



HEAT PUMPS
Technical - Installation - maintenance manual



SRP



Dear Customer,

Thank you for choosing an AERMEC product. This product is the result of many years of experience and in-depth engineering research, and it is built using top quality materials and advanced technologies.

In addition, the CE mark guarantees that our appliances fully comply with the requirements of the European Machinery Directive in terms of safety. We constantly monitor the quality level of our products, and as a result they are synonymous with Safety, Quality, and Reliability.

Product data may be subject to modifications deemed necessary for improving the product without the obligation to give prior notice.

Thank you again.
AERMEC S.p.A

1.	General warnings.....	6	19.	Control and commissioning.....	25
1.1.	Preservation of the documentation	6	19.1.	Preparation for commissioning.....	25
1.2.	Warnings regarding safety and installation standards	6	19.2.	Machine commissioning	25
19.3.			19.3.	Season changeover	25
2.	Product identification.....	6	20.	Functioning features.....	26
3.	Description and choice of unit.....	7	20.1.	Set point in heating mode	26
3.1.	Set-ups available	7	20.2.	Compressor start-up delay	26
3.2.	Configurator	7	20.3.	Circulation pump.....	26
4.	Description of components	8	20.4.	Anti-freeze alarm	26
4.1.	Cooling circuit	8	20.5.	Water flow rate alarm	26
4.2.	Hydraulic circuit	8	21.	Maintenance.....	26
4.3.	Frame and fan	8	21.1.	Extraordinary maintenance.....	27
4.4.	Control and safety components.....	8	22.	List of controls for the guided procedure.....	28
4.5.	Electronic modu control adjustment.....	8	23.	Dimensions and hydraulic connections .	30
5.	Accessories	9	23.1.	Srp internal installation.....	30
6.	Pumps kit (accessory).....	10	23.2.	Srp external installation	31
7.	Technical data	11	24.	Dhw storage tanks	32
8.	Operational limits	12	25.	System storage tanks.....	39
8.1.	Project data.....	12	25.1.	External installation	43
9.	Yield and absorptions different to nominal.....	13	25.2.	Internal installation.....	43
10.	Ethylene glycol solutions	17	26.	Installation accessories.....	43
10.1.	How to interpret glycol curves	17			
11.	Pressure drops.....	18			
11.1.	Plate heat exchanger and filter pressure drop.....	18			
11.2.	Electric resistance pressure drop	18			
11.3.	Total pressure drops.....	18			
13.	Sound data	19			
12.	Calibration of safety and control devices.....	19			
14.	Selection and place of installation.....	20			
15.	Positioning	20			
15.1.	Minimum technical spaces (mm)	20			
16.	Hydraulic circuit	21			
16.1.	Hydraulic circuit recommended.....	21			
16.2.	Loading the system.....	21			
16.3.	Emptying the system.....	21			
16.4.	Position of hydraulic connections.....	21			
17.	Electric connections	22			
17.1.	Recommended electric cable section..	22			
17.2.	Electric control board.....	23			
17.3.	Electric power connection	23			
17.4.	Auxiliary connections under the responsibility of the user/installer	23			
18.	Electric resistances.....	24			
18.1.	Electric resistances selection	24			

SRP

SERIAL NUMBER	
----------------------	--

EC DECLARATION OF CONFORMITY

We, the undersigned, hereby declare under our own responsibility that the assembly in question, defined as follows:

NAME SRP
TYPE HEAT PUMPS
MODEL

To which this declaration refers, complies with the following harmonised standards:

IEC EN 60335-2-40	Safety standard regarding electrical heat pumps, air conditioners and dehumidifiers
IEC EN 61000-6-1 IEC EN 61000-6-3	Immunity and electromagnetic emissions for residential environments
IEC EN 61000-6-2 IEC EN 61000-6-4	Immunity and electromagnetic emissions for industrial environments
EN378	Refrigerating systems and heat pumps - Safety and environmental requirements
EN12735	Copper and copper alloys - Seamless, round copper tubes for air conditioning and refrigeration
UNI EN 12735	Seamless, round copper tubes for air conditioning and refrigeration
UNI EN 14276	Pressure equipment for cooling systems and heat pumps

Therefore complying with the essential requirements of the following directives:

- LVD Directive: 2006/95/CE
- Electromagnetic Compatibility Directive 2004/108/CE
- Machinery Directive 2006/42/CE

La persona autorizzata a costituire il fascicolo tecnico è: / The person authorized to compile the technical file is: / La personne autorisée à constituer le dossier technique est: / Die Person berechtigt, die technischen Unterlagen zusammenzustellen:

Alberto Foroni

Bevilacqua

01/01/2010

Marketing Manager
Signature



Standards and Directives respected on designing and constructing the unit:

Safety:

Machinery Directive

2006/42/CE

Low Voltage Directive

LVD 2006/95/CE

Electromagnetic compatibility Directive

EMC 2004/108/CE

Pressure Equipment Directive

PED 97/23/CE EN 378,

UNI EN 14276

Electric part:

EN 60335 - 2 - 40

Protection rating

IP24

Acoustic part:

ISO DIS 9614/2

(intensimetric method)

Certifications:

Eurovent

NF x SRP

Performance data:

UNI EN 14511

Refrigerant GAS:

This unit contains fluoride gases with greenhouse effect covered by the Kyoto Protocol. Maintenance and disposal must only be performed by qualified staff.

1. GENERAL WARNINGS

AERMEC SRPIs are constructed according to the recognised technical standards and safety regulations. They have been designed for air conditioning and the production of domestic hot water (DHW) and must be destined to this use compatibly with their performance features. Any contractual or extracontractual liability of the Company is excluded for injury/damage to persons, animals or objects owing to installation, regulation and maintenance errors or improper use. All uses not expressly indicated in this manual are prohibited.

1.1. PRESERVATION OF THE DOCUMENTATION

The instructions along with all the related documentation must be given to the user of the system, who assumes the responsibility to conserve the instructions so that they are always at hand in case of need.

Read this sheet carefully; the execution of all works must be performed by qualified staff, according to Standards in force in this subject in different countries. (Ministerial Decree 329/2004). The appliance must be installed in such a way as to enable maintenance and/or repairs to be carried out.

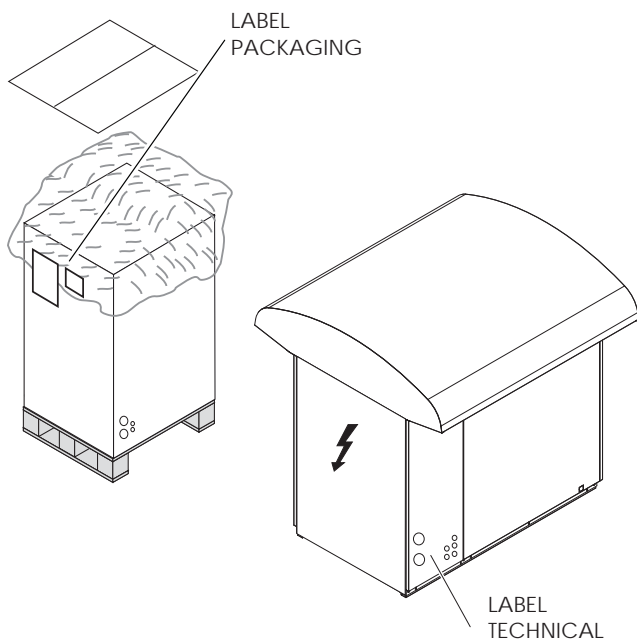
The appliance warranty does not cover the costs for ladders, scaffolding, or other elevation systems that may become necessary for carrying out servicing under warranty.

Do not modify or tamper with the chiller as dangerous situations can be

created and the manufacturer will not be liable for any damage caused. The validity of the warranty shall be void in the event of failure to comply with the above-mentioned indications.

1.2. WARNINGS REGARDING SAFETY AND INSTALLATION STANDARDS

- The cooler must be installed by a qualified and suitably trained technician, in compliance with the national legislation in force in the country of destination (Ministerial Decree 329/2004). **AERMEC will not assume any responsibility for damage due to failure to follow these instructions.**
- Before beginning any operation, READ THESE INSTRUCTIONS CAREFULLY AND CARRY OUT THE SAFETY CHECKS TO REDUCE ALL RISK OF DANGER TO A MINIMUM. All the staff involved must have thorough knowledge of the operations and any dangers that may arise at the moment in which the installation operations are carried out.



2. PRODUCT IDENTIFICATION

The SRP heat pump can be identified by means of:

- **Packaging label** which shows the product identification data
- **Technical plate** Positioned on the fixed panel in the lower part in the area of the lateral hydraulic and electrical connections

NOTE

Tampering, removal, lack of the identification plate or other does not allow the safe identification of the product and will make any installation or maintenance operation to be performed difficult.

3. DESCRIPTION AND CHOICE OF UNIT

The SRP heat pump can provide winter climatisation and the production of DHW.

The AERMEC units are only powered with electricity, there is no combustion, open flame, gas in the air, in living environments. Moreover, there is no need for flues for combustion product exhaust and reduced maintenance is required with respect to traditional heating plants, for the use of sealed refrigerant circuits and lower working temperatures.

Thanks to the high efficiency Scroll compressor, the heat pumps produce hot water (SYSTEM) up to 65°C, therefore suitable for heating rooms also through normal radiators and for functioning with external temperatures that can go from -20 °C to 35 °C.

Particular attention has been paid to acoustic material and particularly the choice of PLUG-FANS with high static

pressure and silence, in order to obtain silent functioning conditions.

The Aermec heat pumps are ready for immediate installation. Just connect the machine to the water and electric system in order to start it. The small dimensions and the particular construction allow installation inside and outside of the home.

3.1. SET-UPS AVAILABLE

With the help of the configurator it is possible to set-up and therefore order the heat pump that best satisfies the requests of the user.

3.2. CONFIGURATOR

1,2,3	4,5	6	7	9	9
-------	-----	---	---	---	---

SRP 10 ° S R T

Field	Code
1, 2, 3	SRP
4, 5	Sizes 10 - 14 - 19
6	Ventilation management SDgr standard
7	Soft-start (as per standard in the 230V/_/50Hz versions) SDgr Standard (without Soft-start) S With Soft-start
8	Integral resistance SDgr Standard (without integrative resistances) R Integral resistance
9	Power supply M 230V/_/50Hz T 400V/_3N/50Hz

4. DESCRIPTION OF COMPONENTS

4.1. COOLING CIRCUIT

Compressor

High efficient hermetic scroll on anti-vibration mounts, activated by a 2-pole electric motor with internal heat protection.

The compressor is also supplied, as standard, with an electric oil sump resistance, powered automatically when the unit stops as long as the unit is live.

Condenser + Anti-freeze resistance

Braze welded plate heat exchanger (AISI 316) insulated externally with closed cell material to reduce heat loss, it is large to allow high efficiency.

Evaporator

Made with copper pipes and aluminium louvered fins blocked by mechanical expansion of the pipes.

Dehydrator filter

Mechanical dehydrator filter realised in ceramics and hygroscopic material, able to withhold impurities and any traces of humidity present in the cooling circuit.

Thermostatic valves

The mechanical valves, with external equaliser positioned at condenser outlet, modulates the flow of gas to the condenser, depending on the heat load, in order to ensure a correct heating level of the intake gas.

Economizer

Plate type (AISI 316). This allows to further undercool the refrigerant liquid exiting the condenser and makes a certain steam capacity available to be injected in an intermediate point of the compression process, thus reducing the flow temperature and electrical absorption.

Solenoid valves

A solenoid valve excludes the economizer

The second valve enables injection of the liquid.

Cycle reversing valve

Inverts the flow of refrigerant by activating the defrosting cycle.

One way valves

Allows one-way flow of the refrigerant.

Liquid indicator

Used to check the refrigerant gas load and any presence of humidity in the cooling circuit.

Liquid storage

It is used to keep the refrigerant gas, which is present in the cooling circuit, in the liquid state.

4.2. HYDRAULIC CIRCUIT

Water filter

This allows to block any impurities present in the hydraulic circuit. It contains a filtering mesh with holes that do not exceed one millimetre. It is useful to guarantee correct functioning.

Safety valve

Calibrated at 3 Bar and with piped discharger that discharges if abnormal pressure occurs.

Air vent valve

Manual type sees to discharge of eventual air pockets.

Drain cock

Allows to drain the water present in the heat exchanger.

Electric resistances

Can be configured depending on requirements, they supply additional energy if heat pump performance cannot satisfy the effective requirements due to unfavourable environmental conditions. They can be integrative or replaceable.

4.3. FRAME AND FAN

Support frame

Made in hot galvanised sheet steel with suitable thickness and painted with polyester powders able to resist atmospheric agents through time.

PLUG-FAN

Reverse blades, with motor with external rotor. Thanks to its special construction, the fan is very small and characterised by particularly silent functioning.

4.4. CONTROL AND SAFETY COMPONENTS

Low pressure transducers

Placed on high pressure side of cooling circuit, signals the work pressure to control board, generating a pre-warning in case abnormal pressure occurs.

High pressure transducer

Placed on high pressure side of cooling circuit, signals the work pressure to control board, generating a pre-warning in case abnormal pressure occurs.

High pressure pressure switch

With fixed calibration, positioned on the

high pressure side of the cooling circuit, it stops compressor functioning in the case of anomalous work pressures.

4.5. ELECTRONIC MODU CONTROL ADJUSTMENT

MODU_CONTROL

Temperature control of the output water with proportional-integral algorithm: maintains average output temperature at value set

- Self-adapting differential switch: guarantees minimum functioning times of the compressor in systems with low water content.
- Intelligent defrosting for pressure reduction: allows to determine when the coil is effectively defrosted, avoiding useless defrosting
- Hot gas injection defrosting: in this way the machine consumes less energy, increases heating capacity, keeps efficiency high and prevents temperature drops at the terminals (very important in plants with low water content).
- Emergency defrosting by cooling cycle reversing: to overcome more serious conditions
- Set-point compensation with external temperature (with external air probe accessory): reduces energy consumption
- Condensation control based on the pressure instead of the temperature, for absolute stability)
- Inverse condensation control for heat pump functioning also in the summer
- Pre-alarms with automatic reset in the case of alarm, a certain number of re-starts are allowed before the definitive block.
- alarm on the ΔT : to identify wiring errors (reverse rotation) or blocked cycle reversing valve.
- Compressor functioning hours count.
- Compressor peak count.
- Historical alarms
- Autostart after voltage drop.
- Local or remote control

Display of the start of the unit:

- a. Voltage presence
 - b. compressor ON/OFF
 - c. functioning mode (hot/cold)
 - d. alarm active
- Probes, transducers and parameters display
- a. Water outlet
 - b. water inlet
 - c. Coil temperature (heat pumps)
 - d. Pressing gas temperature
 - e. External air temperature
 - f. Pressure delivery (heat pumps)
 - g. Intake pressure (heat pumps)
 - h. temperature error (sum of the proportional and integral error)
 - i. Stand-by times for start-up/switch-off of the compressor

Alarms management:

- a. Low pressure
- b. High pressure (primary alarm: switch directly blocks supply to compressor)
- c. High discharge temperature
- d. Anti-freeze
- e. Water differential flow meter/pressure gauge
- f. Alarm on the ΔT

- Alarms with automatic reset with limited number of re-starts before blocking
 - ON/OFF external contact
 - Change season from external contact
- For further information please refer to user manual

5. ACCESSORIES

		SRP 10	SRP 14M	SRP 14T	SRP 19
MANDATORY ACCESSORIES					
FV	Flanges for ducts (FOR INDOOR INSTALLATION)	(1)	•	•	•
COVE	Covering (EXTERNAL INSTALLATION)		•	•	•
OPTIONAL ACCESSORIES					
VT	Group of rubber anti-vibration mounts. They are used to attenuate the vibrations produced by the unit when functioning.		9	9	9
PR3	Remote control panel		•	•	•
DOMESTIC HOT WATER DHW STORAGE TANKS					
S300S	300 litre domestic hot water (DHW) storage tank Coil exchange surface 3.8 (m ²)		•	•	•
S400S	400 litre domestic hot water (DHW) storage tank Coil exchange surface 4.5 (m ²)		•	•	•
S500S	500 litre domestic hot water (DHW) storage tank Coil exchange surface 5.5 (m ²)		•	•	•
SYSTEM STORAGE TANKS					
S200I	200 litres system storage tank		•	•	•
S300I	300 litres system storage tank		•	•	•
S400I	400 litres system storage tank		•	•	•
S500I	500 litres system storage tank		•	•	•
DOMESTIC HOT WATER (DHW) STORAGE TANK ELECTRIC RESISTANCES					
RXS3M	SINGLE-PHASE 3 kW resistance for domestic hot water (DHW) storage tank				
RXS3T	THREE-PHASE 3 kW resistance for domestic hot water (ACS) storage tank				
RXS6T	THREE-PHASE 6 kW resistance for domestic hot water (ACS) storage tank				
RXS8T	THREE-PHASE 8 kW resistance for domestic hot water (ACS) storage tank				
PUMP KIT (KPSRP) *factory-assembled accessory.					
KPSRP1	Pump kit available for sizes 10 and 14		•	•	•
KPSRP2	Pump kit available for size 9				•
ELECTRIC RESISTANCES COUPLING WITH DOMESTIC HOT WATER (DHW) STORAGE TANKS					
		400V - 3 - 50Hz			230V - 50Hz
		3	6	8	3
S300S	300 litre domestic hot water (DHW) storage tank	•	•		•
S400S	400 litre domestic hot water (DHW) storage tank		•	•	•
S500S	500 litre domestic hot water (DHW) storage tank		•	•	•

(1) FV - Flanges for internal installation

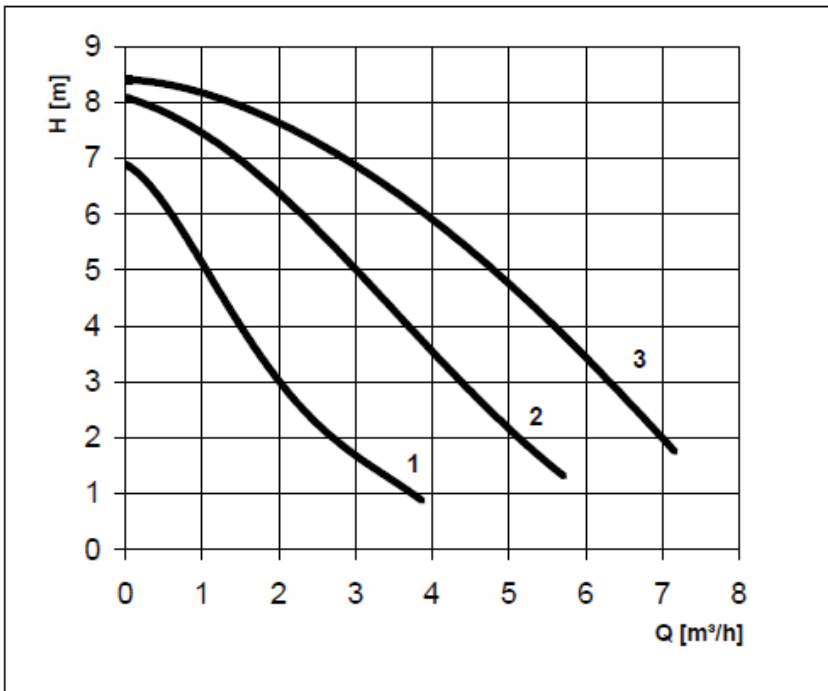
We suggest an insulated \varnothing 559 flexible hose is connected to the flange to duct the air. Insulation is in 30 mm polyester fibre and covered externally in PVC. Resistance to temperatures $-20^{\circ}\text{C}/+90^{\circ}\text{C}$ Non-flammable. class 1

NOTE:

Consul the relative documentation for the assembly instructions and technical data of the accessories indicated.

