AERMEC
air conditioning

R410A

CHILLER - Technical Manual

- WATER/WATER CHILLER
- INDOOR UNIT
- HIGH EFFICIENCY
- USED FOR GEOTHERMAL APPLICATIONS

WRL 025/160

EN

AERMEC COMPANY QUALITY SYSTEM
ICIM
ISO 9001:2008 - Cert. n° 0128
CISQ IQNet
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CE

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IWRLTY. 1109. 5890984_01

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

I N D E X

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WRL

SERIAL NUMBER	

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

NAME **WRL**

TYPE **WATER COOLED CHILLERS**

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 system and heat pumps - Safety and environmental requirements
UNI EN 12735	Seamless, round copper tubes for air conditioning and refrigeration
UNI EN 14276	Pressure equipment for cooling systems and heat pumps

Thereby, compliant with the essential requirements of the following directives:

- LVD Directive: 2006/95/CE
- Electromagnetic Compatibility Directive 2004/108/CE
- Machinery Directive 2006/42/CE
- PED Directive regarding pressurised devices 97/23/CE

The product, in agreement with Directive 97/23/CE, satisfies the Total quality Guarantee procedure (form H) with certificate no. 06/270-QT3664 Rev. 5 issued by the notified body n.1131 CEC via Pisacane 46 Legnano (MI) - Italy

The person authorised to constitute the technical file is: / The person authorised to compile the technical file is: / La personne autorisée à constituer le dossier technique est: / Die Person berechtigt, die technischen Unterlagen zusammenzustellen:

Alberto Foroni
Via Ca' Magre, 45 - 37063 Isola della Scala (VR)

Bevilacqua 15/04/2010

Marketing Manager
Signature

Standards and Directives respected when 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 60204-1
- **Acoustic part:**
- SOUND POWER (EN ISO 9614-2)
- SOUND PRESSURE (EN ISO 3744)
- **Certification**:
- Eurovent
- **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

The AERMEC WRL unit are constructed according to the recognised technical standards and safety regulations. They are designed for summer conditioning. 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 on this subject in different countries. (Ministerial Decree 329/2004).

1.2. INSTALLATION

The unit must be installed in such a way that maintenance and/or repairs can be carried out.

1.3. WARRANTY

The appliance warranty does not cover the costs for ladder trucks, scaffolding, or other elevation systems that may become necessary for carrying out servicing under warranty.
Do not modify or tamper with the heat pump 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.

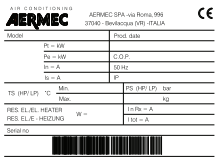
1.4. WARNINGS REGARDING SAFETY AND INSTALLATION STANDARDS

- 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 AVOID ALL RISKS.*** 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 WRL chiller can be identified by:

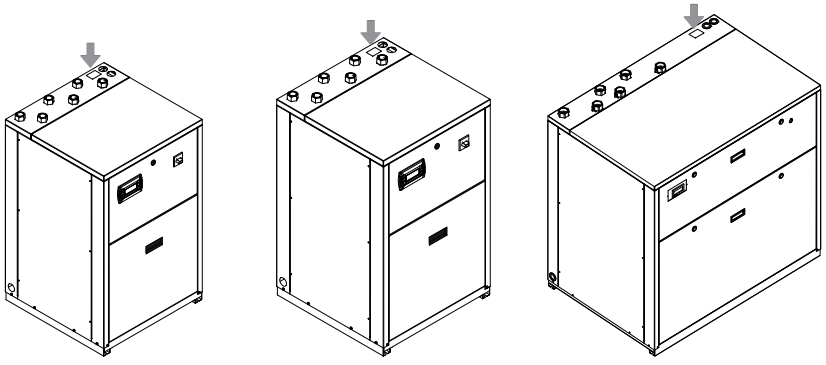
- **PACKING LABEL**
  which shows the product identification data
- **TECHNICAL PLATE** (see position chap. 2.1.).



example of technical plate

2.1. TECHNICAL PLATE POSITION

ATTENTION
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. PRESENTATION

AERMEC presents the new **WRL UNIT OPTIMISED FOR GEOTHERMIC SYSTEMS** that are water-cooled and operate with R410A refrigerant.

They are ***INDOOR UNITS*** with hermetic scroll compressors that perfectly meet the requirements of the residential market:

High performance
These units have been designed allowing to reach high efficiencies.

Easy installation
The electric and hydraulic connections are all positioned in the upper part of the unit facilitating the installation and maintenance operations. This also allows to reduce the technical spaces and their positioning in as smaller space possible.

Silent
The units are distinguished for its working silence. Careful soundproofing of the unit with suitable sound-absorbent material confer all units with noise limits such to consent the use of the WRL also in homes and not necessarily in dedicated technical rooms.

Dynamic set point
The electronic regulation, through the use of an external air temperature probe "KSAE" (ACCESSORY) and according to the external conditions, automatically modifies the set point of the system water temperature, thereby improving the energy efficiency of the system.

4. CONFIGURATOR

1,2,3	4,5,6	7	8	9	10	11	12	13	14	15
WRL	050	Y	°	°	°	°	°	°	S	°

FIELD	CODE	
1, 2, 3	**WRL**	
4, 5, 6	**SIZES**	025 - 030 - 040 - 050 - 070 - 080 - 100 - 140 - 160
7	**FIELD OF USE**	
	°	Standard with water produced up to +4°C
	Y	Low temperature with water produced up to -8°C
8	**MODEL:**	
	°	Only cooling
	E	Motoevaporating
9	**VERSION:**	
	°	Standard
10	**HEAT RECOVERY**	
	°	Without heat recovery
	D	Desuperheater
11	**STANDARD VERSION GEOTHERMY SIDE PUMPS KIT «o»**	
	°	Without pump
		GEOTHERMY APPLICATIONS
	B	3-SPEED PUMP ON-OFF (AVAILABLE TO WRL 080 MODEL) SINGLE SPEED THREE-PHASE STANDARD PUMP (WRL 100-140-160 MODELS)
	U	SINGLE SPEED THREE-PHASE larger pump (WRL 100-140-160 MODELS)
	F	Pump wit phase cut set-up, (AVAILABLE TO WRL 080 MODEL)
	I	Inverter pump, (AVAILABLE TO WRL 080 MODEL)
		APPLICATIONS WITH WATER SHEET
	V	2-way modulating valve
12	**USER SIDE PUMPS KIT**	
	STANDARD VERSION « o »	
	°	Without pump
	P	3-SPEED PUMP ON-OFF (AVAILABLE TO WRL 080 MODEL) SINGLE SPEED THREE-PHASE standard pump (WRL 100-140-160 MODELS)
	N	SINGLE SPEED THREE-PHASE larger pump (WRL 100-140-160 MODELS)
13	**FIELD NOT USED**	
	°	
14	**SOFT-START KIT**	
	°	Without soft start
	S	With soft-start
15	**POWER SUPPLY**	
	°	400V-3N-50 Hz
	M	230V-1-50Hz (Only for sizes 025, 030, 040)
	4	230V-3-50Hz (Only for sizes WRL 050, 070, 080, 100, 140, 160)

Configuration example:
WRL050Y°°°°°°S°

5. DESCRIPTION OF COMPONENTS

5.1. STRUCTURE

Base and support structure,
Made up from hot galvanised sheet steel elements with suitable thickness. All parts painted with polyester powder paints (RAL 9002), resistant to atmospheric agents.
Realised in a way to allow total accessibility to the components internal components. All panels are covered with sound-absorbent material with suitable thickness.

5.2. COOLING CIRCUIT

Compressor
High efficiency scroll hermetic compressors (mounted on anti-vibration supports), activated by a 2-pole electric motor with internal heat protection.

Evaporator
Plate type (AISI 316). It is insulated externally with closed cell material to reduce thermal dispersions.

Condenser
Plate type (AISI 316). It is insulated externally with closed cell material to reduce thermal dispersions.

Dehydrator filter
Hermetic-mechanical with cartridges made of ceramic and hygroscopic material, able to withhold impurities and any traces of humidity present in the cooling circuit.
Biflow type up to model 080.

Indicator for liquid passage with humidity presence signal
Used to check the refrigerant gas load and the eventual presence of humidity in the cooling circuit.

Mechanical thermostatic valve
The mechanical valve, with external equaliser positioned at the evaporator inlet, modulates the flow of gas to the evaporator, according to the heat load, in order to ensure a correct heating level of the intake gas.

5.3. HYDRAULIC CIRCUIT

The unit are supplied standard:

- **Water filter:** Equipped with steel filtering mesh; prevents the heat exchangers from clogging.
- **Differential pressure switch;** It checks that here is water circulation inside the heat exchangers. Adversary, it blocks the unit.
- **Safety valve (6 bar).** Equipped with a piped discharger and intervenes by discharges the over pressure in case of anomalous pressures.
- **Expansion tank:** With nitrogen pre-load membrane. (En series with pump version).
- **Air vent**
- **Drain cock**

5.4. WATER FEATURES

PH	6-8
Electric conductivity	less than 200 mV/ cm (25°C)
Chloride ions	less than 50 ppm
Sulphuric acid ions	less than 50 ppm
Total iron	less than 0.3 ppm
Alkalinity M	less than 50 ppm
Total hardness	less than 50 ppm
Sulphur ions	none
ammonia ions	none
Silicone ions	less than 30 ppm

5.5. COMPONENTS THAT CAN BE CONFIGURED

The components that can be selected by the configurator are:
- **3-speed ON/OFF pump (up to 080 model) or standard three-phase one-speed pump for 100-140-160 models.**
- **Larger single speed three phase pump (100-140-160 models).**
- **Pump with phase cut set-up (up to 080 model).**
- **Inverter pump (up to 080 model).**

- The following is available for well/ sheet water applications:
- **V2-way modulating valve (alimentation 24 Vdc/Vac 50/60Hz, signal 0÷10 V). Maximum differential pressure 4bar/40kPa.**

ATTENTION:
In case of power failure the valve remains locked in the working position. In order to avoid unnecessary water consumption, it is recommended to install, upstream of the water mains supply, a shut-off device.

5.6. SAFETY AND CONTROL

Low pressure transducers
Placed on the low pressure side of the cooling circuit, it signals the work pressure to the control board, generating a pre-warning in case of anomalous pressures.

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.

5.7. ELECTRIC CONTROL BOARD AND REGULATION

Electric power and control board, manufactured in compliance with the EN 60204-1/IEC 204-1 Standards, complete with:
- door lock main isolating switch,
- magnet circuit breaker switches and contactors for compressors,
- phase sequence control,
- clamps for signalling the remote alarm,
- clamps for signalling compressor switch-on status,
- clamps for differential pressure switch alarm signal,
- clamps for external air temperature probe (ACCESSORY),
- soft-start (OPTIONAL),
- control circuit numbered cables,
- clamps for 3-way valve,
- 0-10V clamps for modulating valve control.

Dinamic Set-Point
Thanks to the use of a state of the art electronic adjustment and of an external air temperature probe "KSAE" (ACCESSORY), the chiller can adapt the temperature of the water produced, on variation of the climatic conditions, increasing the energy efficiency of the system.

Electronic Modu_Control
The control panel of the unit allows quick setting of the operating parameters of the machine and view them. The display consists of 4 digits and several LEDs to signal the type of operation, the display of parameters and any alarms present. The card stores all the default settings and any changes, with the installation of the accessory remote panel PR3, you can remotely control the switching on and off, setting the operating mode (cold-hot), and the display of the summary alarm. After a case of power failure, the unit is able to restart automatically preserving the original settings.

6. ACCESSORIES

- **VT**: Anti-vibration mounts, to assemble under the unit's sheet steel base.
- **KSAE**: External air probe. Temperature probe with plastic container.
- **PR3**: Simplified remote control panel, allows you to perform the basic controls of the unit with notification alarm, Remotable control with shielded cable up to 150 m.
- **MODU-485A**: RS-485 interface for supervision systems with MODBUS protocol.

6.1. ACCESSORIES COMPATIBILITY TABLE

WRL	025	030	040	050	070	080	100	140	160
VT	9	9	9	9	9	9	15	15	15
KSAE	•	•	•	•	•	•	•	•	•
PR3	•	•	•	•	•	•	•	•	•
MODU-485A	•	•	•	•	•	•	•	•	•

COOLING

WRL	VERSION	POWER SUPPLY	U.M.	025	030	040	050	070	080	100	140	160
UNI EN14511 **COOLING MODE 12/7 - 30/35 °C "FAN COILS"**												
Cooling capacity	°	230V-1	kW	6,6	8,3	11,3	-	-	-	-	-	-
		400V-3N		6,6	8,4	11,2	14,6	19,1	21,7	29,3	38,1	43,4
Total input power	°	230V-1	kW	1,49	1,81	2,54	-	-	-	-	-	-
		400V-3N		1,44	1,72	2,45	3,10	4,00	4,69	6,22	8,06	9,45
Total input current	°	230V-1	A	7,2	9,2	11,7	-	-	-	-	-	-
		400V-3N		3,1	2,6	4,9	6,4	7,4	9,1	12,8	14,8	18,2
Evaporator water flow rate	°	230V-1	l/h	1.140	1.430	1.940	-	-	-	-	-	-
		400V-3N		1.150	1.450	1.940	2.530	3.300	3.750	5.060	6.600	7.510
System side pressure drops	°	230V-1	kPa	15	18	23	-	-	-	-	-	-
		400V-3N		15	19	23	23	27	32	27	36	41
Condenser water consumption	°	230V-1	l/h	1.390	1.740	2.370	-	-	-	-	-	-
		400V-3N		1.390	1.750	2.360	3.050	3.970	4.540	6.100	7.950	9.090
Condenser side pressure drop	°	230V-1	kPa	28	29	36	-	-	-	-	-	-
		400V-3N		28	30	35	32	40	46	42	57	66
EER	°	230V-1	-	4,42	4,59	4,44	-	-	-	-	-	-
		400V-3N		4,60	4,89	4,58	4,73	4,77	4,63	4,71	4,73	4,59

THE DATA DECLARED CONSIDER THE PUMP CORRECTION AS ENVISIONED BY THE UNI EN 145111 - 2008 STANDARD.

Attention:
The data declared concern the standard version [◦]; for different versions, consult the "MAGELLANO" selection program.

COOLING

WRL	VERSION	POWER SUPPLY	U.M.	025	030	040	050	070	080	100	140	160
UNI EN14511 **COOLING MODE 23/18 - 30/35 °C "RADIANT PANELS"**												
Cooling capacity	°	230V-1	kW	8,8	10,7	15,3	-	-	-	-	-	-
		400V-3N		9,0	10,4	15,5	19,8	25,8	29,5	39,6	51,4	59,0
Total input power	°	230V-1	kW	1,50	1,81	2,60	-	-	-	-	-	-
		400V-3N		1,43	1,74	2,51	3,06	4,16	4,91	6,17	8,46	9,98
Total input current	°	230V-1	A	7,1	8,7	13,1	-	-	-	-	-	-
		400V-3N		3,1	2,7	4,9	5,8	7,4	9,5	11,7	14,9	18,9
Evaporator water flow rate	°	230V-1	l/h	1.520	1.850	2.650	-	-	-	-	-	-
		400V-3N		1.550	1.800	2.690	3.430	4.470	5.120	6.860	8.940	10.270
System side pressure drops	°	230V-1	kPa	27	30	44	-	-	-	-	-	-
		400V-3N		27	29	45	42	50	59	49	66	76
Condenser water consumption	°	230V-1	l/h	1.770	2.160	3.080	-	-	-	-	-	-
		400V-3N		1.790	2.090	3.100	3.940	5.150	5.920	7.870	10.300	11.860
Condenser side pressure drop	°	230V-1	kPa	45	45	60	-	-	-	-	-	-
		400V-3N		46	42	61	53	68	78	71	95	112
EER	°	230V-1	-	5,88	5,92	5,90	-	-	-	-	-	-
		400V-3N		6,26	6,00	6,18	6,47	6,20	6,01	6,41	6,08	5,91

THE DATA DECLARED CONSIDER THE PUMP CORRECTION AS ENVISIONED BY THE UNI EN 145111 - 2008 STANDARD.

Attention:
The data declared concern the standard version [◦]; for different versions, consult the "MAGELLANO" selection program.

