695	894	1105	1318
	6	–	–	–	1057	1548	282	449	610	799	1016	1223
	7	–	–	–	919	1354	209	393	557	717	906	1132

The cooling capacities yielded shown in the table must be multiplied by the following factors:

MOD.		**VEC 30**
Maximum speed	total power	1.00
	sensible power	1.00
Average speed	total power	0.84
	sensible power	0.82
Minimum speed	total power	0.70
	sensible power	0.69

English

COOLING CAPACITY

VEC40		TOTAL COOLING CAPACITY [W]					SENSIBLE COOLING CAPACITY [W]					
Water temp. °C		Wet bulb air temperature [°C]					Dry bulb air temperature [°C]					
Inlet	Δt	**15**	**17**	**19**	**21**	**23**	**21**	**23**	**25**	**27**	**29**	**31**
5	3	2521	–	–	–	–	2040	2384	2696	2970	3244	–
	4	2187	3087	3996	–	–	1876	2227	2569	2863	3145	3412
	5	1893	2730	3723	4679	–	1677	2036	2403	2737	3028	3310
	6	1587	2385	3358	4398	5435	1439	1845	2209	2580	2899	3190
	7	1406	2000	2957	4069	5139	1348	1615	2007	2390	2755	3062
6	3	2187	3070	–	–	–	1861	2220	2548	2829	3102	–
	4	1902	2724	3682	–	–	1693	2051	2406	2717	3001	3274
	5	1650	2397	3364	4357	5378	1490	1871	2230	2586	2884	3168
	6	1372	2057	3008	4061	5106	1306	1666	2041	2405	2751	3047
	7	1279	1689	2600	3691	4794	1224	1471	1828	2207	2577	2916
7	3	1884	2696	–	–	–	1684	2040	2384	2686	2963	3233
	4	1652	2407	3358	4300	–	1519	1886	2229	2568	2860	3136
	5	1423	2085	**2985**	4020	5049	1330	1697	2046	**2410**	2736	3026
	6	1242	1768	2622	3708	4761	1183	1466	1867	2234	2585	2901
	7	1160	1483	2244	3047	4432	1100	1348	1640	2042	2405	2762
8	3	1624	2374	3302	–	–	1519	1865	2217	2540	2819	3091
	4	1446	2091	2968	3971	–	1366	1701	2058	2405	2714	2994
	5	1301	1791	2645	3674	4703	1165	1529	1886	2236	2583	2880
	6	1123	1525	2284	3291	4398	1062	1316	1694	2055	2411	2751
	7	–	1333	1927	2895	4053	976	1224	1480	1869	2234	2598
9	3	1443	2040	2934	–	–	1372	1689	2038	2392	2675	2951
	4	1301	1785	2622	3624	–	1212	1531	1891	2230	2564	2853
	5	1111	1564	2272	3284	4349	1021	1360	1713	2069	2408	2734
	6	–	1330	1960	2895	4028	938	1183	1513	1897	2240	2588
	7	–	1217	1632	2499	3607	852	1100	1345	1687	2062	2410
10	3	1301	1751	2578	–	–	1221	1525	1864	2214	2531	2807
	4	1152	1553	2266	3233	4275	1050	1381	1712	2058	2401	2707
	5	–	1372	1972	2883	3979	897	1195	1547	1894	2235	2581
	6	–	1185	1689	2499	3607	814	1060	1339	1726	2078	2412
	7	–	–	1418	2147	3177	726	976	1224	1500	1894	2247
11	3	1159	1516	2210	3183	–	1069	1377	1692	2037	2386	2665
	4	–	1386	1927	2849	3905	882	1227	1543	1893	2224	2558
	5	–	1222	1692	2504	3585	773	1029	1383	1738	2072	2407
	6	–	–	1446	2164	3172	688	938	1188	1546	1909	2244
	7	–	–	1273	1842	2770	597	852	1100	1351	1717	2072
12	3	–	1375	1887	2765	–	914	1229	1531	1865	2208	2517
	4	–	1240	1669	2458	3522	734	1071	1395	1732	2057	2393
	5	–	–	1465	2136	3143	650	897	1224	1567	1901	2236
	6	–	–	1287	1859	2758	561	814	1059	1374	1746	2083
	7	–	–	–	1571	2379	462	726	976	1224	1544	1911
13	3	–	1234	1624	2397	–	754	1077	1383	1698	2034	2372
	4	–	–	1465	2085	3104	609	905	1242	1554	1897	2222
	5	–	–	1319	1847	2724	524	773	1053	1401	1749	2073
	6	–	–	–	1601	2363	429	688	936	1207	1579	1917
	7	–	–	–	1356	2034	313	597	852	1100	1366	1750

The cooling capacities yielded shown in the table must be multiplied by the following factors:

MOD.		**VEC 40**
Maximum speed	total power	1.00
	sensible power	1.00
Average speed	total power	0.83
	sensible power	0.82
Minimum speed	total power	0.66
	sensible power	0.66

COOLING CAPACITY

VEC50		TOTAL COOLING CAPACITY [W]					SENSIBLE COOLING CAPACITY [W]					
Water temp. °C		Wet bulb air temperature [°C]					Dry bulb air temperature [°C]					
Inlet	Δt	**15**	**17**	**19**	**21**	**23**	**21**	**23**	**25**	**27**	**29**	**31**
5	3	3052	–	–	–	–	2270	2553	2851	3142	–	–
	4	2780	3670	4711	–	–	2129	2431	2720	3028	3318	3602
	5	2509	3353	4379	5519	–	1976	2286	2594	2892	3204	3494
	6	2230	3029	4018	5179	6420	1785	2134	2449	2755	3066	3370
	7	1935	2697	3648	4795	6068	1518	1947	2289	2608	2914	3235
6	3	2731	–	–	–	–	2118	2412	2693	2991	3279	–
	4	2486	3315	4335	–	–	1981	2285	2578	2877	3168	3450
	5	2244	3014	3987	5135	–	1813	2137	2447	2740	3047	3340
	6	1988	2704	3640	4772	6013	1599	1981	2297	2606	2903	3218
	7	1709	2403	3285	4379	5640	1330	1776	2137	2457	2763	3076
7	3	2441	3255	–	–	–	1970	2269	2544	2837	3130	–
	4	2222	2976	3942	–	–	1821	2138	2430	2715	3015	3303
	5	2007	2697	**3610**	4727	–	1637	1990	2298	**2595**	2892	3192
	6	1777	2418	3271	4341	5596	1400	1820	2148	2455	2752	3063
	7	1483	2132	2931	3957	5201	1172	1580	1983	2310	2612	2915
8	3	2184	2909	–	–	–	1808	2118	2410	2678	2978	3263
	4	2003	2652	3557	4644	–	1644	1988	2285	2573	2861	3155
	5	1788	2403	3266	4304	5519	1449	1833	2148	2447	2738	3041
	6	1565	2150	2923	3927	5157	1182	1637	1996	2306	2600	2904
	7	–	1886	2614	3564	4741	–	1368	1818	2159	2469	2764
9	3	1981	2592	3467	–	–	1630	1974	2259	2535	2822	3112
	4	1807	2365	3188	4229	–	1462	1836	2143	2429	2707	3000
	5	1603	2146	2893	3881	5091	1253	1658	2005	2300	2590	2880
	6	–	1920	2599	3527	4711	992	1441	1840	2164	2461	2744
	7	–	1671	2320	3188	4297	–	1182	1630	2007	2321	2616
10	3	1788	2305	3104	–	–	1451	1810	2118	2400	2663	2959
	4	1615	2116	2825	3821	–	1277	1658	1996	2287	2566	2847
	5	–	1927	2569	3474	4651	1047	1472	1849	2156	2446	2717
	6	–	1716	2312	3158	4244	–	1235	1669	2016	2314	2599
	7	–	–	2056	2825	3859	–	–	1427	1849	2175	2468
11	3	1596	2078	2750	–	–	1271	1637	1979	2254	2522	2803
	4	–	1916	2516	3414	4538	1086	1476	1846	2143	2425	2691
	5	–	1732	2286	3104	4176	823	1281	1679	2017	2303	2577
	6	–	–	2063	2803	3806	–	1016	1476	1863	2174	2453
	7	–	–	1829	2509	3444	–	–	1211	1671	2026	2329
12	3	–	1889	2441	3301	–	1088	1459	1818	2118	2389	2648
	4	–	1724	2244	3022	4078	887	1291	1669	2003	2284	2556
	5	–	–	2048	2750	3738	–	1082	1494	1866	2163	2442
	6	–	–	1852	2486	3383	–	–	1277	1693	2028	2317
	7	–	–	–	2222	3059	–	–	–	1476	1877	2186
13	3	–	1697	2181	2928	–	904	1281	1640	1979	2259	2506
	4	–	–	2026	2682	3656	662	1103	1486	1856	2145	2419
	5	–	–	1852	2441	3315	–	858	1305	1693	2027	2301
	6	–	–	–	2206	3006	–	–	1057	1504	1881	2176
	7	–	–	–	1981	2704	–	–	–	1260	1706	2046

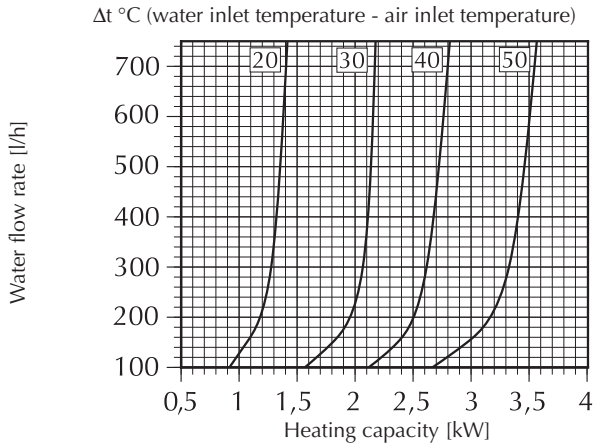
The cooling capacities yielded shown in the table must be multiplied by the following factors:

MOD.		**VEC 50**
Maximum speed	total power	1.00
	sensible power	1.00
Average speed	total power	0.88
	sensible power	0.88
Minimum speed	total power	0.65
	sensible power	0.65

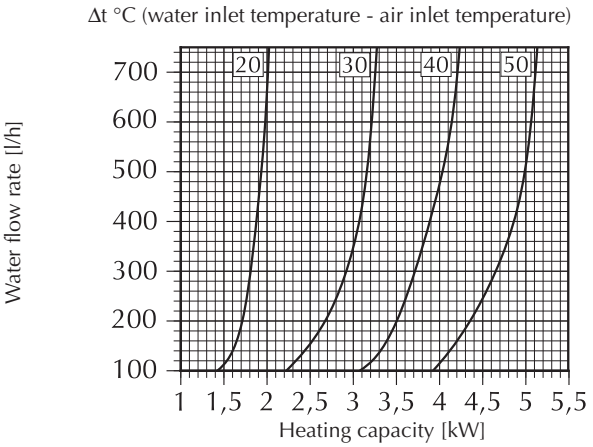
English

HEATING CAPACITY YIELDED WITH A 3-ROW COIL

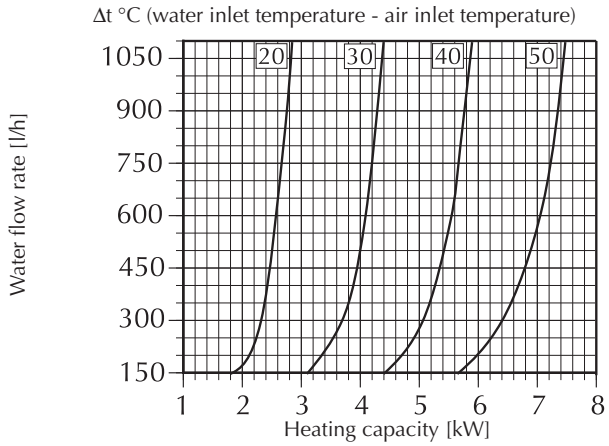
VEC 20



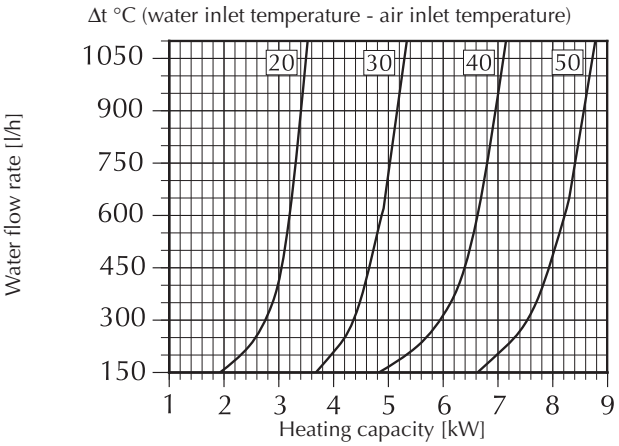
VEC 30



VEC 40



VEC 50



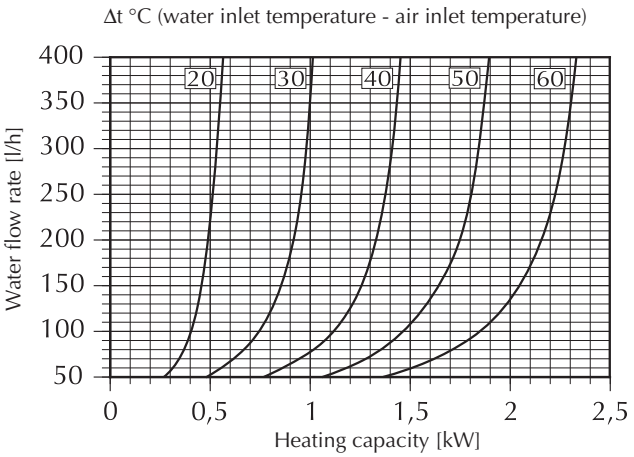
HEATING CAPACITY CORRECTION FACTORS

The heat yields refer to the maximum speed. For the rest of the speeds the values must be multiplied by the following factors:

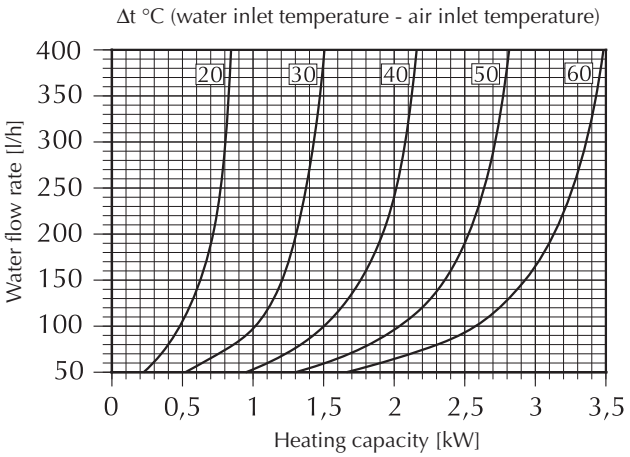
MOD.	VEC20	VEC30	VEC40	VEC50
Average speed	0,82	0,85	0,83	0,88
Minimum speed	0,60	0,70	0,67	0,66