6. PUMPS KIT (ACCESSORY)


Pump static pressure



PUMP TECHNICAL DATA	Speed 1	Speed 2	Speed 3
Input power	120	175	210
Input current	0.65	0,90	1.00

Vel.= pump speed

7. TECHNICAL DATA

HOT			SRP 10	SRP 14	SRP 19
Heating capacity 	400V	kW	10	14.1	19.1
	230V		n.d.	14.0	n.d.
Total input power	400V	kW	2.6	3.4	4.72
	230V		n.d.	3.66	n.d.
Water flow rate	400V	l/h	1,720	2,425	3,285
	230V		n.d.	2.410	n.d.
Total pressure drop	400V	kPa	12.5	24.0	30.0
	230V		n.d.	24.0	n.d.
ENERGETIC INDEX					
COP	400V		3.85	4,15	4,05
	230V		n.d.	3.82	n.d.
HEAT PUMP ELECTRIC DATA					
Power supply		V	400V 3N ~ 50Hz	400V 3N ~ 50Hz	400V 3N ~ 50Hz
			N.d.	230V ~ 50Hz	n.d.
Total input current	400V	A	5.9	7.3	11.7
	230V		n.d.	22.0	n.d.
Maximum current	400V	FLA	8.3	12.7	18.2
	230V		n.d.	34.6	n.d.
Peak current with soft-start	400V	LRA	30	46	73
	230V		n.d.	45	n.d.
Peak current without soft-start	400V	LRA	43	67	105
ELECTRIC RESISTANCES ELECTRIC DATA					
Max input power		kW	8.2	11.5	15.5
Max input current		A	13	18.3	24.3
COMPRESSORS					
Type			Scroll	Scroll	Scroll
Number		n°	1	1	1
Number per circuit		n°/n°	1 / 1	1 / 1	1 / 1
COMPRESSORS RESISTANCE					
Guard compressor resistance		n° / W	1x70	1x70	1x70
REFRIGERANT			R407C	R407C	R407C
FAN					
Type			Plug fan	Plug fan	Plug fan
Number		n°	1	1	1
Fan unit input current	230V	A	1.42	1.42	2.2
Fan unit input power	230V	kw	0.3	0.3	0.51
Useful static pressure		Pa	80	80	70
Air flow rate		m3/h	3.500	3.500	5.000
CONDENSER					
Type			Plates	Plates	Plates
Number		n°	1	1	1
HYDRAULIC CONNECTIONS					
Hydraulic pump connections		Gas	F/ 1"1/4	F/ 1"1/4	F/ 1"1/4
SOUND DATA					
Sound power		dB(A)	67.0	68.0	73.0
Sound Pressure		dB(A)	35.0	36.0	41.0
External installation DIMENSIONS					
Height		mm	1,427	1,427	1,427
Width		mm	1,322	1,322	1,322
Length		mm	1,92	1,392	1,392
Empty weight		kg	284	297	315
Internal installation DIMENSIONS					
Height		mm	1,115	1,115	1,115
Width		mm	812	812	812
Length		mm	1,392	1,392	1,392
Empty weight		kg	242	255	273

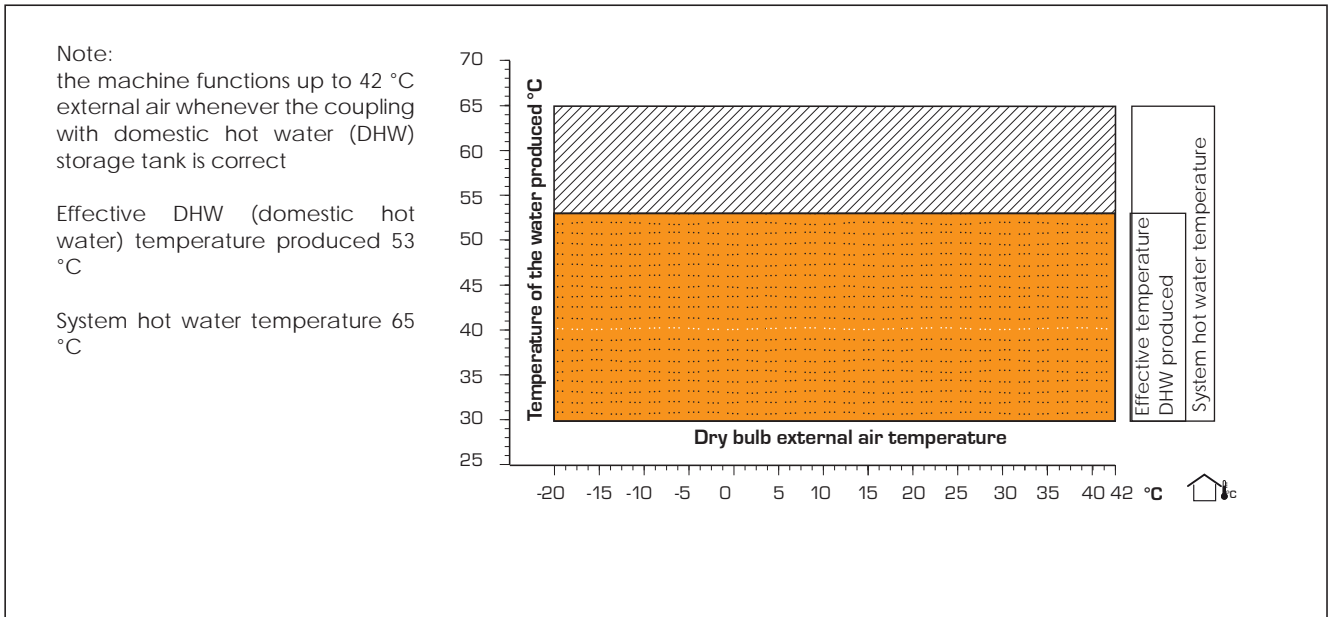
DATA DECLARED ACCORDING TO EN14511

- Water input temperature 30 °C
- Output water temperature 35 °C
- Δt 5 °C
- External air temperature 7 °C d.b. / 6 °C w.b.

Sound pressure measured at 10 m. distance
in free field, with directionality factor $Q=2$
in agreement with the ISO 3744 Standard

Sound power
The Aermec sound power value is determined on the basis of measurements made in compliance with the ISO 9614-2 Standard

8. OPERATIONAL LIMITS



8.1. PROJECT DATA 97/23/DE DIR.

		HIGH PRESSURE SIDE	LOW PRESSURE SIDE
Acceptable maximum pressure	bar	30	22
Acceptable maximum temperature	°C	130	52

9. YIELD AND ABSORPTIONS DIFFERENT TO NOMINAL

9.1. SRP 10T 400V 3N ~ 50HZ

		DRY BULB EXTERNAL AIR TEMPERATURE																			
T w OUT	-20		-18		-16		-14		-12		-10		-8		-6		-4		-2		
	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	
30	5.2	2.12	5.2	2.15	5.3	2.18	5.5	2.21	5.8	2.24	6.1	2.27	6.4	2.30	6.7	2.32	7.0	2.34	7.4	2.35	
35	5.2	2.28	5.3	2.31	5.4	2.33	5.6	2.36	5.8	2.39	6.1	2.42	6.4	2.45	6.7	2.47	7.1	2.49	7.4	2.50	
40	5.2	2.50	5.3	2.52	5.4	2.55	5.6	2.57	5.8	2.60	6.1	2.63	6.4	2.66	6.8	2.68	7.1	2.70	7.4	2.71	
45	5.2	2.76	5.3	2.78	5.4	2.80	5.6	2.83	5.9	2.86	6.1	2.89	6.4	2.91	6.8	2.94	7.1	2.95	7.4	2.97	
50	5.3	3.05	5.3	3.07	5.4	3.09	5.6	3.12	5.9	3.15	6.1	3.18	6.5	3.20	6.8	3.22	7.1	3.24	7.5	3.26	
55	5.3	3.36	5.3	3.38	5.5	3.40	5.6	3.43	5.9	3.45	6.2	3.48	6.5	3.51	6.8	3.53	7.1	3.55	7.5	3.57	
60	5.3	3.67	5.3	3.69	5.5	3.71	5.7	3.74	5.9	3.76	6.2	3.79	6.5	3.82	6.8	3.84	7.1	3.87	7.5	3.88	
65	5.3	3.97	5.4	3.99	5.5	4.01	5.7	4.04	5.9	4.07	6.2	4.09	6.5	4.12	6.8	4.15	7.2	4.17	7.5	4.19	

		DRY BULB EXTERNAL AIR TEMPERATURE																			
T w OUT	0		2		4		7		8		10		12		14		16		18		
	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	
30	7.7	2.36	8.0	2.39	8.7	2.38	10.0	2.46	10.1	2.50	10.4	2.59	10.7	2.67	11.0	2.74	11.3	2.80	11.5	2.86	
35	7.7	2.50	8.0	2.51	8.8	2.53	10.0	2.60	10.2	2.66	10.5	2.74	10.8	2.81	11.1	2.88	11.3	2.93	11.6	2.98	
40	7.8	2.71	8.1	2.71	8.8	2.75	10.1	2.84	10.2	2.89	10.5	2.96	10.8	3.02	11.1	3.07	11.4	3.12	11.6	3.16	
45	7.8	2.97	8.1	2.96	8.9	3.02	10.1	3.13	10.2	3.16	10.6	3.22	10.8	3.27	11.1	3.32	11.4	3.36	11.6	3.39	
50	7.8	3.26	8.1	3.25	8.9	3.32	10.1	3.43	10.3	3.46	10.6	3.52	10.9	3.56	11.1	3.60	11.4	3.64	11.7	3.66	
55	7.8	3.57	8.1	3.57	8.9	3.64	10.1	3.76	10.3	3.78	10.6	3.83	10.9	3.87	11.1	3.90	11.4	3.93	11.7	3.96	
60	7.8	3.89	8.1	3.89	8.9	3.97	10.1	4.08	10.3	4.10	10.6	4.14	10.9	4.18	11.1	4.21	11.4	4.23	11.7	4.25	
65	7.8	4.20	8.2	4.21	8.9	4.29	10.1	4.39	10.3	4.41	10.6	4.45	10.9	4.48	11.2	4.50	11.4	4.52	11.7	4.54	

		DRY BULB EXTERNAL AIR TEMPERATURE											
T w OUT	20		22		24		26		28		30		
	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	
30	11.8	2.90	12.0	2.94	12.3	2.98	12.6	3.01	12.8	3.04	13.1	3.07	
35	11.8	3.02	12.1	3.05	12.3	3.08	12.6	3.11	12.9	3.13	13.2	3.16	
40	11.9	3.19	12.1	3.22	12.4	3.25	12.7	3.28	12.9	3.30	13.2	3.32	
45	11.9	3.42	12.2	3.45	12.4	3.47	12.7	3.50	12.9	3.52	13.2	3.54	
50	11.9	3.69	12.2	3.71	12.4	3.74	12.7	3.76	13.0	3.78	13.3	3.80	
55	11.9	3.98	12.2	4.00	12.4	4.02	12.7	4.04	13.0	4.07	13.3	4.09	
60	11.9	4.28	12.2	4.30	12.4	4.32	12.7	4.34	13.0	4.36	13.3	4.39	
65	11.9	4.56	12.2	4.58	12.5	4.60	12.7	4.63	13.0	4.66	13.3	4.69	

DATA DECLARED ACCORDING TO EN14511

- Outlet water temperature 35 °C
- Δt 5 K
- Room temperature 6°C w.b./7° C d.b.

Note

- Output water temperature 65°C
- Δt 10 K

KEY

Tw OUT	Temperature of produced water
Pt	Heating capacity
Pa	Total input power

		DRY BULB EXTERNAL AIR TEMPERATURE																			
T w OUT	-20		-18		-16		-14		-12		-10		-8		-6		-4		-2		
	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	
30	7.2	2.99	7.3	3.03	7.5	3.07	7.8	3.11	8.1	3.16	8.5	3.20	8.9	3.24	9.4	3.27	9.8	3.30	10.3	3.31	
35	7.3	3.21	7.4	3.25	7.5	3.28	7.8	3.33	8.1	3.37	8.5	3.41	9.0	3.45	9.4	3.48	9.9	3.50	10.4	3.52	
40	7.3	3.52	7.4	3.55	7.6	3.58	7.8	3.62	8.2	3.66	8.6	3.70	9.0	3.74	9.5	3.77	9.9	3.80	10.4	3.81	
45	7.3	3.88	7.4	3.91	7.6	3.95	7.9	3.99	8.2	4.02	8.6	4.06	9.0	4.10	9.5	4.13	10.0	4.16	10.4	4.18	
50	7.4	4.29	7.4	4.32	7.6	4.35	7.9	4.39	8.2	4.43	8.6	4.47	9.0	4.51	9.5	4.54	10.0	4.57	10.4	4.58	
55	7.4	4.73	7.5	4.75	7.6	4.79	7.9	4.82	8.2	4.86	8.6	4.90	9.1	4.94	9.5	4.97	10.0	5.00	10.5	5.02	
60	7.4	5.16	7.5	5.19	7.6	5.22	7.9	5.26	8.2	5.30	8.6	5.34	9.1	5.38	9.5	5.41	10.0	5.44	10.5	5.47	
65	7.4	5.59	7.5	5.61	7.7	5.65	7.9	5.68	8.3	5.72	8.7	5.76	9.1	5.80	9.6	5.84	10.0	5.87	10.5	5.90	

		DRY BULB EXTERNAL AIR TEMPERATURE																			
T w OUT	0		2		4		7		8		10		12		14		16		18		
	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	
30	10.8	3.32	11.2	3.36	12.2	3.35	14.0	3.46	14.2	3.51	14.6	3.64	15.0	3.76	15.4	3.86	15.8	3.95	16.1	4.02	
35	10.8	3.53	11.2	3.54	12.3	3.57	14.0	3.66	14.3	3.74	14.7	3.86	15.1	3.96	15.5	4.05	15.8	4.12	16.2	4.19	
40	10.9	3.82	11.3	3.82	12.3	3.87	14.1	4.00	14.3	4.06	14.7	4.16	15.1	4.25	15.5	4.33	15.9	4.39	16.3	4.45	
45	10.9	4.18	11.3	4.17	12.4	4.25	14.1	4.40	14.3	4.44	14.8	4.53	15.2	4.61	15.6	4.67	15.9	4.73	16.3	4.78	
50	10.9	4.59	11.4	4.58	12.4	4.67	14.1	4.84	14.4	4.87	14.8	4.95	15.2	5.01	15.6	5.07	16.0	5.12	16.3	5.16	
55	10.9	5.03	11.4	5.02	12.4	5.13	14.1	5.29	14.4	5.32	14.8	5.39	15.2	5.45	15.6	5.49	16.0	5.53	16.3	5.57	
60	10.9	5.48	11.4	5.48	12.5	5.59	14.2	5.75	14.4	5.78	14.8	5.83	15.2	5.88	15.6	5.92	16.0	5.96	16.3	5.99	
65	11.0	5.92	11.4	5.93	12.5	6.04	14.2	6.18	14.4	6.21	14.8	6.26	15.2	6.30	15.6	6.34	16.0	6.37	16.4	6.40	

		DRY BULB EXTERNAL AIR TEMPERATURE											
T w OUT	20		22		24		26		28		30		
	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	
30	16.5	4.09	16.8	4.14	17.2	4.19	17.6	4.24	18.0	4.28	18.4	4.32	
35	16.6	4.25	16.9	4.29	17.3	4.34	17.7	4.38	18.1	4.41	18.5	4.45	
40	16.6	4.50	17.0	4.54	17.3	4.58	17.7	4.61	18.1	4.64	18.5	4.68	
45	16.7	4.82	17.0	4.86	17.4	4.89	17.7	4.92	18.1	4.95	18.5	4.99	
50	16.7	5.19	17.0	5.23	17.4	5.26	17.8	5.29	18.1	5.32	18.6	5.36	
55	16.7	5.60	17.0	5.63	17.4	5.66	17.8	5.69	18.2	5.72	18.6	5.76	
60	16.7	6.02	17.1	6.05	17.4	6.07	17.8	6.11	18.2	6.14	18.6	6.18	
65	16.7	6.42	17.1	6.45	17.4	6.48	17.8	6.52	18.2	6.55	18.6	6.60	

DATA DECLARED ACCORDING TO EN14511

- Outlet water temperature 35 °C
- Δt 5 K
- Room temperature 6°C w.b./7°C d.b.