WRL	VERSION	PUMPS	POWER SUPPLY	U.M.	025	030	040	050	070	080	100	140	160
COOLING MODE 12/7 - 30/35 °C "FAN COILS"													
Cooling capacity	°	-	230V-1	kW	6,6	8,3	11,3	-	-	-	-	-	-
			400V-3N		6,7	8,4	11,3	14,7	19,2	21,8	29,4	38,4	43,7
Total input power	°	-	230V-1	kW	1,47	1,78	2,50	-	-	-	-	-	-
			400V-3N		1,43	1,70	2,41	3,05	3,92	4,59	6,09	7,84	9,17
Total input current	°	-	230V-1	A	7,2	9,2	11,7	-	-	-	-	-	-
			400V-3N		3,1	2,6	4,9	6,4	7,4	9,1	12,8	14,8	18,2
Evaporator water flow rate	°	-	230V-1	l/h	1.140	1.430	1.940	-	-	-	-	-	-
			400V-3N		1.150	1.450	1.940	2.530	3.300	3.750	5.060	6.600	7.510
System side pressure drops	°	-	230V-1	kPa	15	17	23	-	-	-	-	-	-
			400V-3N		15	17	23	21	26	30	25	34	38
System useful static pressure	°	P	230V-1	kPa	66	62	53	-	-	-	-	-	-
			400V-3N		66	61	53	80	71	63	146	162	155
		N	400V-3N		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	236	247	240
Water consumption geothermal side	°	-	230V-1	l/h	1.390	1.740	2.370	-	-	-	-	-	-
			400V-3N		1.390	1.750	2.360	3.050	3.970	4.540	6.100	7.950	9.090
Pressure drop condenser side	°	-	230V-1	kPa	28	29	36	-	-	-	-	-	-
			400V-3N		28	30	35	32	40	46	42	57	66
Useful static pressure geothermal side	°	B	230V-1	kPa	52	48	38	-	-	-	-	-	-
			400V-3		52	48	38	68	53	43	116	137	125
		U	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	203	222	210
		F	230V-1		52	48	38	-	-	-	-	-	-
			400V-3		52	48	38	68	53	43	n.d.	n.d.	n.d.
		I	230V-1		52	48	38	-	-	-	-	-	-
			400V-3		52	48	38	88	80	73	n.d.	n.d.	n.d.
EER	-	-	230V-1	-	4,49	4,66	4,52	-	-	-	-	-	-
			400V-3N		4,69	4,94	4,69	4,82	4,90	4,75	4,83	4,90	4,77
E.S.E.E.R.	-	-	230V-1	-	4,96	5,19	5,17	-	-	-	-	-	-
			400V-3N		5,22	5,53	5,33	5,34	5,39	5,28	5,74	5,81	5,66
ELECTRICAL DATA: SISTEM SYDE PUMPS													
Input power	°	P	230V-1	kW	0,17	0,18	0,18	-	-	-	-	-	-
			400V-3		0,17	0,18	0,18	0,30	0,32	0,34	0,63	0,88	0,94
		N	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0,97	1,36	1,44
Input current	°	P	230V-1	A	0,83	0,85	0,87	-	-	-	-	-	-
			400V-3		0,83	0,85	0,87	1,44	1,57	1,62	1,15	1,59	1,70
		N	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	1,82	2,73	2,89
Pump useful static pressure	°	P	230V-1	kPa	81	80	77	-	-	-	-	-	-
			400V-3		81	79	77	103	98	95	173	198	196
		N	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	263	283	281

COOLING

WRL	VERSION	PUMPS	POWER SUPPLY	U.M.	025	030	040	050	070	080	100	140	160
ELECTRICAL DATA: GEOTHERMAL SIDE PUMPS													
Input power	°	B	230V-1	kW	0,18	0,18	0,19	-	-	-	-	-	-
			400V-3		0,18	0,18	0,19	0,32	0,34	0,35	0,69	0,97	1,03
		U	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	1,07	1,49	1,59
		F	230V-1		0,18	0,18	0,19	-	-	-	n.d.	n.d.	n.d.
			400V-3		0,18	0,18	0,19	0,32	0,34	0,35	n.d.	n.d.	n.d.
		I	230V-1		0,18	0,18	0,19	-	-	-	n.d.	n.d.	n.d.
			400V-3		0,18	0,18	0,19	0,25	0,28	0,27	n.d.	n.d.	n.d.
Input current	°	B	230V-1	A	0,85	0,86	0,90	-	-	-	-	-	-
			400V-3		0,85	0,86	0,90	1,53	1,65	1,71	1,26	1,75	1,86
		U	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	2,01	2,99	3,19
		F	230V-1		0,85	0,86	0,90	-	-	-	n.d.	n.d.	n.d.
			400V-3		0,85	0,86	0,90	1,53	1,65	1,71	n.d.	n.d.	n.d.
		I	230V-1		0,85	0,86	0,90	-	-	-	n.d.	n.d.	n.d.
			400V-3		0,85	0,86	0,90	1,19	1,33	1,32	n.d.	n.d.	n.d.
Static pressure geothermal side	°	B	230V-1	kPa	80	78	73	100	93	89	-	-	-
			400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	158	194	191
		U	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	245	279	276
		F	230V-1		80	78	73	100	93	89	n.d.	n.d.	n.d.
			400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
		I	230V-1		80	78	73	119	120	118	n.d.	n.d.	n.d.

"SCROLL" COMPRESSOR												
N° compressor / N° circuit			n°/n°	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	2 / 1	2 / 1	2 / 1
Capacity control			%	0 - 100	0 - 100	0 - 100	0 - 100	0 - 100	0 - 100	0-50-100	0-50-100	0-50-100

"PLATE" EXCHANGERS												
Exchangers	-	-	N°	2	2	2	2	2	2	2	2	2
Hydraulic connections			Ø	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4

WRL	VERSION	PUMPS	POWER SUPPLY	U.M.	025	030	040	050	070	080	100	140	160
COOLING MODE 23/18 - 30/35 °C "RADIANT PANELS"													
Cooling capacity	°	-	230V-1	kW	8,76	10,78	15,05	-	-	-	-	-	-
			400V-3N		8,91	10,47	15,21	19,57	25,44	28,90	39,14	50,87	57,93
Total input power	°	-	230V-1	kW	1,46	1,76	2,49	-	-	-	-	-	-
			400V-3N		1,39	1,69	2,40	2,93	3,95	4,63	5,86	7,91	9,26
Total input current	°	-	230V-1	A	7,14	8,73	13,06	-	-	-	-	-	-
			400V-3N		3,12	2,74	4,94	5,83	7,44	9,47	11,7	14,9	18,9
Evaporator water flow rate	°	-	230V-1	l/h	1.510	1.850	2.590	-	-	-	-	-	-
			400V-3N		1.530	1.800	2.620	3.370	4.380	4.970	6.730	8.750	9.960
System side pressure drops	°	-	230V-1	kPa	27	30	42	-	-	-	-	-	-
			400V-3N		26	29	43	40	48	55	47	63	71
System useful static pressure	°	P	230V-1	kPa	52	47	29	-	-	-	-	-	-
			400V-3N		52	49	28	57	41	29	99	128	116
		N	400V-3N		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	184	214	201
Water consumption geothermal side	°	-	230V-1	l/h	1.760	2.160	3.020	-	-	-	-	-	-
			400V-3N		1.770	2.090	3.030	3.870	5.060	5.770	7.740	10.110	11.560
Condenser side pressure drop	°	-	230V-1	kPa	44	45	58	-	-	-	-	-	-
			400V-3N		45	42	58	51	65	74	68	92	107
Useful static pressure geothermal side	°	B	230V-1	kPa	33	30	10	-	-	-	-	-	-
			400V-3		33	33	9	43	19	2	60	94	73
		U	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	142	180	159
		F	230V-1		33	30	10	-	-	-	n.d.	n.d.	n.d.
			400V-3		33	33	9	43	19	2	n.d.	n.d.	n.d.
		I	230V-1		33	30	9	-	-	-	n.d.	n.d.	n.d.
			400V-3		33	33	9	69	47	27	n.d.	n.d.	n.d.
EER	-	-	230V-1	-	6,00	6,13	6,04	-	-	-	-	-	-
			400V-3N		6,41	6,20	6,34	6,68	6,44	6,24	6,68	6,43	6,26
ELECTRICAL DATA: SISTEM SYDE PUMPS													
Input power	°	P	230V-1	kW	0,18	0,18	0,19	-	-	-	-	-	-
			400V-3		0,18	0,18	0,19	0,33	0,35	0,36	0,73	1,02	1,09
		N	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	1.13	1.58	1.69
Input current	°	P	230V-1	A	0,85	0,87	0,91	-	-	-	-	-	-
			400V-3		0,86	0,87	0,91	1,58	1,71	1,76	1,33	1,84	1,97
		N	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	2.12	3.17	3.39
Pump useful static pressure	°	P	230V-1	kPa	52	47	29	-	-	-	-	-	-
			400V-3		52	49	28	57	41	29	99	128	116
		N	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	184	214	201

⚠ Attention; (values static pressure marked in gray)

Enough pumping group;
- take external pump solution
- increasing water Δt

COOLING

WRL	VERSION	PUMPS	POWER SUPPLY	U.M.	025	030	040	050	070	080	100	140	160
ELECTRICAL DATA: GEOTHERMAL SIDE PUMPS													
Input power	°	B	230V-1	kW	0,18	0,18	0,19	-	-	-	-	-	-
			400V-3		0,18	0,18	0,19	0,34	0,37	0,37	0,75	1,10	1,17
		U	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	1.20	1.70	1.82
		F	230V-1		0,18	0,18	0,19	-	-	-	n.d.	n.d.	n.d.
			400V-3		0,18	0,18	0,19	0,34	0,37	0,37	n.d.	n.d.	n.d.
		I	230V-1		0,18	0,18	0,19	-	-	-	n.d.	n.d.	n.d.
			400V-3		0,18	0,18	0,19	0,26	0,28	0,29	n.d.	n.d.	n.d.
Input current	°	B	230V-1	A	0,86	0,89	0,93	-	-	-	-	-	-
			400V-3		0,87	0,88	0,93	1,65	1,76	1,81	1,37	1,98	2,11
		U	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	2,25	3,41	3,65
		F	230V-1		0,86	0,89	0,93	-	-	-	n.d.	n.d.	n.d.
			400V-3		0,87	0,88	0,93	1,65	1,76	1,81	n.d.	n.d.	n.d.
		I	230V-1		0,86	0,89	0,93	-	-	-	n.d.	n.d.	n.d.
			400V-3		0,87	0,88	0,93	1,28	1,37	1,40	n.d.	n.d.	n.d.
Static pressure geothermal side	°	B	230V-1	kPa	33	30	10	-	-	-	-	-	-
			400V-3		33	33	9	43	19	2	60	94	73
		U	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	142	180	159
		F	230V-1		33	30	10	-	-	-	n.d.	n.d.	n.d.
			400V-3		33	33	9	43	19	2	n.d.	n.d.	n.d.
		I	230V-1		33	30	9	-	-	-	n.d.	n.d.	n.d.
			400V-3		33	33	9	69	47	27	n.d.	n.d.	n.d.

"SCROLL" COMPRESSOR													
N° compressor / N° circuit			n°/n°	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	2 / 1	2 / 1	2 / 1
Capacity control			%	0 - 100	0 - 100	0 - 100	0 - 100	0 - 100	0 - 100	0-50-100	0-50-100	0-50-100

"PLATE" EXCHANGERS													
Exchangers	-	-	N°	2	2	2	2	2	2	2	2	2
Hydraulic connections			Ø	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4

COOLING MOTOEVAPORATING VERSION

WRLE	VERSION	PUMPS	POWER SUPPLY	U.M.	025	030	040	050	070	080	100	140	160
COOLING MODE 12/7 - 45													
Cooling capacity	E	-	230V-1	kW	6,2	7,8	10,4	-	-	-	-	-	-
			400V-3N		6,3	7,8	10,4	13,4	17,4	19,7	26,8	34,7	39,4
Total input power	E	-	230V-1	kW	1,7	2,1	2,9	-	-	-	-	-	-
			400V-3N		1,7	2,0	2,8	3,6	4,5	5,3	7,2	9,1	10,6
Total input current	E	-	230V-1	A	8,3	10,5	12,8	-	-	-	-	-	-
			400V-3N		3,4	3,2	5,4	7,2	8,3	10,2	14,3	16,6	20,5
Evaporator water flow rate	E	-	230V-1	l/h	1.070	1.340	1.790	-	-	-	-	-	-
			400V-3N		1.080	1.340	1.790	2.300	2.980	3.390	4.600	5.970	6.770
Evaporator side pressure drop	E	-	230V-1	kPa	13	15	20	-	-	-	-	-	-
			400V-3N		13	15	20	17	21	25	21	28	31
System side useful static pressure	E	P	230V-1	kPa	69	65	57	-	-	-	-	-	-
			400V-3N		68	65	57	86	79	73	156	171	166
		N	400V-3N		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	247	256	251
ELECTRICAL DATA													
Input power	E	P	230V-1	kW	0,171	0,174	0,180	-	-	-	-	-	-
			400V-3		0,171	0,174	0,180	0,292	0,315	0,327	0,61	0,84	0,89
		N	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0.93	1.29	1.37
		J	230V-1		0,243	0,255	0,273	-	-	-	-	-	-
			400V-3		0,243	0,255	0,273	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Input current	E	P	230V-1	A	0,83	0,84	0,87	-	-	-	-	-	-
			400V-3		0,83	0,84	0,87	1,41	1,52	1,58	1,11	1,52	1,61
		N	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	1,74	2,59	2,75
		J	230V-1		1,17	1,23	1,32	-	-	-	-	-	-
			400V-3		1,17	1,23	1,32	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Pump useful static pressure	E	P	230V-1	kPa	82	80	77	-	-	-	-	-	-
			400V-3		82	80	77	104	100	98	177	199	197
		N	400V-3		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	268	284	282
		J	230V-1		110	109	107	-	-	-	-	-	-
			400V-3		110	109	107	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
ALIMENTATION													
					400V-3N-50 Hz								
"SCROLL" COMPRESSOR													
N° compressor / N° circuit	-	-		n°/n°	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	2 / 1	2 / 1	2 / 1
Capacity control	-	-		%	0 - 100	0 - 100	0 - 100	0 - 100	0 - 100	0 - 100	0-50-100	0-50-100	0-50-100
"PLATE" EXCHANGERS													
Exchangers	-	-		N°	1	1	1	1	1	1	1	1	1
Hydraulic connections	-	-		Ø	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4	F / 1"1/4

COOLING DESUPERHEATER VERSION

WRLD	VERSION	PUMPS	POWER SUPPLY	U.M.	025	030	040	050	070	080	100	140	160
COOLING MODE 12/7 - 30/35													
Cooling capacity	D	-	230V-1	kW	1.4	1.7	2.3	-	-	-	-	-	-
			400V-3N		1.4	1.7	2.3	3.0	3.9	4.4	6.0	7.8	8.9
Evaporator water flow rate	D	-	230V-1	l/h	240	290	400	-	-	-	-	-	-
			400V-3N		240	300	400	510	670	760	1'030	1'340	1'530
Pressure drop	D	-	230V-1	kPa	0.5	0.6	0.6	-	-	-	-	-	-
			400V-3N		0.5	0.6	0.6	5.0	4.8	4.9	5.9	6.1	6.2
Quantity	D	-	-	N°	1	1	1	1	1	1	1	1	1