HEATING CAPACITY YIELD FROM 1-ROW COIL (ACCESSORY BV)

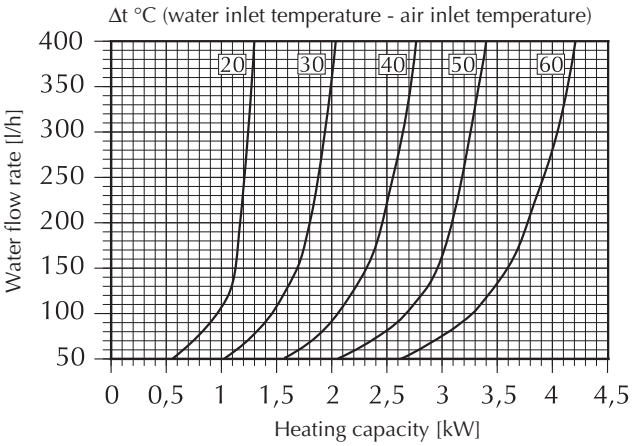
VEC 20 (BV122)



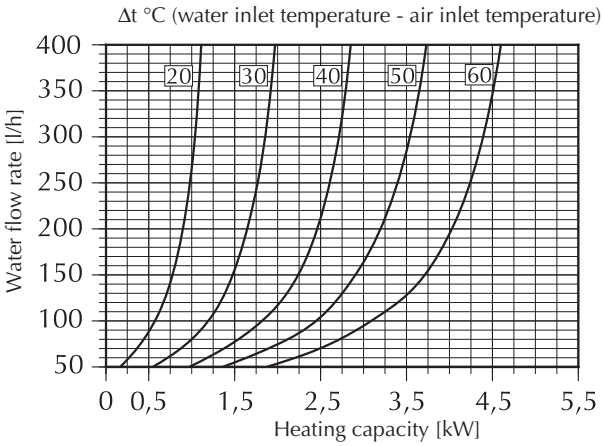
VEC 30 (BV132)



VEC 40 (BV142)



VEC 50 (BV142)



HEATING CAPACITY CORRECTION FACTORS

The heat yields refer to the maximum speed. For the rest of the speeds the values must be multiplied by the following factors:

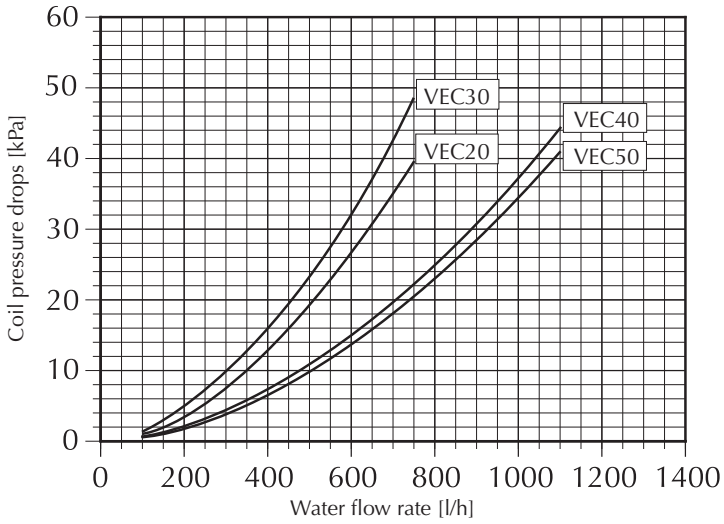
MOD.	VEC20	VEC30	VEC40	VEC50
Average speed	0,86	0,87	0,90	0,93
Minimum speed	0,69	0,76	0,81	0,80

The heat yield of the 3-row coil in fan coils fitted with the BV coil accessory (configuration 3R+1R) is indicated in the diagrams relating to the 3-row standard coils, applying the coefficients shown below.

Total cooling capacity	= 0,99
Total perceived cooling capacity	= 0,98
Heating	= 0,99

English

3R COIL PRESSURE DROPS



The pressure drops in the previous diagram refer to an average water temperature of 10°C. The following table shows the correction to apply to the pressure drop when the average water temperature varies.

Average water temperature	°C	5	10	15	20	50	60	70
Multiplication coefficient		1.03	1	0.96	0.91	0.78	0.75	0.72

The pressure drops in the previous diagram refer to an average water temperature of 65°C. The following table shows the correction to apply to the pressure drop when the average water temperature varies.

Average water temperature	°C	5	10	15	20	50	60	70
Multiplication coefficient		1.4	1.36	1.31	1.24	1.06	1.02	0.98

CORRECTION FACTORS WHEN OPERATING USING GLYCOL WATER

Key:

—·— Pressure drop

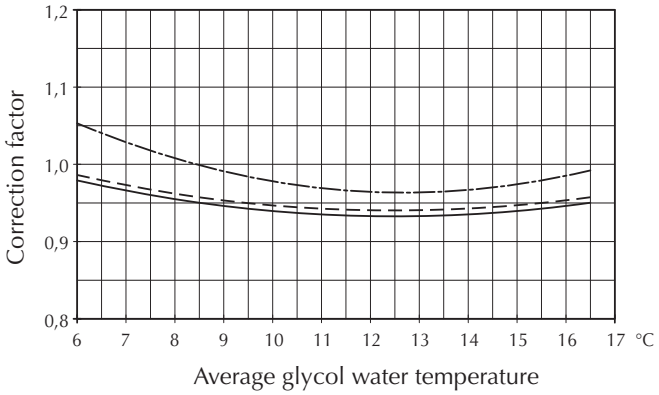
— — — Air flow rate

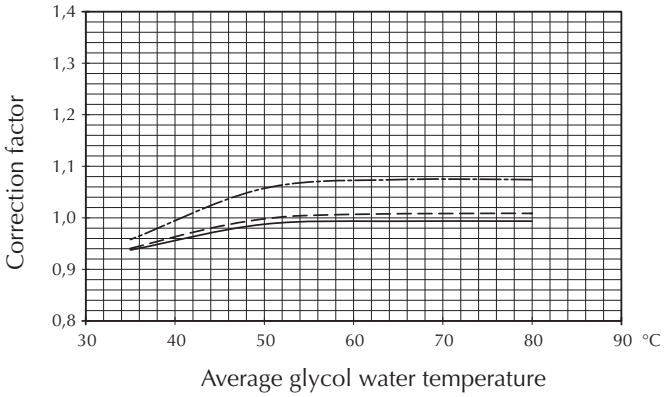
——— Yield

COOLING FUNCTION MODE

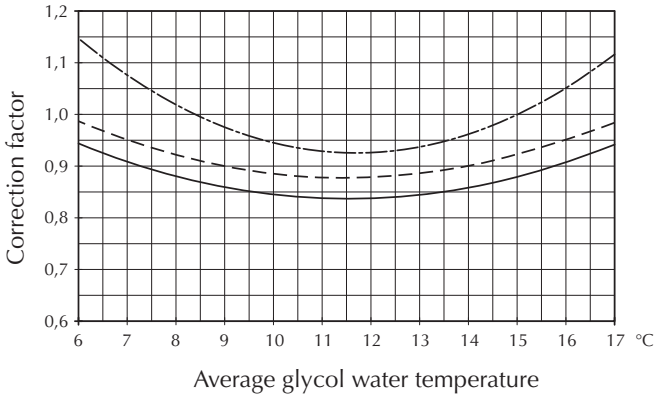
HEATING FUNCTION MODE

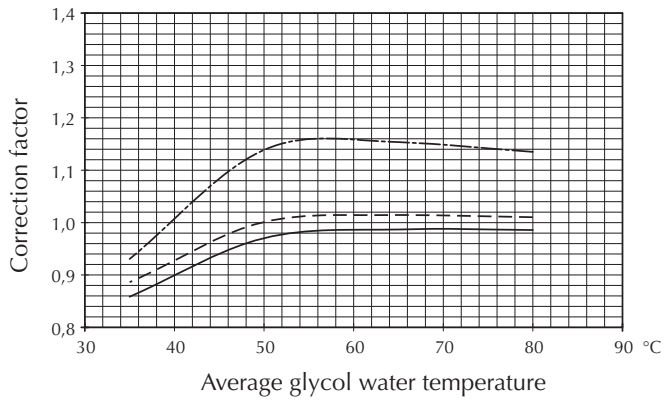
GLYCOL WATER AT 10%



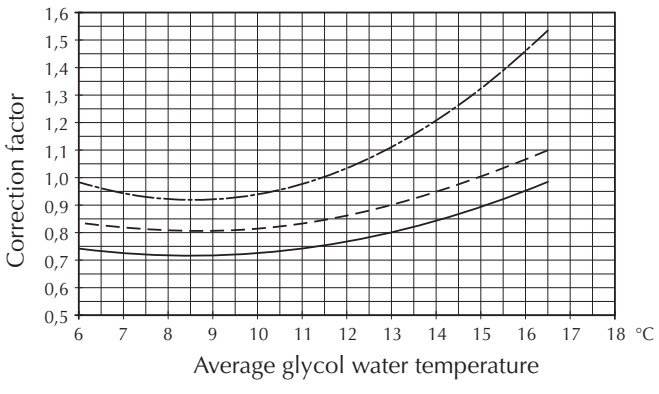


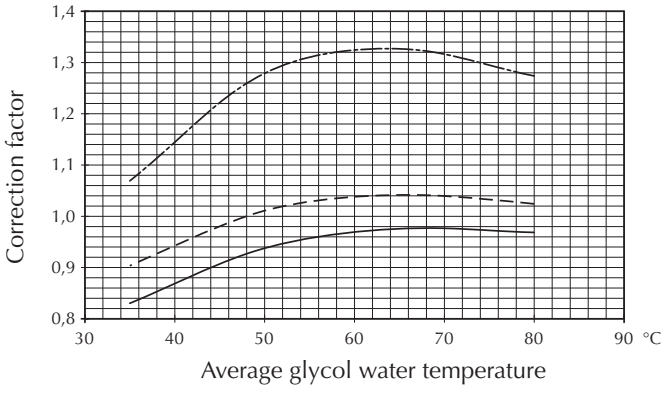
GLYCOL WATER AT 20%





GLYCOL WATER AT 35%





English

SOUND POWER LEVEL expressed in dB

Mod.	Speed	Central band frequency [Hz] 125	250	500	1000	2000	4000	8000	Overall dB	dB(A)	
VEC20	Max	43.3	48.6	46.4	42.7	39.3	31.3	17.7	52.2	48	(E)
	Med	38.2	43.9	40.8	36.4	31	24.9	6.5	49.9	42	(E)
	Min	29.8	37	33.1	30.2	23.9	20.2	6.6	39.7	35	(E)
VEC30	Max	40.6	45.8	43.4	39.7	36	28.3	14.7	49.3	45	(E)
	Med	36	42	38.7	34.7	28.9	23	4.4	44.9	40	(E)
	Min	29.9	37.1	33.2	30	23.9	20.2	4.1	39.8	35	(E)
VEC40	Max	44.1	49.3	46.9	43.2	39.5	31.8	18.2	52.8	48.5	(E)
	Med	38.6	43.8	41.4	37.7	34	26.3	12.7	47.3	43	(E)
	Min	32.9	40.1	36.2	33	26.9	23.2	7.1	42.8	38	(E)
VEC50	Max	48.6	53.8	51.4	47.7	44	36.3	22.7	57.3	53	(E)
	Med	45.6	50.8	48.4	44.7	41	33.3	19.7	54.3	50	(E)
	Min	38.6	43.8	41.4	37.7	34	26.3	12.7	47.3	43	(E)

(E) = Eurovent certified performances.

SOUND PRESSURE LEVEL expressed in dB (A)

Velocità	Mod. VEC 20	30	40	50
Max	39,5	36,5	40,0	44,5
Med	33,5	31,5	34,5	41,5
Min	26,5	26,5	29,5	34,5

Level of sound pressure (A-weighted) measured in the room with volume V = 85 m^3; reverberation time t = 0.5 s; direction factor Q = 2; distance r = 2.5 m.

ACCESSORIES

OBLIGATORY ACCESSORIES:

essential for unit operation:

VEC_GL

Air suction and delivery grille with Coanda effect adjustable outlets.
White RAL 9010.

CONTROL PANELS

FMT10 FLUSH-MOUNTING CONTROL PANEL WITH ELECTRONIC THERMOSTAT

Electronic thermostat for fan coils installed in systems with 4 pipes, 2 pipes and 2 pipes with heater, with the possibility to connect two On-Off valves to shut off the water feeding the coils. Commands simplified with only two selectors for temperature and ventilation control (3 speeds). External air sensor (6m cable supplied with probe-holder) to be positioned inside the fan coil. Flush-mounting (module 503).
See the accessory instructions for further information.

FMT20AW FLUSH-MOUNTING CONTROL PANEL WITH ELECTRONIC THERMOSTAT AND LCD DISPLAY

Electronic thermostat with LCD display for fan coils installed in systems with 4 pipes, 2 pipes and 2 pipes with heater, with the possibility to connect two On-Off valves to shut off the water feeding the coils. Air temperature sensor inside the panel. You can connect a room air temperature sensor (accessory SWA). You can connect a system water temperature sensor (accessory SWA). Flush-mounting (module 503).

KTL P REMOTE CONTROL KIT WITH THERMOSTAT

Kit with regulating thermostat, consisting of an infrared remote control, an infrared receiver, an electronic control card with air temperature probe, a connection cable, brackets and everything required for fixing. KTLP can be applied to a fan coil installed in a 2-pipe system with or without a water valve, or a 4-pipe system with water valves. See the accessory instructions for further information.

PTI MULTIFUNCTION CONTROL PANEL WITH THERMOSTAT

Electronic control panel with multifunction electronic thermostat for wall-mounted 2-pipe systems.See the accessory instructions for further information.

PX2 CONTROL PANEL WITH SELECTOR

Control panel with manual command of the ventilation speed, consisting of on/off selector and a 3-position selector for fan speed. Wall mounting. See the accessory instructions for further information.

PXA E CONTROL PANEL WITH MULTIFUNCTION ELECTRONIC THERMOSTAT

Multifunction, electronic room thermostat for fan coils in 2-pipe or 4-pipe systems. Simplified controls with only two selectors to control temperature and ventilation, 3 speeds + automatic speed, on-off and automatic summer-winter switching, according to water temperature. The minimum water temperature sensor SW is available as an accessory. It interrupts the heating function when the water temperature is below 35°C. Wall-mounted installation.
See the accessory instructions for further information.

PXA I CONTROL PANEL WITH MULTIFUNCTION ELECTRONIC THERMOSTAT

Multifunction, electronic room thermostat for fan coils in 2-pipe or 4-pipe systems. Simplified controls with only two selectors to control temperature and ventilation, 3 speeds + automatic speed, on-off and automatic summer-winter switching, according to water temperature. Equipped with a minimum water temperature sensor that interrupts the heating function when the water temperature is below 35°C. Installation on machine. See the accessory instructions for further information.