Note

- Output water temperature 65 °C
- Δt 10 K

KEY

Tw OUT	Temperature of produced water
Pt	Heating capacity
Pa	Total input power

9.3. **SRP 14T** 400V 3N ~ 50HZ

DRY BULB EXTERNAL AIR TEMPERATURE																				
T w OUT	-20		-18		-16		-14		-12		-10		-8		-6		-4		-2	
	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa
30	7.3	2.78	7.4	2.81	7.5	2.85	7.8	2.89	8.1	2.93	8.5	2.97	9.0	3.01	9.4	3.04	9.9	3.06	10.4	3.08
35	7.3	2.98	7.4	3.01	7.6	3.05	7.9	3.09	8.2	3.13	8.6	3.17	9.0	3.20	9.5	3.23	10.0	3.25	10.4	3.27
40	7.4	3.27	7.4	3.30	7.6	3.33	7.9	3.37	8.2	3.40	8.6	3.44	9.1	3.47	9.5	3.50	10.0	3.53	10.5	3.54
45	7.4	3.61	7.5	3.63	7.7	3.67	7.9	3.70	8.3	3.74	8.6	3.77	9.1	3.81	9.5	3.84	10.0	3.86	10.5	3.88
50	7.4	3.99	7.5	4.01	7.7	4.05	7.9	4.08	8.3	4.12	8.7	4.15	9.1	4.19	9.6	4.22	10.0	4.24	10.5	4.26
55	7.4	4.39	7.5	4.42	7.7	4.45	8.0	4.48	8.3	4.52	8.7	4.55	9.1	4.59	9.6	4.62	10.1	4.65	10.5	4.66
60	7.4	4.80	7.5	4.82	7.7	4.85	8.0	4.89	8.3	4.92	8.7	4.96	9.1	5.00	9.6	5.03	10.1	5.06	10.6	5.08
65	7.5	5.19	7.5	5.21	7.7	5.24	8.0	5.28	8.3	5.32	8.7	5.35	9.2	5.39	9.6	5.43	10.1	5.46	10.6	5.48

DRY BULB EXTERNAL AIR TEMPERATURE																				
T w OUT	0		2		4		7		8		10		12		14		16		18	
	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa
30	10.8	3.08	11.2	3.12	12.3	3.11	14.1	3.22	14.3	3.26	14.7	3.39	15.1	3.49	15.5	3.59	15.9	3.67	16.2	3.74
35	10.9	3.28	11.3	3.29	12.4	3.31	14.1	3.40	14.4	3.48	14.8	3.59	15.2	3.68	15.6	3.76	16.0	3.83	16.3	3.89
40	10.9	3.55	11.4	3.55	12.4	3.60	14.2	3.72	14.4	3.77	14.8	3.87	15.3	3.95	15.6	4.02	16.0	4.08	16.4	4.13
45	11.0	3.89	11.4	3.87	12.5	3.95	14.2	4.09	14.5	4.13	14.9	4.21	15.3	4.28	15.7	4.34	16.1	4.39	16.4	4.44
50	11.0	4.27	11.4	4.25	12.5	4.34	14.2	4.49	14.5	4.53	14.9	4.60	15.3	4.66	15.7	4.71	16.1	4.75	16.4	4.79
55	11.0	4.67	11.5	4.67	12.5	4.76	14.2	4.92	14.5	4.94	14.9	5.01	15.3	5.06	15.7	5.10	16.1	5.14	16.4	5.17
60	11.0	5.09	11.5	5.09	12.6	5.19	14.3	5.34	14.5	5.37	14.9	5.42	15.3	5.46	15.7	5.50	16.1	5.53	16.5	5.56
65	11.0	5.49	11.5	5.51	12.6	5.61	14.3	5.74	14.5	5.77	14.9	5.82	15.3	5.86	15.7	5.89	16.1	5.92	16.5	5.94

DRY BULB EXTERNAL AIR TEMPERATURE												
T w OUT	20		22		24		26		28		30	
	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa
30	16.6	3.80	17.0	3.85	17.3	3.90	17.7	3.94	18.1	3.98	18.5	4.01
35	16.7	3.94	17.0	3.99	17.4	4.03	17.8	4.07	18.2	4.10	18.6	4.13
40	16.7	4.18	17.1	4.22	17.5	4.25	17.8	4.28	18.2	4.31	18.6	4.35
45	16.8	4.48	17.1	4.51	17.5	4.54	17.9	4.57	18.3	4.60	18.7	4.63
50	16.8	4.83	17.2	4.86	17.5	4.88	17.9	4.91	18.3	4.94	18.7	4.97
55	16.8	5.20	17.2	5.23	17.5	5.26	17.9	5.29	18.3	5.32	18.7	5.35
60	16.8	5.59	17.2	5.62	17.5	5.64	17.9	5.67	18.3	5.70	18.7	5.74
65	16.8	5.97	17.2	5.99	17.6	6.02	17.9	6.05	18.3	6.09	18.7	6.13

DATA DECLARED ACCORDING TO EN14511

- Outlet water temperature 35 °C
- Δt 5 K
- Room temperature 6°C w.b./7° C d.b.

Note

- Output water temperature 65 °C
- Δt 10 K

KEY

Tw OUT	Temperature of produced water
Pt	Heating capacity
Pa	Total input power

		DRY BULB EXTERNAL AIR TEMPERATURE																			
T _w OUT		-20		-18		-16		-14		-12		-10		-8		-6		-4		-2	
		Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa
30		9.9	3.86	10.0	3.90	10.2	3.96	10.6	4.01	11.0	4.07	11.6	4.12	12.2	4.17	12.8	4.22	13.4	4.25	14.1	4.27
35		9.9	4.14	10.0	4.19	10.3	4.24	10.6	4.29	11.1	4.34	11.6	4.40	12.2	4.44	12.8	4.49	13.5	4.52	14.1	4.54
40		10.0	4.53	10.1	4.57	10.3	4.62	10.7	4.67	11.1	4.72	11.7	4.78	12.3	4.82	12.9	4.86	13.5	4.90	14.2	4.92
45		10.0	5.01	10.1	5.04	10.4	5.09	10.7	5.14	11.2	5.19	11.7	5.24	12.3	5.29	12.9	5.33	13.6	5.36	14.2	5.39
50		10.0	5.54	10.1	5.57	10.4	5.62	10.7	5.66	11.2	5.71	11.7	5.76	12.3	5.81	13.0	5.85	13.6	5.89	14.3	5.91
55		10.1	6.10	10.2	6.13	10.4	6.17	10.8	6.22	11.2	6.27	11.8	6.32	12.3	6.37	13.0	6.41	13.6	6.45	14.3	6.48
60		10.1	6.66	10.2	6.69	10.4	6.74	10.8	6.78	11.2	6.83	11.8	6.89	12.4	6.93	13.0	6.98	13.6	7.02	14.3	7.05
65		10.1	7.21	10.2	7.24	10.5	7.28	10.8	7.33	11.3	7.38	11.8	7.43	12.4	7.48	13.0	7.53	13.7	7.57	14.3	7.61

		DRY BULB EXTERNAL AIR TEMPERATURE																			
T _w OUT		0		2		4		7		8		10		12		14		16		18	
		Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa
30		14.7	4.28	15.2	4.33	16.6	4.32	19.0	4.46	19.3	4.53	19.9	4.70	20.5	4.85	21.0	4.98	21.5	5.09	22.0	5.19
35		14.8	4.55	15.3	4.56	16.8	4.60	19.1	4.72	19.4	4.83	20.0	4.98	20.6	5.11	21.1	5.22	21.6	5.32	22.1	5.40
40		14.8	4.93	15.4	4.92	16.8	4.99	19.2	5.16	19.5	5.24	20.1	5.37	20.7	5.48	21.2	5.58	21.7	5.66	22.2	5.74
45		14.9	5.40	15.5	5.38	16.9	5.48	19.3	5.67	19.6	5.73	20.2	5.85	20.7	5.94	21.2	6.03	21.7	6.10	22.2	6.16
50		14.9	5.92	15.5	5.91	16.9	6.03	19.3	6.24	19.6	6.28	20.2	6.38	20.7	6.47	21.3	6.54	21.8	6.60	22.3	6.65
55		14.9	6.49	15.5	6.48	17.0	6.61	19.3	6.82	19.6	6.86	20.2	6.95	20.8	7.02	21.3	7.08	21.8	7.14	22.3	7.18
60		14.9	7.07	15.5	7.07	17.0	7.21	19.3	7.41	19.6	7.45	20.2	7.52	20.8	7.58	21.3	7.64	21.8	7.68	22.3	7.72
65		15.0	7.63	15.6	7.65	17.0	7.79	19.3	7.97	19.6	8.01	20.2	8.07	20.8	8.13	21.3	8.17	21.8	8.21	22.3	8.25

		DRY BULB EXTERNAL AIR TEMPERATURE											
T _w OUT		20		22		24		26		28		30	
		Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa	Pt	Pa
30		22.5	5.27	23.0	5.34	23.5	5.41	24.0	5.47	24.5	5.52	25.1	5.57
35		22.6	5.47	23.1	5.54	23.6	5.59	24.1	5.64	24.6	5.69	25.2	5.74
40		22.7	5.80	23.2	5.85	23.7	5.90	24.2	5.95	24.7	5.99	25.2	6.03
45		22.7	6.22	23.2	6.26	23.7	6.31	24.2	6.35	24.7	6.39	25.3	6.43
50		22.7	6.70	23.2	6.74	23.7	6.78	24.2	6.82	24.8	6.86	25.3	6.91
55		22.8	7.22	23.3	7.26	23.7	7.30	24.2	7.34	24.8	7.38	25.3	7.43
60		22.8	7.76	23.3	7.80	23.8	7.83	24.3	7.87	24.8	7.92	25.4	7.97
65		22.8	8.29	23.3	8.32	23.8	8.36	24.3	8.40	24.8	8.45	25.4	8.51

DATA DECLARED ACCORDING TO EN14511

- Outlet water temperature 35 °C
- Δt 5 K
- Room temperature 6°C w.b./7° C d.b.

Note

- Output water temperature 65 °C
- Δt 10 K

KEY

T _w OUT	Temperature of produced water
Pt	Heating capacity
Pa	Total input power

10. ETHYLENE GLYCOL SOLUTIONS

- The correction factors of cooling power and input power take into account the presence of glycol and diverse evaporation temperatures.
- The pressure drop correction factor considers the different flow rate resulting from the application of the water flow rate correction factor.
- The water flow rate correction factor is calculated to keep the same Δt that would be present with the absence of glycol.

NOTE

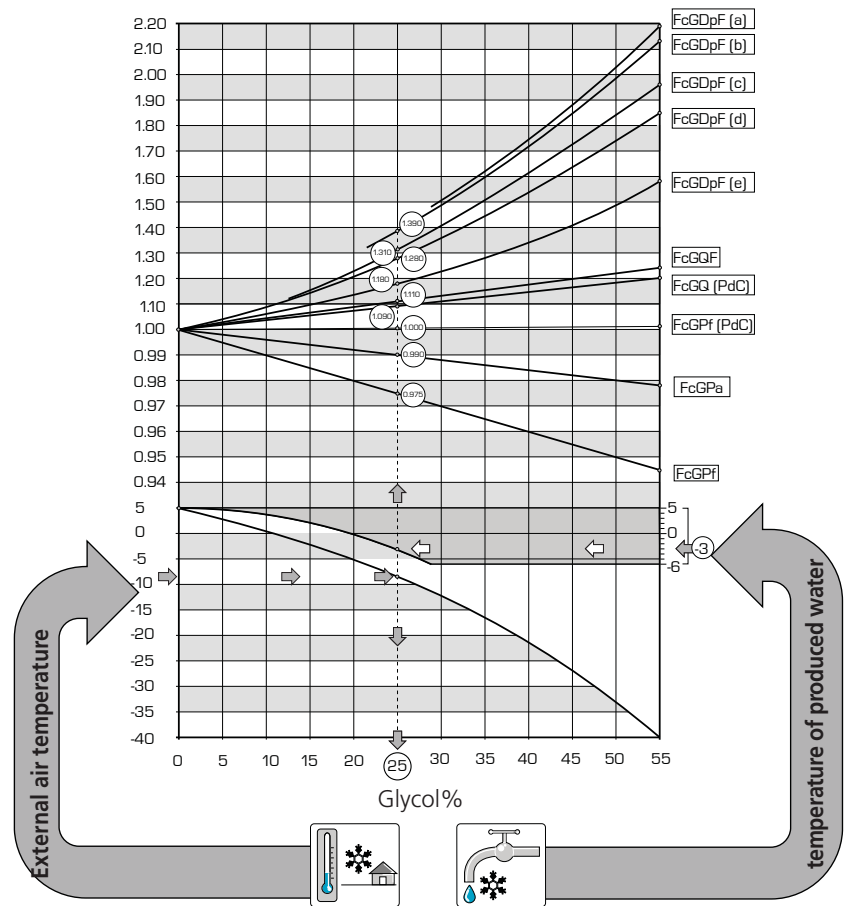
On the following page an example is given to help graph reading.

To determine the percentage of glycol required, see below diagram; this percentage calculation can take into consideration one of the following factors: Depending on which fluid is considered (water or air), the graph is interpreted by the right or left side at the crossing point on the curves with the external temperature line or the water produced line. A point from which the vertical line will pass is obtained and this will distinguish both glycol percentage and relative correction coefficients.

10.1. HOW TO INTERPRET GLYCOL CURVES

The curves shown in the diagram summarise a significant number of data, each of which is represented by a specific curve. In order to use these curves correctly it is first necessary to make some initial reflections.

- If you wish to calculate the percentage of glycol on the basis of the external air temperature, enter from the left axis and on reaching the curve draw a vertical line, which in turn will intercept all the other curves; the points obtained from the upper curves represent the coefficients for the correction of the cooling capacity and input power, the flow rates and the pressure drops (remember that these coefficients must be multiplied by the nominal value of the size in question); while the glycol percentage value recommended to produce desired water temperature is on the lower axis.
- If you wish to calculate the percentage of glycol on the basis of the temperature of the water produced, enter from the right axis and on reaching the curve draw a vertical line, which in turn will intercept all the other curves; the



KEY:

- FcGPF Corrective factors for cooling capacity
- FcGPa Corrective factors of the input power
- FcGDpF (a) Correction factors for pressure drop (evaporator) (av. temp. = -3.5 °C)
- FcGDpF (b) Correction factors for pressure drops (av. temp. = 0.5 °C)
- FcGDpF (c) Correction factors for pressure drops (av. temp. = 5.5 °C)
- FcGDpF (d) Correction factors for pressure drops (av. temp. = 9.5 °C)
- FcGDpF (e) Correction factors for pressure drops (av. temp. = 47.5 °C)
- FcGQF Correction factor of flow rates (evap.) (av. temp. = 9.5 °C)
- FcGQC Correction factors of flow rates (condenser) (av. temp. = 47.5 °C)

NOTE

Although graph arrives at external air temperatures of -40°C, unit operational limits must be considered.

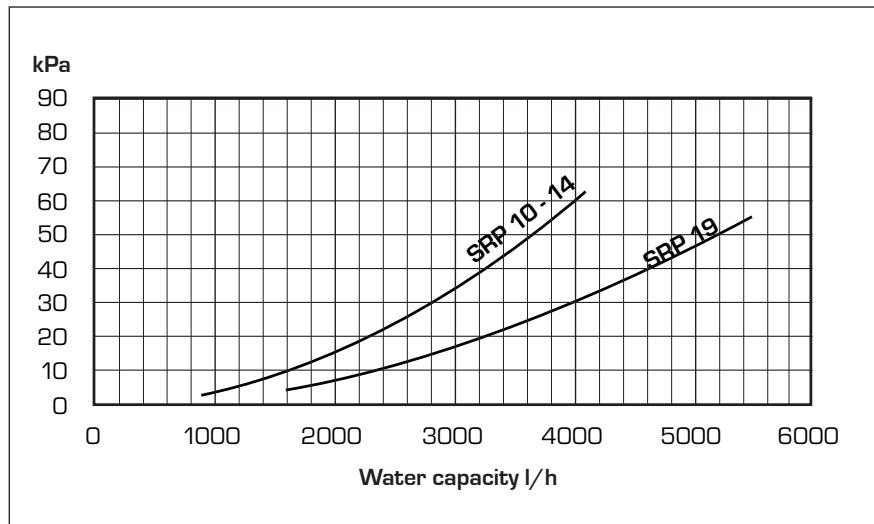
points obtained from the upper curves represent the coefficients for the correction of the cooling capacity and input power, the flow rates and the pressure drops (remember that these coefficients must be multiplied by the nominal value of the size in question); while the lower axis recommends the glycol percentage value necessary to produce water at the desired temperature.

Initial rates for "EXTERNAL AIR TEMPERATURE" and "TEMPERATURE OF PRODUCED WATER", are not directly related, therefore it is not possible to refer to the curve of one of these

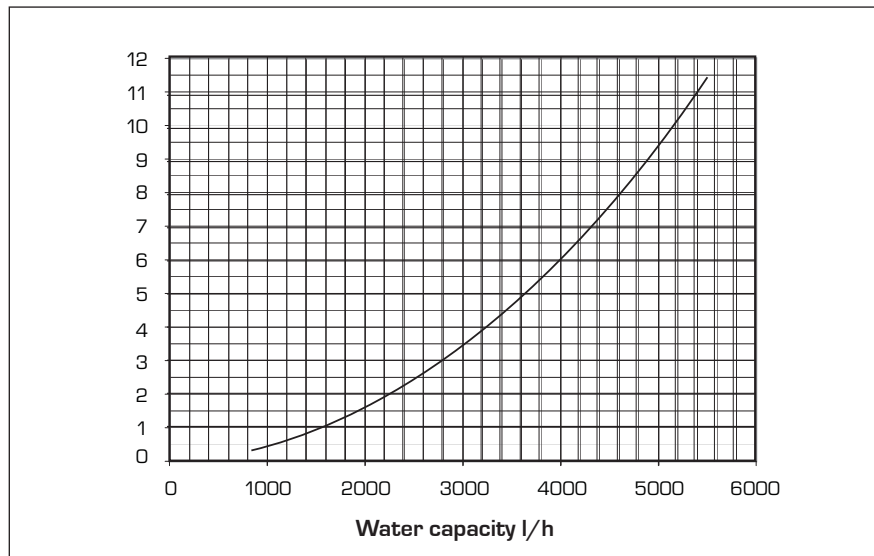
rates to obtain corresponding point on the curve of the other rate.

11. PRESSURE DROPS

11.1. PLATE HEAT EXCHANGER AND FILTER PRESSURE DROP



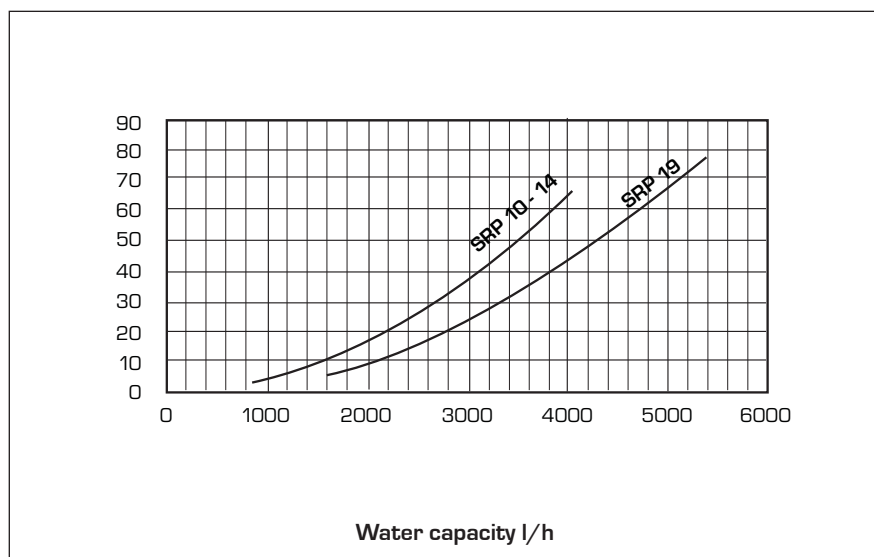
11.2. ELECTRIC RESISTANCE PRESSURE DROP



11.3. TOTAL PRESSURE DROPS

IN HEATING FUNCTIONING MODE

The pressure drops in the previous diagram include the evaporator and the water filter and are relative to an average water temperature of 33°C. The following table shows the correction to apply to the pressure drops on variation of the average water temperature.



Average water temperature °C	20	30	33	40	43	50
Multiplicative coefficients	1,028	1,006	1	0,985	0,979	0,964

13. SOUND DATA

Sound power

Aermec determines the sound power value on the basis of measurements made in compliance with the 9614 Standard.

Sound Pressure

Sound pressure measured in free field conditions with reflective surface (directivity factor Q=2) at 10mt distance from external surface of unit, in compliance with ISO 3744 regulations.

KEY

Working conditions:

Input water 30°C

Water produced 35°C

Environment Air 7°C d.b.

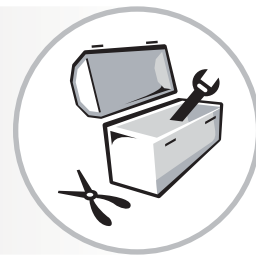
6°Cw.b.