GENERAL DATA

WRL	VERSION	POWER SUPPLY	U.M.	025	030	040	050	070	080	100	140	160
IP PROTECTION UNIT												
IP	-	-	-	24	24	24	24	24	24	24	24	24
ELECTRICAL DATA												
Maximum current [FLA]	° / E	230V-1	A	18	21	34	-	-	-	-	-	-
		230V-3		-	-	-	19	23	30	38	46	60
		400V-3N		8	8	15	17	21	22	32	40	41
	P	230V-1		20	23	36	-	-	-	-	-	-
		230V-3		-	-	-	22	26	33	42	51	66
		400V-3N		9	10	17	20	24	25	34	43	45
Peak current Without soft-start [LRA]	° / E	230V-1	A	63	84	119	-	-	-	-	-	-
		230V-3		-	-	-	125	155	175	142	175	201
		400V-3N		34	37	65	75	75	75	90	94	95
	P	230V-1		65	86	121	-	-	-	-	-	-
		230V-3		-	-	-	128	158	178	146	180	207
		400V-3N		36	39	67	78	78	78	92	97	98
Peak current with soft-start [LRA]	° / E	230V-1	A	45	45	45	-	-	-	-	-	-
		400V-3N		26	28	48	55	55	55	68	72	73
	P	230V-1		45	45	45	-	-	-	-	-	-
		400V-3N		26	28	48	56	56	56	71	75	76
WATER CONTENT												
Evaporator	-	-	dm3	0.54	0.73	1.02	2.00	2.57	2.95	3.99	5.23	6.18
Condenser	-	-		0.54	0.73	1.02	1.53	1.99	2.60	2.93	4.04	5.33
MINIMUM SYSTEM WATER CONTENT												
Minimum content (standard)	-	-	l/kW	7	7	7	7	7	7	7	7	7
Minimum content [1]	-	-	l/kW	14	14	14	14	14	14	14	14	14
EXPANSION VESSEL (en series for pump version)												
Quantity	P	-	n°	1	1	1	1	1	1	1	1	1
Capacity		-	l	2	2	2	2	2	2	8	8	8
SAFETY VALVE (en series for all versions)												
Quantity	-	-	n°	1	1	1	1	1	1	1	1	1
Calibration	-	-	bar	6	6	6	6	6	6	6	6	6
LOAD (ATTENTION: the declared data can be amended at any time by Aermec, if deemed necessary).												
Refrigerant (2 exchangers)	-	-	Kg	0,8	0,9	1,2	1,5	1,9	2,0	3,4	4,2	4,5
Refrigerant (3 exchangers)	-	-		0,8	0,9	1,2	1,6	1,9	2,0	3,6	4,4	4,7
Oil	-	-	l	1,1	1,2	1,7	1,7	1,7	1,7	2 x 1,7	2 x 1,7	2 x 1,7
SOUND DATA												
Sound power [2]	-	LW	dB(A)	55,5	57,0	57,5	59,0	60,0	60,5	62,0	63,0	63,5
Sound pressure [1m] [3]	-	LP	dB(A)	41,1	42,6	43,1	44,2	45,2	45,7	46,7	47,7	48,2
Sound pressure [10 m] [4]	-	LP	dB(A)	24,3	25,8	26,3	27,7	28,7	29,2	30,6	31,6	32,1
DIMENSION (version ° / E)												
Height	°	-	mm	976	976	976	1126	1126	1126	1126	1126	1126
Width	°	-	mm	607	607	607	607	607	607	1157	1157	1157
Depth	°	-	mm	628	628	628	798	798	798	798	798	798
WEIGHTS												
Empty weight	°	-	kg	120	125	130	150	170	180	260	270	280
Empty weight	E	-	Kg	110	115	125	150	150	150	245	250	250

[1] Minimum content of water in case of process applications, or operating with low load.

[2] Sound power; Aermec determines the sound power value on the basis of measurements taken in accordance with standard 9614-2, in compliance with the Eurovent certification.

[3] Sound pressure in an unrestricted range on a refl ective plane (directional fact. Q=2), 1m away from the unit external surface, complying with ISO 3744.

[4] Sound pressure in an unrestricted range on a refl ective plane (directional fact. Q=2), 10m away from the unit external surface, complying with ISO 3744.

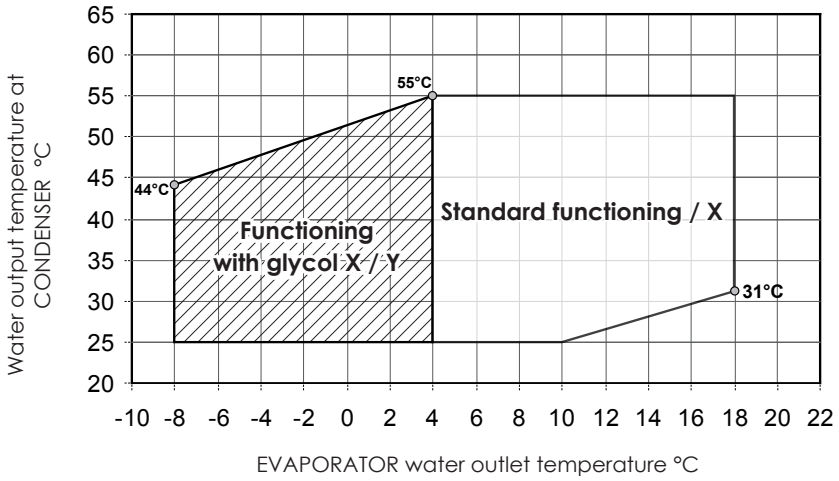
7. OPERATING LIMITS

The operating limits diagram is relative to a Δt on the evaporator and the condenser of 5°C.

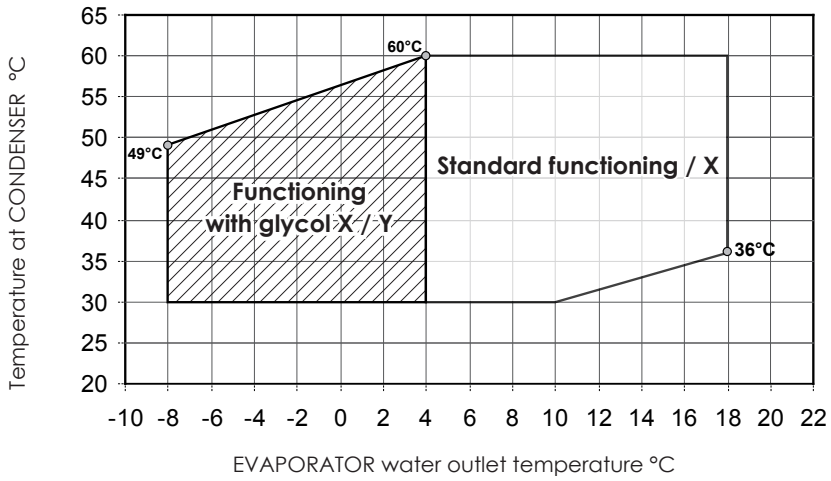
Condenser outlet ***inlet difference (Δtc):***
min: 5° C.
max: 22° C.

Evaporator outlet ***inlet difference (Δte):***
min: 3° C.
max: 10° C.

WRL° "STANDARD" FUNCTIONING LIMITS



WRLE "MOTOEVAPORATING" FUNCTIONING LIMITS



7.1. PROJECT DATA

REFRIGERANT SIDE		High pressure side	Low pressure side
Acceptable maximum pressure	bar	42	25
Acceptable maximum temperature	°C	120	50
Acceptable minimum temperature	°C	-25	-25

8. PERFORMANCE AND ABSORPTION THAT DIFFER FROM THE NOMINAL - STANDARD VERSIONS.

8.1. WRL025°°°°°°°°M COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	4.18	1.20	3.34	3.98	1.36	2.81	3.75	1.55	2.33	3.52	1.77	1.92	-	-	-	-	-	-	-	-	-
-6	4.54	1.19	3.72	4.32	1.35	3.12	4.08	1.54	2.60	3.83	1.76	2.14	3.56	2.01	1.74	-	-	-	-	-	-
-4	4.92	1.18	4.10	4.68	1.34	3.45	4.44	1.52	2.87	4.17	1.74	2.37	3.89	1.99	1.93	-	-	-	-	-	-
-2	5.32	1.17	4.50	5.07	1.33	3.79	4.81	1.51	3.16	4.53	1.72	2.61	4.22	1.97	2.13	3.90	2.25	1.73	-	-	-
0	5.75	1.16	4.91	5.48	1.32	4.13	5.20	1.50	3.45	4.90	1.71	2.85	4.58	1.95	2.33	4.23	2.23	1.89	-	-	-
2	6.18	1.16	5.32	5.90	1.31	4.49	5.60	1.49	3.74	5.28	1.70	3.10	4.94	1.94	2.54	4.57	2.21	2.06	-	-	-
4	6.63	1.15	5.74	6.33	1.30	4.84	6.01	1.48	4.04	5.67	1.69	3.34	5.31	1.93	2.74	4.92	2.20	2.23	4.50	2.50	1.80
6	7.08	1.15	6.16	6.76	1.30	5.20	6.42	1.47	4.34	6.06	1.68	3.59	5.68	1.91	2.95	5.27	2.18	2.40	4.82	2.49	1.94
7	7.31	1.14	6.38	6.98	1.30	5.37	**6.60**	**1.47**	**4.49**	6.26	1.68	3.72	5.86	1.91	3.05	5.44	2.18	2.49	4.99	2.48	2.00
8	7.54	1.14	6.59	7.19	1.29	5.55	6.83	1.47	4.64	6.45	1.67	3.84	6.05	1.91	3.16	5.61	2.17	2.57	5.15	2.48	2.07
10	8.00	1.14	7.01	7.63	1.29	5.91	7.24	1.46	4.93	6.84	1.67	4.09	6.41	1.90	3.36	5.95	2.17	2.74	5.46	2.47	2.21
12	-	-	-	8.05	1.29	6.26	7.64	1.46	5.23	7.21	1.66	4.33	6.76	1.89	3.56	6.28	2.16	2.90	5.76	2.46	2.35
14	-	-	-	8.47	1.29	6.60	8.03	1.46	5.51	7.58	1.66	4.57	7.10	1.89	3.76	6.59	2.16	3.06	6.04	2.45	2.48
16	-	-	-	8.87	1.29	6.93	8.41	1.46	5.79	7.92	1.66	4.80	7.42	1.89	3.95	6.88	2.15	3.22	6.30	2.45	2.60
18	-	-	-	-	-	-	8.76	1.46	6.06	8.25	1.66	5.02	7.71	1.89	4.13	7.15	2.15	3.37	6.54	2.45	2.73

8.2. WRL030°°°°°°°°M COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	5.31	1.43	3.71	5.00	1.63	3.06	4.68	1.87	2.50	4.34	2.15	2.01	-	-	-	-	-	-	-	-	-
-6	5.80	1.42	4.09	5.49	1.62	3.38	5.15	1.86	2.77	4.79	2.14	2.24	4.41	2.46	1.79	-	-	-	-	-	-
-4	6.31	1.41	4.47	5.98	1.61	3.72	5.62	1.84	3.05	5.24	2.12	2.47	4.84	2.44	1.99	-	-	-	-	-	-
-2	6.83	1.40	4.87	6.48	1.60	4.05	6.10	1.83	3.33	5.70	2.10	2.71	5.28	2.42	2.18	4.83	2.78	1.74	-	-	-
0	7.35	1.39	5.28	6.98	1.59	4.40	6.59	1.82	3.62	6.16	2.09	2.95	5.72	2.40	2.39	5.25	2.75	1.91	-	-	-
2	7.88	1.38	5.69	7.49	1.58	4.75	7.07	1.81	3.92	6.63	2.07	3.20	6.16	2.38	2.59	5.66	2.73	2.07	-	-	-
4	8.41	1.38	6.11	8.00	1.57	5.10	7.56	1.80	4.21	7.09	2.06	3.44	6.59	2.36	2.79	6.07	2.72	2.24	5.53	3.11	1.78
6	8.94	1.37	6.52	8.51	1.56	5.45	8.04	1.79	4.51	7.55	2.05	3.69	7.03	2.35	2.99	6.48	2.70	2.40	5.90	3.09	1.91
7	9.20	1.37	6.73	8.76	1.56	5.63	**8.30**	**1.78**	**4.66**	7.78	2.04	3.81	7.24	2.35	3.09	6.67	2.69	2.48	6.09	3.09	1.97
8	9.46	1.36	6.94	9.01	1.55	5.80	8.52	1.78	4.80	8.00	2.04	3.93	7.45	2.34	3.18	6.87	2.69	2.56	6.27	3.08	2.04
10	9.98	1.36	7.35	9.51	1.55	6.14	9.00	1.77	5.08	8.45	2.03	4.16	7.87	2.33	3.38	7.26	2.67	2.71	6.62	3.06	2.16
12	-	-	-	10.00	1.54	6.48	9.46	1.77	5.36	8.89	2.02	4.39	8.28	2.32	3.56	7.63	2.66	2.87	6.96	3.05	2.28
14	-	-	-	10.48	1.54	6.80	9.92	1.76	5.62	9.31	2.02	4.61	8.67	2.32	3.74	7.99	2.66	3.01	7.29	3.04	2.39
16	-	-	-	10.95	1.54	7.11	10.36	1.76	5.88	9.72	2.02	4.81	9.05	2.32	3.91	8.34	2.65	3.14	7.60	3.04	2.50
18	-	-	-	-	-	-	10.78	1.76	6.11	10.12	2.02	5.01	9.41	2.32	4.06	8.67	2.65	3.27	7.89	3.04	2.60

KEY

Pc Cooling capacity

Pe Input power

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AT THE EVAPORATOR	**3**	**5**	**8**	**10**
Cooling capacity	0,990	1	1,020	1,030
Input power	0,990	1	1,010	1,020
Heating capacity	0,991	1	1,013	1,022
Input power	1,014	1	0,978	0,963

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AL CONDENSER	**5**	**10**	**15**	**22**
Cooling capacity	1	1,010	1,020	1,030
Input power	1	0,990	0,980	0,970
Heating capacity	the variations can be ignored			

Operating range with "Y" valve.

FOULING FACTOR [K*M²]/[W]			
	0,00001	**0,00002**	**0,00005**
Cooling capacity	1	0,99	0,98
Input power	1	1	1
Heating capacity	1	1	0,99
Input power	1	1	1,02

8.3. WRL040°°°°°°°°M COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	7.51	2.03	3.70	6.84	2.23	3.06	6.33	2.48	2.54	5.87	2.78	2.10	-	-	-	-	-	-	-	-	-
-6	8.18	2.03	4.02	7.47	2.24	3.34	6.90	2.49	2.78	6.40	2.78	2.30	5.88	3.12	1.88	-	-	-	-	-	-
-4	8.88	2.04	4.36	8.13	2.24	3.63	7.52	2.49	3.03	6.97	2.78	2.51	6.40	3.12	2.06	-	-	-	-	-	-
-2	9.62	2.04	4.71	8.82	2.25	3.93	8.17	2.49	3.28	7.58	2.78	2.73	6.96	3.12	2.24	6.24	3.50	1.79	-	-	-
0	10.38	2.04	5.08	9.54	2.25	4.25	8.85	2.50	3.55	8.22	2.79	2.95	7.55	3.12	2.42	6.78	3.50	1.94	-	-	-
2	11.16	2.05	5.45	10.28	2.25	4.57	9.55	2.50	3.82	8.87	2.79	3.18	8.17	3.12	2.62	7.35	3.50	2.10	-	-	-
4	11.95	2.05	5.84	11.04	2.25	4.90	10.26	2.50	4.10	9.55	2.79	3.42	8.80	3.12	2.81	7.93	3.50	2.26	6.87	3.92	1.75
6	12.75	2.04	6.23	11.80	2.25	5.24	10.98	2.50	4.39	10.23	2.79	3.66	9.44	3.12	3.02	8.53	3.50	2.43	7.42	3.93	1.89
7	13.15	2.04	6.43	12.18	2.25	5.41	**11.30**	**2.50**	**4.52**	10.57	2.79	3.78	9.76	3.12	3.12	8.83	3.50	2.51	7.70	3.93	1.96
8	13.54	2.04	6.64	12.55	2.25	5.58	11.70	2.50	4.68	10.91	2.79	3.91	10.08	3.13	3.22	9.13	3.50	2.60	7.98	3.93	2.03
10	14.33	2.04	7.05	13.30	2.25	5.94	12.42	2.50	4.98	11.58	2.79	4.15	10.71	3.13	3.43	9.72	3.51	2.77	8.53	3.93	2.17
12	-	-	-	14.04	2.24	6.30	13.11	2.50	5.28	12.24	2.79	4.41	11.34	3.13	3.64	10.31	3.51	2.95	9.08	3.94	2.31
14	-	-	-	14.75	2.24	6.66	13.79	2.49	5.59	12.88	2.79	4.66	11.94	3.13	3.85	10.88	3.52	3.12	9.60	3.94	2.45
16	-	-	-	15.43	2.23	7.03	14.44	2.49	5.89	13.50	2.79	4.91	12.52	3.14	4.06	11.42	3.52	3.29	10.11	3.95	2.60
18	-	-	-	-	-	-	15.05	2.49	6.20	14.08	2.79	5.17	13.07	3.14	4.26	11.93	3.53	3.46	10.58	3.96	2.74