PXA R CONTROL PANEL WITH MULTIFUNCTION ELECTRONIC THERMOSTAT

Multifunction, electronic room thermostat for fan coils in 2-pipe systems and an electric heater. Simplified commands with only two selectors to control temperature and ventilation, 3 speeds + automatic speed, on/off, activation of the electric heater when desired, and automatic summer/winter switchover according to water temperature. Equipped with a minimum water temperature sensor that interrupts the heating function when the water temperature is below 35°C. By suitably adjusting the dip switches on the card, it can also be used for 2-pipe or 4-pipe systems without an electric heater. Wall mounting. See the accessory instructions for further information.

WMT05 CONTROL PANEL WITH THERMOSTAT

Electronic thermostat for fan coils in 2-pipe systems. The panel is electrically protected by an internal fuse. Wall-mounted installation. See the accessory instructions for further information.

WMT10 CONTROL PANEL WITH THERMOSTAT

Electromechanical thermostat for fan coils installed in 4-pipe, 2-pipe and 2-pipe with heater systems, with the possibility of connecting two On-Off valves to shut off the water feeding the coils.
The panel is electrically protected by an internal fuse. Continuous or thermostat-controlled ventilation. Wall mounting.

ACCESSORIES:

AMP SUPPORTS FOR HANGING INSTALLATIONS

The installation kit includes the brackets and nuts and bolts for fixing to the ceiling.

BC AUXILIARY TRAY FOR COLLECTING CONDENSATE

Made of thermoplastic material, it collects and channels outwards the condensate that is formed during the summer functioning mode, near the non-insulated plumbing connections.

BV WATER-BASED HEATING COIL

The 1-row heating coil that works with hot water can be installed in fan coils in 4-pipe systems, positioned above the standard coil. The coil can be adjusted via a control panel able to command the double valve.

DSC CONDENSATE DISCHARGE DEVICE

Thanks to a pump, this allows you to discharge the condensate when there is a difference of levels. It is assembled outside the device.

PCR COMMAND PROTECTION

In galvanised sheet iron, this is used to protect the commands and the electric control board in hanging version models with electric heater.

RX ELECTRIC HEATER

Protected electric heater complete with safety thermostat. Available as an accessory for all versions.

SIT 3

Each fan coil fitted with a SIT3 card becomes a Slave and can be controlled from a centralised control panel with an electromechanical selector or with SIT5. Up to ten fan coils fitted with SIT 3 can be applied to a single centralised command.**The electronic control panels and those with valve control must also be interfaced with a SIT 5.** The electromechanical control panel with just the speed control can be fitted directly to the SIT 3 without the SIT 5 interface.

SIT 5

The SIT 5 accessory, a Master interface card, connects to the electronic control panels or electromechanical control panels with command of the valves and/or electric heaters. The SIT5 interface card requires that all fan coils connected to it (up to 10) be fitted with SIT3 Slave interface cards**.**

SW3 MINIMUM WATER TEMPERATURE SENSOR

The SW3 accessory is a sensor that detects the temperature of the water inside the heating coil and it prevent the fans from working when the water temperature is less than 39°C. The SW3 sensors are fit for 230V single phase power supply. The sensor has a 2500mm long cable.

SWA TEMPERATURE PROBE

SWA outside probe accessory (length L = 6m). The probe detects the temperature of the ambient air if connected to the connector (A) of the panel FMT20AW; the ambient air temperature probe incorporated in the panel is automatically deactivated. It detects the temperature of the water in the system, for ventilation consent, if connected to the connector (W) of the panel FMT20AW. Two SWA probes can be connected to the panel FMT20AW simultaneously.

ACCESSORIES

VCF 3-WAY VALVES KIT
The SW3 sensor should be used with this accessory.
Kits complete with copper pipe fittings and 3-way valves of the "all or nothing" type that work with a 230V and 24V power supply.
Available for fan coils:
- with a 3-row coil (VCF41, VCF4124, VCF42, VCF4224)
- with additional 1-row coil (BV) (VCF44, VCF4424).

VCFD 2-WAY VALVES KIT
The SW3 sensor should be used with this accessory.
Kits complete with copper pipe fittings and 3-way valves of the "all or nothing" type that work with a 230V and 24V power supply.
Available for fan coils:
- with 3-row coil (VCFD1, VCFD124, VCFD2, VCFD224)
- with additional 1-row coil (BV) (VCFD4, VCFD5).

English

Consult the compatibility table to make your choice.

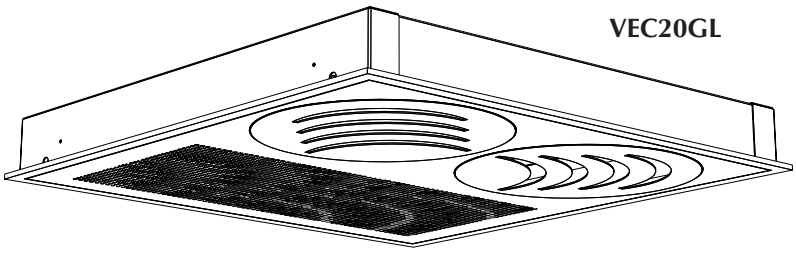
Obligatory accessory	VEC 20	30	40	50
VEC20GL	✔			
VEC30GL		✔		
VEC40GL			✔	✔
FMT10	✔	✔	✔	✔
FMT20AW	✔	✔	✔	✔
KTLP	✔	✔	✔	✔
PX2	✔	✔	✔	✔
PXAE	✔	✔	✔	✔
PXAR	✔	✔	✔	✔
WMT05	✔	✔	✔	✔
WMT10	✔	✔	✔	✔

Accessory		VEC 20	30	40	50
AMP		✔	✔	✔	✔
AMP	20	✔	✔	✔	✔
BC	5	✔	✔	✔	✔
BV	122	✔			
	132		✔		
	142			✔	✔
DSC	4	✔	✔	✔	✔
RX	22	✔			
	32		✔		
	42			✔	
	52				✔
SIT3		✔	✔	✔	✔
SIT5		✔	✔	✔	✔

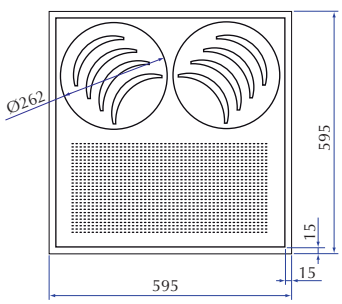
Accessory		VEC 20	30	40	50
SW3		✔	✔	✔	✔
SWA		✔	✔	✔	✔
VCF	41	✔	✔		
	42			✔	✔
	44*	✔	✔	✔	✔
	4124	✔	✔		
	4224			✔	✔
	4424*	✔	✔	✔	✔
VCFD	1	✔	✔		
	2			✔	✔
	4*	✔	✔	✔	✔
	124	✔	✔		
	224			✔	✔
	424*	✔	✔	✔	✔

OBLIGATORY ACCESSORIES

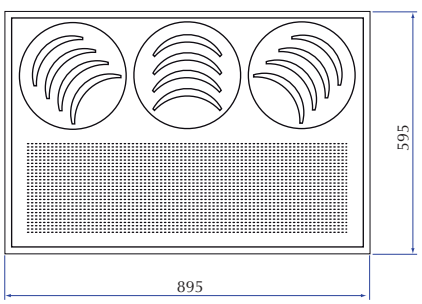
VEC20GL



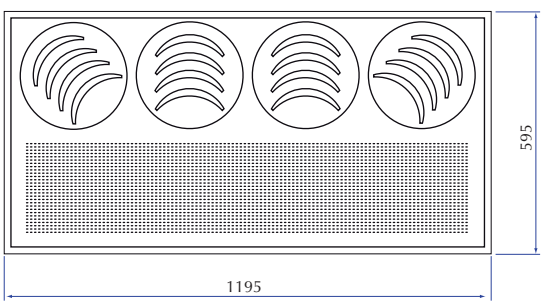
VEC20GL



VEC30GL



VEC40GL



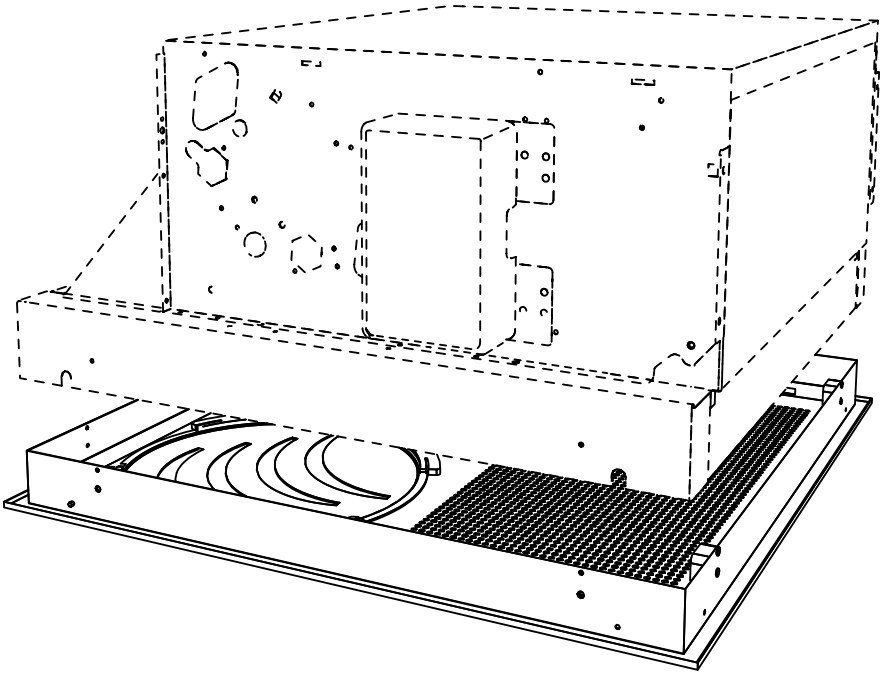
OBLIGATORY ACCESSORIES

VEC_GL allows 2 installation positions:

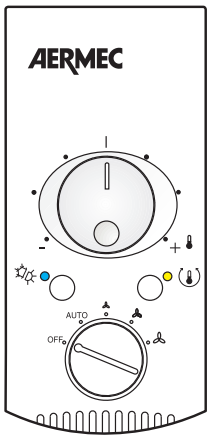
A) for suspended ceiling installation with reduced space that requires units with small dimensions.

B) allows (increasing total height) to increase the difference in level between condensate drain and suspended ceiling by a further 30 mm, to make the realisation of the condensate drain ducting even easier, in order to prevent, in most cases, the necessity for a condensate drain pump. In this case it is mandatory to apply the insulating gasket to the filter retainer divider (supplied) to prevent by-pass between intake and flow. Moreover, after having fixed the frame to the fan coil using the 4 screws, apply the insulating tape (supplied) to the entire exposed perimeter of the frame.

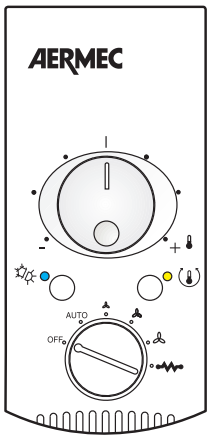
WARNING: No or incorrect installation of the insulating products caused the reduction in performance and the formation of condensate on the surfaces.