SRP	Total sound levels			Octave band [Hz]						
	Pow. dB(A)	Pres.		125	250	500	1000	2000	4000	8000
		dB(A) 10 m	dB(A) 1 m							
10	67.0	35.0	49.0	74.6	69.3	63.1	60.5	56.7	49.4	44.0
14	68.0	36.0	50.0	76.4	70.0	63.6	60.9	57.1	49.8	44.6
19	73.0	41.0	55.0	86.6	71.0	66.5	64.7	60.7	54.3	51.0

12. CALIBRATION OF SAFETY AND CONTROL DEVICES

		SRP 10T	SRP 14T	SRP 14M	SRP 19T
Compressor magnet circuit breaker	A	7	10	30	14
Fan magnet circuit breaker	A	1,63	1,63	1,63	2,5
High pressure pressure switch	bar	30	30	30	30
Low pressure pressure switch	bar	0,5	0,5	0,5	0,5

FOR THE INSTALLER



14. SELECTION AND PLACE OF INSTALLATION

Before beginning installation consent with client and pay attention to the following recommendations:

- The support surface must be capable of supporting the unit weight.
- The safety differences between the unit and other appliances or structures must be scrupulously respected so that the inlet and outlet air from the fans is free to circulate.
- The unit must be installed by an enabled technician in compliance with the national legislation in force in the country of destination, respecting the minimum technical spaces in order to allow maintenance.

15. POSITIONING

The machine is delivered from the factory wrapped in estincoil. Before handling the unit, verify the lifting capacity of the machines used.

After removal of packaging, movement of apparatus must be carried out by qualified and adequately equipped personnel.

To handle the machine: "ON HORIZONTAL SURFACES"

Use lifting cranes of similar equipment in the most appropriate manner being aware of the weight distribution of the unit.

"IF IT IS TO BE LIFTED"

Insert tubing of the (NOT provided) predisposed holes long enough to allow fixing of lifting belts.

To ensure that the SRP is not damaged, place protection between the lifting belt and the unit.

it is strictly prohibited to stand below the unit during lifting and moving.

NOTE

The SRP is delivered on a pallet wrapped in estincoil with a bracket fastened to the compressor support, which is used to annul the task of the shock absorbers in order to prevent damage to the system during handling and movement, but which is removed before start-up as follows: 1. Loosen and remove the front panel, 2. Loosen the screws from the bracket and remove it.



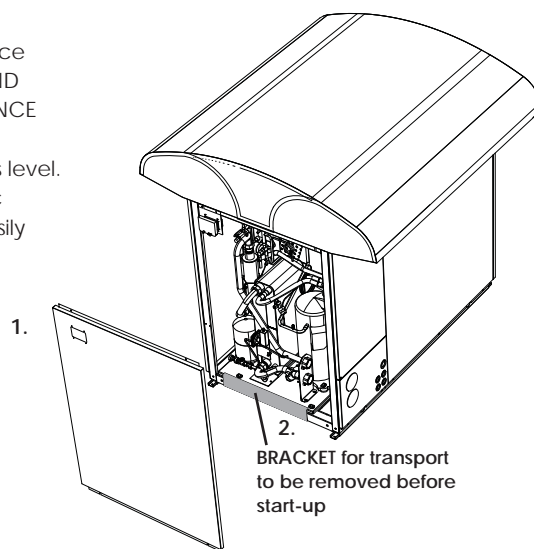
The unit must be installed by a qualified and suitably trained technician, in compliance with the national legislation in force in the country of destination (Ministerial Decree 329/2004).

AERMEC will not assume any responsibility for damage due to failure to follow these instructions.

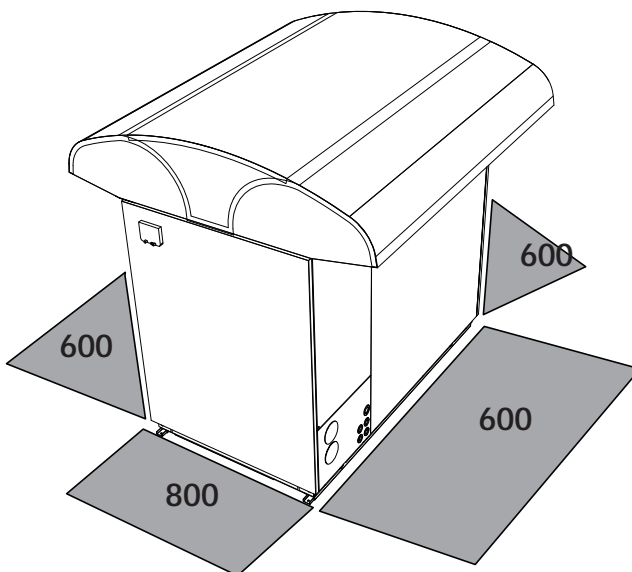


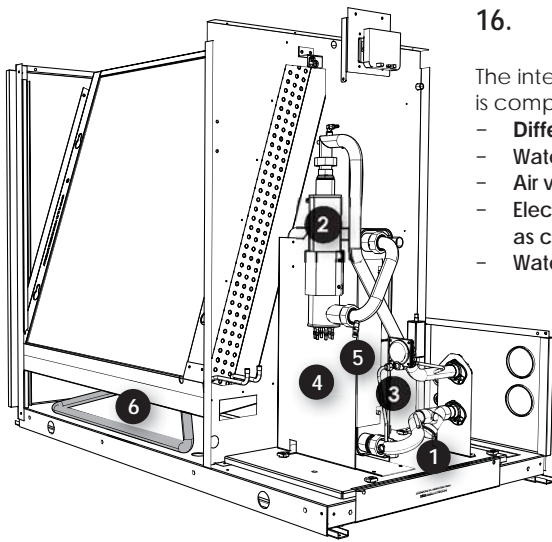
Before beginning any operation, READ THESE INSTRUCTIONS CAREFULLY AND CARRY OUT THE SAFETY CHECKS TO REDUCE ALL RISK OF DANGER TO A MINIMUM. All the personnel involved must have thorough knowledge of the operations and any dangers that may arise at the moment in which the installation operations are carried out.

- It is mandatory to foresee to the necessary technical space in order to allow ROUTINE AND EXTRAORDINARY MAINTENANCE interventions.
- Fix the unit checking that it is level. Make sure that the hydraulic and electric part can be easily reached..



15.1. MINIMUM TECHNICAL SPACES (MM)





16. HYDRAULIC CIRCUIT

The internal hydraulic circuit of the SRP is composed of (see Fig. 6.2.3):

- **Differential pressure switch**
- **Water filter**
- **Air vent valve**
- **Electric resistance (present if selected as configurator)**
- **Water IN/OUT temperature probes**

16.1. HYDRAULIC CIRCUIT RECOMMENDED

The choice and the installation of components external to the SRP is up to the installer, who must operate according to the rules of good technical design and in compliance with

the regulations in force in the country of destination (Ministerial Decree 329/2004).

Before connecting the pipes make sure that they do not contain stones, sand, rust, sludge or foreign bodies that could damage the system. It is good practice to realise a unit by-pass to be able to wash the pipes without having to disconnect the appliance. The connection piping must be adequately supported so that its weight is not borne by the appliance.

It is recommended to install the following tools on the water circuit, whenever not envisioned in the version in your possession:

1. Two manometers with suitable scale (in inlet and outlet).
2. Two anti-vibration joints (in inlet and in outlet).
3. Two cut-off valves (in normal input, in calibration valve output).
4. two thermometers (in inlet and in outlet).
5. Pump
6. Expansion vessel
7. Water tank
8. Loading unit

It is necessary that the water flow rate is in compliance with the values given in the performance tables.

The systems loaded with anti-freeze or particular legal dispositions, make the use of water disconnectors mandatory. Supply/reintegration water details, must be conditioned with appropriate treatment systems.

16.2. LOADING THE SYSTEM

- Before starting loading, check that the system drain cock is closed.
- Open all system vent valves and relative terminals.
- Open the system cut-off devices.
- Start filling by slowly opening the system water loading cock outside the appliance.
- When water starts to escape from the terminal vent valves, close them and continue loading until the value of 1.5 bar is read on the manometer.

The system must be loaded at a pressure between 1 and 2 bar.

It is recommended to repeat this operation after the appliance has functioned for a few hours and to periodically check the system pressure, reintegrating it if it drops below 1 bar.

Check the hydraulic sealing of the joints.

16.3. EMPTYING THE SYSTEM

- Before beginning emptying, place the master switch at "OFF"
- Check that loading/water system reintegration cock is closed
- Open the drain cock outside the appliance and all system vent valves and relative terminals.

If anti-freeze is used by the unit, it must not be dumped as it is harmful to the environment. It should be collected and if possible reused.

16.4. POSITION OF HYDRAULIC CONNECTIONS

- "EXTERNAL INSTALLATION"
THE hydraulic connections are found in the base and lower side panel.

WARNING

On external installation, it is recommended to isolate and bury the water pipes in order to protect them from low temperatures that occur during the winter.

- "INTERNAL INSTALLATION"
The hydraulic connections are found on the upper panel with flanges and on the lower side panel.

NOTE

FOR FURTHER INFORMATION SEE THE DIMENSIONAL TABLES

KEY

- 1 water filter
- 2 Resistance (can be selected with configurator)
- 3 Differential pressure switch
- 4 Plate heat exchanger
- 5 Vent valve
- 6 Condensate drain pipe (1.30 mt)

17. ELECTRIC CONNECTIONS

The SRP heat pumps are completely wired at the factory and only require connection to the electrical mains, downstream from a unit switch, in compliance with that envisioned by the Standards in force on this subject in the country of installation.

It is also advised to check that:

- the electrical mains features are suitable for the absorption values indicated in the electrical data table, also taking into consideration any other machines operating at the same time.
- The unit is only powered when installation has been completed (hydraulic and electric).
- Respect the connection indications of the phase, neutral and earth wires.
- The power supply line must have a relevant protection mounted upstream, which isolates the system with respect to other utilities, against short circuits and dispersions to earth.
- The voltage must be within a tolerance of $\pm 10\%$ of the nominal power supply voltage of the machine (for unbalanced three-phase unit max 3% between the phases). Whenever these parameters are not respected, contact the electric energy public body. For electric connections, use the cables with double isolation according to the Standards in force on this subject in the different countries.

17.1. RECOMMENDED ELECTRIC CABLE SECTION

The cable sections stated in the table are recommended for a maximum length of 20 m and placed in a cable trough.

For longer lengths or different cable laying, it is up to the PLANNER to calculate the appropriate length of the cables as well as the connection to the earth wire and linking to connected cables:

- the length
- the type of cable
- the absorption of the unit and the physical location, and the ambient temperature.

17.1.1. Recommended cable lengths for max. length of 20 mt

SRP	Power supply		POWER CABLE * n°cables x (mm ²)	
			Resistances on machine	Without resistances on the machine
			Machine cable	
10T	Three phase	400V/3N/50Hz	5G6	5G1,5
14T	Three phase	400V/3N/50Hz	5G6	5G1,5
19T	Three phase	400V/3N/50Hz	5G10	5G2,5
**			RESISTANCE CABLE	MACHINE CABLE
14M	Single phase	230V/50Hz	3G10	3G6
NOTE				
	The recommended cable is FG7(OR) 0,6/1kV , This type of cable is used FOR THE POWER			
*	In the three-phase versions, the power supply cable must always satisfy any load requested. If this is not the case IT MUST BE REPLACED			
**	The power cable is only split in the single phase when there are resistances on the machine			

- ➔ All the electrical operations must be carried out by **STAFF IN POSSESSION OF THE NECESSARY QUALIFICATIONS BY LAWS** suitably trained and informed on the risks related to these operations.
- ➔ The characteristics of the electrical lines and of the related components must be determined by **STAFF QUALIFIED TO DESIGN ELECTRICAL SYSTEMS**, in compliance with the international and national regulations of the place of installation of the unit and in compliance with the regulations in force at the moment of installation.
- ➔ For the installation requirements refer only to the electrical diagram supplied with the appliance. The electrical diagram along with the manuals must be kept in good condition and **ALWAYS AVAILABLE FOR ANY FUTURE SERVICING ON THE UNIT**.
- ➔ **IT IS mandatory to verify that the machine is watertight before making the electrical connections and it must only be powered up after the hydraulic and electrical works have been completed.**

- **SINGLE-PHASE MACHINE:**
the machine power supply network must have line impedance that is lower than or equal to 0.246Ohm (in compliance with IEC EN 61000-3-11)
- **THREE-PHASE MACHINE:**
the machine power supply network must have line impedance that is lower than or equal to 0.248Ohm (in compliance with IEC EN 61000-3-11)
- The use of an omnipolar magnet circuit breaker switch is mandatory, in compliance with the IEC-EN Standards (contact opening at least 3 mm), with suitable cut-off power and differential

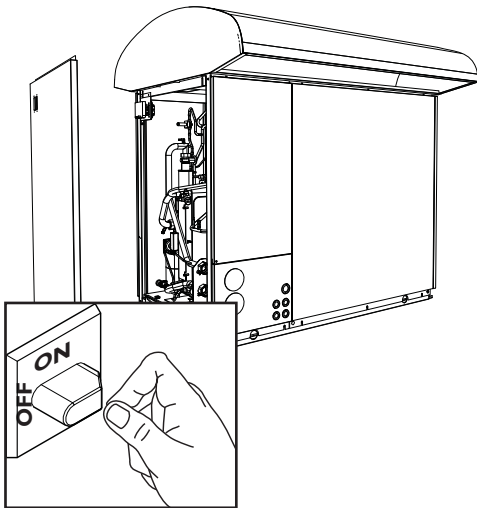
- protection on the basis of the electric data table shown below, installed as near as possible to the appliance.
- It is mandatory to make an effective earth connection. The manufacturer cannot be considered responsible for any damage caused by the lack of or ineffective appliance earth connection.
- For units with three-phase power supply, check the correct connection of the phases.
It is prohibited to use the water pipes to earth the appliance.

NOTE:
Check the tightening of all power wire clamps on commissioning and after 30 days from start-up. Subsequently, check the tightening of all the power clamps every six months. Loose terminals can cause overheating of the cables and components.

17.2. ELECTRIC CONTROL BOARD

The electric control board is situated inside the machine.

To access the electric control board and make the connections, remove the front panel by loosening the M6 screws and place the door-lock isolating switch at OFF and open the front panels.



17.3. ELECTRIC POWER CONNECTION

For the functional connection of the unit take the power supply cable at the electric control board inside the unit fig.1 and connect to the isolator clamps respecting the phase, the neutral and the earth both in the case of single-phase (230V-50Hz), and three-phase power supply (400V-3N-50Hz). fig.2

17.4. AUXILIARY CONNECTIONS UNDER THE RESPONSIBILITY OF THE USER/INSTALLER

All clamps to which reference is made in the following explanations are part of the X0 terminal board situated inside the electric control board and connected to the MODUCONTROL, see figure. There are two types of connections, see wiring diagram at the bottom of the page:

17.4.1. Summer/Winter Remote Control (C/F)

To prepare a summer/winter switch-over device, connect the device contact to clamps 3 and 5 of the X0 terminal board.

17.4.2. On/Off Control (IA)

To prepare an ON/OFF remote switch-over device connect the device contact to clamps 4 and 5 of the X0 terminal board.

17.4.3. Remote Alarm (AE)

If it should be necessary to view the machine block, in a remote point, due to functioning anomaly, it is possible via clamps 6 and 7 of the X0 terminal board. Connect an acoustic or visual alarm signal device.

17.4.4. Remote Panel (TRA)

To prepare a summer/winter switch-over device, connect the device contact to clamps 8 and 9 of the X0 terminal board.

17.4.5. Contact for thermostating domestic hot water DHW (TWS)

To prepare a stand-alone thermostating device, connect to clamps 10 and 11 of the X0 terminal board.

17.4.6. Connection PR3 (ACCESSORY)

If you should have the PR3 accessory, always connect it to the terminal board as shown below. Remember that the maximum distance accepted is 150 mt. REMEMBER THAT THE PR3 AS WELL AS BEING CONNECTED MUST BE ENABLED see page 28

17.4.7. Pump connection KPSRP (FACTORY-MOUNTED ASSEMBLY)

Whenever the KPSRP accessory is envisioned, the pump kit is already connected to the plant, but if a different pump is required, connect to the XP of the Modu_control. Remember always to make reference to the wiring diagram on the machine.