8.4. WRL025°°°°°°°°° COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	4.08	1.15	3.53	3.89	1.33	2.92	3.68	1.53	2.40	3.46	1.77	1.95	-	-	-	-	-	-	-	-	-
-6	4.49	1.14	3.92	4.28	1.32	3.25	4.05	1.52	2.67	3.81	1.75	2.18	3.55	2.02	1.76	-	-	-	-	-	-
-4	4.92	1.14	4.33	4.69	1.31	3.60	4.44	1.50	2.96	4.18	1.73	2.42	3.90	1.99	1.96	-	-	-	-	-	-
-2	5.36	1.13	4.75	5.11	1.29	3.95	4.84	1.49	3.26	4.56	1.71	2.67	4.25	1.97	2.17	3.93	2.26	1.74	-	-	-
0	5.80	1.12	5.19	5.54	1.28	4.32	5.25	1.47	3.57	4.94	1.69	2.92	4.62	1.95	2.38	4.28	2.24	1.91	-	-	-
2	6.26	1.11	5.64	5.97	1.27	4.69	5.66	1.46	3.88	5.34	1.68	3.18	4.99	1.93	2.59	4.63	2.21	2.09	-	-	-
4	6.72	1.10	6.09	6.41	1.26	5.07	6.08	1.45	4.20	5.73	1.66	3.45	5.37	1.91	2.81	4.98	2.19	2.27	4.57	2.52	1.81
6	7.18	1.09	6.56	6.85	1.25	5.46	6.50	1.44	4.52	6.13	1.65	3.71	5.74	1.89	3.03	5.33	2.17	2.45	4.89	2.50	1.96
7	7.41	1.09	6.80	7.07	1.25	5.66	**6.70**	**1.43**	**4.69**	6.33	1.64	3.85	5.93	1.89	3.14	5.50	2.17	2.54	5.06	2.48	2.03
8	7.64	1.08	7.04	7.29	1.24	5.86	6.92	1.43	4.84	6.53	1.64	3.98	6.11	1.88	3.25	5.68	2.16	2.63	5.22	2.48	2.11
10	8.10	1.08	7.53	7.73	1.24	6.25	7.33	1.42	5.17	6.92	1.63	4.25	6.48	1.87	3.47	6.02	2.14	2.81	5.54	2.46	2.25
12	-	-	-	8.16	1.23	6.65	7.74	1.41	5.50	7.31	1.62	4.52	6.85	1.86	3.69	6.36	2.13	2.99	5.85	2.44	2.40
14	-	-	-	8.58	1.22	7.05	8.14	1.40	5.82	7.68	1.61	4.78	7.20	1.85	3.90	6.69	2.12	3.16	6.16	2.43	2.54
16	-	-	-	8.99	1.21	7.45	8.53	1.40	6.14	8.05	1.61	5.04	7.54	1.84	4.11	7.01	2.12	3.33	6.45	2.42	2.67
18	-	-	-	-	-	-	8.91	1.39	6.46	8.40	1.60	5.29	7.87	1.84	4.31	7.31	2.11	3.49	6.72	2.42	2.80

KEY

Pc Cooling capacity

Pe Input power

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AT THE EVAPORATOR	**3**	**5**	**8**	**10**
Cooling capacity	0,990	1	1,020	1,030
Input power	0,990	1	1,010	1,020
Heating capacity	0,991	1	1,013	1,022
Input power	1,014	1	0,978	0,963

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AL CONDENSER	**5**	**10**	**15**	**22**
Cooling capacity	1	1,010	1,020	1,030
Input power	1	0,990	0,980	0,970
Heating capacity	the variations can be ignored			

Operating range with "Y" valve.

FOULING FACTOR [K*M²]/[W]			
	0,00001	**0,00002**	**0,00005**
Cooling capacity	1	0,99	0,98
Input power	1	1	1
Heating capacity	1	1	0,99
Input power	1	1	1,02

8.5. WRL030°°°°°°°°° COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	5.52	1.40	3.94	5.12	1.59	3.22	4.71	1.82	2.59	4.27	2.09	2.05	-	-	-	-	-	-	-	-	-
-6	6.09	1.38	4.40	5.68	1.57	3.61	5.25	1.80	2.92	4.80	2.06	2.33	4.29	2.37	1.81	-	-	-	-	-	-
-4	6.65	1.37	4.86	6.22	1.56	4.00	5.78	1.78	3.25	5.31	2.04	2.61	4.79	2.34	2.05	-	-	-	-	-	-
-2	7.20	1.35	5.32	6.75	1.54	4.39	6.30	1.76	3.58	5.81	2.01	2.89	5.28	2.31	2.28	4.69	2.66	1.77	-	-	-
0	7.74	1.34	5.77	7.27	1.53	4.77	6.80	1.74	3.90	6.29	1.99	3.16	5.75	2.29	2.51	5.15	2.63	1.96	-	-	-
2	8.27	1.33	6.22	7.78	1.51	5.14	7.28	1.73	4.22	6.76	1.98	3.42	6.20	2.27	2.74	5.58	2.60	2.15	-	-	-
4	8.78	1.32	6.66	8.27	1.50	5.50	7.75	1.72	4.52	7.21	1.96	3.67	6.63	2.25	2.95	6.00	2.58	2.33	5.30	2.95	1.79
6	9.27	1.31	7.08	8.74	1.49	5.85	8.20	1.71	4.81	7.64	1.95	3.92	7.04	2.23	3.16	6.39	2.56	2.50	5.68	2.93	1.94
7	9.52	1.31	7.29	8.97	1.49	6.02	**8.40**	**1.70**	**4.94**	7.85	1.94	4.03	7.24	2.23	3.25	6.58	2.55	2.58	5.86	2.92	2.01
8	9.76	1.30	7.49	9.19	1.49	6.19	8.63	1.70	5.09	8.05	1.94	4.15	7.43	2.22	3.35	6.76	2.54	2.66	6.03	2.91	2.08
10	10.22	1.30	7.89	9.63	1.48	6.51	9.04	1.69	5.35	8.44	1.93	4.36	7.80	2.21	3.53	7.11	2.53	2.81	6.36	2.89	2.20
12	-	-	-	10.05	1.48	6.80	9.43	1.69	5.59	8.80	1.93	4.56	8.14	2.20	3.69	7.43	2.52	2.95	6.66	2.87	2.32
14	-	-	-	10.44	1.48	7.08	9.80	1.69	5.81	9.15	1.93	4.75	8.46	2.20	3.84	7.73	2.51	3.08	6.94	2.86	2.42
16	-	-	-	10.82	1.48	7.33	10.15	1.69	6.01	9.46	1.93	4.91	8.75	2.20	3.98	8.00	2.51	3.19	7.19	2.86	2.51
18	-	-	-	-	-	-	10.47	1.69	6.19	9.76	1.93	5.05	9.02	2.20	4.09	8.24	2.51	3.28	7.40	2.86	2.59

8.6. WRL040°°°°°°°°° COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	7.17	1.96	3.65	6.72	2.16	3.10	6.29	2.41	2.61	5.87	2.69	2.17	-	-	-	-	-	-	-	-	-
-6	7.82	1.97	3.99	7.33	2.17	3.39	6.84	2.41	2.85	6.37	2.69	2.37	5.91	3.01	1.97	-	-	-	-	-	-
-4	8.53	1.97	4.34	7.98	2.17	3.69	7.45	2.41	3.10	6.92	2.69	2.59	6.42	3.00	2.14	-	-	-	-	-	-
-2	9.29	1.98	4.70	8.68	2.17	4.00	8.09	2.41	3.37	7.52	2.68	2.81	6.96	3.00	2.33	6.43	3.35	1.92	-	-	-
0	10.08	1.98	5.09	9.42	2.17	4.33	8.77	2.41	3.64	8.14	2.68	3.04	7.54	3.00	2.52	6.96	3.35	2.08	-	-	-
2	10.90	1.98	5.49	10.18	2.18	4.67	9.48	2.41	3.93	8.80	2.68	3.28	8.14	3.00	2.72	7.51	3.35	2.24	-	-	-
4	11.73	1.98	5.91	10.96	2.18	5.03	10.21	2.41	4.23	9.47	2.68	3.52	8.77	3.00	2.92	8.09	3.35	2.41	7.44	3.75	1.98
6	12.59	1.98	6.34	11.76	2.18	5.39	10.95	2.41	4.53	10.16	2.68	3.78	9.40	3.00	3.13	8.67	3.36	2.58	7.98	3.75	2.12
7	13.02	1.98	6.56	12.16	2.17	5.58	**11.30**	**2.41**	**4.69**	10.51	2.68	3.90	9.72	3.00	3.23	8.96	3.36	2.66	8.25	3.75	2.19
8	13.45	1.98	6.79	12.56	2.17	5.77	11.69	2.41	4.85	10.85	2.68	4.03	10.04	3.00	3.34	9.26	3.36	2.75	8.51	3.76	2.26
10	14.30	1.98	7.25	13.36	2.17	6.16	12.43	2.41	5.17	11.54	2.69	4.30	10.67	3.01	3.55	9.84	3.37	2.92	9.05	3.77	2.40
12	-	-	-	14.14	2.17	6.56	13.17	2.41	5.50	12.21	2.69	4.56	11.29	3.01	3.76	10.41	3.37	3.09	9.56	3.78	2.54
14	-	-	-	14.91	2.16	6.97	13.88	2.41	5.83	12.87	2.69	4.83	11.89	3.01	3.98	10.96	3.38	3.27	10.06	3.79	2.68
16	-	-	-	15.66	2.16	7.39	14.56	2.40	6.17	13.50	2.69	5.10	12.47	3.02	4.20	11.48	3.39	3.44	10.53	3.81	2.81
18	-	-	-	-	-	-	15.21	2.40	6.51	14.09	2.69	5.37	13.01	3.03	4.41	11.96	3.40	3.61	10.96	3.82	2.95

KEY

Pc Cooling capacity

Pe Input power

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AT THE EVAPORATOR	**3**	**5**	**8**	**10**
Cooling capacity	0,990	1	1,020	1,030
Input power	0,990	1	1,010	1,020
Heating capacity	0,991	1	1,013	1,022
Input power	1,014	1	0,978	0,963

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AL CONDENSER	**5**	**10**	**15**	**22**
Cooling capacity	1	1,010	1,020	1,030
Input power	1	0,990	0,980	0,970
Heating capacity	the variations can be ignored			

Operating range with "Y" valve.

FOULING FACTOR [K*M²]/[W]			
	0,00001	**0,00002**	**0,00005**
Cooling capacity	1	0,99	0,98
Input power	1	1	1
Heating capacity	1	1	0,99
Input power	1	1	1,02

8.7. WRL050°°°°°°°°° COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	7.40	2.88	2.57	7.34	3.11	2.36	7.12	3.41	2.08	6.80	3.77	1.80	-	-	-	-	-	-	-	-	-
-6	8.42	2.84	2.97	8.28	3.06	2.71	7.96	3.35	2.38	7.56	3.72	2.03	7.11	4.14	1.72	-	-	-	-	-	-
-4	9.53	2.79	3.42	9.29	3.01	3.09	8.89	3.30	2.70	8.40	3.67	2.29	7.87	4.09	1.93	-	-	-	-	-	-
-2	10.71	2.75	3.90	10.37	2.96	3.51	9.88	3.25	3.04	9.30	3.62	2.57	8.69	4.05	2.15	8.13	4.54	1.79	-	-	-
0	11.94	2.70	4.42	11.50	2.91	3.96	10.92	3.20	3.41	10.24	3.57	2.87	9.55	4.01	2.38	8.91	4.51	1.98	-	-	-
2	13.20	2.65	4.98	12.67	2.86	4.43	11.98	3.15	3.80	11.22	3.53	3.18	10.44	3.98	2.62	9.71	4.49	2.16	-	-	-
4	14.49	2.60	5.57	13.84	2.81	4.92	13.06	3.11	4.20	12.21	3.49	3.49	11.34	3.95	2.87	10.52	4.48	2.35	9.83	5.06	1.94
6	15.77	2.55	6.18	15.02	2.76	5.43	14.14	3.07	4.60	13.19	3.46	3.81	12.23	3.93	3.11	11.33	4.47	2.53	10.55	5.07	2.08
7	16.41	2.53	6.49	15.60	2.74	5.69	**14.70**	**3.05**	**4.82**	13.67	3.45	3.96	12.66	3.92	3.23	11.72	4.47	2.62	10.90	5.08	2.14
8	17.04	2.50	6.81	16.18	2.72	5.95	15.20	3.03	5.01	14.14	3.43	4.12	13.09	3.92	3.34	12.10	4.47	2.70	11.24	5.09	2.20
10	18.27	2.46	7.45	17.30	2.68	6.48	16.21	3.00	5.42	15.06	3.41	4.42	13.91	3.91	3.56	12.83	4.49	2.86	11.88	5.12	2.32
12	-	-	-	18.38	2.64	6.99	17.18	2.97	5.80	15.92	3.40	4.70	14.67	3.92	3.76	13.50	4.51	3.01	12.46	5.17	2.42
14	-	-	-	19.38	2.61	7.49	18.07	2.95	6.17	16.71	3.40	4.96	15.36	3.93	3.94	14.09	4.54	3.13	12.96	5.23	2.50
16	-	-	-	20.29	2.58	7.96	18.87	2.94	6.51	17.40	3.40	5.19	15.95	3.95	4.09	14.58	4.59	3.22	13.36	5.30	2.55
18	-	-	-	-	-	-	19.57	2.93	6.80	17.99	3.41	5.38	16.43	3.98	4.21	14.96	4.64	3.29	13.64	5.38	2.59

8.8. WRL070°°°°°°°°° COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	11.62	3.23	3.60	11.13	3.50	3.18	10.53	3.88	2.71	9.86	4.35	2.26	-	-	-	-	-	-	-	-	-
-6	12.82	3.23	3.97	12.24	3.50	3.50	11.54	3.88	2.98	10.79	4.34	2.49	10.02	4.89	2.05	-	-	-	-	-	-
-4	14.10	3.24	4.35	13.42	3.51	3.83	12.63	3.88	3.26	11.78	4.34	2.72	10.93	4.88	2.24	-	-	-	-	-	-
-2	15.44	3.25	4.75	14.65	3.51	4.17	13.77	3.88	3.55	12.83	4.34	2.96	11.89	4.88	2.44	10.99	5.49	2.01	-	-	-
0	16.82	3.26	5.15	15.94	3.52	4.53	14.96	3.89	3.85	13.93	4.35	3.20	12.89	4.89	2.64	11.90	5.49	2.17	-	-	-
2	18.23	3.27	5.57	17.25	3.53	4.88	16.18	3.90	4.15	15.05	4.35	3.45	13.92	4.89	2.85	12.85	5.49	2.34	-	-	-
4	19.67	3.28	5.99	18.58	3.54	5.25	17.41	3.90	4.46	16.19	4.36	3.71	14.97	4.90	3.05	13.80	5.50	2.51	12.73	6.15	2.07
6	21.10	3.29	6.42	19.92	3.54	5.61	18.65	3.91	4.76	17.33	4.37	3.96	16.02	4.91	3.26	14.76	5.51	2.68	13.61	6.16	2.21
7	21.82	3.29	6.63	20.59	3.55	5.80	**19.20**	**3.92**	**4.90**	17.90	4.37	4.09	16.54	4.91	3.36	15.24	5.51	2.76	14.04	6.17	2.28
8	22.54	3.29	6.85	21.25	3.55	5.98	19.88	3.92	5.07	18.47	4.38	4.21	17.06	4.92	3.47	15.71	5.52	2.84	14.46	6.17	2.34
10	23.95	3.30	7.28	22.56	3.56	6.35	21.09	3.93	5.38	19.58	4.39	4.46	18.08	4.93	3.67	16.63	5.53	3.01	15.30	6.19	2.48
12	-	-	-	23.84	3.56	6.72	22.26	3.93	5.68	20.65	4.40	4.71	19.06	4.94	3.87	17.52	5.55	3.17	16.09	6.21	2.60
14	-	-	-	25.06	3.57	7.09	23.39	3.94	5.98	21.68	4.41	4.95	19.98	4.96	4.06	18.35	5.57	3.32	16.84	6.23	2.73
16	-	-	-	26.23	3.57	7.45	24.45	3.95	6.28	22.64	4.42	5.19	20.85	4.97	4.25	19.13	5.59	3.47	17.52	6.25	2.85
18	-	-	-	-	-	-	25.44	3.95	6.57	23.53	4.43	5.42	21.64	4.99	4.43	19.82	5.61	3.61	18.12	6.28	2.96

KEY

Pc Cooling capacity

Pe Input power

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AT THE EVAPORATOR	**3**	**5**	**8**	**10**
Cooling capacity	0,990	1	1,020	1,030
Input power	0,990	1	1,010	1,020
Heating capacity	0,991	1	1,013	1,022
Input power	1,014	1	0,978	0,963

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AL CONDENSER	**5**	**10**	**15**	**22**
Cooling capacity	1	1,010	1,020	1,030
Input power	1	0,990	0,980	0,970
Heating capacity	the variations can be ignored			

Operating range with "Y" valve.

