

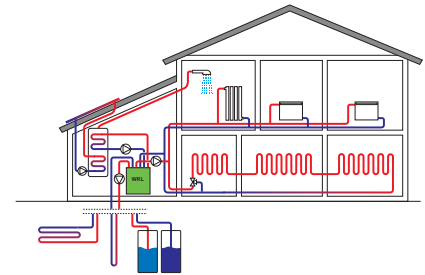
WRL-H

Water cooled reversible heat pumps for the production of hot water up to 60 °C
Cooling capacity from 6 up to 40 kW
Heating capacity from 8 up to 48 kW

R410A



Aermec participates in the EUROVENT Certification Program.
The products of interest figure in the EUROVENT Guide of Certified products.



STA - STH
ACCESSORIES



PGD1
Simplified remote panel.
ACCESSORIES

- **HIGH EFFICIENCY**
- **POSSIBILITY OF HAVING: TOTAL HEAT RECOVERY. PRODUCTION OF HOT WATER USE UP TO 60 °C. PRIORITY PRODUCTION OF DHW**
- **SUITABLE FOR GEOTHERMAL APPLICATIONS**
- **REVERSIBLE GAS SIDE**

Features

WRL it is the range of water-cooled heat pumps functioning with R410A refrigerant. They are indoor units installation, with hermetic scroll compressors that respond perfectly to the requirements of the residential market: small dimensions, easy installation, low noise.

High performance

Aermec has designed these units optimising functioning in heat pump mode, allowing to reach high efficiencies.

Connections

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.

Silence

The WRL 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.

Priority production of domestic hot water

The unit guarantees the production of DHW with priority mode both in summer and winter. The production temperature of the DHW depends on the type of coupling between the WRL heat pump and the associated DHW production device.

WRL The standard supply of n°1 temperature probes for any sanitary storage tank.

Dynamic set point

Thanks to the use of a latest generation electronic regulation and the use of an external air temperature probe (Accessory), the heat pump can adapt the temperature of the water produced, on variation of the climatic conditions, increasing the energy efficiency of the system.

Advantages

The technological choices made, orientated always at maximum quality coupled with the use of the most innovative technologies making the WRL series able to ensure, as well as the maximum energy efficiency, complete installation facility and excellent versatility of use aimed at the use of alternative sources.

Range

- Availability of 9 models with reversible gas side.

Versioni

- WRL H
- WRL HA

Technical features

- Structure and base in hot galvanised sheet steel and with epoxy paint. (RAL 9002).
- Large plate heat exchangers.
- Compressors with high performance and low electric absorption.
- Pressure switch (series).
- Conform with Safety Directives (CE) and the Standards regarding electromagnetic compatibility. The safety of the appliance is guaranteed by the door-lock isolating switch on the electric control board and active protections on the main components.
- Command can be accessed from outdoors, with the user interface with display, showing all functioning parameters in 4 languages.
- Last generation electronic regulation.
- User-friendly remote control panel with alarm signals.

Accessories

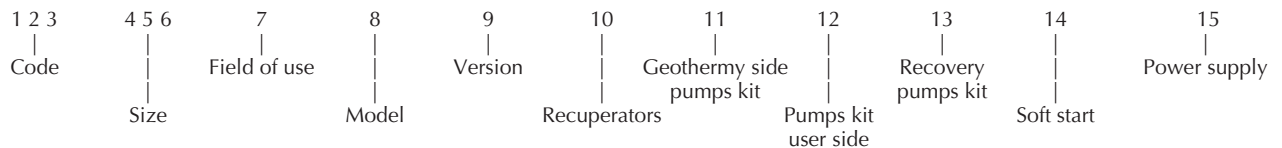
- **AER485P1:** RS-485 interface for supervising systems with MODBUS protocol.
- **VT:** Anti-vibration mounts, group of four anti-vibration mounts to assemble under the unit's sheet steel base.
- **STA:** Room temperature probe, 230Vac recess kit containing the room probe with display and regulation knob, able to control an ON-OFF valve or a zone pump
- **STH:** Room temperature and humidity probe, 230Vac recess kit containing the room and humidity probes with display and regulation knob, able to control an ON-OFF valve or a zone pump and dehumidifier consent
- **SSM:** Probe to be used in combination with the mixing valve in the presence for under floor systems application. Accessory to be ordered together with the VMFCRP one.
- **S...I:** System storage tanks; available in sizes 200, 300, 400 and 500 litres (S200I, S300I, S400I and S500I).
- **PGD1:** Simplified remote panel. Allows to perform the basic controls of the unit with alarm signals. Remote control max distance up to 500 m with 2 PAIRS of TWISTED cable + SHIELD with shielded pairs and TCONN6J000.
- **KSEA:** External air probe. Temperature probe with plastic container.
- **VMFCRP:** Zones Management
The WRL heat pump, can manage up to a maximum of n° 3 zones with the following methods:
 - **Zone n° 1: managed in series thanks to the use of latest generation electronic regulation. It is recommended to fit the 'belt' SSM sensor (accessory) to control the output temperature.**
 - **The unit is sent with n°1 temperature probe for eventual sanitary storage tank.**
 - The management of the remaining Zone 2 and Zone 3 is possible using the VMFCRP + SSM.