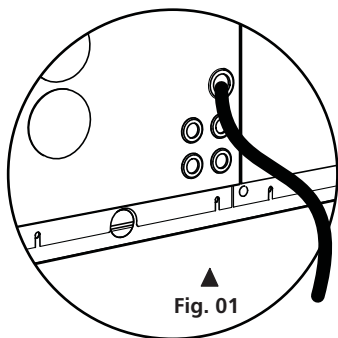


Fig. 01

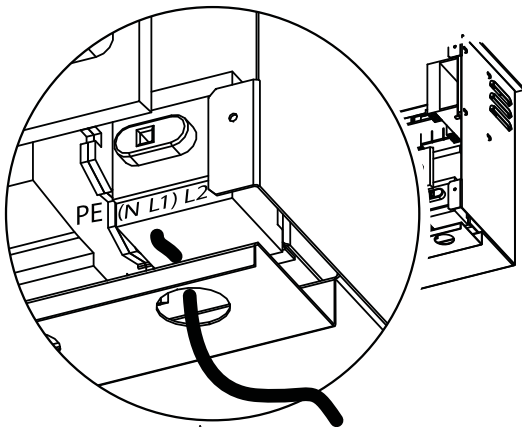
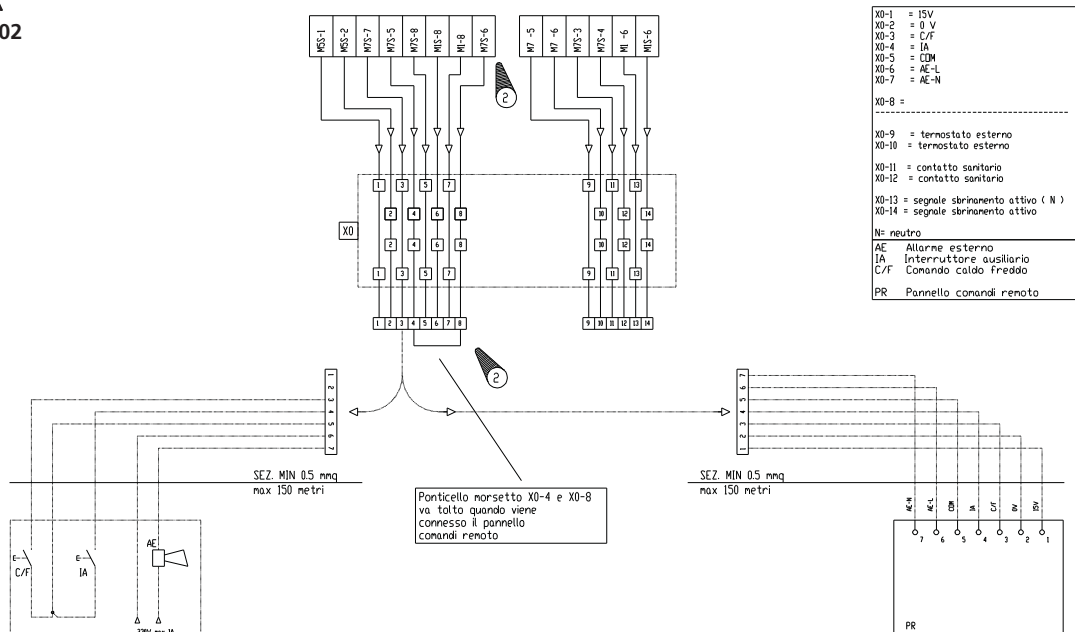


Fig. 02

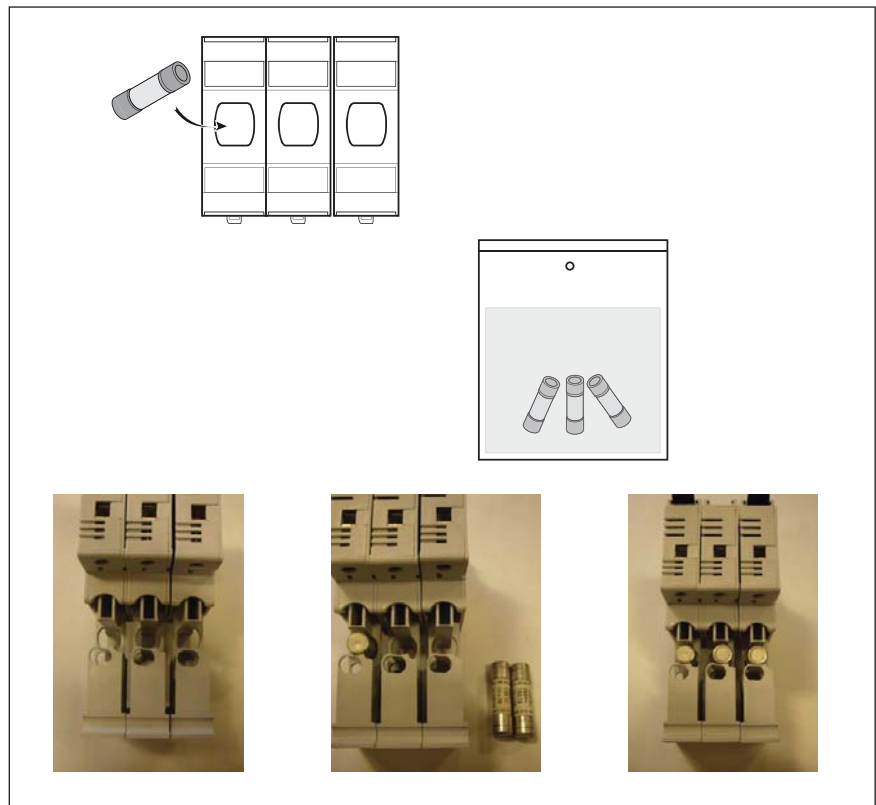


18. ELECTRIC RESISTANCES

18.1. ELECTRIC RESISTANCES SELECTION

For the desired configuration of the integrative electric resistances, insert the fuses into the clamps positioned inside the electric box of the SRP, as indicated in TAB. 17.1.1

NOTE
The three fuses are contained in a bag inside the electric box of the SRP.



ELECTRIC RESISTANCES									
POSITION		MACHINE MODEL			CONNECTIONS				
		10	14	19					
1	kW	2,40	3,40	4,60	•			N	PE
2	kW	2,80	3,90	5,30		•		N	PE
3	kW	3,00	4,20	5,60			•	N	PE
4	kW	5,20	7,30	9,90	•	•		N	PE
5	kW	5,40	7,60	10,20	•		•	N	PE
6	kW	5,80	8,10	10,90		•	•	N	PE
7	kW	8,20	11,50	15,50	•	•	•	N	PE

Tab. 17.1.1

NOTE • = Closed state



WARNING

Commissioning must be performed with standard settings. Only when the inspection has been completed can the functioning Set Point values be changed.
 Before start-up, power the unit for at least 12-24 hours, positioning the protection magnet circuit breaker switch and the door lock isolating switch at ON fig. 3 and then switch the control panel fig. 04 off in order to allow heating of the compressor sump oil.

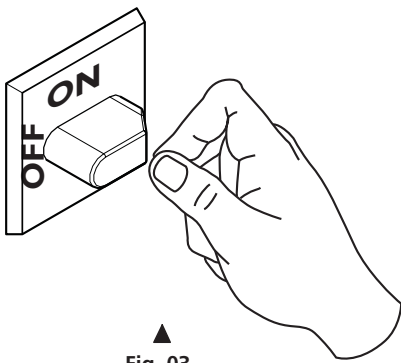


Fig. 03

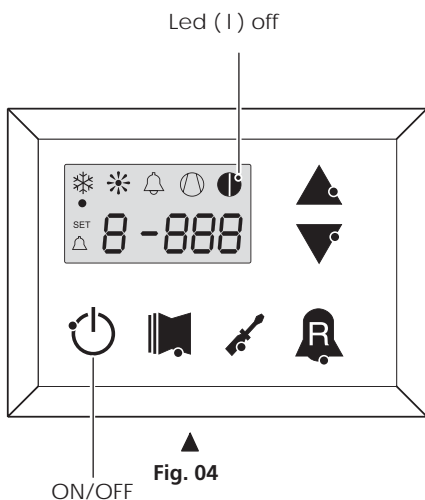


Fig. 04

19. CONTROL AND COMMISSIONING

19.1. PREPARATION FOR COMMISSIONING

Please note that, on request by the Aermec customer or the legitimate owner of the machine, the units in this series can be started up by the AERMEC After-Sales Service in your area (valid only on Italian territory). The start of operation must be scheduled in advance based on the time frame for the completion of works for the system. Prior to the work to be carried out by the AERMEC After-Sales Service, all other works (electrical and hydraulic connections, loading and bleeding of air from the system) must have been completed.

Before starting the unit make sure that:

- All safety conditions have been respected
- The unit is correctly fixed to the support surface
- The minimum technical spaces have been respected;
- The hydraulic connections have been made respecting the inlet and outlet
- The hydraulic plant has been loaded and bled.
- The hydraulic circuit cocks are open
- The electric connections have been made correctly
- The voltage is within the tolerance of 10% of the unit nominal value
- The earth connection has been made correctly
- All electric and hydraulic connections have been tightened well.

19.2. MACHINE COMMISSIONING

- Close the electric control board hatch.
- Position the appliance master switch at ON. (fig.3)
- Close the front panel
- Make sure that the auxiliary switch contact (IA) (see wiring diagram) is open (if used) and the LED (I) A display must be off fig 4.
- Press the ON key for 3 sec to switch the machine on.

19.3. SEASON CHANGEOVER

- For every season change, check that the functioning limits lie within the limits.
- Check that the compressor input current is lower than the maximum indicated in the technical data table.
- Check, that in models with three-phase

power supply, that the compressor noise level is not abnormal. If this is the case, invert a phase.

- Make sure that the voltage value lies within the pre-fixed limits and that unbalance between the three phases (three-phase power supply) is not above 3%.

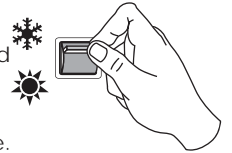
19.3.1. Season changeover from panel on machine

Access the USER SET list by touching the insert password key 000 (already displayed; just confirm by re-pressing the key
 The parameter affected is the 0
 For further information refer to the USER MANUAL.

N	CODE	NAME	min.	Default	Max	Meaning
0	Sta	Season	0	0	1	0 functioning in cooling mode 1 functioning in heating mode

19.3.2. Season changeover from PR3

- Just act directly on the switch
 The machine switches off automatically and switches back-on with the selected functioning mode.



20. FUNCTIONING FEATURES

20.1. SET POINT IN HEATING MODE

(factory set) = 45°C, $\Delta t = 5^\circ\text{C}$.

If the unit power supply is restored after a temporary interruption, the set mode will be kept in the memory.

20.2. COMPRESSOR START-UP DELAY

Two functions have been prepared to prevent compressor start-ups that are too close.

- Minimum time from last switch-off 180 seconds.
- Minimum time from last switch-on 300 seconds.

20.3. CIRCULATION PUMP

The circuit board envisions an output for pump management, which starts on commissioning and remains on for at least 150 seconds and controls the state of the probes.

After the first 40 seconds that the pump functions, when the water flow rate is in normal working conditions, the water flow rate alarm functions are activated (differential pressure switch).

When the machine enters stand-by, the pump remains on for 30 secs and controls the unit pressure switch at the different external temperatures, the MODUCONTROL by reading the pressure via the pressure probe, controls the rotation speed of the fans, thus allowing to increase and/or

decrease heat exchange, keeping the condensation or evaporation pressures more or less constant. The fan functions independently with respect to the compressor.

20.4. ANTI-FREEZE ALARM

The anti-freeze alarm is never active if the machine is off or in stand-by mode. In order to prevent breakage of the plate heat exchanger due to freezing of the water it contains, the MODUCONTROL blocks the compressor and ignition of the resistance (ACCESSORY) if the temperature detected by the probe positioned at the outlet of the heat exchanger and in inlet to the chiller is below +4°C.

THIS ANTI-FREEZE SET TEMPERATURE CAN ONLY BE VARIED BY AN AUTHORISED AFTER-SALES CENTRE AND ONLY AFTER HAVING CHECKED THAT THERE IS ANTI-FREEZE SOLUTION IN THE WATER SYSTEM.

The intervention of this alarm determines compressor block and not pump block, which remains active along with the switch-on of the resistance if installed.

To restore normal functions the temperature of the outlet water must rise above +4°C. Rearm is manual.

WHENEVER THIS ALARM INTERVENES, WE ADVISE YOU CALL THE NEAREST AFTER-SALES SERVICE IMMEDIATELY.

20.5. WATER FLOW RATE ALARM

The MODUCONTROL manages a water flow rate alarm controlled by the differential pressure switch installed in series on the machine.

This type of safety device intervenes after the first 40 seconds of pump functioning, if the water flow rate is not sufficient. The intervention of this alarm determines compressor and pump block.

21. MAINTENANCE

All cleaning is prohibited until the unit has been disconnected from the electric power supply mains.

Make sure there is no voltage present before operating.

Periodic maintenance is fundamental to keep the unit perfectly efficient under a functional and energetic point of view. It is therefore essential to carry out periodic yearly controls for the:

21.5.1. Hydraulic circuit

- Refilling of water circuit
- Clean the water filter.
- Control of flow switch/pressure switch
- Bleed the air from the circuit.
- Verify that the water flow rate to the evaporator is constant.
- Verify the thermal insulation of the hydraulic piping.
- Check the percentage of glycol where necessary

21.5.2. Electric circuit checks

- Safety efficiency
- Electric supply pressure
- Electrical Input
- Connection tightness
- Verify the operation of the carter compressor resistance

21.5.3. Cooling circuit checks

- State of compressor
- Efficiency of the plate heat exchanger resistance if envisioned
- Work pressure
- Leak test for watertightness control of the cooling circuit
- Functioning of high and low pressure pressure switches
- Carry out the appropriate checks on the filter dryer to check efficiency

21.5.4. Mechanical checks

- Check the tightening of the screws the compressors and the electrical box, as well as the exterior panelling of the unit. Insufficient fastening can lead to undesired noise and

WARNING

Inspection, maintenance and eventual repair work must be carried out only by a legally qualified technician.



Lack of control/maintenance can cause damage to persons or things.



For appliances installed near to the sea, the maintenance intervals must be halved.



- vibrations
- Check the condition of the structure. If there are any oxidised parts, treat with paint suitable to eliminate or reduce oxidation.

21.1. EXTRAORDINARY MAINTENANCE

The SRPs are filled with R407C gas and are inspected at the factory. Under normal conditions they do not require Technical Assistance related to control of refrigerant gas. Through time gas leakage may be generated from the joints, causing refrigerant to escape and discharge the circuit, causing appliance malfunctioning. In these cases the leakage points are to be discovered, repaired and the Gas circuit is to be replenished, respecting the December 28 1993 n°549 law.

21.1.1. Load procedure

The load procedure is the following:

- Empty and dry the entire cooling circuit using a vacuum pump connected to the low and high pressure socket until 10 Pa is read on the vacuum meter. Wait a few

- minutes and check that this value does not rise above 50 Pa.
- Connect the refrigerant gas cylinder or a load cylinder to the socket on the low pressure line.
- Load the amount of refrigerant gas indicated on the appliance features plate.
- The R407C refrigerant must only be loaded in the liquid state.
- Functioning conditions that are different to the nominal conditions can give rise to values that are greatly different.
- The sealing test or the search for leaks must only be performed using R407C refrigerant gas, checking using a suitable leak detector.
- In the cooling circuit it is prohibited to use oxygen or acetylene or other inflammable or poisonous gases because they are a cause of explosions or intoxication.



We recommend to envision a machine book (not supplied, but the user's responsibility), which allows to keep track of the interventions performed on the unit. In this way it will be easy to suitably organise the interventions making research and the prevention of any machine breakdowns easier. Use the date to record date, type of intervention made (routine maintenance, inspection or repairs), description of the intervention, measures actuated...



IT IS forbidden to RELOAD the circuit with a refrigerant gas different to the one indicated. Using a different refrigerant gas can cause serious damage to the compressor.



DISPOSAL

Envisions that disposal of the unit is carried out in conformity with the Standards in force in the different countries

22. LIST OF CONTROLS FOR THE GUIDED PROCEDURE

Some parameters in the moducontrol board must be set appropriately on the basis of the type of system in which the

unit is installed.

These modifications, performed by the installer, are summarised and organised in the following guided procedures, with which to correctly set the unit circuit board parameters.

How to modify a parameter in the user menu:

To enter the **USER menu**, press the key shown in (Fig.A). Once the key has been pressed the password must be inserted for access to the various menus. To access the user menu the password is **000** (which is the default displayed); to modify the value of the password use the arrow keys. Once the correct password has been inserted, press the key shown in (Fig.A). The display shows the index of the **USER** parameter and a string of three characters that identify it.

The string remains displayed for one second, after which it is replaced by the value relative to the parameter itself. To pass to the next parameter, use the arrow keys (Fig.B). To modify a parameter, just select it, press the key shown in (Fig.A), modify the value using the arrow keys shown in (Fig.B). To confirm the modification press the key shown in (Fig.A) again.



PASSWORD = 000

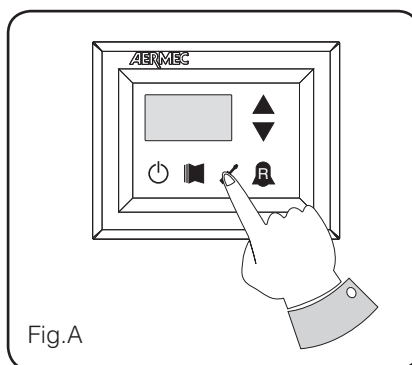


Fig.A

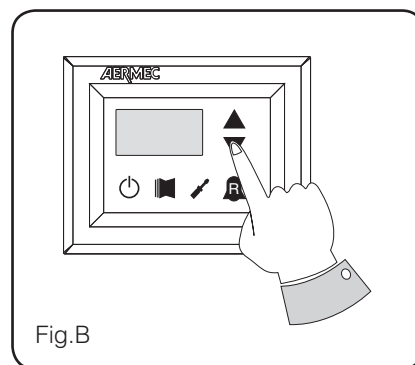


Fig.B

How to modify a parameter in the installer menu:

To enter the **INSTALLER menu**, press the key shown in (Fig.A). Once the key has been pressed the password must be inserted for access to the various menus. To access the user menu the **password is 030**. To modify the value of the password use the arrow keys. Once the correct password has been inserted, press the key shown in (Fig.A). The display shows the index of the **INSTALLER** parameter and a string of three characters that identify it.

The string remains displayed for one second, after which it is replaced by the value relative to the parameter itself. To pass to the next parameter, use the arrow keys (Fig.B). To modify a parameter, just select it, press the key shown in (Fig.A), modify the value using the arrow keys shown in (Fig.B). To confirm the modification press the key shown in (Fig.A) again.



PASSWORD = 030

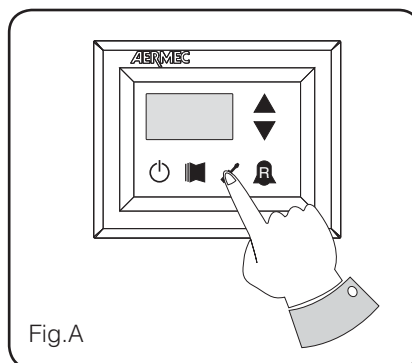


Fig.A

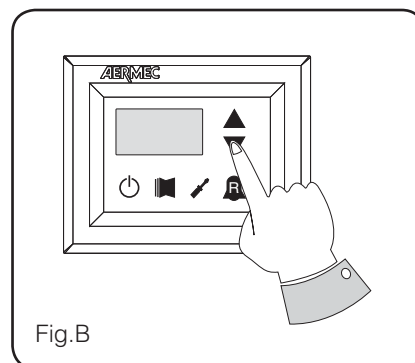


Fig.B

(1) What type of system terminals are used in the heating circuit?

Reply	Operations to be performed
Is the unit a cooling only model	Go to question 2
Radiant panels (floor, etc....)	Set the parameter StC (index 3 USER menu) with the value of 35 °C
Fan coils or low temperature radiators	Set the parameter StC (index 3 USER menu) with the value of 45 °C (default value)
Other applications	Set the parameter StC (index 3 USER menu) with the value of 55 °C

(2) Is the remote panel accessory installed (PR3) ?

Reply	Operations to be performed
Not installed	Go to question 3
Installed	<p>Set the parameter PAN (index 9 INSTALLER menu) with the appropriate value selecting from:</p> <p>Value (1):</p> <ul style="list-style-type: none">• Season control piloted from the circuit board• ON/OFF control enabled from PR3 <p>Value (2):</p> <ul style="list-style-type: none">• Season control enabled from PR3• ON/OFF control from panel on machine <p>Value (3):</p> <ul style="list-style-type: none">• Season control enabled from PR3• ON/OFF control enabled from PR3

(3) Is the production of DHW envisioned?

Reply	Operations to be performed
Not envisioned	Go to question 5
Envisioned	Set the parameter ASA (index A INSTALLER MENU) with the value (1)

(4) Is a 3-way diverter valve envisioned in the DHW production circuit?

Reply	Operations to be performed
Not envisioned	Go to question 5
Envisioned	Set the parameter AAS (index C INSTALLER menu) with the appropriate value (in seconds). This parameter indicates the stand-by time for inversion of the 3-way diverter valve on the DHW production system

(5) Is a room thermostat installed?