FOULING FACTOR [K*M²]/[W]			
	0,00001	**0,00002**	**0,00005**
Cooling capacity	1	0,99	0,98
Input power	1	1	1
Heating capacity	1	1	0,99
Input power	1	1	1,02

8.9. WRL080°°°°°°°°° COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	14.13	3.89	3.63	13.39	4.15	3.22	12.48	4.58	2.72	11.48	5.13	2.23	-	-	-	-	-	-	-	-	-
-6	15.30	3.89	3.94	14.49	4.15	3.50	13.51	4.57	2.96	12.43	5.13	2.43	11.36	5.79	1.96	-	-	-	-	-	-
-4	16.57	3.89	4.26	15.70	4.16	3.79	14.64	4.57	3.21	13.48	5.12	2.64	12.33	5.79	2.14	-	-	-	-	-	-
-2	17.93	3.90	4.61	16.98	4.16	4.09	15.85	4.57	3.47	14.62	5.12	2.86	13.38	5.78	2.32	12.23	6.53	1.88	-	-	-
0	19.35	3.90	4.96	18.34	4.16	4.41	17.13	4.57	3.75	15.82	5.12	3.09	14.50	5.78	2.51	13.26	6.53	2.03	-	-	-
2	20.83	3.90	5.33	19.74	4.16	4.74	18.46	4.57	4.03	17.07	5.12	3.33	15.67	5.78	2.70	14.34	6.53	2.19	-	-	-
4	22.34	3.91	5.71	21.18	4.16	5.07	19.83	4.58	4.32	18.36	5.12	3.57	16.87	5.78	2.91	15.46	6.53	2.36	14.20	7.34	1.93
6	23.86	3.91	6.09	22.64	4.17	5.42	21.21	4.58	4.61	19.66	5.13	3.82	18.09	5.79	3.11	16.59	6.53	2.53	15.24	7.35	2.07
7	24.62	3.91	6.29	23.37	4.17	5.59	**21.80**	**4.59**	**4.75**	20.32	5.13	3.94	18.70	5.79	3.22	17.16	6.53	2.62	15.76	7.35	2.14
8	25.39	3.91	6.49	24.09	4.17	5.77	22.59	4.59	4.91	20.97	5.13	4.07	19.31	5.79	3.32	17.72	6.54	2.70	16.28	7.35	2.21
10	26.89	3.92	6.89	25.53	4.18	6.12	23.95	4.59	5.22	22.25	5.14	4.32	20.51	5.80	3.53	18.84	6.55	2.88	17.30	7.36	2.35
12	-	-	-	26.94	4.19	6.48	25.28	4.60	5.52	23.50	5.15	4.58	21.68	5.81	3.74	19.91	6.56	3.05	18.29	7.37	2.50
14	-	-	-	28.29	4.19	6.83	26.56	4.61	5.82	24.70	5.16	4.83	22.80	5.82	3.95	20.94	6.57	3.22	19.23	7.39	2.64
16	-	-	-	29.57	4.20	7.19	27.77	4.62	6.13	25.83	5.17	5.09	23.85	5.84	4.16	21.90	6.59	3.39	20.09	7.40	2.78
18	-	-	-	-	-	-	28.90	4.63	6.42	26.88	5.19	5.33	24.81	5.85	4.37	22.78	6.61	3.56	20.88	7.42	2.91

8.10. WRL100°°°°°°°°° COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	14.80	5.75	2.57	14.69	6.21	2.36	14.24	6.80	2.09	13.59	7.53	1.80	-	-	-	-	-	-	-	-	-
-6	16.85	5.67	2.98	16.55	6.11	2.71	15.93	6.70	2.38	15.11	7.43	2.04	14.23	8.27	1.72	-	-	-	-	-	-
-4	19.07	5.58	3.42	18.58	6.01	3.10	17.78	6.59	2.70	16.79	7.32	2.30	15.75	8.17	1.93	-	-	-	-	-	-
-2	21.42	5.48	3.91	20.74	5.90	3.52	19.76	6.49	3.05	18.60	7.22	2.58	17.38	8.09	2.15	16.25	9.06	1.80	-	-	-
0	23.88	5.39	4.43	23.00	5.80	3.96	21.83	6.39	3.42	20.49	7.13	2.87	19.11	8.01	2.39	17.81	9.01	1.98	-	-	-
2	26.41	5.29	4.99	25.33	5.70	4.44	23.97	6.30	3.80	22.44	7.05	3.18	20.88	7.95	2.63	19.42	8.96	2.17	-	-	-
4	28.97	5.19	5.58	27.69	5.61	4.93	26.13	6.21	4.20	24.41	6.97	3.50	22.68	7.89	2.87	21.05	8.94	2.35	19.65	10.10	1.94
6	31.54	5.09	6.19	30.04	5.51	5.44	28.28	6.13	4.61	26.37	6.91	3.81	24.45	7.85	3.11	22.65	8.93	2.54	21.09	10.12	2.08
7	32.81	5.04	6.50	31.21	5.47	5.70	**29.40**	**6.09**	**4.83**	27.34	6.88	3.97	25.33	7.83	3.23	23.43	8.93	2.62	21.79	10.14	2.15
8	34.07	5.00	6.82	32.36	5.43	5.96	30.39	6.05	5.02	28.29	6.86	4.13	26.18	7.82	3.35	24.20	8.93	2.71	22.47	10.17	2.21
10	36.54	4.91	7.46	34.61	5.34	6.49	32.43	5.99	5.42	30.12	6.82	4.43	27.82	7.81	3.57	25.66	8.96	2.87	23.76	10.23	2.32
12	-	-	-	36.75	5.27	7.00	34.35	5.94	5.81	31.84	6.79	4.71	29.35	7.82	3.77	26.99	9.00	3.01	24.92	10.32	2.42
14	-	-	-	38.75	5.21	7.50	36.14	5.90	6.18	33.42	6.78	4.97	30.72	7.84	3.95	28.17	9.07	3.13	25.91	10.44	2.50
16	-	-	-	40.58	5.16	7.97	37.74	5.87	6.52	34.81	6.79	5.20	31.90	7.89	4.10	29.16	9.16	3.23	26.71	10.58	2.56
18	-	-	-	-	-	-	39.14	5.86	6.82	35.98	6.81	5.39	32.87	7.95	4.22	29.93	9.27	3.30	27.29	10.75	2.59

KEY

Pc Cooling capacity

Pe Input power

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AT THE EVAPORATOR	**3**	**5**	**8**	**10**
Cooling capacity	0,990	1	1,020	1,030
Input power	0,990	1	1,010	1,020
Heating capacity	0,991	1	1,013	1,022
Input power	1,014	1	0,978	0,963

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AL CONDENSER	**5**	**10**	**15**	**22**
Cooling capacity	1	1,010	1,020	1,030
Input power	1	0,990	0,980	0,970
Heating capacity	the variations can be ignored			

Operating range with "Y" valve.

FOULING FACTOR [K*M²]/[W]			
	0,00001	**0,00002**	**0,00005**
Cooling capacity	1	0,99	0,98
Input power	1	1	1
Heating capacity	1	1	0,99
Input power	1	1	1,02

8.11. WRL140°°°°°°°°° COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	23.23	6.45	3.60	22.25	7.00	3.18	21.05	7.75	2.71	19.73	8.69	2.26	-	-	-	-	-	-	-	-	-
-6	25.64	6.47	3.97	24.47	7.01	3.50	23.09	7.75	2.98	21.58	8.69	2.49	20.05	9.77	2.05	-	-	-	-	-	-
-4	28.20	6.49	4.35	26.83	7.02	3.83	25.26	7.76	3.26	23.57	8.69	2.72	21.86	9.77	2.24	-	-	-	-	-	-
-2	30.87	6.50	4.75	29.31	7.03	4.17	27.54	7.77	3.55	25.67	8.69	2.96	23.78	9.77	2.44	21.98	10.97	2.01	-	-	-
0	33.64	6.52	5.15	31.88	7.04	4.53	29.92	7.78	3.85	27.85	8.70	3.20	25.79	9.77	2.64	23.81	10.97	2.17	-	-	-
2	36.46	6.54	5.57	34.50	7.06	4.88	32.35	7.79	4.15	30.10	8.71	3.45	27.85	9.78	2.85	25.69	10.98	2.34	-	-	-
4	39.33	6.56	5.99	37.17	7.07	5.25	34.82	7.81	4.46	32.38	8.72	3.71	29.94	9.80	3.05	27.61	11.00	2.51	25.47	12.30	2.07
6	42.21	6.57	6.42	39.85	7.09	5.61	37.30	7.82	4.76	34.67	8.74	3.96	32.04	9.81	3.26	29.53	11.02	2.68	27.21	12.32	2.21
7	43.65	6.58	6.63	41.18	7.10	5.80	**38.40**	**7.84**	**4.90**	35.80	8.75	4.09	33.09	9.82	3.36	30.48	11.03	2.76	28.07	12.33	2.28
8	45.07	6.59	6.85	42.50	7.10	5.98	39.76	7.84	5.07	36.93	8.76	4.21	34.12	9.83	3.47	31.42	11.04	2.84	28.93	12.35	2.34
10	47.90	6.60	7.28	45.12	7.12	6.35	42.18	7.85	5.38	39.15	8.78	4.46	36.15	9.86	3.67	33.27	11.07	3.01	30.60	12.38	2.48
12	-	-	-	47.67	7.13	6.72	44.52	7.87	5.68	41.30	8.80	4.71	38.11	9.88	3.87	35.04	11.10	3.17	32.19	12.42	2.60
14	-	-	-	50.12	7.14	7.09	46.77	7.88	5.98	43.35	8.82	4.95	39.97	9.91	4.06	36.71	11.14	3.32	33.68	12.46	2.73
16	-	-	-	52.46	7.14	7.45	48.90	7.90	6.28	45.28	8.84	5.19	41.70	9.94	4.25	38.25	11.17	3.47	35.03	12.51	2.85
18	-	-	-	-	-	-	50.87	7.91	6.57	47.05	8.86	5.42	43.27	9.97	4.43	39.64	11.21	3.61	36.23	12.56	2.96

8.12. WRL160°°°°°°°°° COOLING MODE

EVAPORATOR WATER OUTLET TEMPERATURE °C	CONDENSER WATER OUTLET TEMPERATURE °C																				
	25			30			35			40			45			50			55		
	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER	Pc	Pe	EER
	[kW]			[kW]			[kW]			[kW]			[kW]			[kW]			[kW]		
-8	28.33	7.77	3.64	26.84	8.30	3.23	25.02	9.14	2.73	23.02	10.25	2.24	-	-	-	-	-	-	-	-	-
-6	30.67	7.77	3.95	29.05	8.30	3.51	27.08	9.14	2.97	24.92	10.24	2.44	22.78	11.57	1.97	-	-	-	-	-	-
-4	33.22	7.78	4.28	31.46	8.30	3.80	29.34	9.13	3.22	27.03	10.24	2.65	24.72	11.56	2.14	-	-	-	-	-	-
-2	35.94	7.78	4.62	34.04	8.30	4.11	31.77	9.13	3.48	29.31	10.23	2.87	26.83	11.55	2.33	24.52	13.05	1.88	-	-	-
0	38.80	7.79	4.98	36.76	8.31	4.42	34.34	9.14	3.76	31.72	10.23	3.10	29.07	11.55	2.52	26.59	13.05	2.04	-	-	-
2	41.75	7.80	5.35	39.58	8.31	4.75	37.01	9.14	4.04	34.23	10.23	3.34	31.42	11.55	2.71	28.75	13.04	2.20	-	-	-
4	44.77	7.80	5.73	42.46	8.32	5.09	39.74	9.15	4.33	36.80	10.24	3.58	33.83	11.55	2.92	30.99	13.04	2.37	28.47	14.67	1.94
6	47.83	7.81	6.11	45.38	8.33	5.44	42.51	9.15	4.63	39.42	10.24	3.83	36.27	11.56	3.12	33.26	13.05	2.54	30.56	14.68	2.08
7	49.36	7.82	6.31	46.84	8.33	5.61	**43.70**	**9.17**	**4.77**	40.72	10.25	3.96	37.49	11.56	3.23	34.39	13.06	2.62	31.60	14.68	2.15
8	50.89	7.82	6.51	48.30	8.34	5.79	45.28	9.16	4.93	42.03	10.26	4.08	38.71	11.57	3.33	35.52	13.06	2.71	32.64	14.69	2.22
10	53.91	7.83	6.91	51.18	8.35	6.14	48.02	9.18	5.23	44.60	10.27	4.34	41.12	11.59	3.55	37.76	13.08	2.89	34.69	14.70	2.36
12	-	-	-	53.99	8.36	6.50	50.68	9.19	5.54	47.11	10.29	4.60	43.46	11.61	3.76	39.92	13.10	3.06	36.66	14.73	2.50
14	-	-	-	56.71	8.38	6.86	53.25	9.21	5.84	49.52	10.31	4.85	45.70	11.63	3.97	41.98	13.13	3.23	38.54	14.76	2.65
16	-	-	-	59.28	8.40	7.21	55.67	9.23	6.15	51.79	10.34	5.10	47.80	11.66	4.18	43.91	13.16	3.40	40.28	14.79	2.78
18	-	-	-	-	-	-	57.93	9.26	6.45	53.89	10.37	5.35	49.74	11.69	4.38	45.66	13.20	3.57	41.85	14.83	2.92

KEY

Pc Cooling capacity

Pe Input power

ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AT THE EVAPORATOR	**3**	**5**	**8**	**10**
Cooling capacity	0,990	1	1,020	1,030
Input power	0,990	1	1,010	1,020
Heating capacity	0,991	1	1,013	1,022
Input power	1,014	1	0,978	0,963

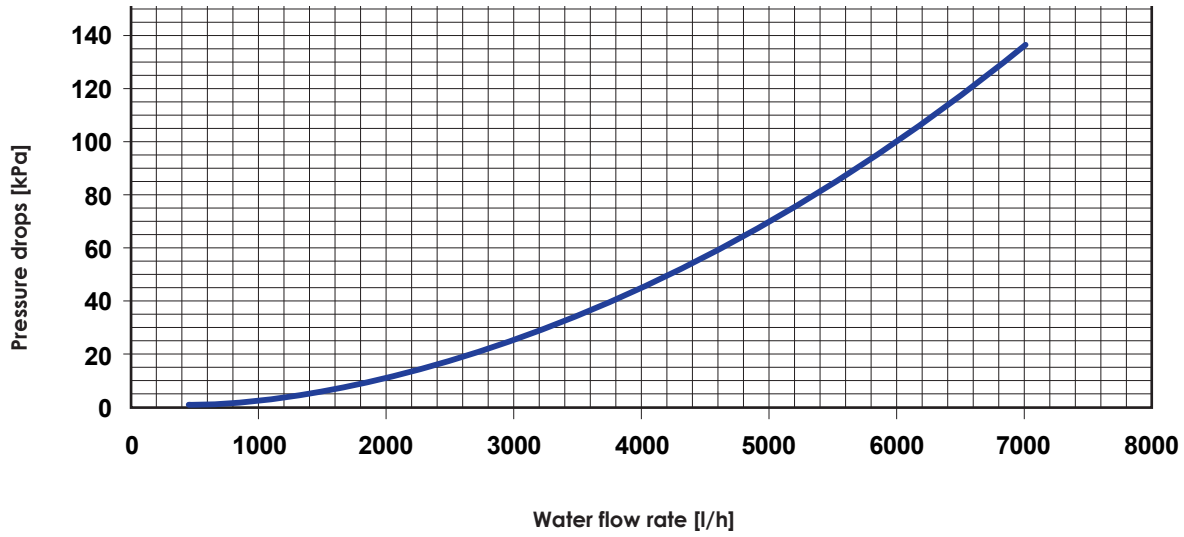
ΔT DIFFERENT FROM NOMINAL (ΔT 5)				
AL CONDENSER	**5**	**10**	**15**	**22**
Cooling capacity	1	1,010	1,020	1,030
Input power	1	0,990	0,980	0,970
Heating capacity	the variations can be ignored			

Operating range with "Y" valve.