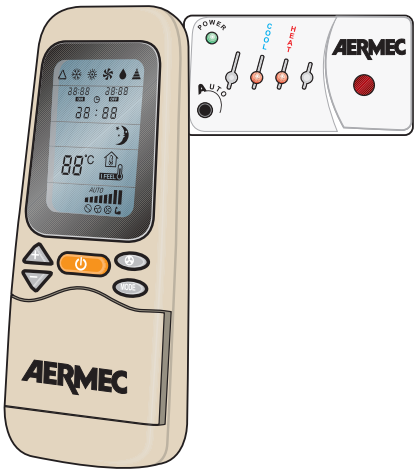
PXAE



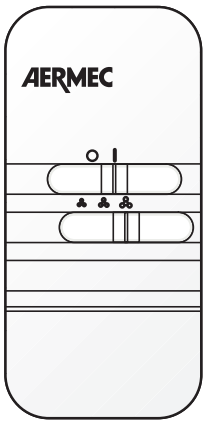
PXAR



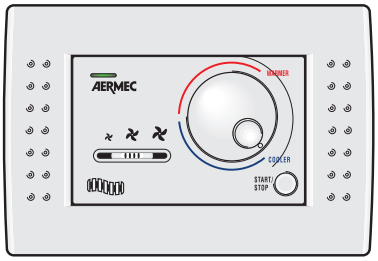
KTLP



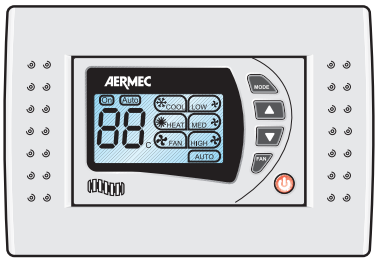
PX2



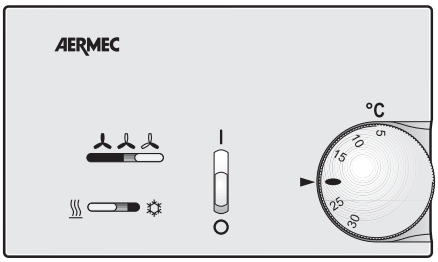
FMT10



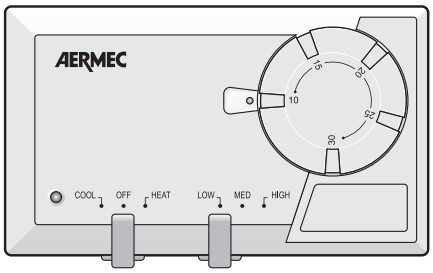
FMT20 AW



WMT05

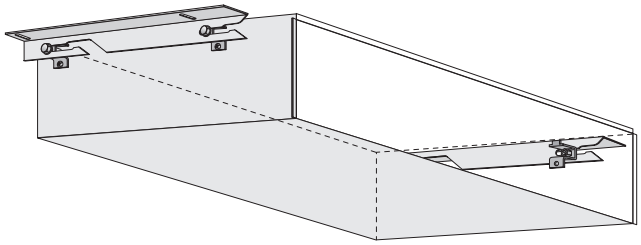


WMT10

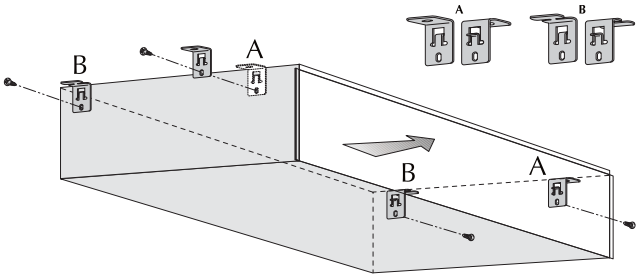


ACCESSORIES

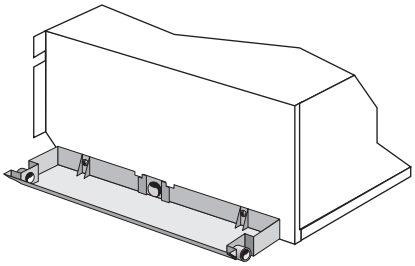
AMP SUPPORTS FOR INSTALLATION



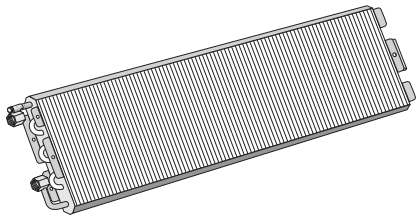
AMP20 SUPPORTS FOR INSTALLATION



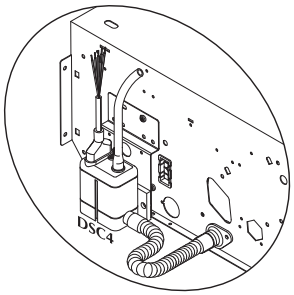
BC5 CONDENSATE COLLECTION TRAY



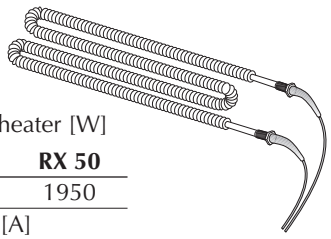
BV WATER-BASED HEATING COIL



DSC4 CONDENSATE DISCHARGE DEVICE



RX ELECTRIC HEATER



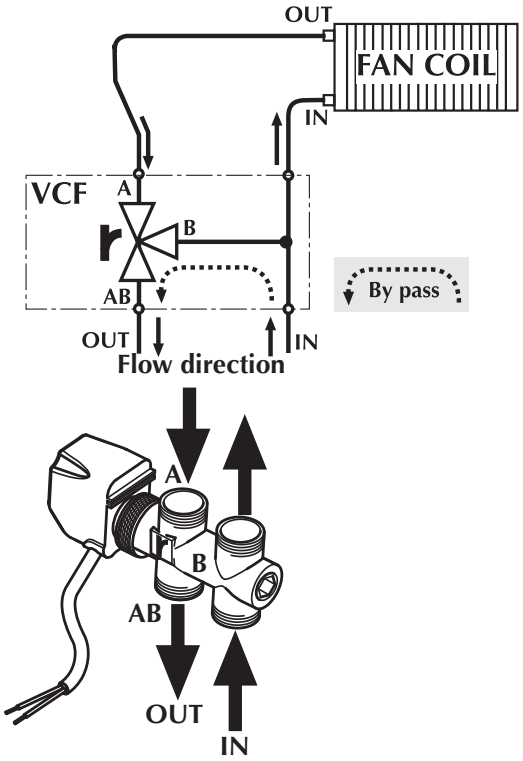
Heating capacity of electric heater [W]

RX 22	RX 32	RX 42	RX 50
950	1300	1650	1950

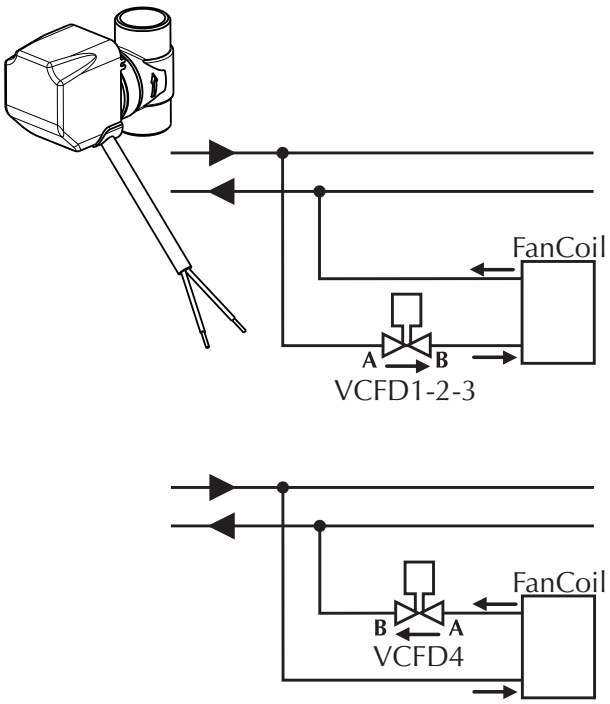
Electric heater input current [A]

RX 22	RX 32	RX 42	RX 50
4,13	5,65	7,17	8,48

VCF 3-WAY VALVE

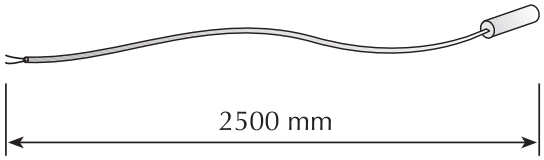


VCFD 2-WAY VALVE

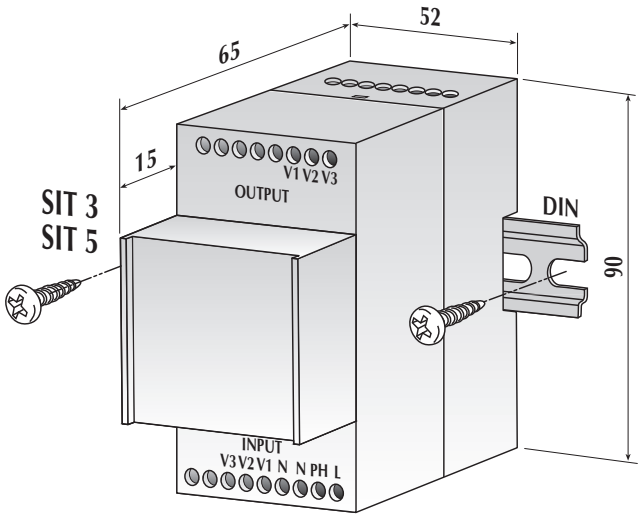


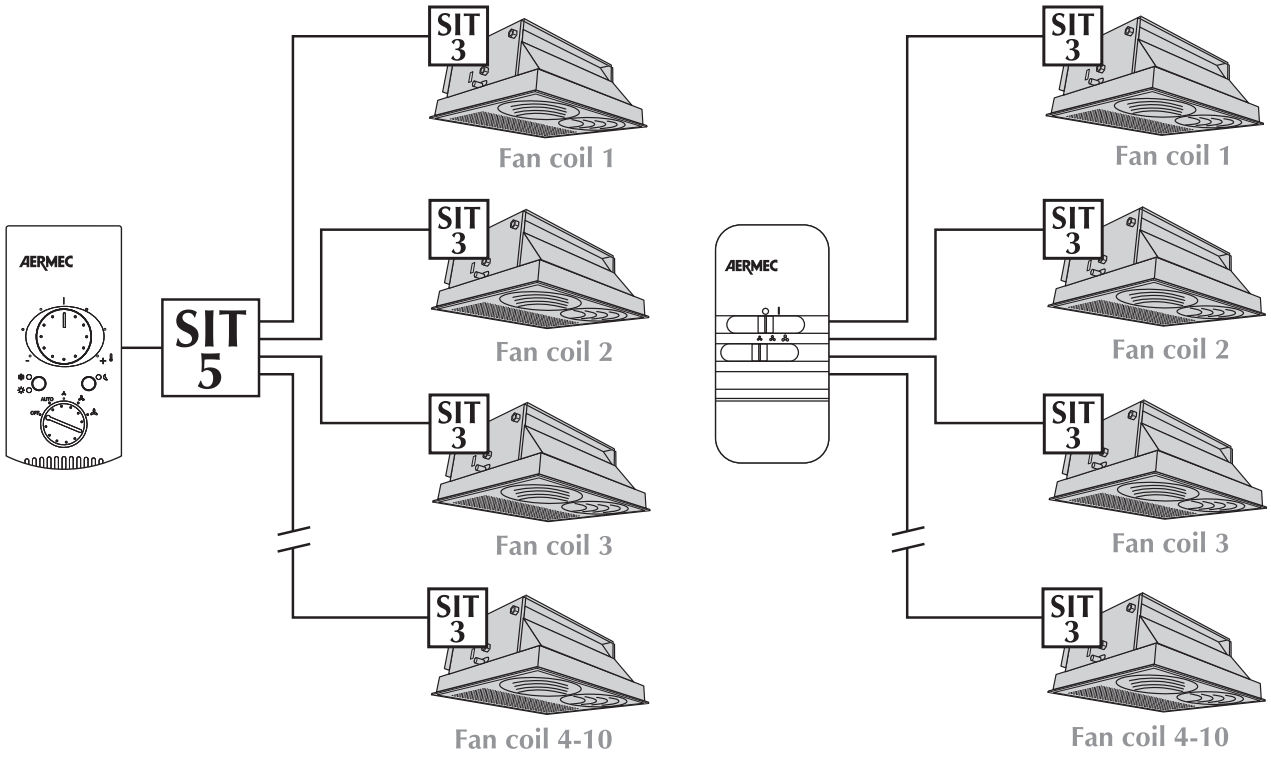
ACCESSORIES

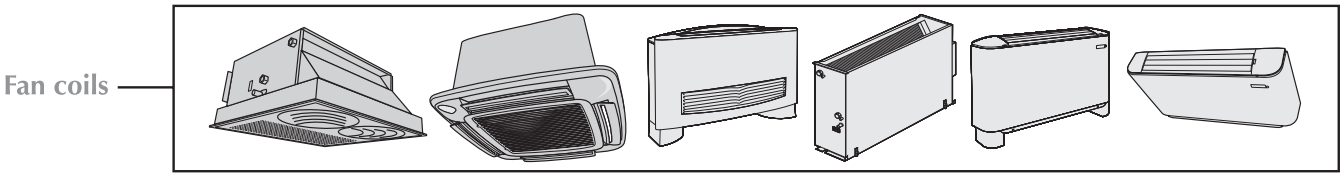
SW3 MINIMUM WATER TEMPERATURE SENSOR



SIT3 - SIT5 INTERFACE CARDS







INSTALLATION

WARNING: before carrying out any intervention, check the power supply is disconnected.
WARNING:before carrying out any work, put the proper individual protection equipment on.
WARNING: the appliance must be fitted according to the national regulations on process plant engineering.
WARNING: electrical wirings, installation of the fan coils and relevant accessories should be performed by a technician who has the necessary technical and professional expertise to install, modify, extend and maintain systems, and who is able to check the systems for the purposes of safety and correct operation.
WARNING: install a device, main switch or plug which allows to completely cut off the power supply from the unit.
Instructions which are essential for the proper installation of the equipment are given here.
The completion of all the operations in accordance with the specific requirements is however left to the experience of the installation engineer.
Do not install units in rooms where there are inflammable gases or acid or alkaline substances that could irretrievably damage the aluminium-copper heat exchanger or the internal plastic parts.
Do not install the unit in workshops or kitchens where the oil vapours mixed with the treated air can be deposited on the exchange coils, reducing their performance, or on the parts inside the unit, damaging the plastic parts.
Choose a position at the centre of the room whenever possible; adjusting the air output allows air to be distributed optimally within the room. **Do not install at a height above three metres.**

INSTALLING THE UNIT

- Choose the place where to install the unit according to the layout of the room, the number of units to be installed and any limitations imposed by the architecture. Check that the chosen place facilitates installing and servicing the unit.
- Install four M8 threaded rods into the ceiling to hold the frame.

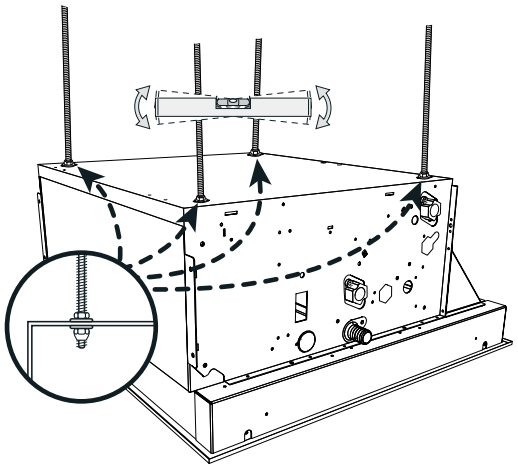
VEC allows 2 installation options thanks to the grill prepared to be fixed in two positions:

A) for suspended ceiling installation with reduced space that requires units with small dimensions.

B) allows (increasing total height) to increase the difference in level between condensate drain and suspended ceiling by a further 30 mm, to make the realisation of the condensate drain ducting even easier, in order to prevent, in most cases, the necessity for a condensate drain pump.