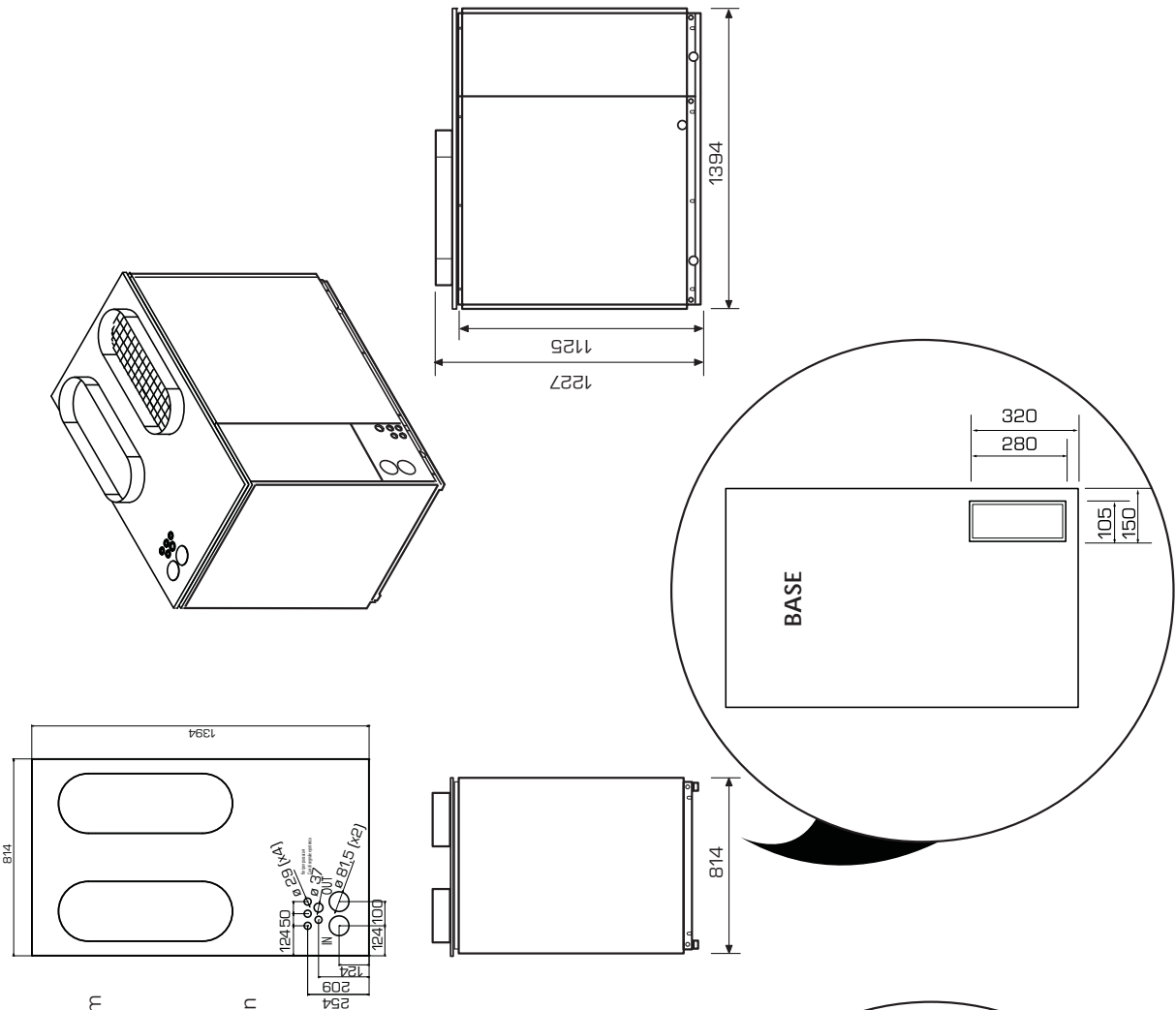
Reply	Operations to be performed
Not installed	No operation
Installed	<p>This parameter enables a digital clamp ID (indicated on the circuit board with the code TRA) to which a room thermostat must be connected, used to disable the compressors and the integrative resistances.</p> <p>Set the parameter trA (index D INSTALLER menu) with the appropriate value, selecting from:</p> <p>Value (1 or 2): Clamp ENABLED Value (0 or 3): Clamp DISABLED</p> <p>Remember that the OPEN state on the clamp represents:</p> <ul style="list-style-type: none">• the compressors and resistances block function if the parameter is set at 1• the compressors, pumps and resistances block function if the parameter is set at 2• represents the pump alarm (as in the previous software version), if the parameter is set at the value 3



For further information regarding operations that can be performed on the user and installer parameters, refer to the unit user manual.

23. DIMENSIONS AND HYDRAULIC CONNECTIONS

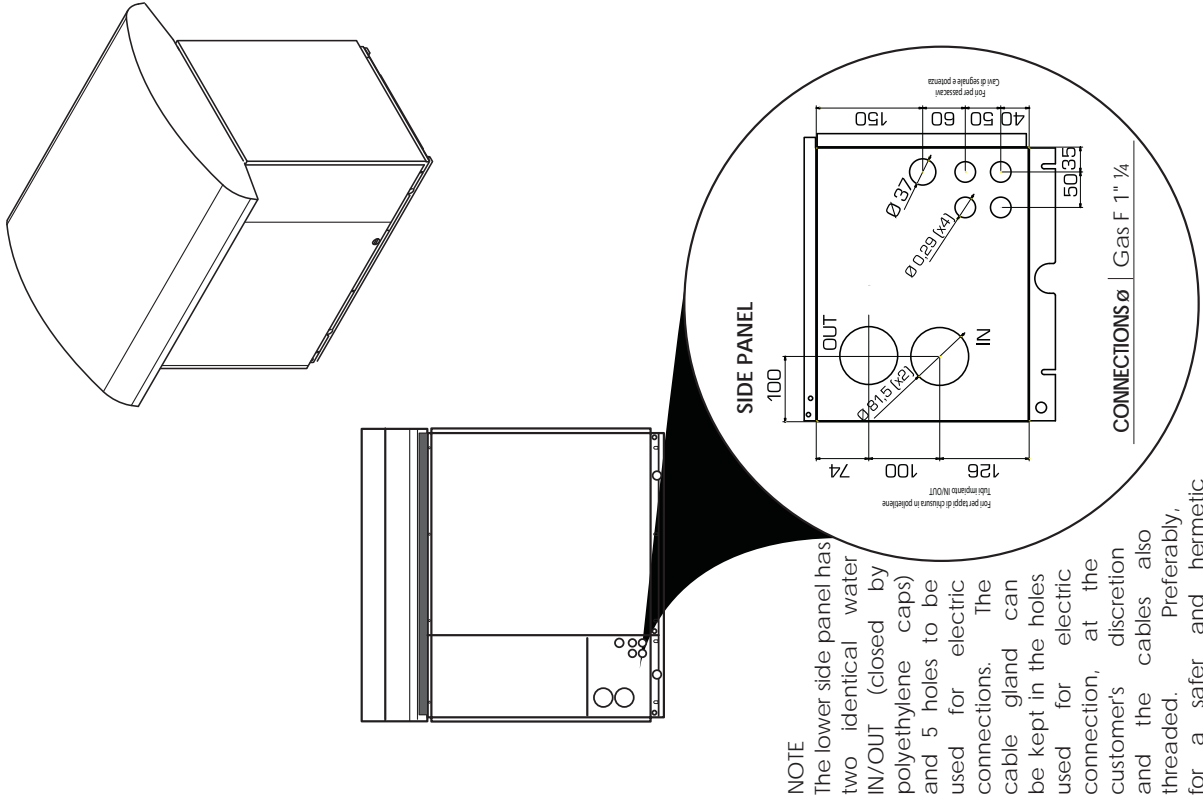
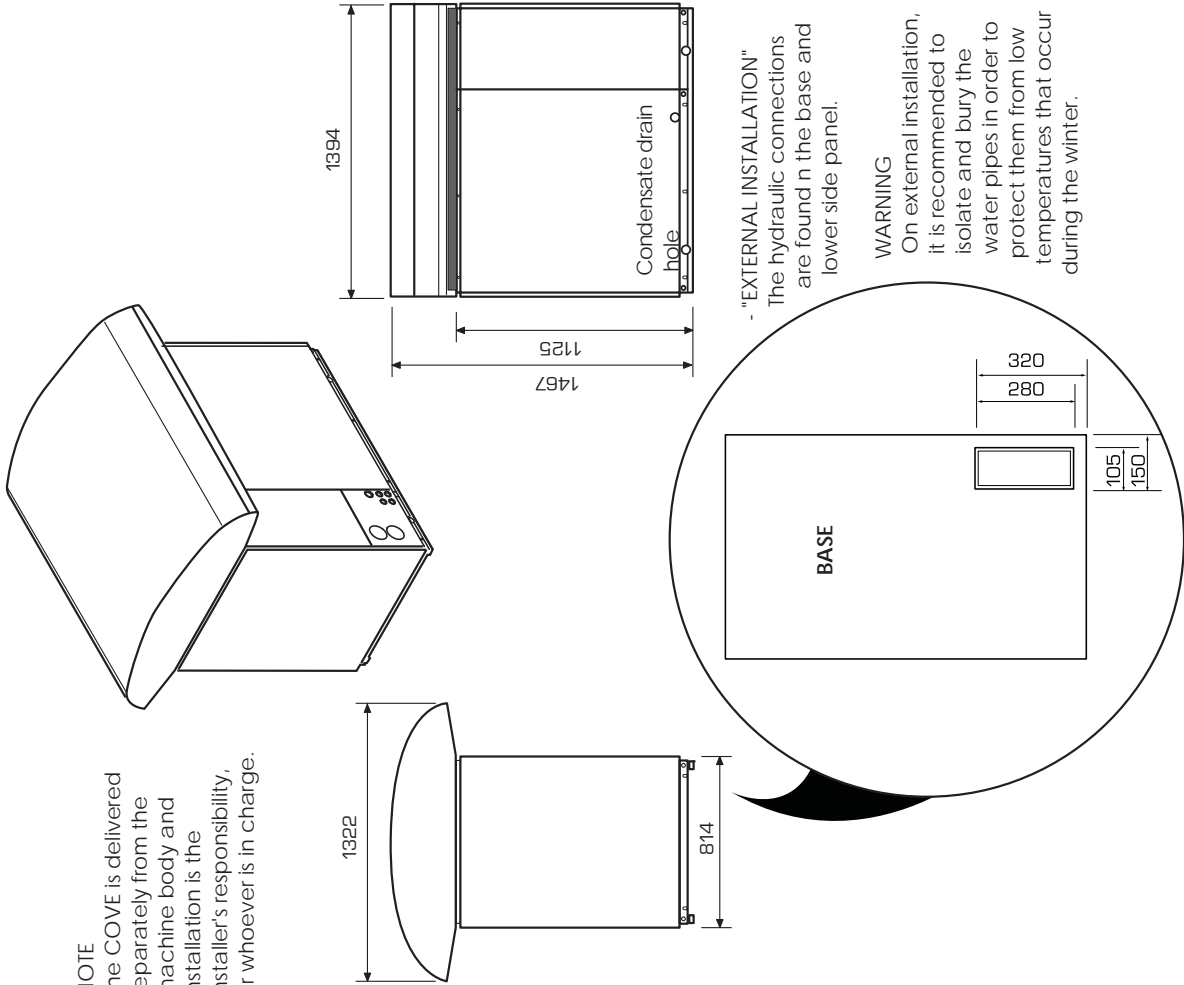
23.1. SRP INTERNAL INSTALLATION



NOTE
 The FV is delivered separately from the machine body and installation is the installer's responsibility, or whoever is in charge.

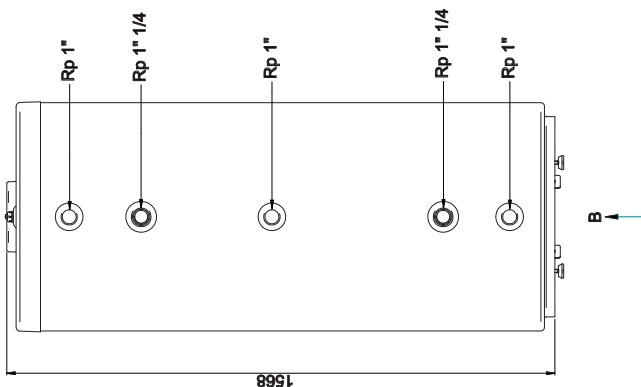
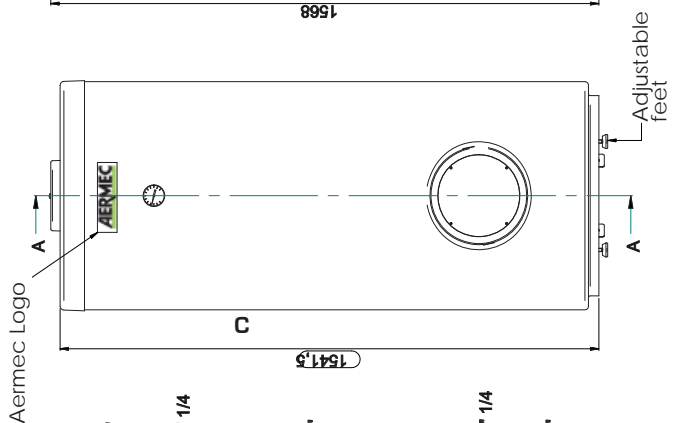
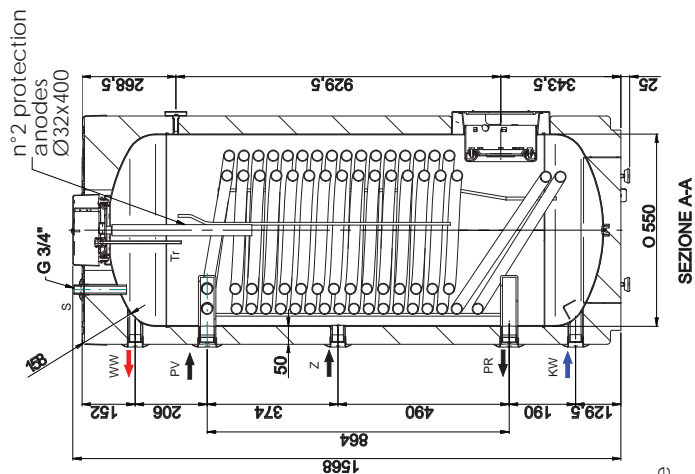
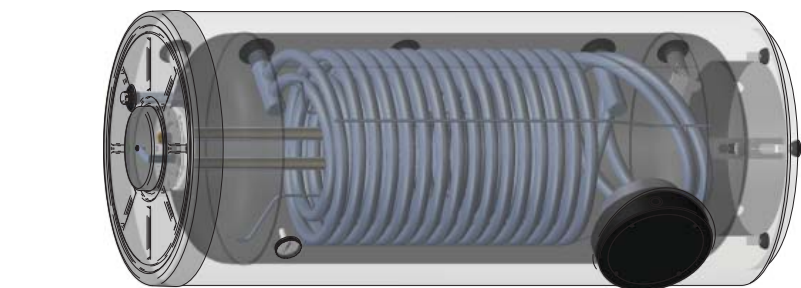
NOTE
 The lower side panel has two identical water IN/OUT (closed by polyethylene caps) and 5 holes to be used for electric connections. The cable gland can be kept in the holes used for electric connection, at the customer's discretion and the cables also threaded. Preferably, for a safer and hermetic connection, remove the cable glands and replace them with suitable cable glands (user's responsibility).

23.2. SRP EXTERNAL INSTALLATION

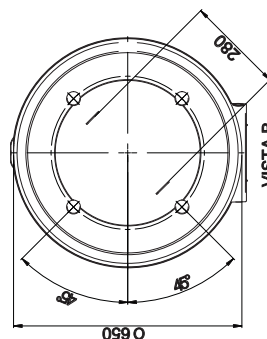
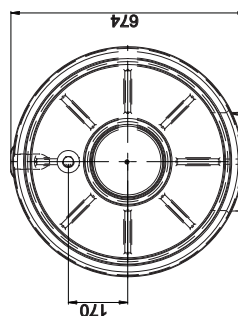


24. DHW STORAGE TANKS

S300S



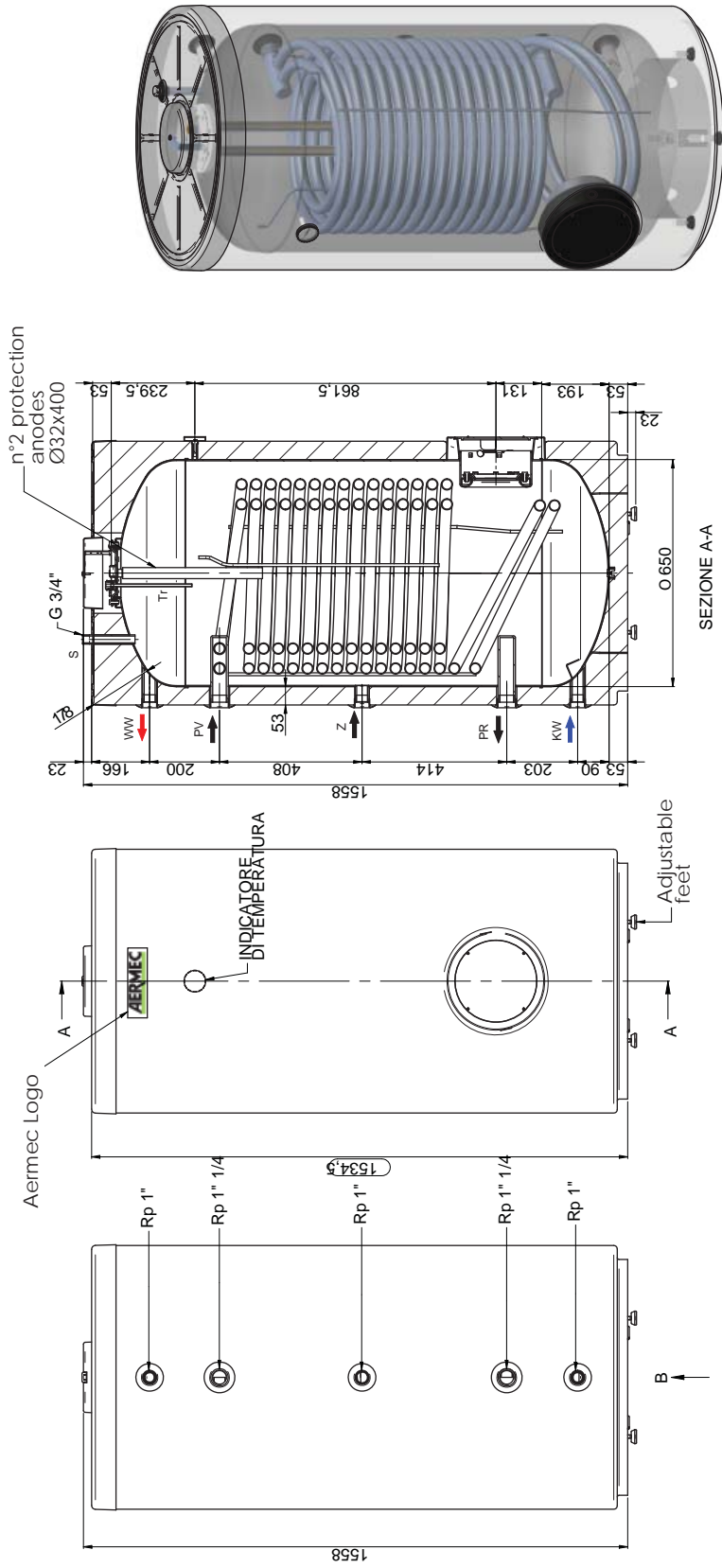
KEY	
KW	Domestic cold water inlet - Rp 1"
WW	Domestic hot water outlet - Rp 1"
PV	Heat exchanger water inlet - Rp 1 1/4"
PR	Heat exchanger water outlet - Rp 1 1/4"
Z	Pump - Rp 1"
Tr	Probe-holder sheath
S	Bleeding stub pipe - G 3/4"