FOULING FACTOR [K*M²]/[W]			
	0,00001	**0,00002**	**0,00005**
Cooling capacity	1	0,99	0,98
Input power	1	1	1
Heating capacity	1	1	0,99
Input power	1	1	1,02

9. PRESSURE DROPS

PRESSURE DROP 2-WAY MODULATING VALVE



PRESSURE DROP 2-WAY MODULATING VALVE

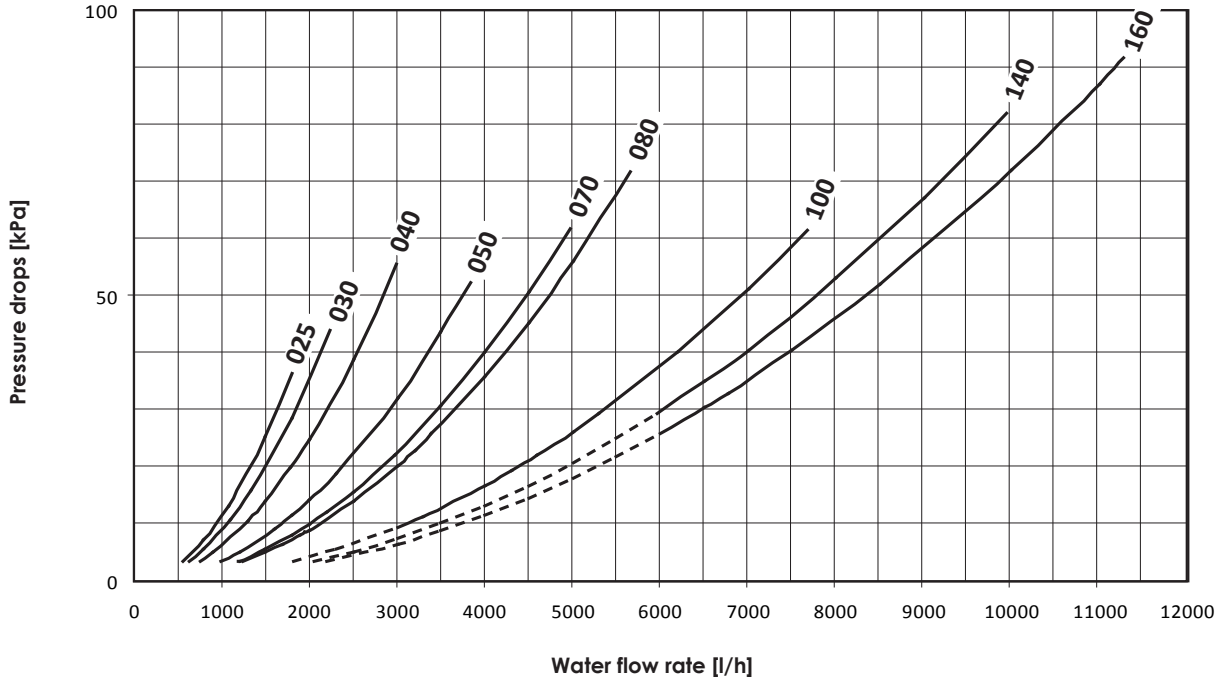
Water flow rate	l/h	500	1000	2000	3000	4000	5000	6000	7000
Pressure drop	Kpa	0,7	3	11	25	44	69	100	136

ATTENTION:
In case of power failure the valve remains locked in the working position. In order to avoid unnecessary water consumption, it is recommended to install, upstream of the water mains supply, a shut-off device.

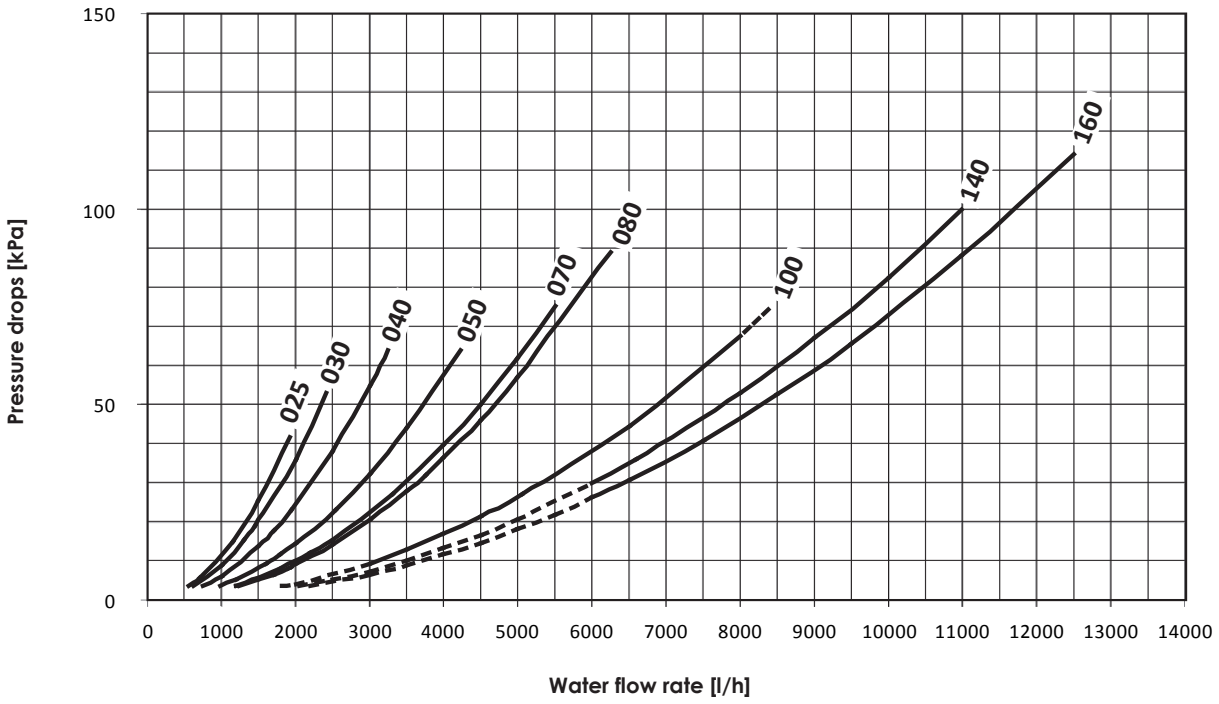
ATTENTION:

Max. differential pressure 4 bar

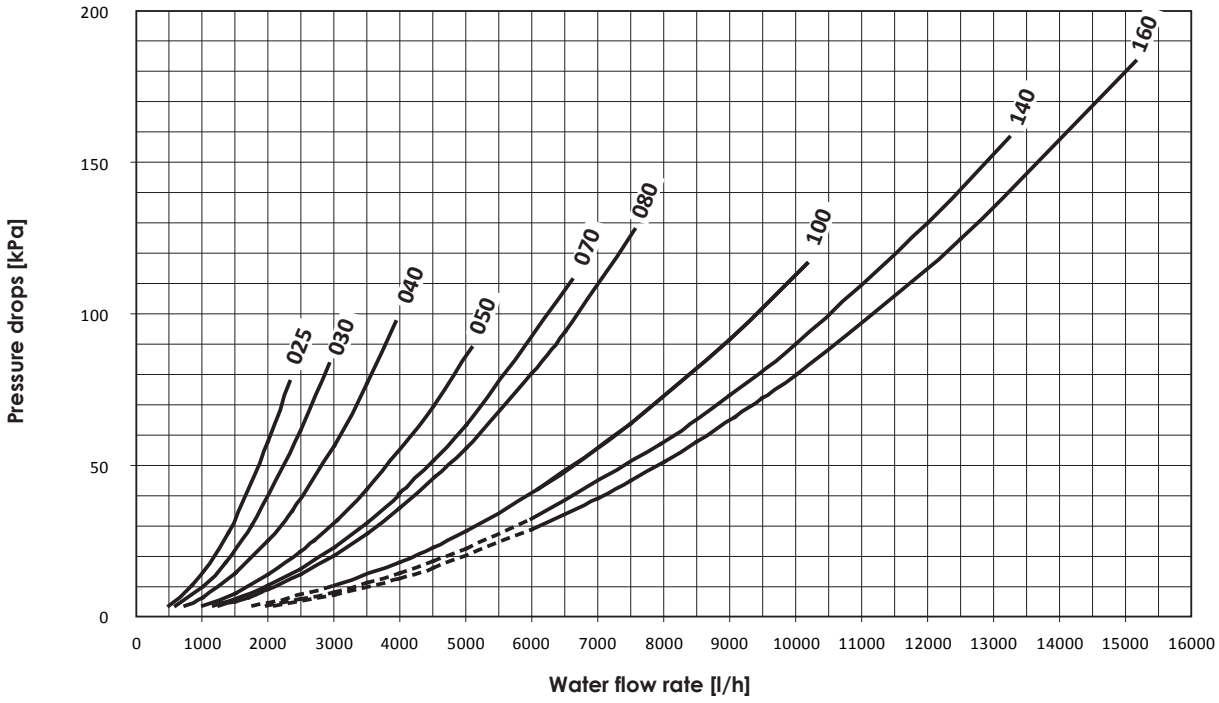
COOLING MODE WRLE - EVAPORATOR PRESSURE DROP



COOLING MODE WRL° - EVAPORATOR PRESSURE DROP



WRL° COOLING MODE - CONDENSER PRESSURE DROP



The minimum flow rates have been calculated with reference to the features of the water flow rate control device (differential pressure switch).

_ _ _ = ***"field of application not accepted with standard pump"*. CONTACT THE HEAD OFFICE.**

The tables state the correction to apply to the pressure drops on variation of the average temperature.

Condenser

Average water temperature °C	23	28	**33**	38	43	48	53	58
Multiplicative coefficient	1,02	1,01	**1,00**	0,99	0,98	0,97	0,96	0,95

Evaporator

Average water temperature °C	5	**10**	15	20	25	30	35
Multiplicative coefficient	1,02	**1,00**	0,98	0,97	0,96	0,95	0,94

10. ETHYLENE GLYCOL SOLUTIONS

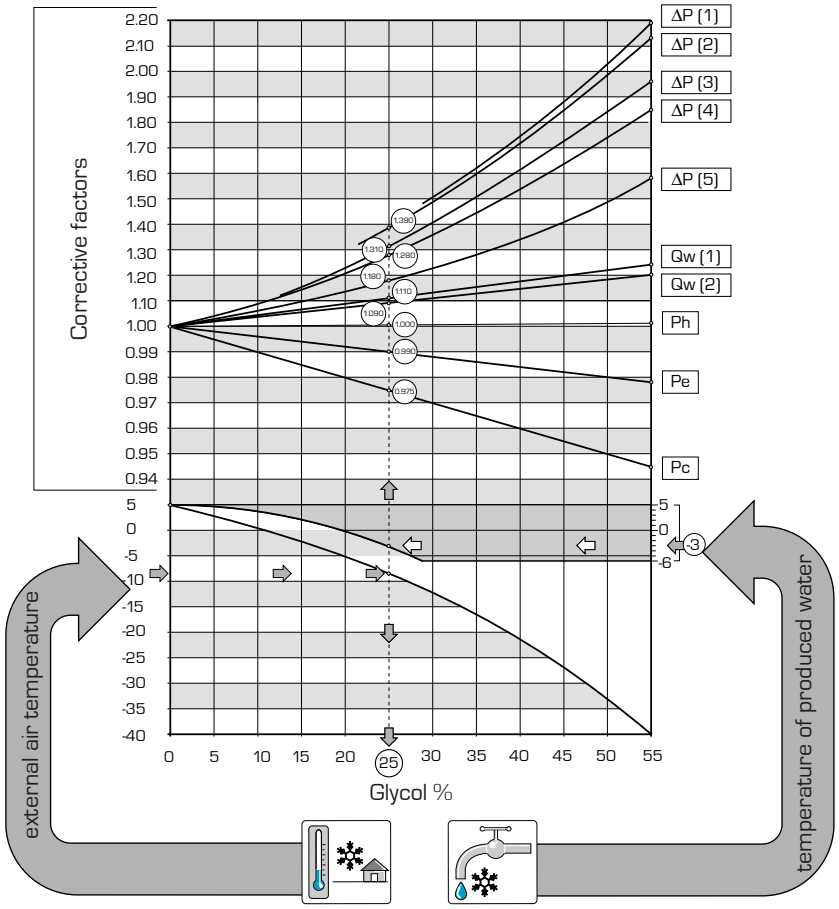
- The corrective factors of cooling capacity and input power take into account the presence of glycol and the difference in evaporation temperatures.
- The pressure drop correction factor considers the different flow rate resulting from the application of the water flow rate correction factor.
- The 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 diagram below; 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.



KEY:

Pc	Corrective factors for cooling capacity
Pe	Corrective factors of the input power
Ph	Corrective factor for heating capacity
ΔP (1)	Corrective factor for pressure drops with an average fluid temp. = -3.5 °C)
ΔP (2)	Corrective factor for pressure drops with an average fluid temp. = 0.5 °C)
ΔP (3)	Corrective factor for pressure drops with an average fluid temp. = 5.5 °C)
ΔP (4)	Corrective factor for pressure drops with an average fluid temp. = 9.5 °C)
ΔP (5)	Corrective factor for pressure drops with an average fluid temp. = 47.5 °C)
Qw (1)	Corrective factor for pressure drops (evap) with an average fluid temp. = 9.5 °C
Qw (2)	Corrective factor of flow rates (condenser) with an average fluid temp. = 47.5 °C

NOTE

Although the graph shows a max external air temperature of -40°C, the unit operational limits must be complied with.

9.1. HOW TO INTERPRET GLYCOL CURVES

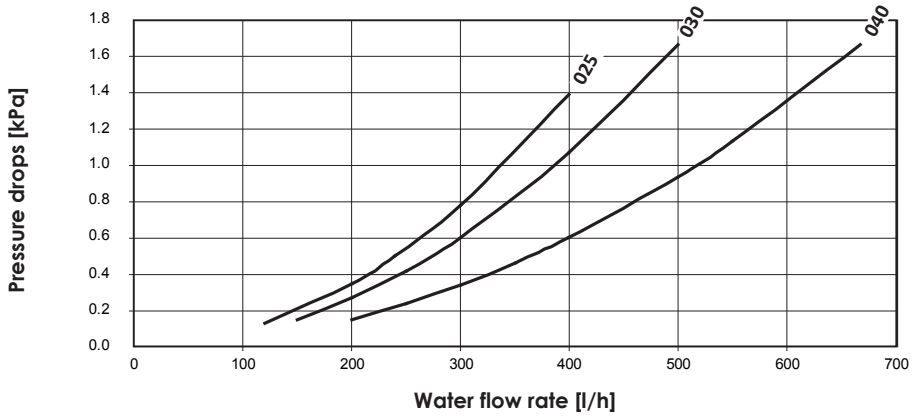
The curves shown in the diagram summarise a significant number of data, each of which is represented by a specific curve. In order to use these curves correctly it is first necessary to make some initial reflections.

- 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 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.