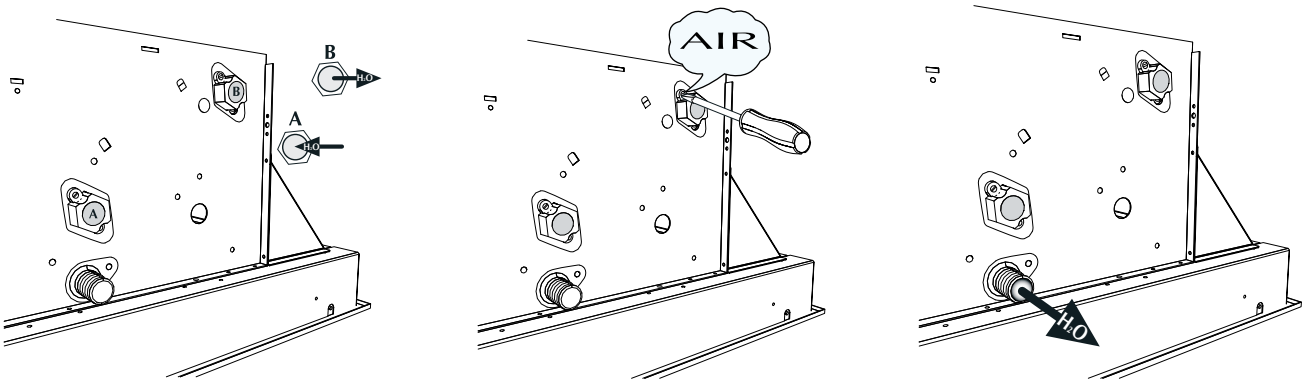
To install the VEC unit, proceed as follows:

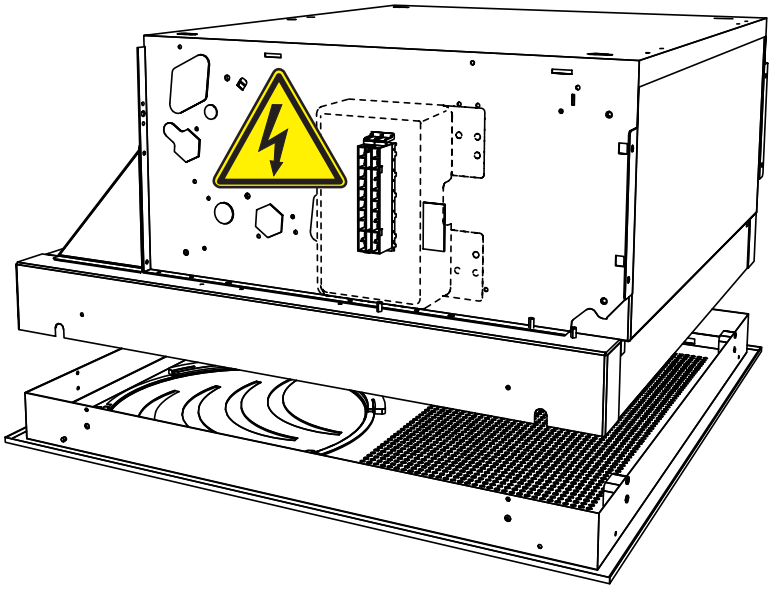
- open the cardboard box
- if necessary, mount any accessory before installing the unit on the ceiling WARNING: consult the relevant manuals of the accessories
- lift the unit carefully and, keeping it slightly inclined, attach it to the 4 threaded bars using 8 nuts, 4 of which are self-locking. Operate the nuts to adjust height; finally, check that the unit is installed in a horizontal position
- lay the hydraulic pipes through the suspended ceiling to the attachment plate on the unit
- make the hydraulic connections as described in the relative chapter
- bring the condensate discharge pipe so that it matches the relative fitting on the condensate discharge device
- drain the system via the drain valve
- bring the power supply and the control cables close to the electrical box
- adjust the position of the unit from the support bracket by means of the nuts so that the unit is level and the frame rests slightly on the suspended ceiling
- start the fan coil unit and carry out an operation test; the functions are described in the User Manual

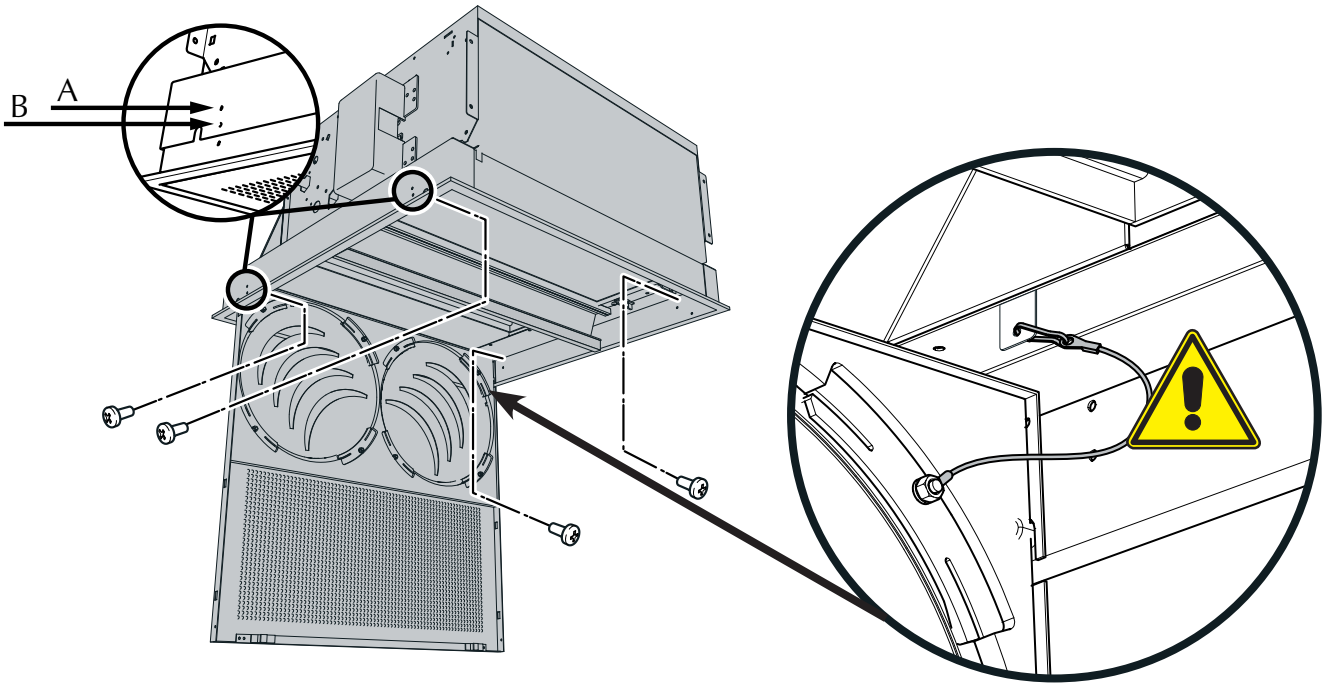


ELECTRICAL WIRINGS

The unit must be connected directly to an electrical outlet or to an independent circuit.
To protect the unit against short circuits, fit an omnipolar thermal-magnetic trip 2A 250V (IG) to the power line with a minimum contact opening distance of 3mm.
CHARACTERISTICS OF THE CONNECTION CABLES
Use H05V-K or N07V-K type cables with 300/500V with insulation, piped or ducted.
All the cables must be piped or ducted until they are inside the fan coil.
The cables coming out of the pipe or duct must not be subject to stretching or twisting. They must be protected from external agents.
Stranded wires can only be used with terminating sleeves. Make sure that the strands of the wires are inserted properly.
Wiring diagrams are constantly updated. It is therefore compulsory to refer to the ones supplied with the unit.
The control panel may not be fitted on a metal wall unless this is permanently connected to an earthed outlet.
The control panels consist simply of electric circuits connected at the mains voltage of 230V; all the inputs for the probes and controls must therefore be correspondingly insulated for this voltage.
Multifunctional electronic thermostats are provided ready for operation in the standard configuration but allow the installer to adjust them to the specific necessities of the system by modifying the internal dip-switch configuration.
The functions that can be customised might vary from model to model, for this reason it is advisable to consult the relevant manuals.
WARNING:check whether the installation has been carried out correctly. FOLLOW THE CHECKING PROCEDURES indicated in the control panel manuals.

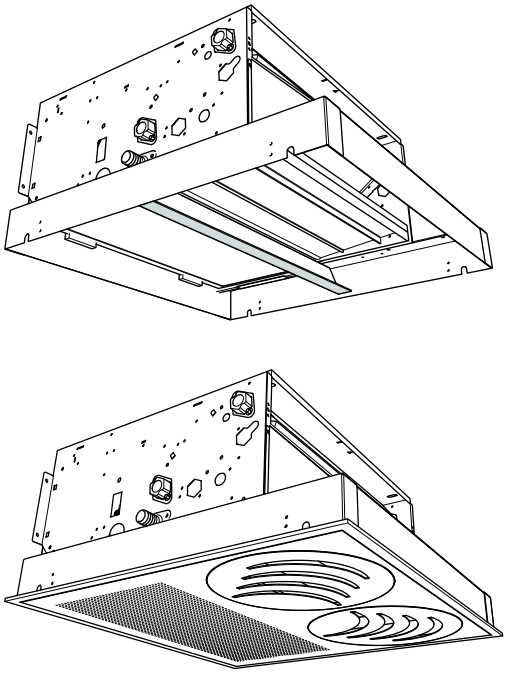

B
H2O
A
H2O
AIR
H2O



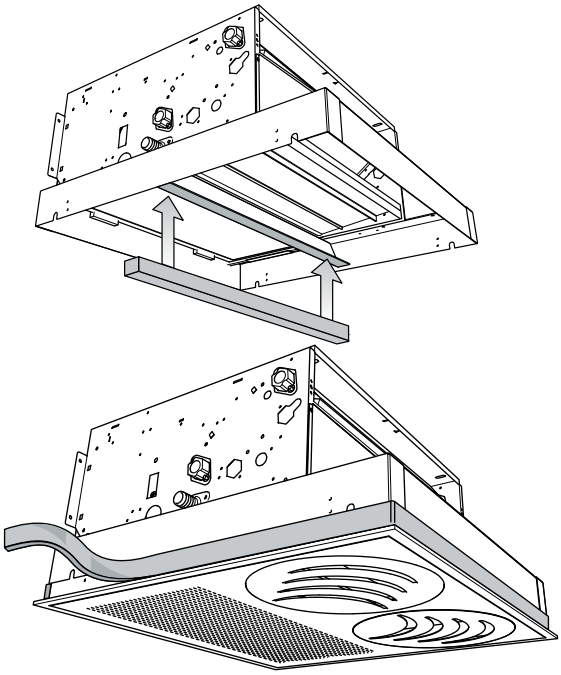

B
A

INSTALLATION

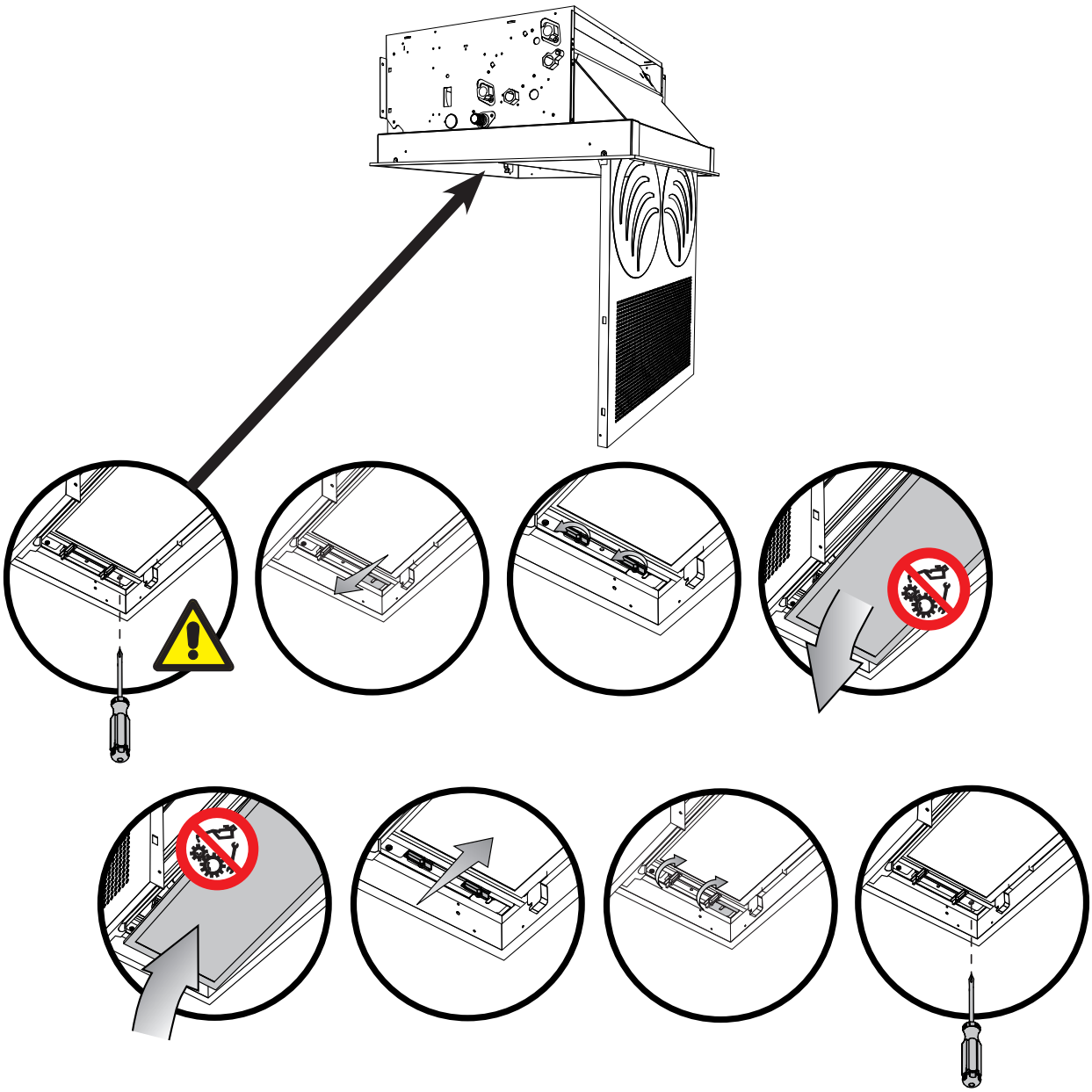
Installation "A"



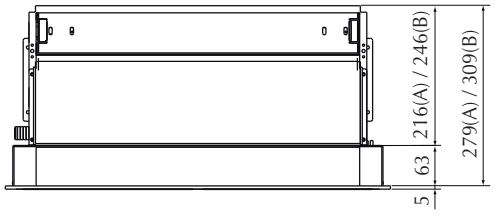
Installation "B"

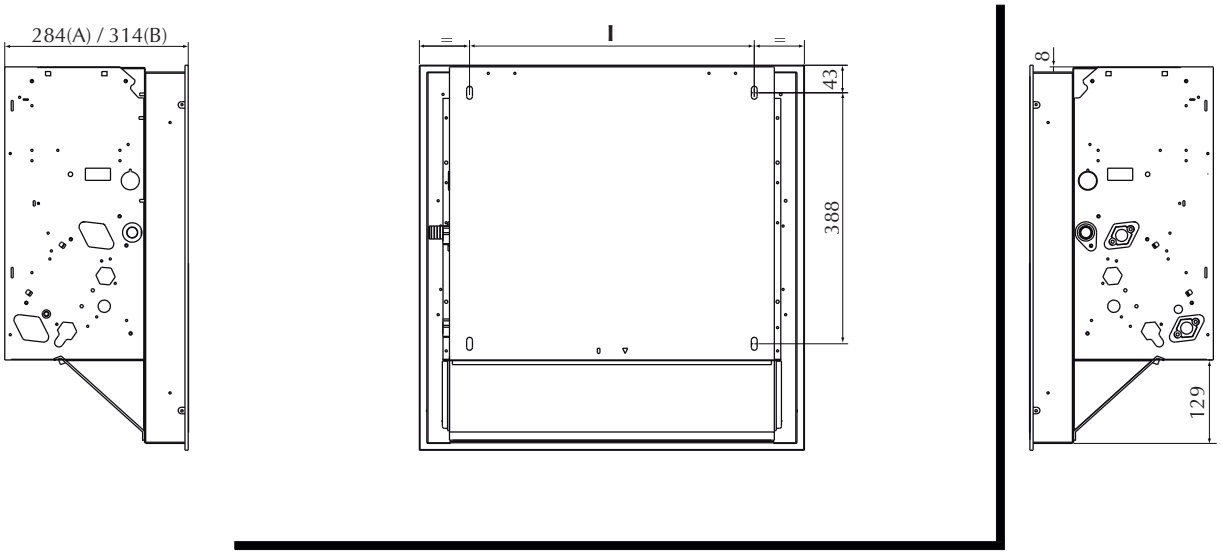


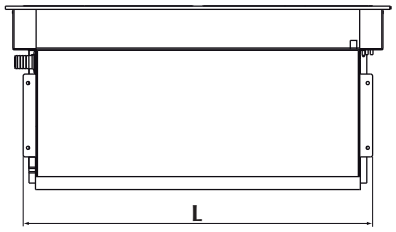
INSTALLING AND REPLACING THE AIR FILTER

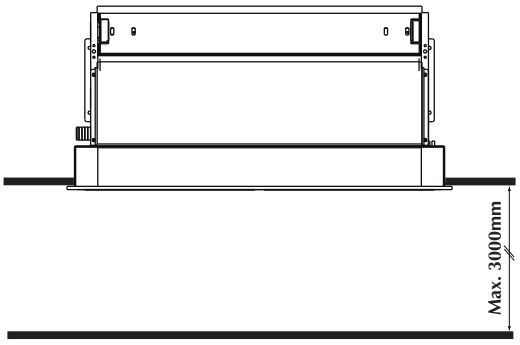


DIMENSIONS [mm]