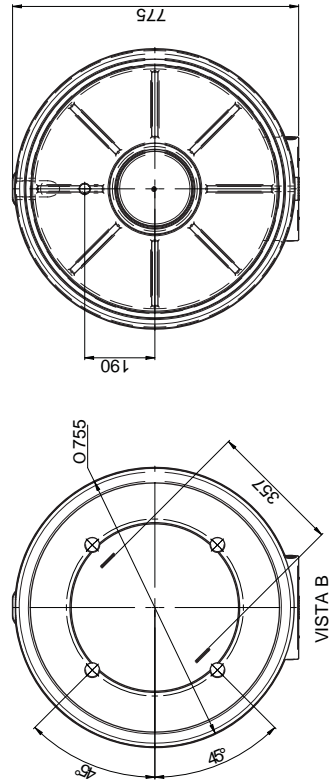
• TECHNICAL DATA

MODEL		300
Nominal capacity	l	300
Exchange surface	m ²	3,8
Tank max. pressure	bar	10
Heat exchanger max. pressure	bar	16
Storage tank max T	°C	95
Primary volumetric flow rate	m ³ /h	ND
Exchanged power (*)	kW	ND
Continuous flow rate (*)	l/h	ND
Packaged tank dimensions	mm	710 x 710 x 1755
Total volume	m ³	0,88

(*) ΔT 35°C, primary temperature 65°C



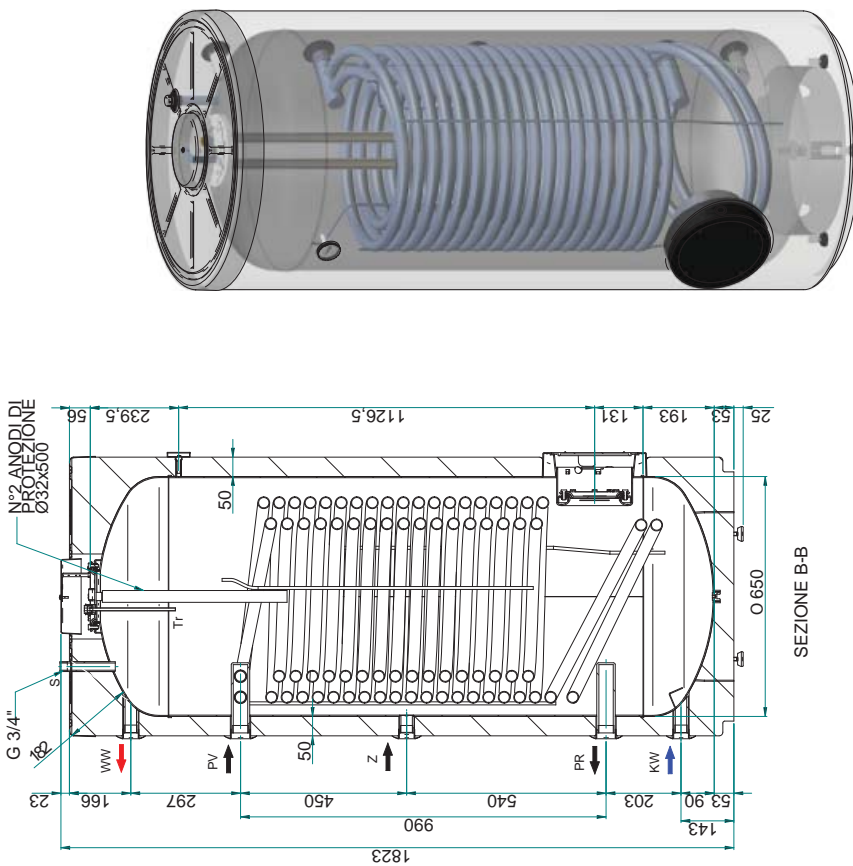
KEY	
KW	Domestic cold water inlet - Rp 1"
WW	Domestic hot water outlet - Rp 1"
PV	Heat exchanger water inlet - Rp 1" 1/4
PR	Heat exchanger water outlet - Rp 1" 1/4
Z	Pump - Rp 1"
Tr	Probe-holder sheath
SF	Bleeding stub pipe - G 3/4"



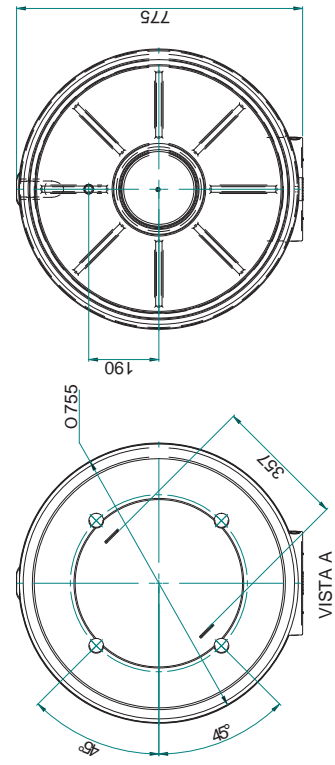
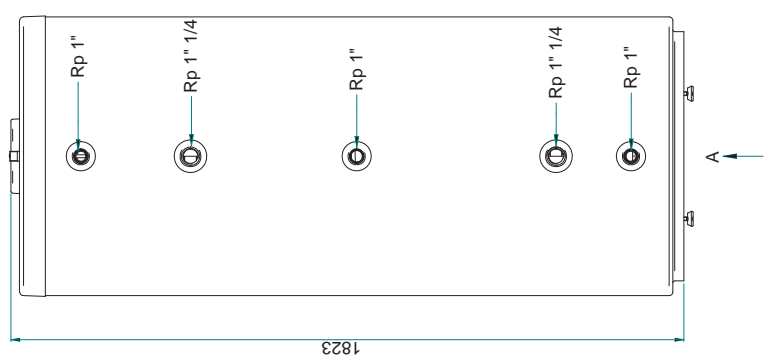
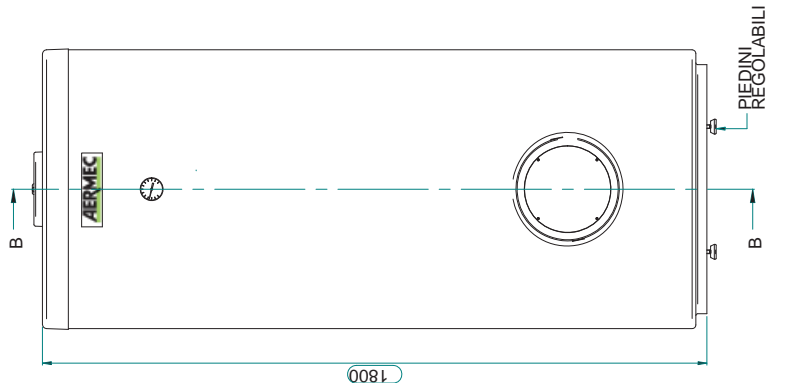
• TECHNICAL DATA

MODEL		400
Nominal capacity	l	400
Exchange surface	m ²	4,50
Tank max. pressure	bar	10
Heat exchanger max. pressure	bar	16
Storage tank max T	°C	95
Primary volumetric flow rate	m ³ /h	ND
Exchanged power (*)	kW	ND
Continuous flow rate (*)	l/h	ND
Packaged tank dimensions	mm	790 x 790 x 1700
Total volume	m ³	1,03

(*) ΔT 35°C, primary temperature 65°C



KEY	Description
KW	Domestic cold water inlet - Rp 1"
WW	Domestic hot water outlet - Rp 1"
PV	Heat exchanger water inlet - Rp 1" 1/4
PR	Heat exchanger water outlet - Rp 1" 1/4
Z	Pump - Rp 1"
Tr	Probe-holder sheath
S	Bleeding stub pipe - G 3/4"



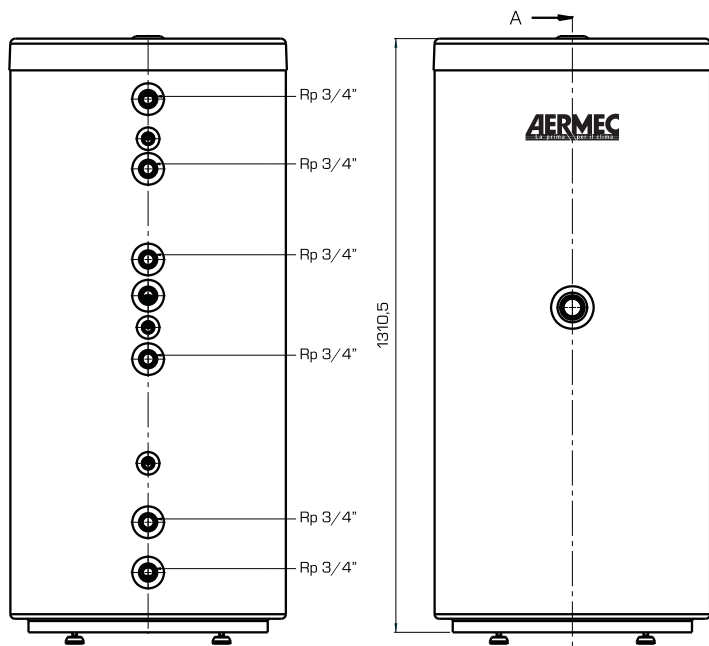
• TECHNICAL DATA

MODEL		500
Nominal capacity	l	500
Exchange surface	m ²	5,50
Tank max. pressure	bar	10
Heat exchanger max. pressure	bar	16
Storage tank max T	°C	110
Primary volumetric flow rate	m ³ /h	ND
Exchanged power (*)	kW	ND
Continuous flow rate (*)	l/h	ND
Packaged tank dimensions	mm	790 x 790 x 1970
Total volume	m ³	1,23

(*) ΔT 35°C, primary temperature 65°C

25. SYSTEM STORAGE TANKS

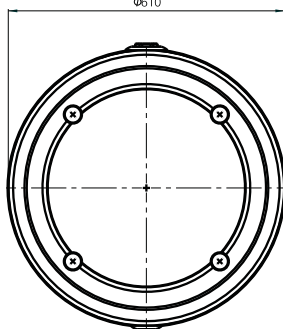
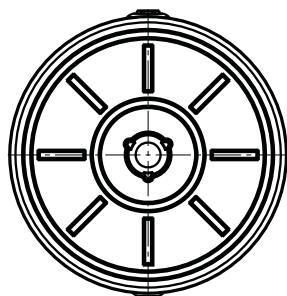
S200I



- KEY:**
- MI 1: 1 - Rp 3/4" system return
 - MI 2: 2 - Rp 3/4" system return
 - RI 1: 1 - Rp 3/4" system return
 - RI 2/SC: 2/discharge - Rp 3/4" system return
 - MC: boiler flow - Rp 3/4"
 - RC: boiler return - Rp 3/4"
 - Rec. I: System recirculation - Rp 3/4"
 - Tr: Probe-support sheath - 16

- TECHNICAL FEATURES**
- Nominal capacity 200 l
 - Tank maximum working pressure 3 bar
 - Maximum working temperature 90°C
 - Insulation: Direct polyurethane foaming without CFC and HCFC, thickness 50 mm
 - External covering in PVC RAL 9016

- INSPECTION**
- Check tank sealing: Fill tank with air at 6 bar and then introduce into water to highlight any leaks (100%)
 - Check sealing of finished product: Fill tank with air at 6 bar and then introduce into water to highlight any leaks in the mounted component (100%)

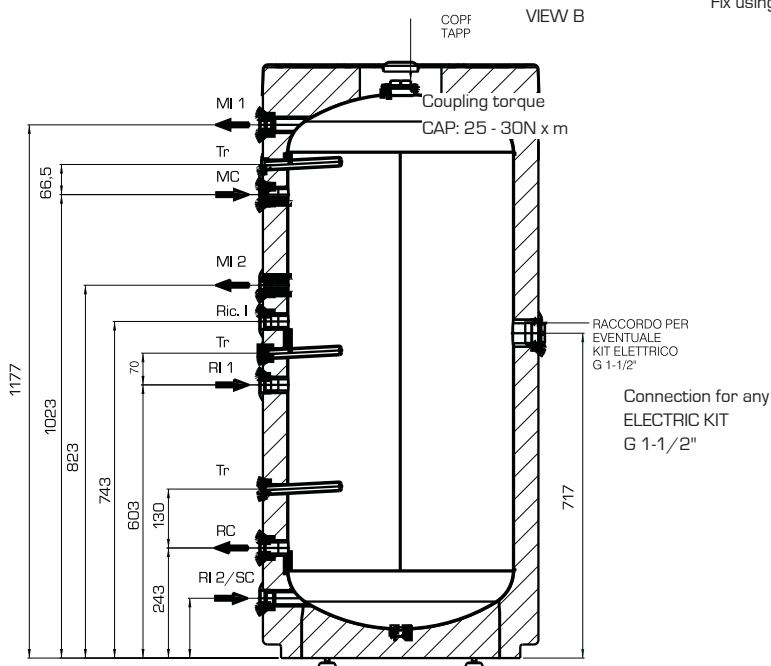
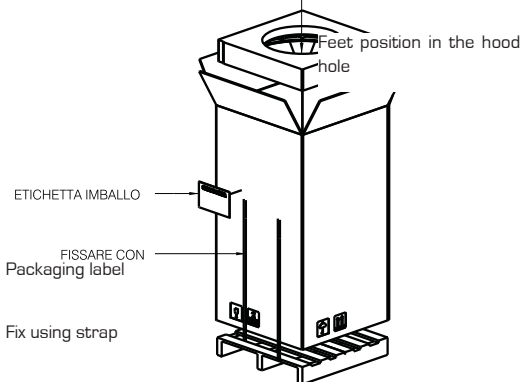


VISTA B

VIEW B



POSIZIONARE PIEDINI NEL FORO CAPPUCCIO

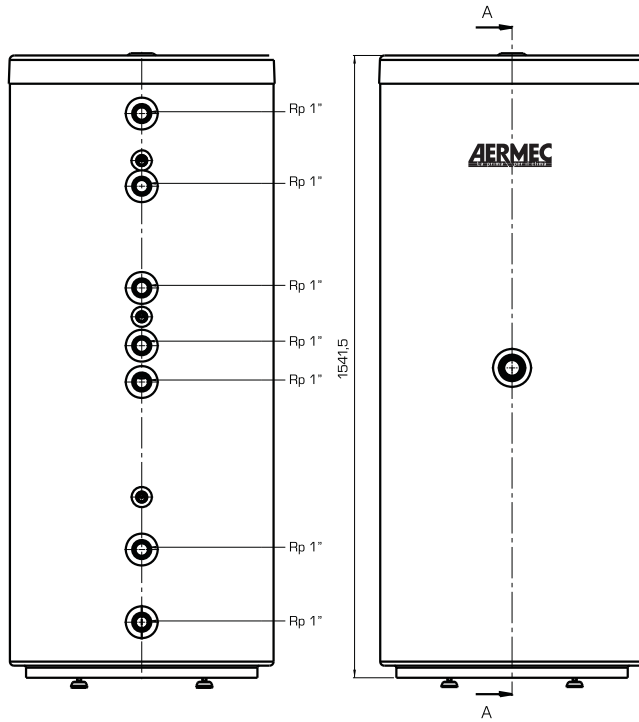


SEZIONE A-A

SECTION A-A

- Packaged storage tank dimensions:**
- 670x670x1530 mm
 - Estimated net weight: 50.5 kg
 - Estimated gross weight: 62.5 kg
 - Tare: 12 kg

S300I



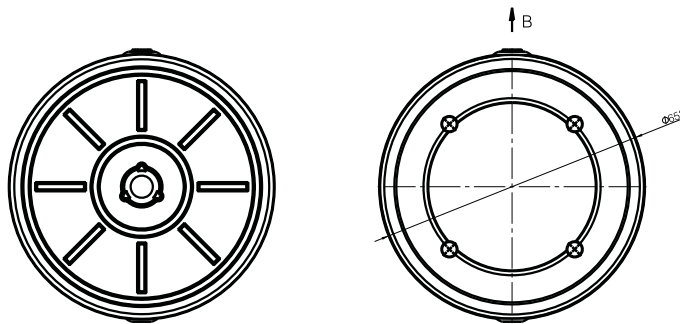
- KEY:**
 MI 1: system flow 1 - Rp 1"
 MI 2: system flow 2 - Rp 1"
 RI 1: system return 1 - Rp 1"
 RI 2/SC: 2/discharge - Rp 1" system return
 MC: boiler flow - Rp 1"
 RC: boiler return - Rp 1"
 Rec. I: System recirculation - Rp 1"
 Tr: Probe-support sheath - 16

TECHNICAL FEATURES

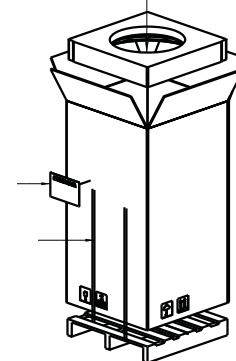
- Nominal capacity 300 l
- Tank maximum working pressure 3 bar
- Maximum working temperature 90°C
- Insulation: Direct polyurethane foaming without CFC and HCFC,
- External covering in PVC RAL 9016, thickness 0.35 mm

INSPECTION

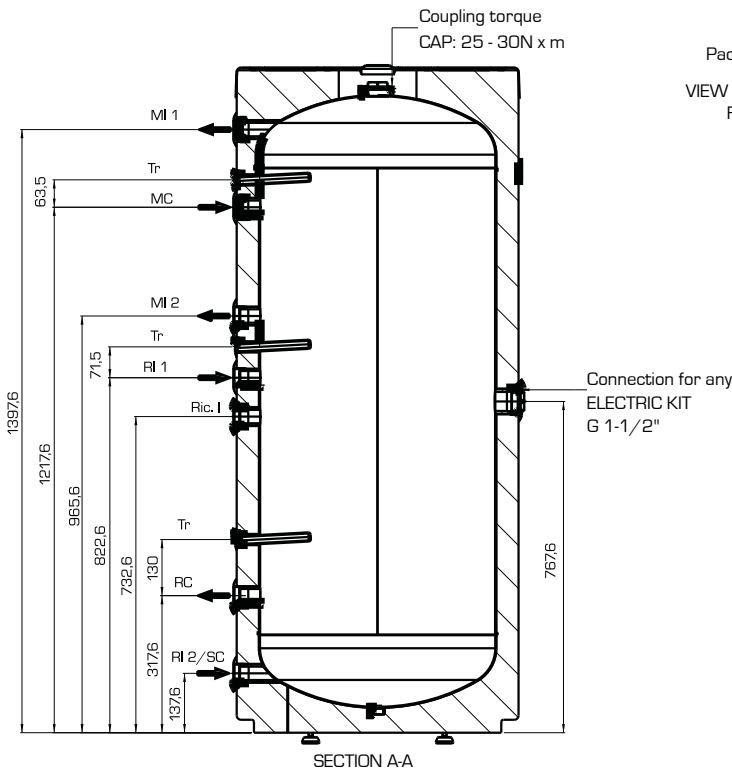
- Check tank sealing: Fill tank with air at 6 bar and then introduce into water to highlight any leaks (100%)
- Check sealing of finished product: Fill tank with air at 6 bar and then introduce into water to highlight any leaks in the mounted component (100%)