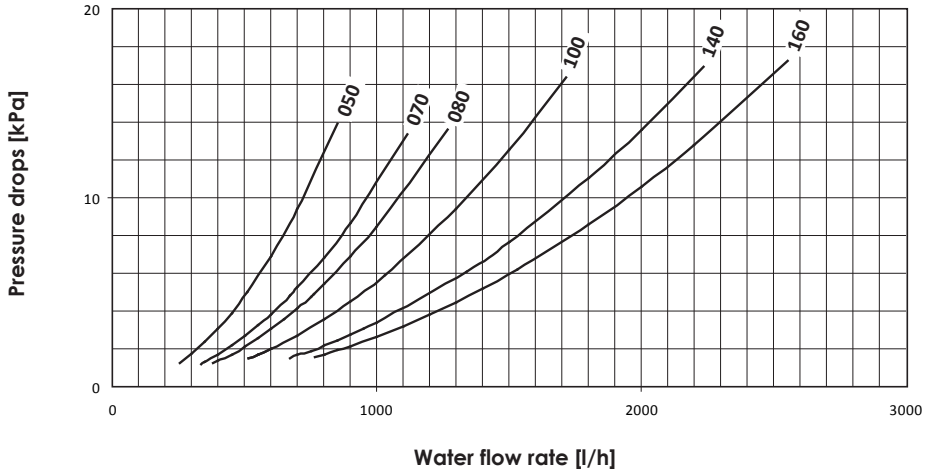
Initial rates for "EXTERNAL AIR TEMPERATURE" and "TEMPERATURE OF PRODUCED WATER", are not directly related, therefore it is not possible to refer to the curve of one of these rates to obtain corresponding point on the curve of the other rate.

DESUPERHEATER PRESSURE DROP

WRLD-025-030-040

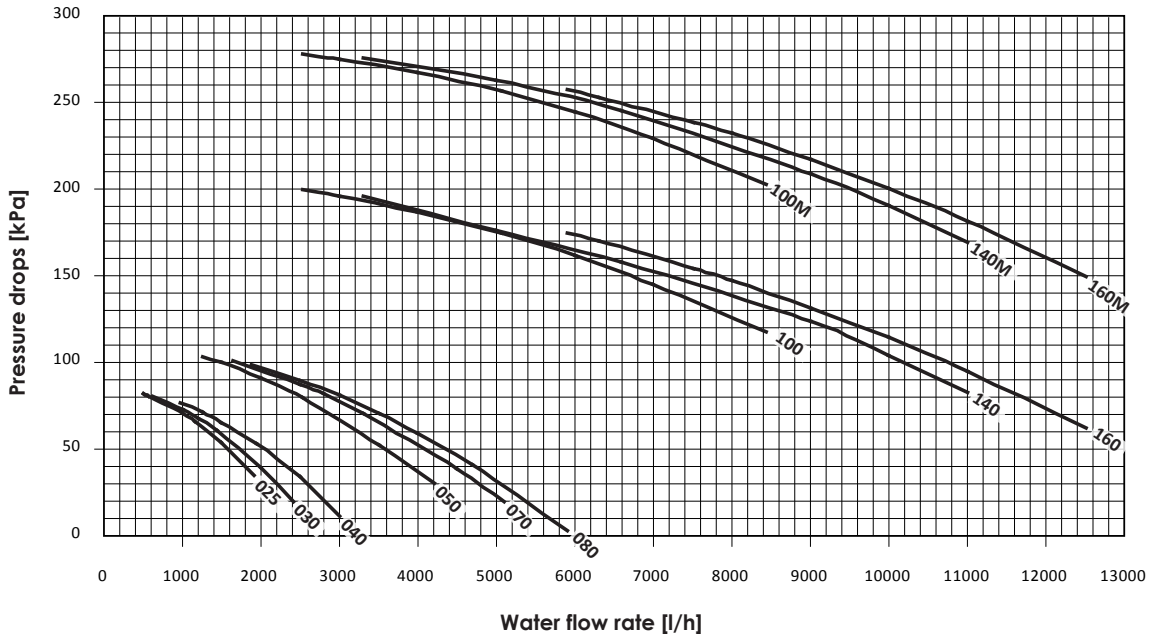


WRLD-050-070-080-100-140-160

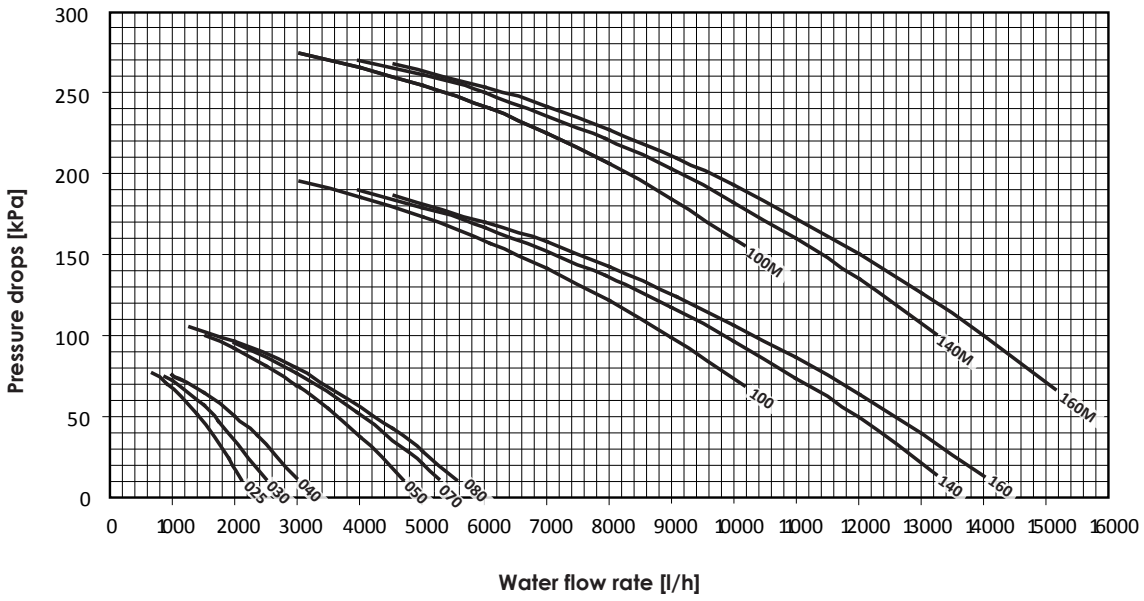


11. USEFUL STATIC PRESSURES

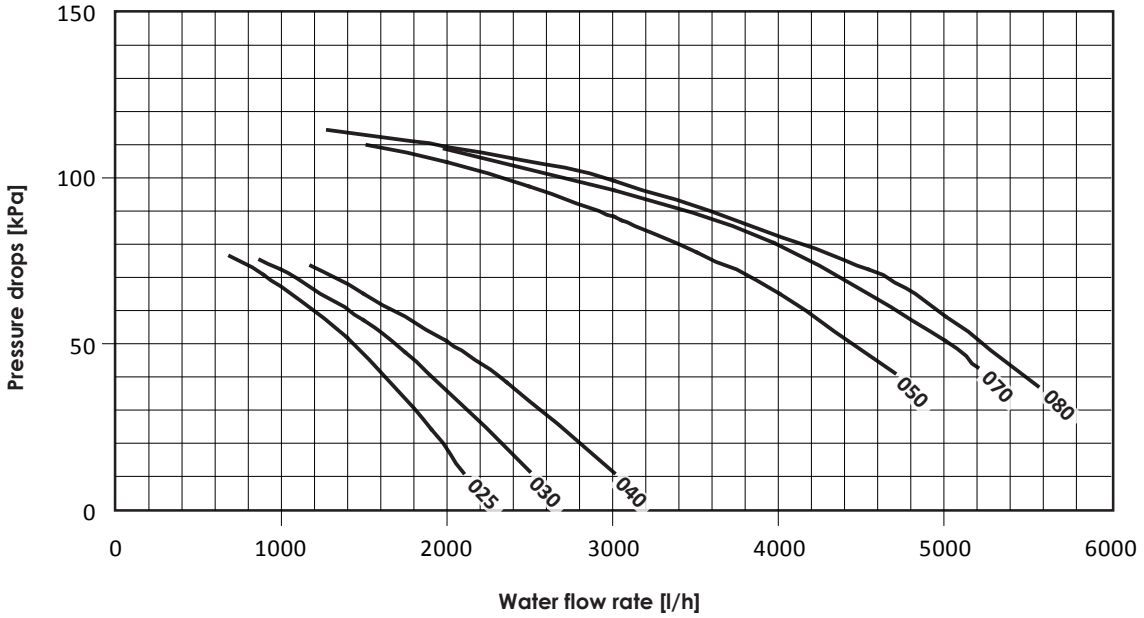
USEFUL STATIC PRESSURE - IN COOLING EVAPORATOR



USEFUL STATIC PRESSURE - CONDENSER / DESUPERHEATER IN COOLING MODE



USEFUL STATIC PRESSURE - CONDENSER IN COOLING MODE WITH INVERTER PUMP

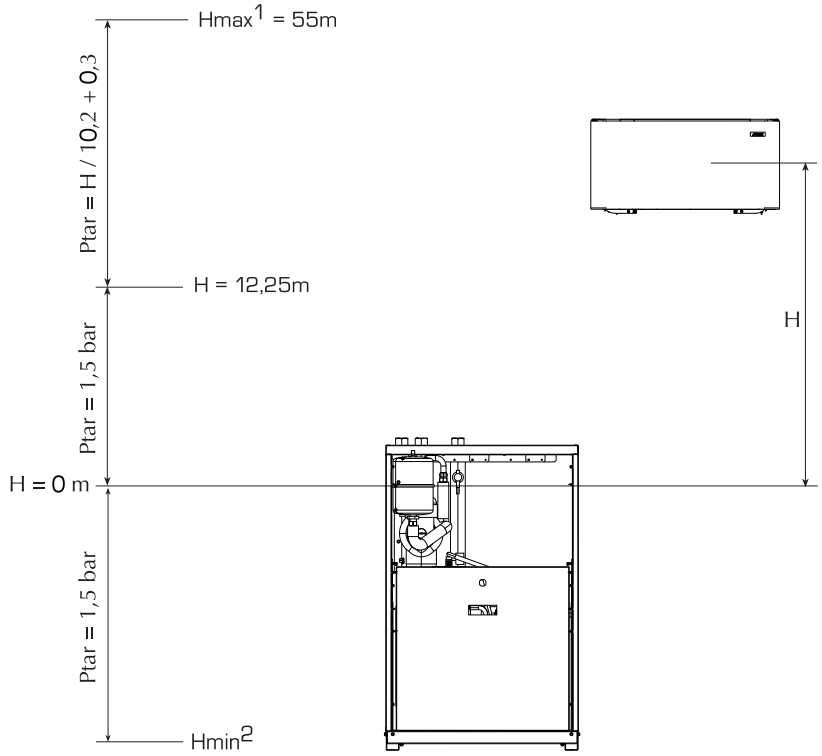


12. EXPANSION VESSEL CALIBRATION

The standard pressure pre-load value of the expansion vessel is 1.5 bar, maximum value is 6 bar.

The calibration of the vessel must be regulated in accordance with the maximum level difference (H) of the user (see diagram) using the following formula:
p (calibration) [bar] = H [m] / 10.2 + 0.3.

For example: if level difference H is equal to 20 m, the calibration value of the vessel will be 2.3 bar.
If the calibration value obtained from the formula is less than 1.5 bar (i.e. for H < 12.25), use the standard calibration.



KEY
(1) Check that highest installation is not higher than 55 metres.
(2) Ensure that lowest installation can withstand global pressure in that position.

Reference operational conditions:
(1) Cooling: Max water temp. = 40 °C, min water temp. = 4 °C.
(2) Heating (heat pump): Max water temp. = 60 °C, Min water temp. = 4 °C.

13. SOUND DATA

WRL	Total sound levels			Octave band [Hz]						
	Power dB(A) [2]	Pressure 1m dB(A) [3]	Pressure 10m dB(A) [4]	125	250	500	1000	2000	4000	8000
				Sound power for centre of band [dB] frequency						
025	**55,5**	**41,1**	**24,3**	66,5	58,1	51,5	46,3	44,9	36,7	33,2
030	**57,0**	**42,6**	**25,8**	67,9	59,7	53,1	47,6	46,1	38,1	34,5
040	**57,5**	**43,1**	**26,3**	68,2	60,2	53,7	48,2	46,6	38,9	35,1
050	**59,0**	**44,2**	**27,7**	69,6	61,6	55,3	49,9	48,8	41,3	37,3
070	**60,0**	**45,2**	**28,7**	70,6	62,8	56,2	50,9	49,8	42,7	38,6
080	**60,5**	**45,7**	**29,2**	70,9	63,0	56,3	51,1	50,0	42,9	38,9
100	**62,0**	**46,7**	**30,6**	72,8	65,0	58,2	52,6	51,6	44,3	39,5
140	**63,0**	**47,7**	**31,6**	73,6	65,8	59,2	53,9	52,8	45,7	41,6
160	**63,5**	**48,2**	**32,1**	73,9	66,0	59,3	54,1	53,0	45,9	41,9

The sound data is calculated in the nominal cooling conditions.

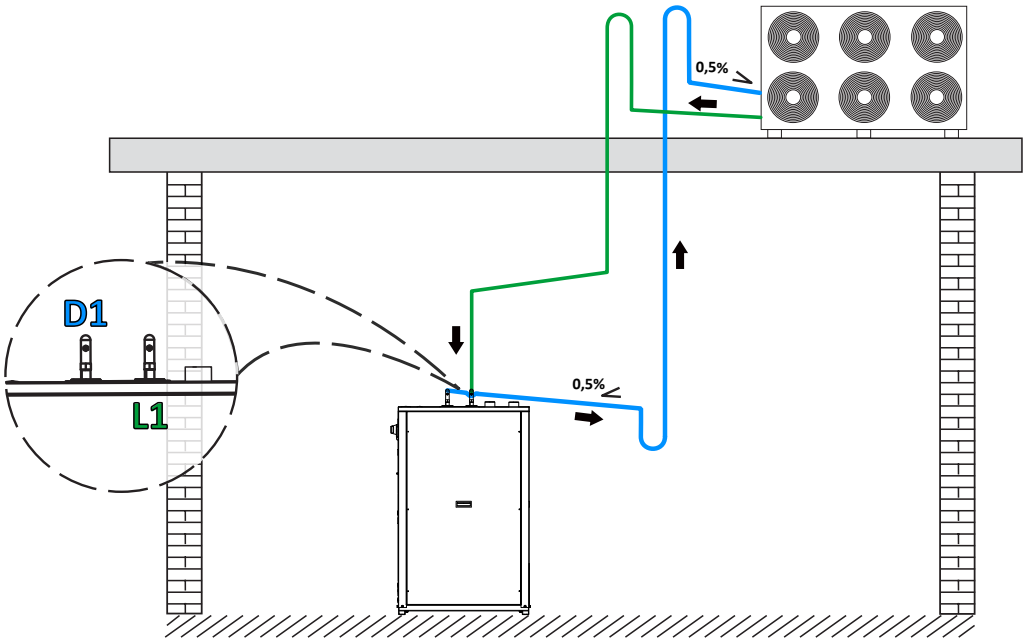
CONDENSER
Water inlet temperature..... 30 °C
Water outlet temperature ..... 35 °C

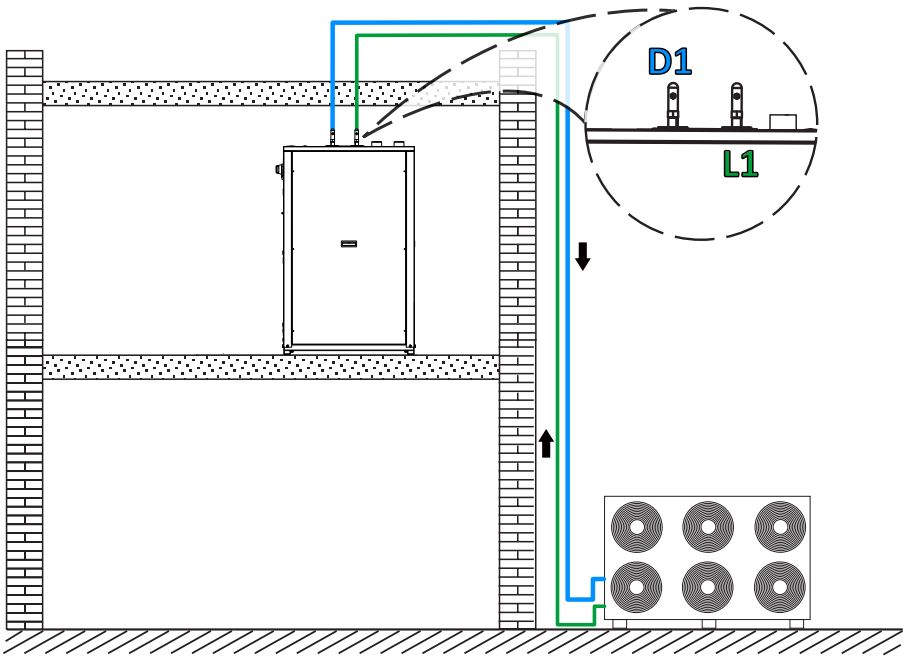
[2] Sound power; Aermec determines the sound power value on the basis of measurements taken in accordance with standard 9614-2, in compliance with the Eurovent certification.
[3] Sound pressure in an unrestricted range on a reflective plane (directional fact. Q=2), 1m away from the unit external surface, complying with ISO 3744.
[4] Sound pressure in an unrestricted range on a reflective plane (directional fact. Q=2), 10m away from the unit external surface, complying with ISO 3744.