VEC		20	30	40	50
L	[mm]	540	771	991	991
I	[mm]	440	671	891	891
Weight (VEC)	[kg]	15,5	20,6	24,7	24,7
Weight (VEC GL)	[kg]	3,7	5,7	7	7

WIRING DIAGRAMS

READING KEY

F = Fusibile • Fuse • Fusible
Sicherung • Fusible

IG = Interruttore generale • Main switch
Interupteur général • Hauptschalter
Interruptor general

M = Morsettiera • Terminal board
Boitier • Klemmleiste
Placa de bornes

MV = Motore ventilatore • Fan motor
Moteur ventilateur • Ventilatormotor
Motor del ventilador

PE = Collegamento a terra
Earth connection
Mise à terre
Erdanschluss
Toma de tierra
Sonda temperatura mínima del agua

VCF = Valvola solenoide • Solenoid valve
Vanne solenoide • Magnetventil
Válvula solenoide

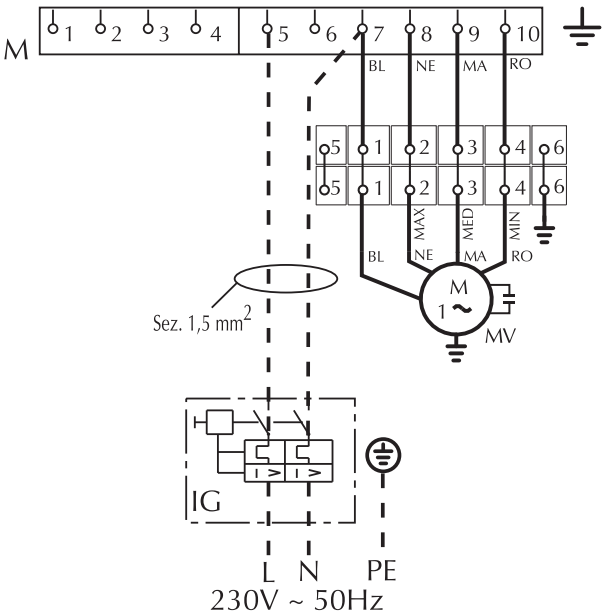
SPC = Dispositivo scarico condensa
Condensate drainage device
Dispositif pour évacuation condensation
Kondensatablauf Einrichtung
Dispositivo para desagüe de condensación

= Componenti non forniti
Components not supplied
Composants non fournis
Nicht lieferbare Teile
Componentes no suministrados

= Componenti forniti optional
Optional components
Composants en option
Optionsteile
Componentes opcionales

= Collegamenti da eseguire in loco
On-site wiring
Raccordements à effectuer in situ
Vor Ort auszuführende Anschlüsse
Cableado in situ

AR = Arancio • Orange • Orange • Orange • Naranja
BI = Bianco • White • Blanc • Weiss • Blanco
BL = Blu • Blue • Bleu • Blau • Azul
GR = Grigio • Grey • Gris • Gray • Gris
MA = Marrone • Brown • Marron • Braun • Marrón
NE = Nero • Black • Noir • Schwarz • Negro
RO = Rosso • Red • Rouge • Rot • Rojo
VE = Verde • Green • Vert • Grün • Verde
VI = Viola • Violet • Violet • Violet • Violeta



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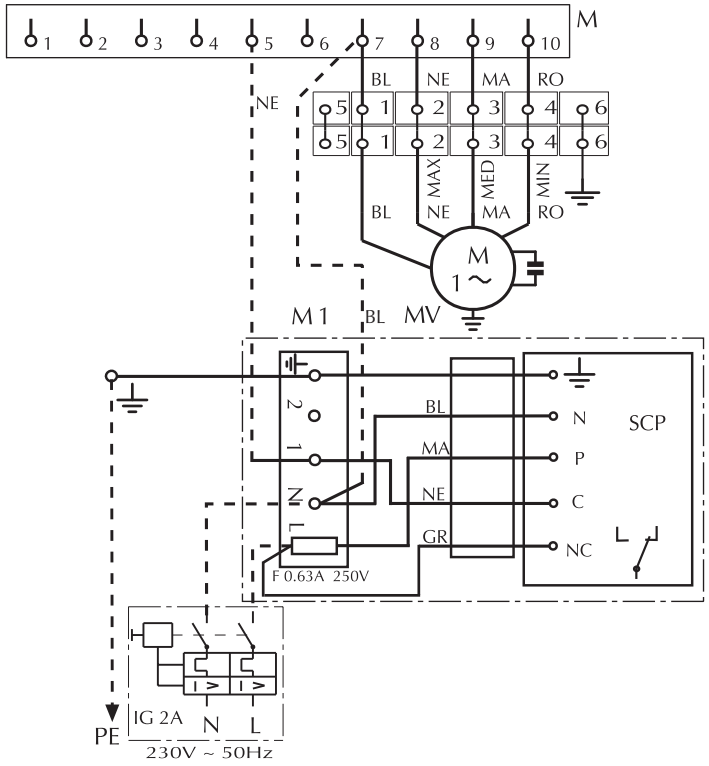
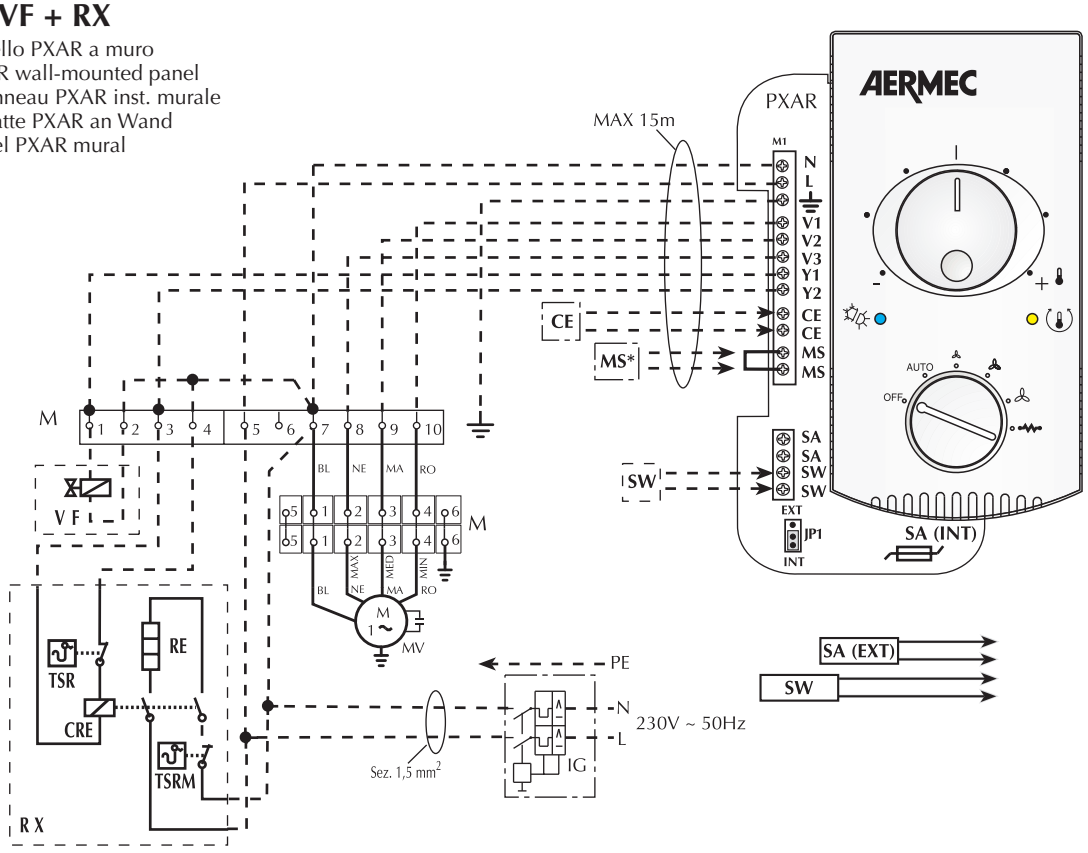
VEC
DSC



VEC
PXAR + VF + RX

2 tubi pannello PXAR a muro
2 tubes PXAR wall-mounted panel
2 tuyaux panneau PXAR inst. murale
2 Röhren Platte PXAR an Wand
2 tubos panel PXAR mural



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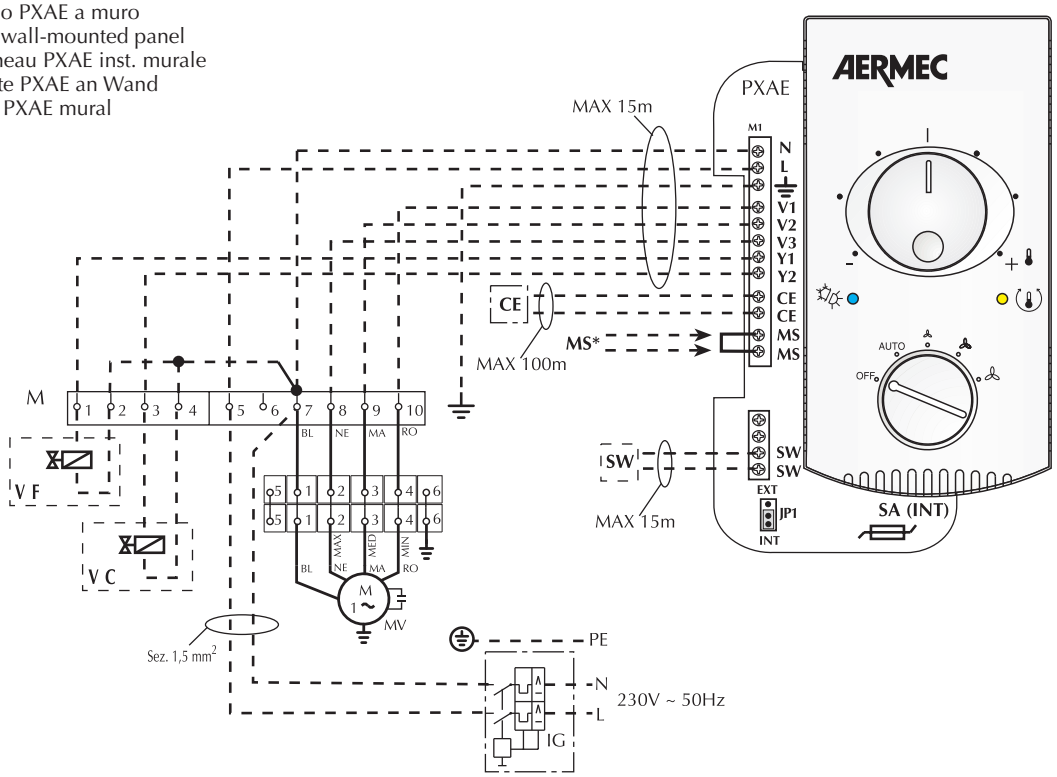
English

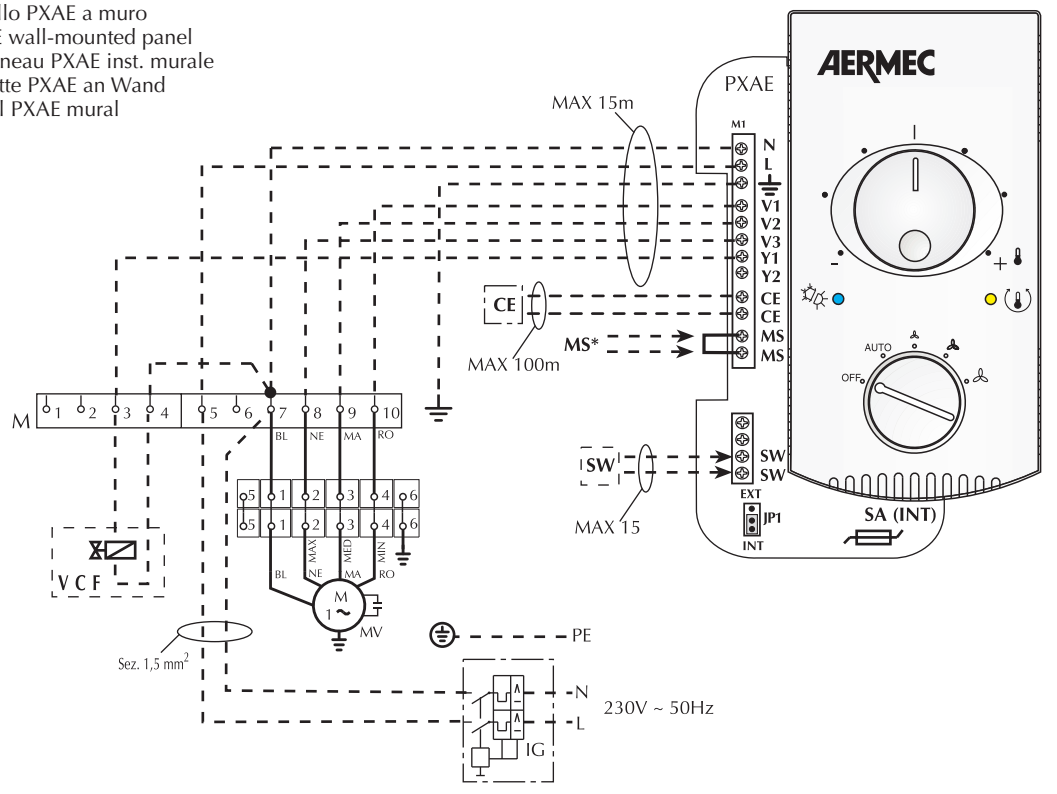
VEC
PXAE + VC + VF

4 tubi pannello PXAE a muro
4 tubes PXAE wall-mounted panel
4 tuyaux panneau PXAE inst. murale
4 Röhren Platte PXAE an Wand
4 tubos panel PXAE mural