Feet position in the hood hole

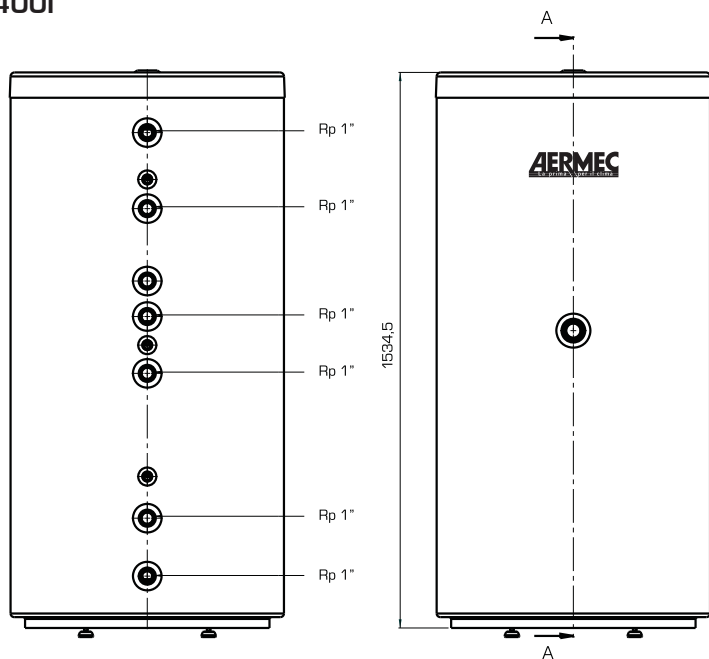


Coupling torque
 CAP: 25 - 30N x m



- Packaged storage tank dimensions: 710x710x1755 mm
- Total volume 0.88 m³
- Estimated net weight: 74.5 kg
- Estimated gross weight: 87.5 kg
- Tare: 13 kg

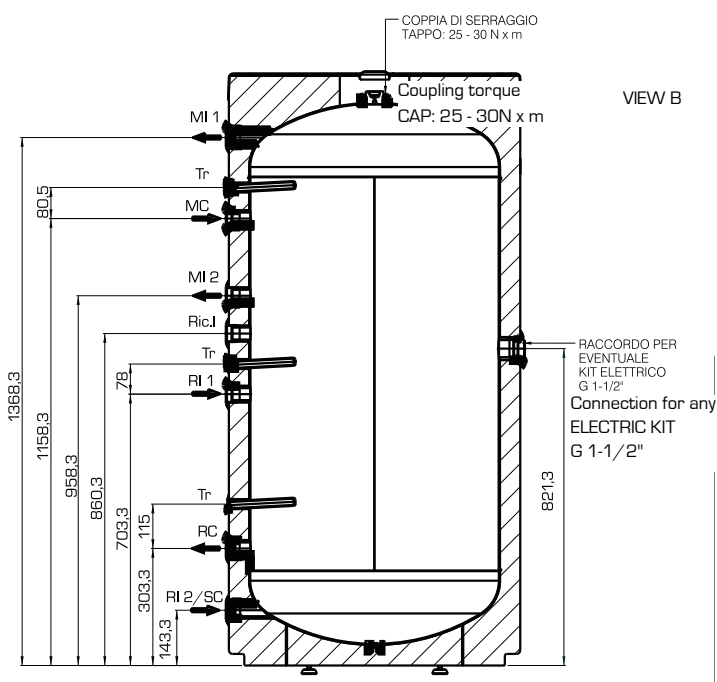
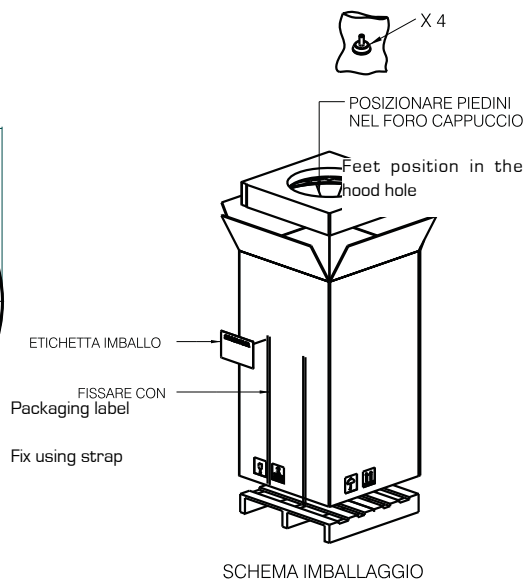
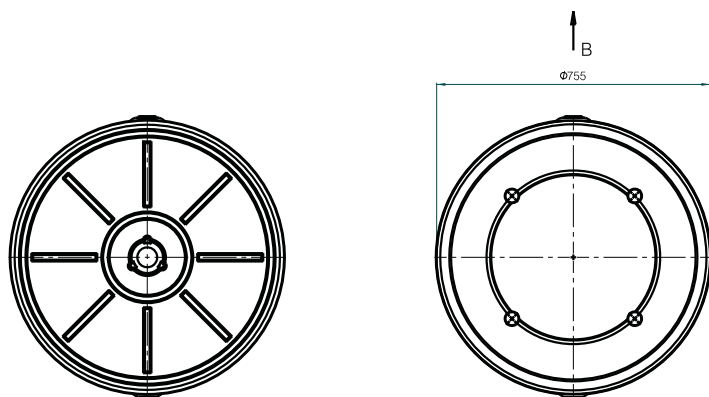
S400I



- KEY:
- MI 1: system flow 1 - Rp 1"
 - MI 2: system flow 2 - Rp 1"
 - RI 1: system return 1 - Rp 1"
 - RI 2/SC: 2/discharge - Rp 1" system return
 - MC: boiler flow - Rp 1"
 - RC: boiler return - Rp 1"
 - Rec. I: System recirculation - Rp 1"
 - Tr: Probe-support sheath - 16

- TECHNICAL FEATURES
- Nominal capacity 400 l
 - Tank maximum working pressure 3 bar
 - Maximum working temperature 90°C
 - Insulation: Direct polyurethane foaming without CFC and HCFC,
 - External covering in PVC RAL 9006, thickness 0.35 mm

- INSPECTION
- Check tank sealing: Fill tank with air at 6 bar and then introduce into water to highlight any leaks (100%)
 - Check sealing of finished product: Fill tank with air at 6 bar and then introduce into water to highlight any leaks in the mounted component (100%)

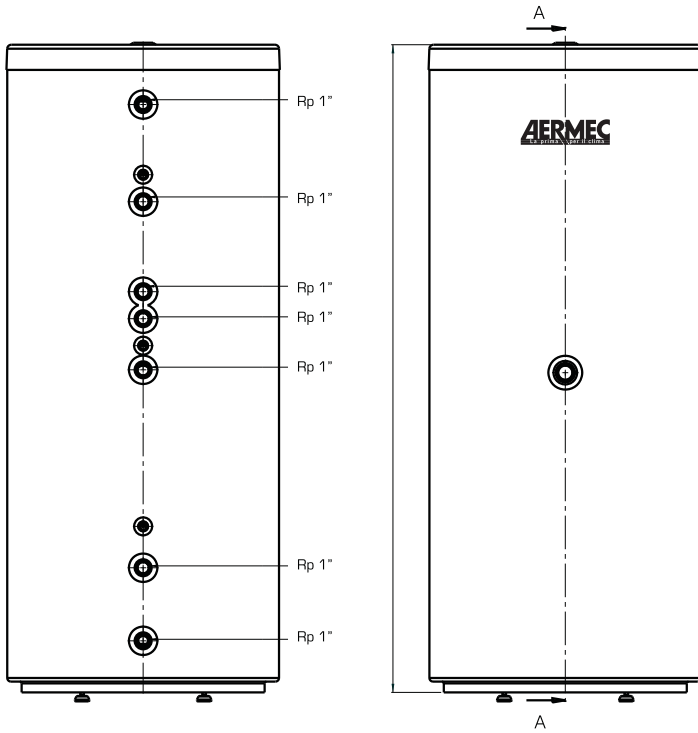


SEZIONE A-A

SECTION A-A

- Packaged storage tank dimensions: 790x790x1700 mm
- Total volume 1.03 m³
- Estimated net weight: 96.5 kg
- Estimated gross weight: 111.5 kg
- Tare: 15 kg

S500I



KEY:

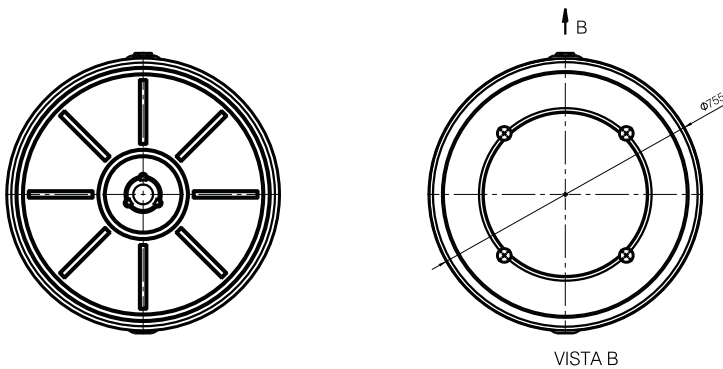
- MI 1: system flow 1 - Rp 1"
- MI 2: system flow 2 - Rp 1"
- RI 1: system return 1 - Rp 1"
- RI 2/SC: 2/discharge - Rp 1" system return
- MC: boiler flow - Rp 1"
- RC: boiler return - Rp 1"
- Rec. I: System recirculation - Rp 1"
- Tr: Probe-support sheath - 16

TECHNICAL FEATURES

- Nominal capacity 500 l
- Tank maximum working pressure 3 bar
- Maximum working temperature 90°C
- Insulation: Direct polyurethane foaming without CFC and HCFC,
- External covering in PVC RAL 9016, thickness 0.35 mm

INSPECTION

- Check tank sealing: Fill tank with air at 6 bar and then introduce into water to highlight any leaks (100%)
- Check sealing of finished product: Fill tank with air at 6 bar and then introduce into water to highlight any leaks in the mounted component (100%)



VISTA B

VIEW B



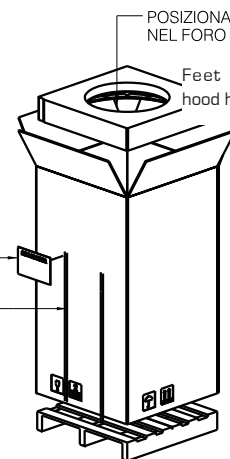
POSIZIONARE PIEDINI NEL FORO CAPPUCCIO

Feet position in the hood hole

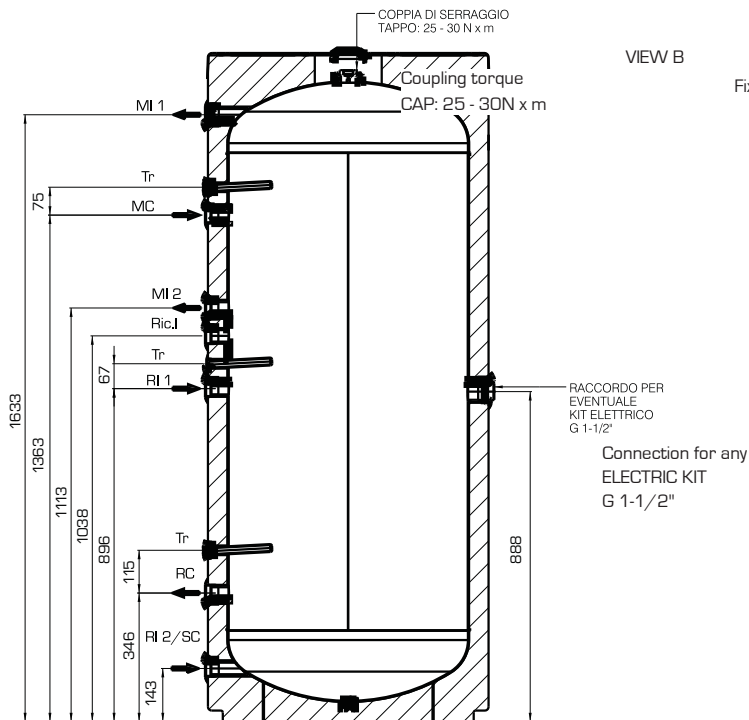
ETICHETTA IMBALLO

FISSARE CON Packaging label

Fix using strap



SCHEMA IMBALLAGGIO



SEZIONE A-A

SECTION A-A

- Packaged storage tank dimensions: 790x790x1970 mm
- Total volume 1.23 m³
- Estimated net weight: 112.5 kg
- Estimated gross weight: 128.5 kg
- Tare: 16 kg

RACCORDO PER EVENTUALE KIT ELETTRICO G 1-1/2"

Connection for any ELECTRIC KIT G 1-1/2"

26. INSTALLATION ACCESSORIES

NOTE

Both the flanges and the covering (MANDATORY ACCESSORIES) for internal and external installation are delivered separately from the unit and the installation is the installer's responsibility.

25.1. EXTERNAL INSTALLATION

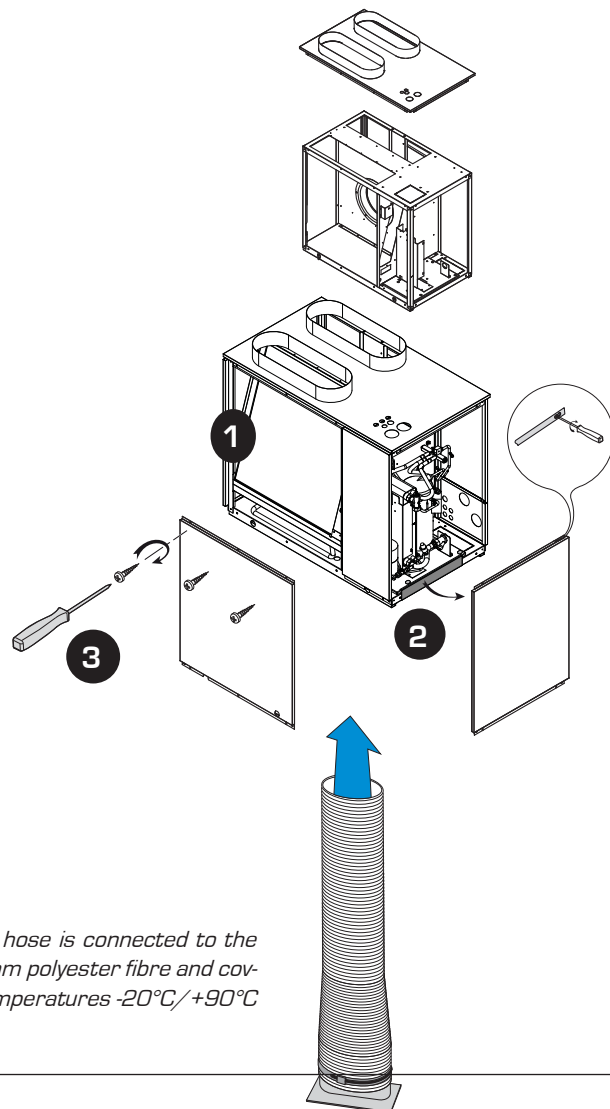
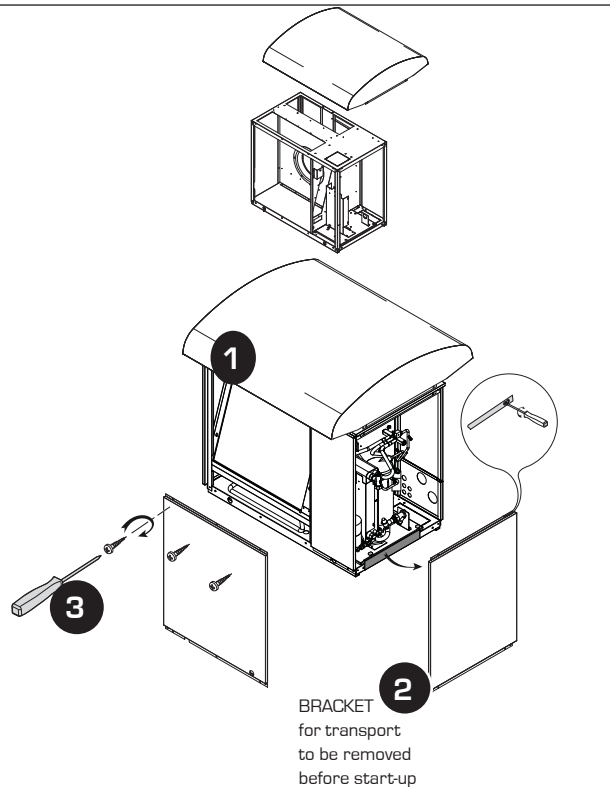
i It is recommended to install the covering with the last operations, after having installed the machine but before closing the panels as they are required to fix the covering itself, therefore operating as in the figure:

1. Position the covering on the upper side of the SRP
2. Remove the bracket fixed on the base of the compressor before closing the front panel.
3. Close the panels using the screws removed previously for opening.

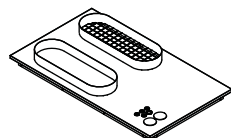
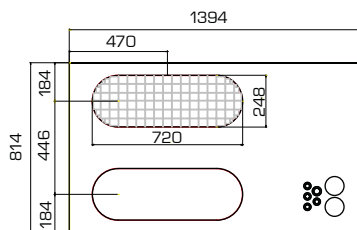
25.2. INTERNAL INSTALLATION

i It is recommended to install the upper flanged panel with the last operations, after having installed the machine but before closing the panels as they are required to fix the panel itself, therefore operating as in the figure:

1. Position the flanged panel on the upper side of the SRP
2. Remove the bracket fixed on the base of the compressor before closing the front panel.
3. Close the panels using the screws removed previously for opening.



Upper panel for internal installation



Flanges for internal installation

We suggest an insulated \varnothing 559 flexible hose is connected to the flange to duct the air. Insulation is in 30 mm polyester fibre and covered externally in PVC. Resistance to temperatures $-20^{\circ}\text{C}/+90^{\circ}\text{C}$ Non-flammable. class 1



AERMEC S.p.A
37040 Bevilacqua (VR) Italy - Via Roma, 996
Tel. (+39) 0442 633111
Telefax 0442 93730 - (+39) 0442 93566
www.aermec.com - info@aermec.com

carta riciclata
recycled paper
papier recyclé
recycled papier



The technical data given on the following documentation are not binding. Aermec reserves the right to make all the modifications deemed necessary for improving the product.