14. REFRIGERATION LINES “WRLE”

KEY:

- **L1 Liquid**
- **D1 Discharge**





ATTENTION:

For more information (maximum height difference for evaporating or condensing etc..) CONTACT THE COMPANY.

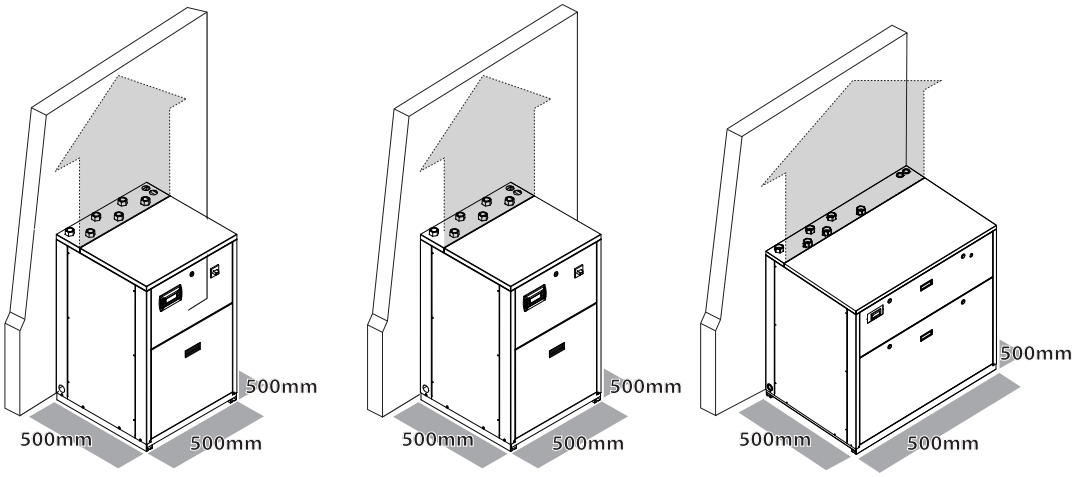
Linee Frigo WRLE

WRL	Lunghezza linea "m"	D1 - Ø Linea premente "mm"	L1 - Ø Linea liquido "mm"	R410A [g/m]
025	0 - 10	9.52	9.52	54
	10 - 20	9.52	9.52	54
	20 - 30	9.52	9.52	54
030	0 - 10	9.52	9.52	54
	10 - 20	9.52	9.52	54
	20 - 30	12.7	9.52	58
040	0 - 10	9.52	9.52	54
	10 - 20	12.7	9.52	58
	20 - 30	12.7	9.52	58
050	0 - 10	12.7	12.7	103
	10 - 20	12.7	12.7	103
	20 - 30	12.7	12.7	103
070	0 - 10	12.7	12.7	103
	10 - 20	12.7	12.7	103
	20 - 30	15.88	12.7	108
080	0 - 10	15.88	12.7	108
	10 - 20	15.88	12.7	108
	20 - 30	15.88	12.7	108
100	0 - 10	15.88	15.88	161
	10 - 20	15.88	15.88	161
	20 - 30	15.88	15.88	161
140	0 - 10	18	18	214
	10 - 20	18	18	214
	20 - 30	18	18	214
160	0 - 10	18	18	214
	10 - 20	18	18	214
	20 - 30	18	18	214

15. SELECTION AND PLACE OF INSTALLATION

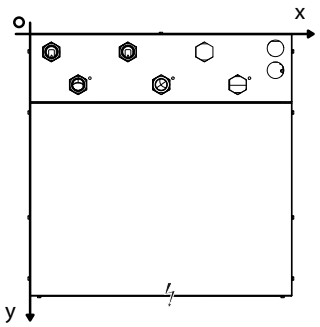
The WRL is set-up for an *INTERNAL* application.
It is shipped pre-tested and only requires the electrical and hydraulic connections.
Before beginning the installation process, decide with the client where the unit is to be installed, whilst paying attention to the following:
- The support surface must be capable of supporting the unit weight.
- The safety distances between the units and other appliances or structures must be scrupulously respected.
- The unit must be installed by a qualified technician in compliance with national laws in the country of destination.
- It is mandatory to foresee to the necessary technical space in order to allow ROUTINE AND EXTRAORDINARY MAINTENANCE interventions.
- Remember that during operation, the chiller can cause vibrations; therefore "VT" anti-vibration mounts (ACCESSORIES) are recommended, fixed on the base according to the assembly layout.
- Fix the unit checking that it is level.

► MINIMUM TECHNICAL SPACES



WARNING
It is obligatory to comply with the indicated minimum measurements; the height and the back must be sized according to the type of system and place of installation.

15.1. ► BARYCENTRES



WARNING:
DRAWING PURELY INDICATIVE

WRL	BARYCENTRE 2 EXCHANGERS	
Sizes	y (mm)	x (mm)
025	400	280
030	400	280
040	400	280
050	520	210
070	520	210
080	520	210
100	380	620
140	380	620
160	380	620

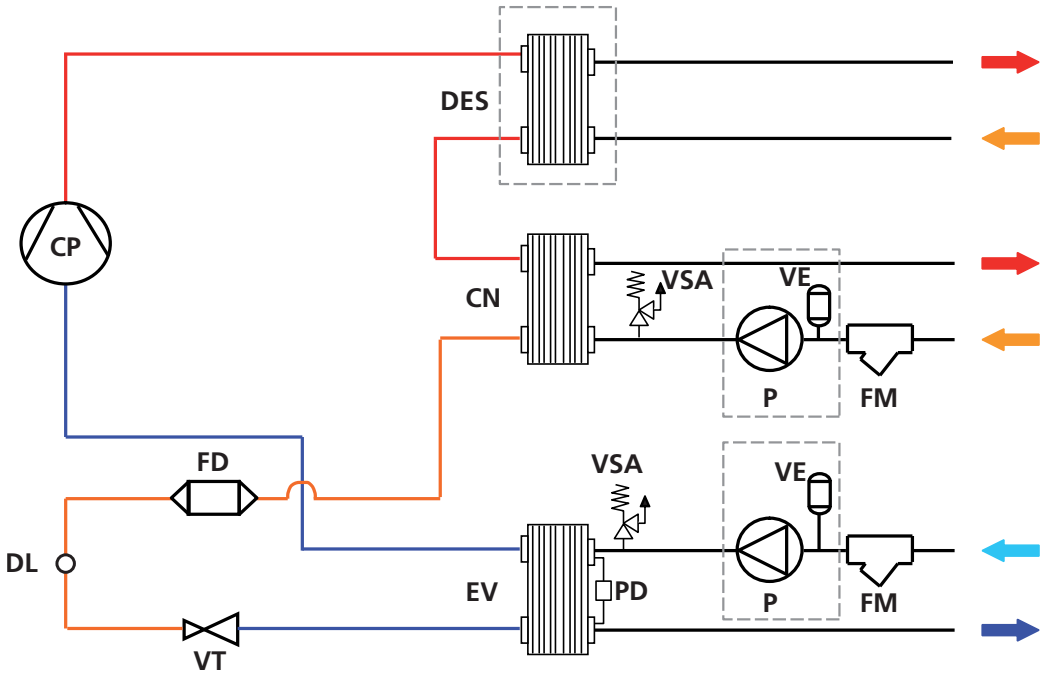
WRL	BARYCENTRE 3 EXCHANGERS	
Sizes	y (mm)	x (mm)
025	390	280
030	390	280
040	390	280
050	500	210
070	500	210
080	500	210
100	380	610
140	380	610
160	380	610

WRLE	BARYCENTRE 1 EXCHANGERS	
Sizes	y (mm)	x (mm)
025	400	280
030	400	280
040	400	280
050	520	210
070	520	210
080	520	210
100	380	620
140	380	620
160	380	620

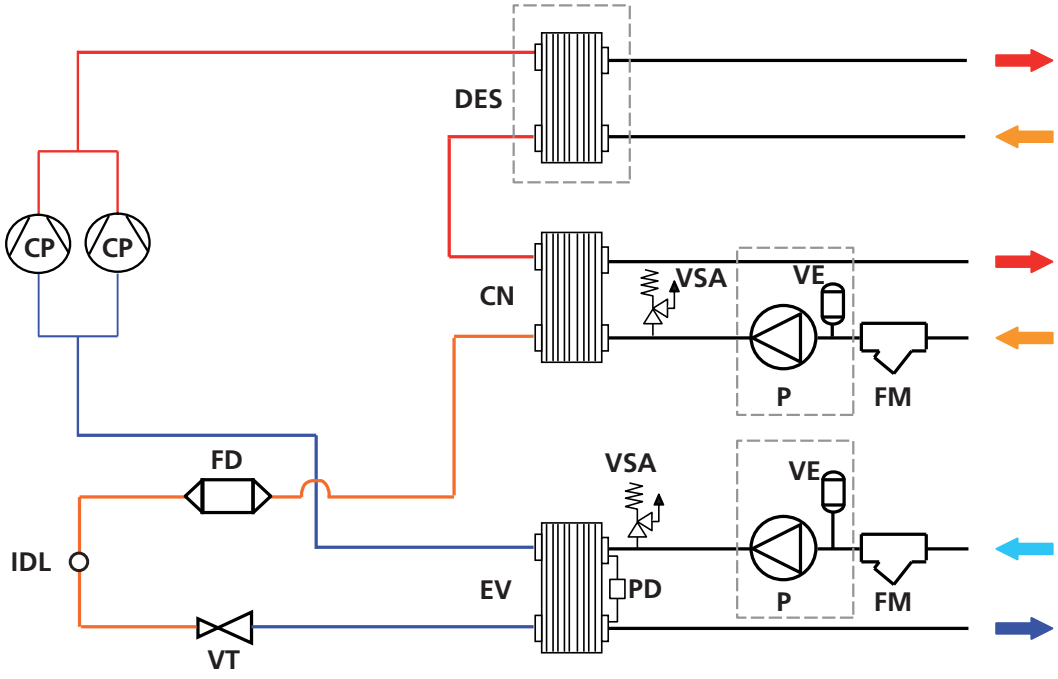
WRLE	BARYCENTRE 2 EXCHANGERS	
Sizes	y (mm)	x (mm)
025	390	280
030	390	280
040	390	280
050	500	210
070	500	210
080	500	210
100	380	610
140	380	610
160	380	610

16. REFRIGERANT CIRCUITS

16.1. WRL 025-080



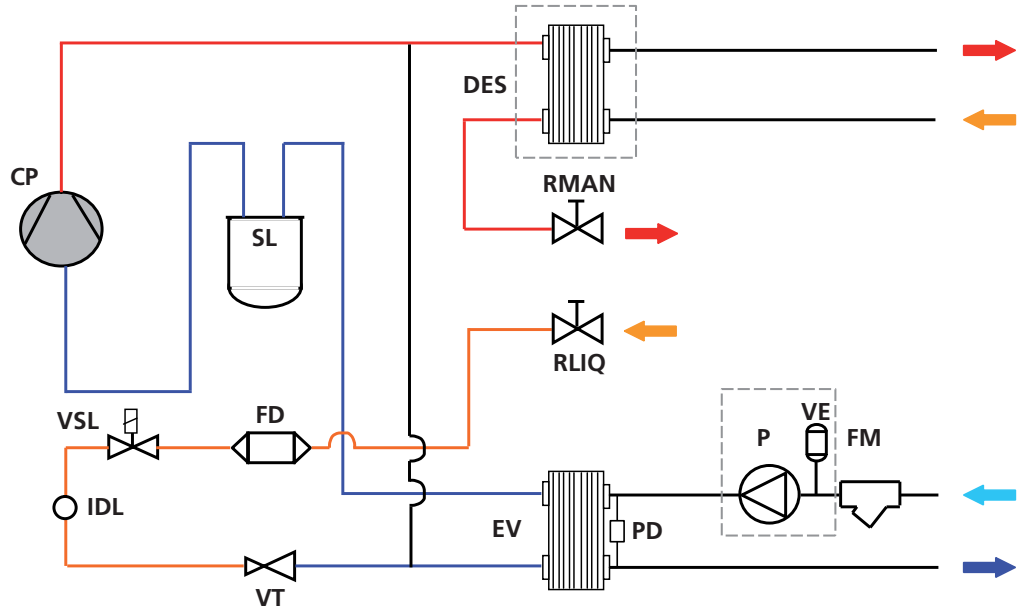
16.2. WRL 100-160



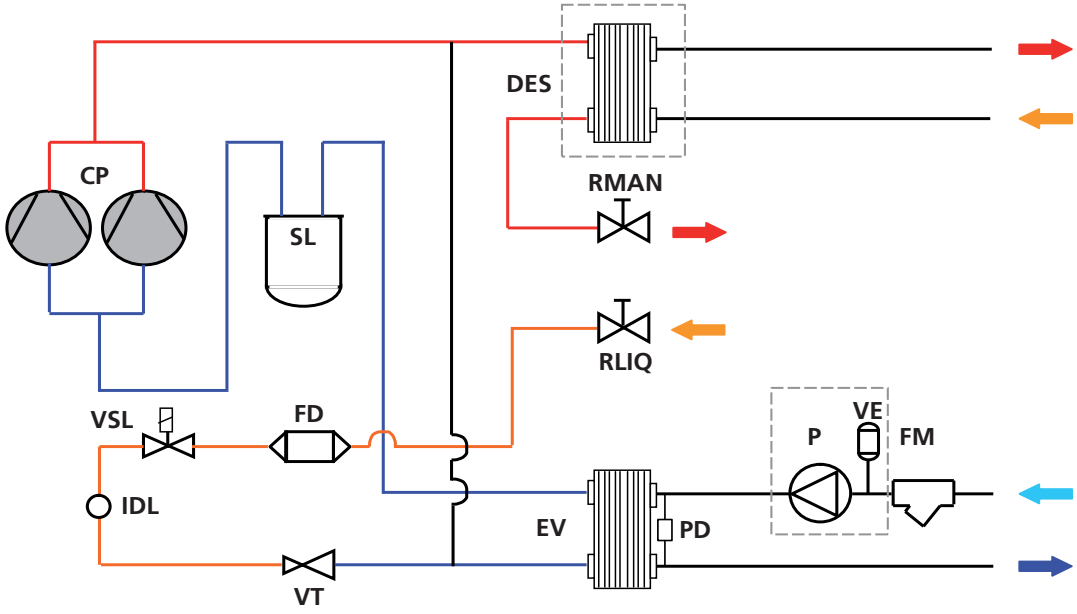
KEY			
CN	Condenser	P	Pump
CP	Compressor	PD	Differential pressure switch
DES	Desuperheater	VE	Expansion vessel
EV	Evaporator	VSA	Safety valve
FD	Dehydrator filter	VT	Termostatic valve
FM	Filter	IDL	Liquid indicator

– – – Components selected by configurator

16.3. WRLE 025-080



16.4. WRLE 100-160



KEY			
CP	Compressor	SL	Storage liquid
DES	Desuperheater	RLIQ	Liquid return cock
EV	Evaporator	RMAN	Liquid cock
FD	Dehydrator filter	VE	Expansion vessel
FM	Filter	VSA	Safety valve
P	Pump	VSL	Solenoid liquid valve
IDL	Liquid indicator	VT	Termostatic valve
PD	Differential pressure switch		

– – – Components selected by configurator

AERMEC
air conditioning

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