VEC
PXAE + VCF

2 tubi pannello PXAE a muro
2 tubes PXAE wall-mounted panel
2 tuyaux panneau PXAE inst. murale
2 Röhren Platte PXAE an Wand
2 tubos panel PXAE mural



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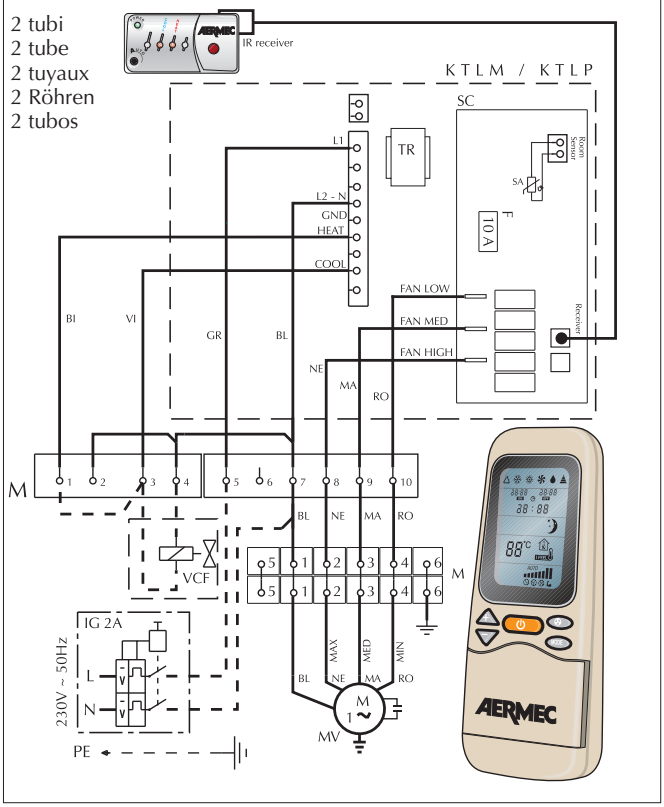
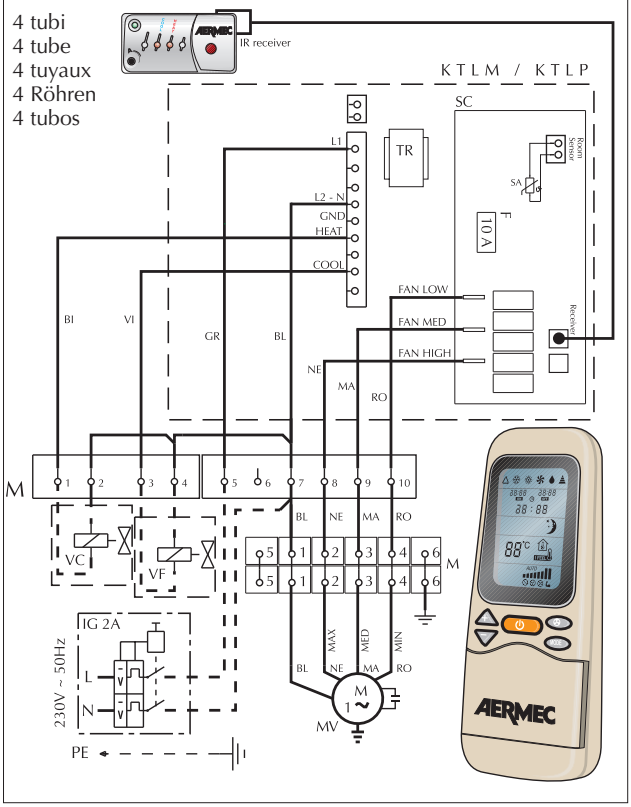
VEC
KTLP + VCF

2 tubi
2 tube
2 tuyaux
2 Röhren
2 tubos



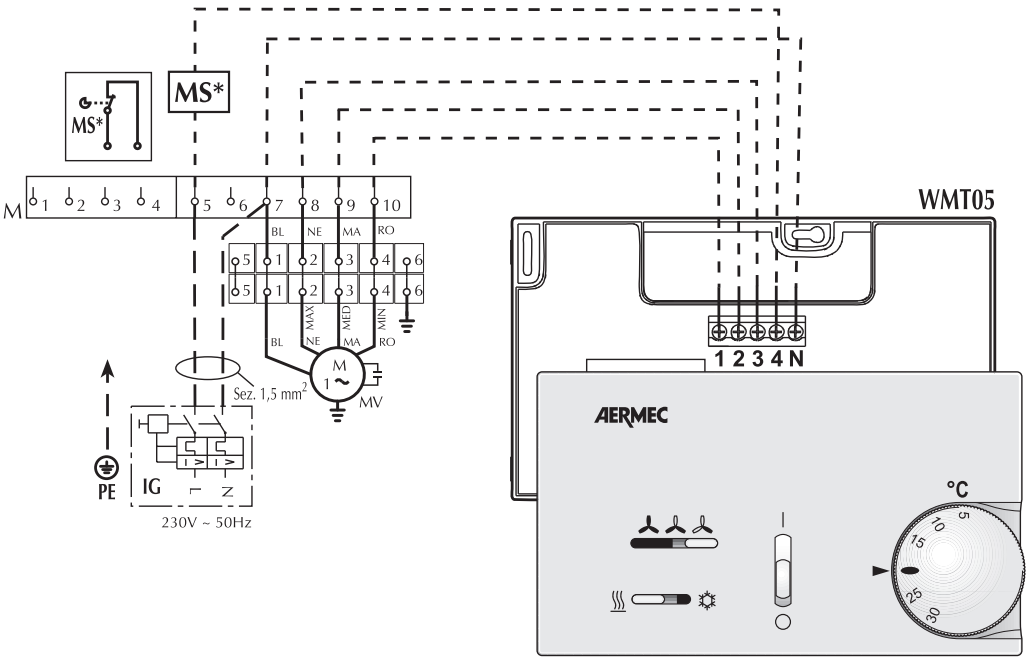
VEC
KTLP + VC + VF

4 tubi
4 tube
4 tuyaux
4 Röhren
4 tubos



VEC
WMT05

2 tubi
2 tube
2 tuyaux
2 Röhren
2 tubos



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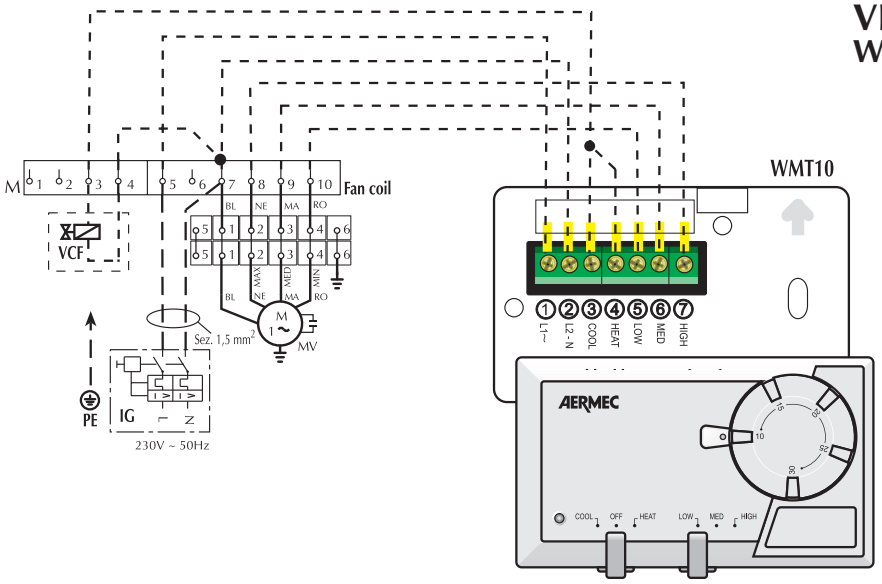
English

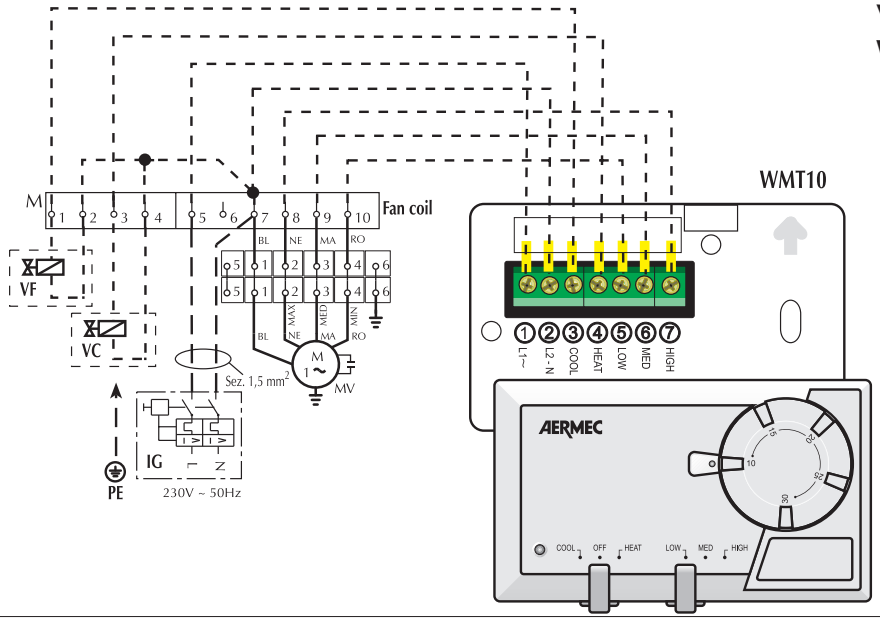
VEC
WMT10 + VCF

2 tubi
2 tube
2 tuyaux
2 Röhren
2 tubos



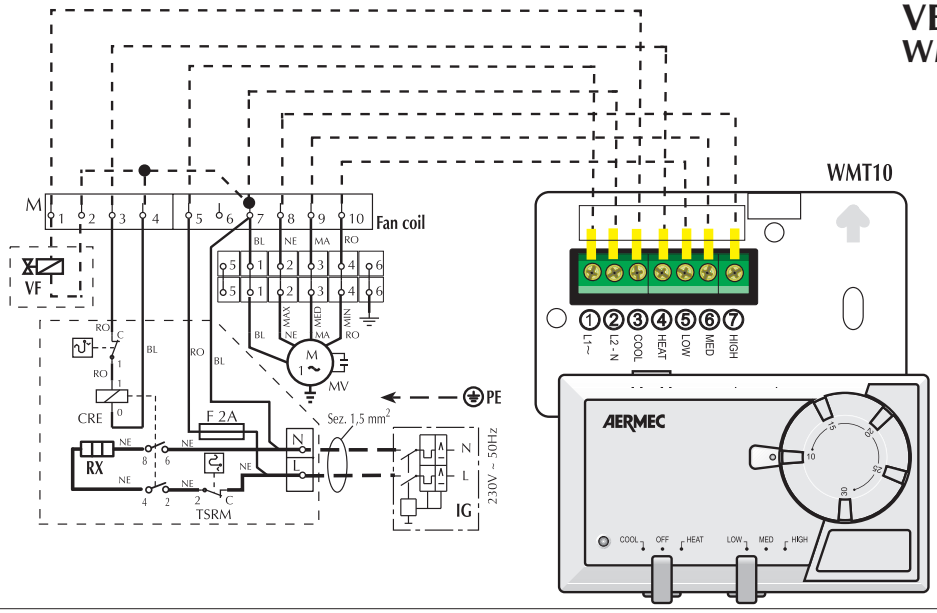
VEC
WMT10 + VF + VC

4 tubi
4 tube
4 tuyaux
4 Röhren
4 tubos



VEC
WMT10 + VF + RX

2 tubi
2 tube
2 tuyaux
2 Röhren
2 tubos



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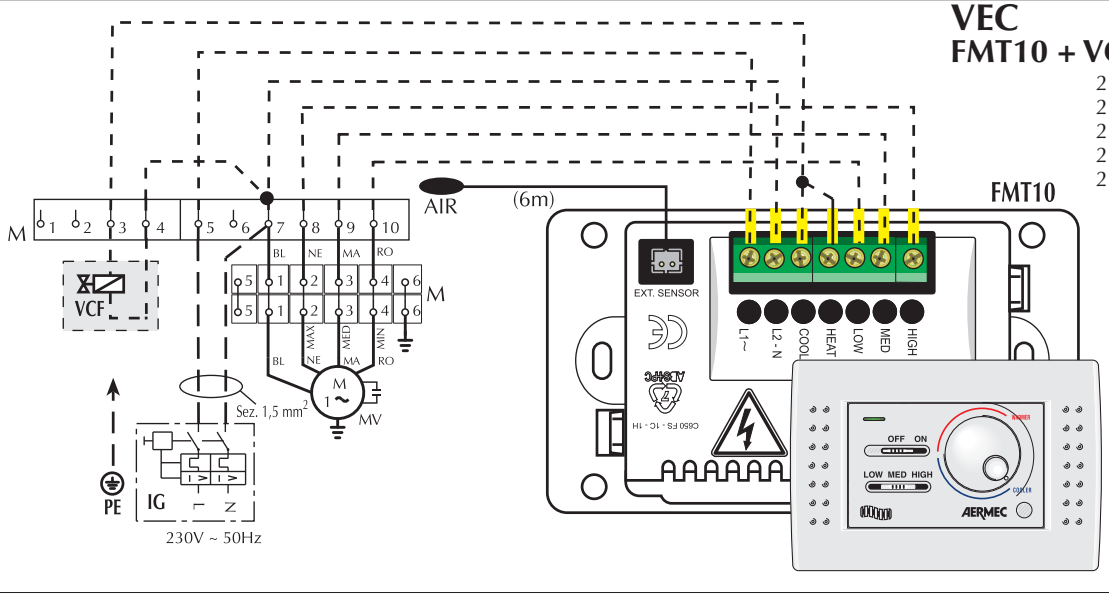
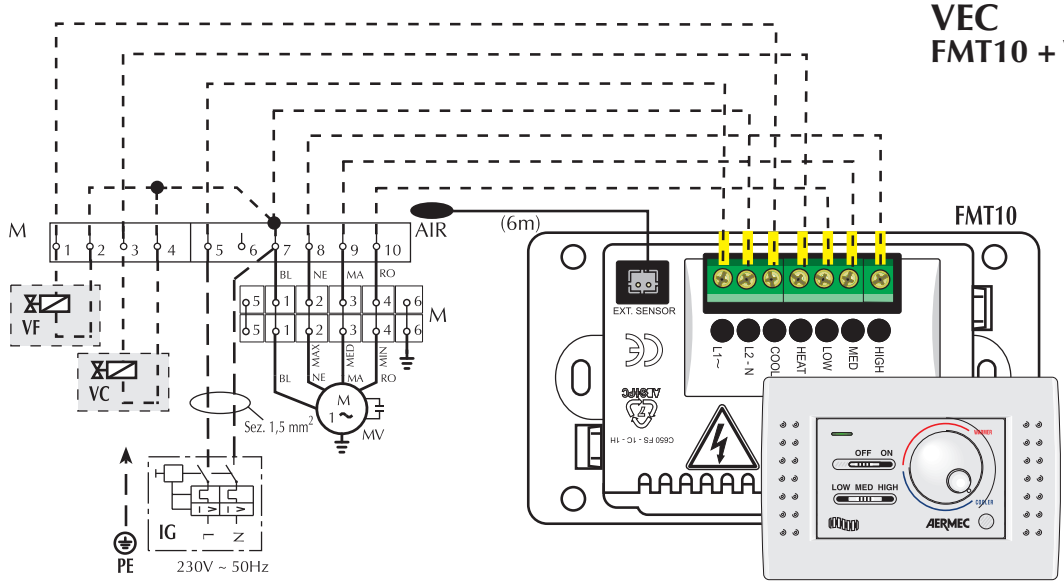
VEC
FMT10 + VCF

2 tubi
2 tube
2 tuyaux
2 Röhren
2 tubos



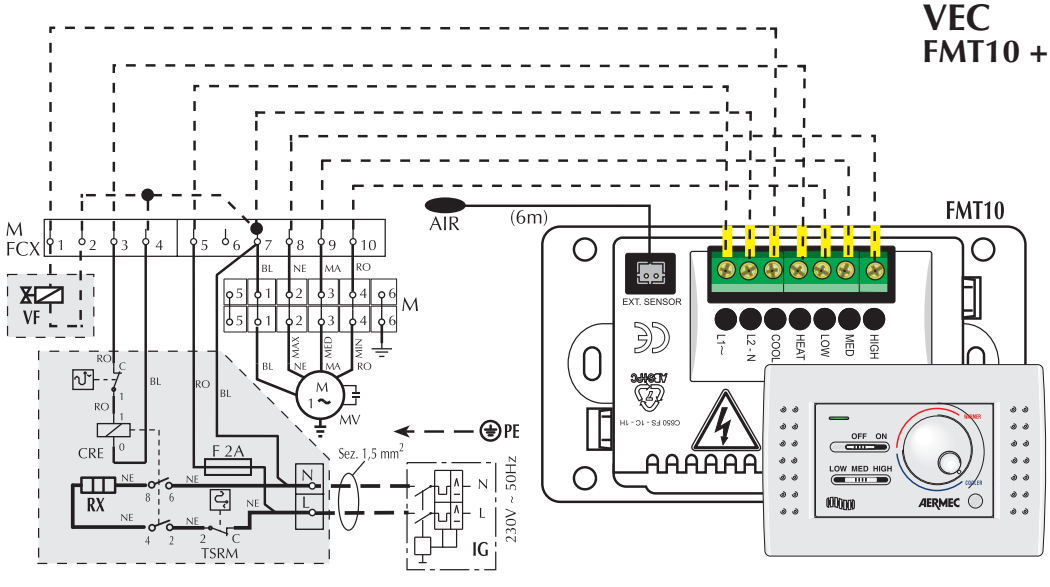
VEC
FMT10 + VF + VC

4 tubi
4 tube
4 tuyaux
4 Röhren
4 tubos



VEC
FMT10 + VF + RX

2 tubi
2 tube
2 tuyaux
2 Röhren
2 tubos



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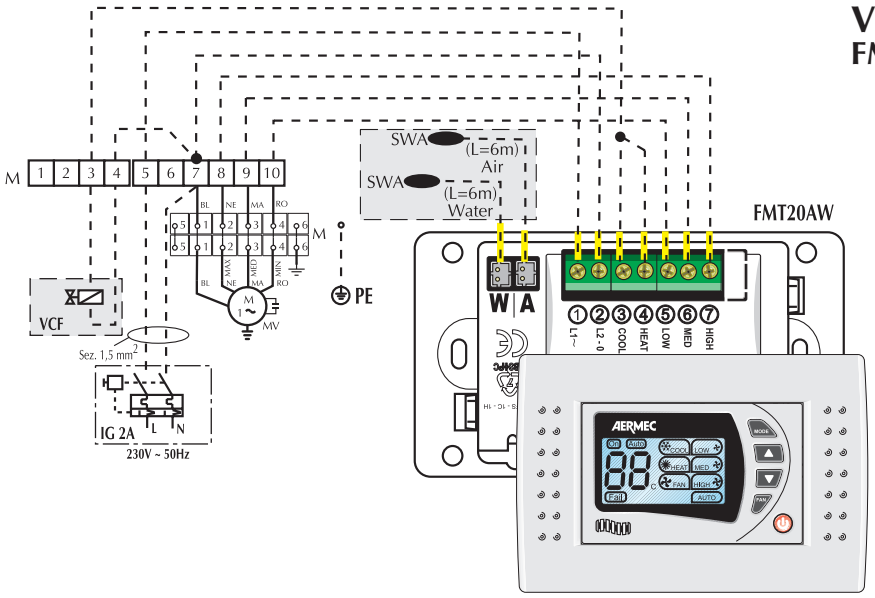
English

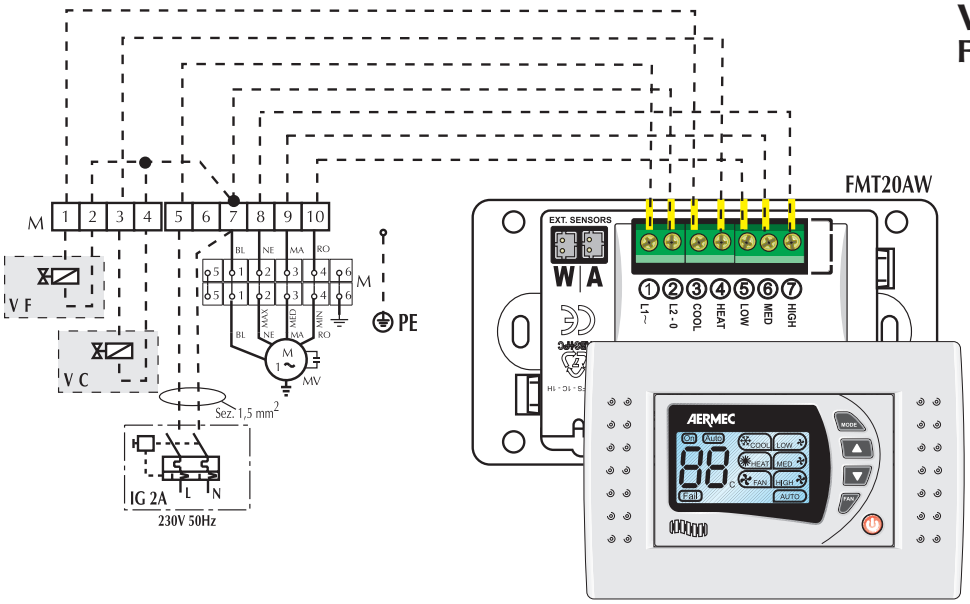
VEC
FMT20 + VCF

2 tubi
2 tube
2 tuyaux
2 Röhren
2 tubos



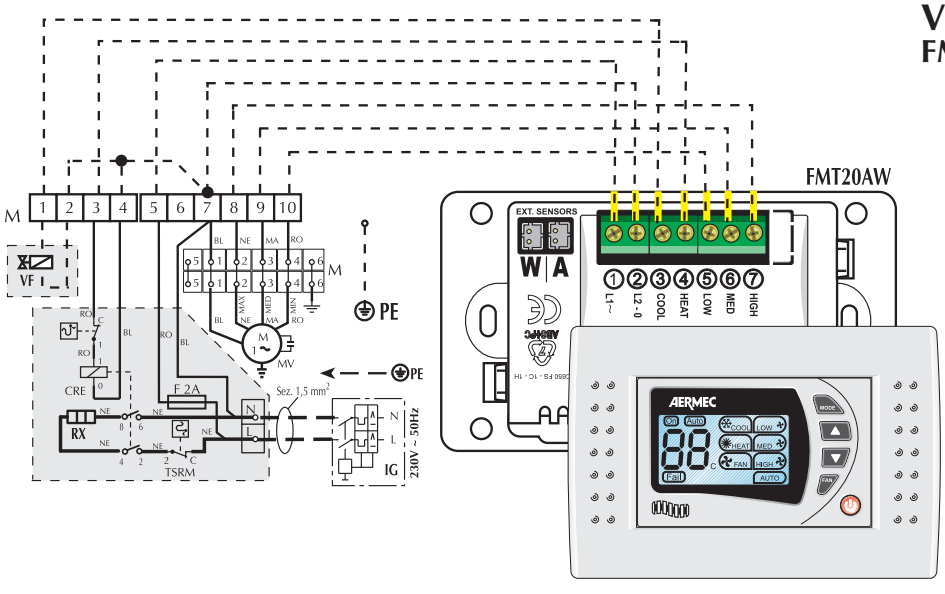
VEC
FMT20 + VF + VC

4 tubi
4 tube
4 tuyaux
4 Röhren
4 tubos



VEC
FMT20 + VF + RX

2 tubi
2 tube
2 tuyaux
2 Röhren
2 tubos



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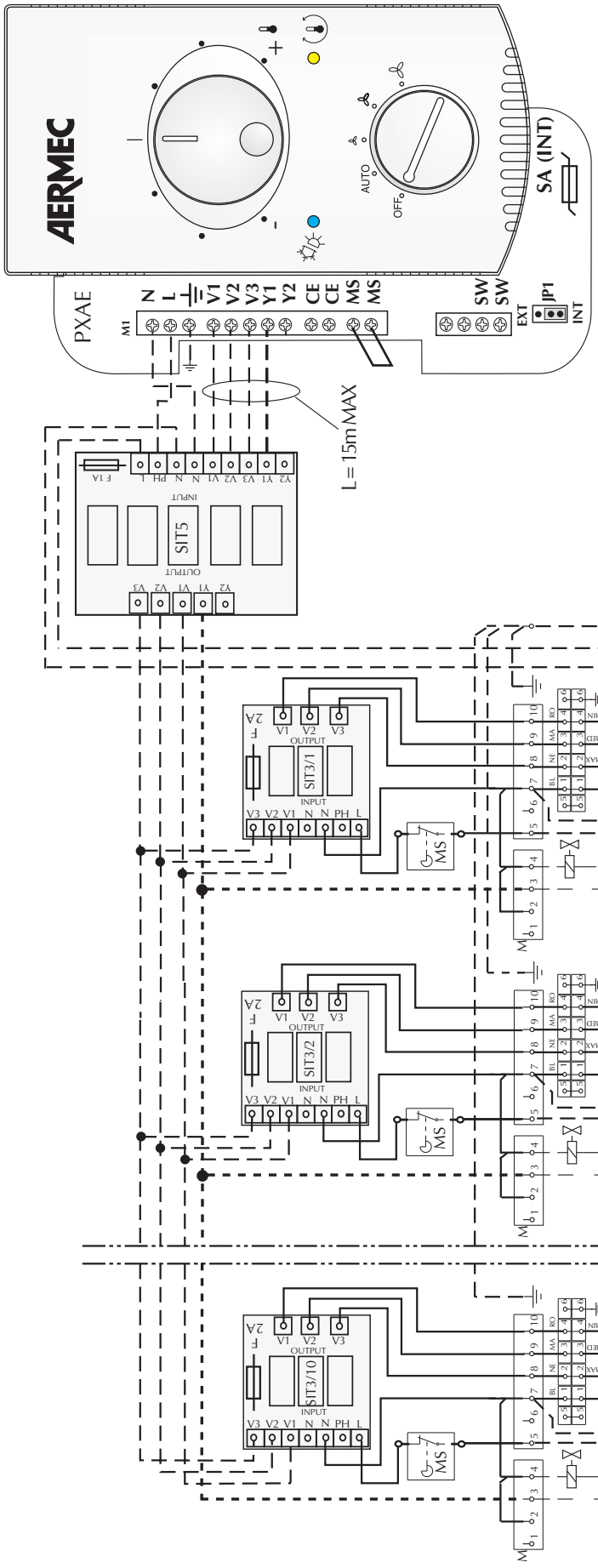
VEC
PXAE
SIT3 + SIT5



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TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
Insufficient air flow at outlet	Incorrect speed setting on control panel	Select the correct speed on the control panel
	Blocked filter	Clean the filter
	Obstructed air flow (inlet and/or outlet)	Remove the obstacle
Unit does not heat	No hot water	Check the boiler Check the heat pump
	Incorrect control panel setting	Set the control panel correctly
Unit does not cool	No cold water	Check the chiller
	Incorrect control panel setting	Set the control panel
Fan not turning	No electrical power	Check that there is electrical power
	Water has not reached the operating temperature	Check the boiler or chiller and/or its setting
	Air has not reached the operating temperature	Check the temperature set on the thermostat
Condensation forming on the external case of the unit	Temperature and humidity limits specified by "MINIMUM AVERAGE WATER TEMPERATURE" have been reached	Raise the water temperature above the limits specified by "MINIMUM AVERAGE WATER TEMPERATURE"

For any problems not listed, contact the After Sales Service immediately.

MAINTENANCE

ORDINARY MAINTENANCE

Routine maintenance can be carried out by the user: it involves a series of simple operations, thanks to which the fan coil can operate at its maximum efficiency level.

Before carrying out any work, make sure the electricity supply is unplugged. Do not remove the shell or the mechanical/electrical protection devices.

Interventions:

- External cleaning, weekly, to be carried out with a damp cloth (dipped in water maximum 40°C) and neutral soap; avoid any other type of detergent or solvent.
- Do not spray water on the outer or inner surfaces of the fan coil (this could cause short-circuiting).
- Visual inspection of the state of the fan coil for every maintenance operation; any anomaly must be reported to the After Sales Service.

EXTRAORDINARY MAINTENANCE

Extraordinary maintenance must only be carried out by Aermec After Sales Service centres, or by technicians with the technical and professional requisites for the installation, transformation, amplification and maintenance of the systems, and able to check these aspects in terms of safety and good working.

For the electrical wiring in particular, checks relating to the following aspects are required:
- Measurement of the electrical system insulation resistance;
- Continuity test of the protection wires.

Extraordinary maintenance consists of a set of complex operations that involve the dismantling of the fan coil or its components, resulting in the restoration of the fan coil's functioning at maximum efficiency.

Before carrying out any work, make sure the electricity supply is unplugged.

Interventions:

- Internal cleaning, once a year or before the machine is shut down for a long period. In rooms where a high level of air cleaning is requested, the cleaning intervention can be made more often. It consists in the cleaning of the coil, fan louvres, basin, ioniser, and all the parts in contact with the treated air. Check also the condition of the filter, cleaning or replacing it if necessary.

Do not use jets or sprays of water during the cleaning.
Use the brush to remove any dust deposits.

- Repairs and fine tuning: if you notice anomalies, consult the "TROUBLESHOOTING" chapter of this manual before contacting the After Sales Service.

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