WRL	Compatibility of accessories								
	025	030	040	050	070	080	100	140	160
AER485P1	✓	✓	✓	✓	✓	✓	✓	✓	✓
VT (version H)	9	9	9	9	9	9	15	15	15
VT (version HA)	9	9	9	9	9	9	15A	15A	15A
STA	✓	✓	✓	✓	✓	✓	✓	✓	✓
STH	✓	✓	✓	✓	✓	✓	✓	✓	✓
SSM	✓	✓	✓	✓	✓	✓	✓	✓	✓
S...I (200-300-400-500)	✓	✓	✓	✓	✓	✓	✓	✓	✓
PGD1	✓	✓	✓	✓	✓	✓	✓	✓	✓
KSAE	✓	✓	✓	✓	✓	✓	✓	✓	✓
VMFCRP	✓	✓	✓	✓	✓	✓	✓	✓	✓

Choosing the unit

By appropriately combining the variety of options available, it is possible to configure every model in a manner that satisfies all specific implant requirements.

Fields configurator:



IDENTIFICATION:

WRL

SIZE :

025 - 030 - 040 - 050 - 070 - 080 - 100 - 140 - 160

FIELD OF USE:

X - Electronic thermostatic valve with water produced to -8 °C

MODEL:

H - Heat pump

VERSION:

° - Standard

A - With storage tank

HEAT RECOVERY:

° - Without recuperators

T- With total recovery **FOR HEAT PUMP VERSIONS ONLY**

The installation of variable speed pump on geothermal side is recommended

VERSION "°/A" GEOTHERMY SIDE PUMPS KIT:

° - Without pump

Geothermy applications

B - 3-SPEED PUMP ON-OFF (UP TO MODEL WRL 080)

Single speed three-phase STANDARD PUMP (WRL 100-140-060 MODELS)

U - Single speed three-phase LARGER PUMP (WRL 100-140-160)

F - Pump with phase cut set-up (MODELS UP TO WRL 080)

I - Pump INVERTER (for the models 025-030-040-050-070-080)

Applications with water sheet

V - 2-way modulating valve

USER SIDE PUMPS KIT:

Standard version "°°"

° - Without pump

P - 3-speed PUMP ON-OFF (UP TO MODEL WRL 080)

Single speed three-phase STANDARD PUMP

(WRL 100-140-060 MODELS)

N - Single speed three-phase LARGER PUMP

(WRL 100-140-160 MODELS)

Version "A"

° - Without pump

P - 3-speed PUMP ON-OFF (UP TO MODEL WRL 080)

Single speed three-phase STANDARD PUMP (WRL 100-140-160 MODELS)

J - 3-speed INCREASED PUMP ON-OFF

(MODELS WRL 025-030-040)

N - Single speed three-phase LARGER PUMP

(MODELS WRL 050-070-080-100-140-160)

RECOVERY PUMP KIT:

° - Without pump

Q - Pump

SOFT-START:

° - Without soft-start

S - With Soft-start

POWER SUPPLY:

° - 400V 3N~ 50Hz

M - 230V ~ 50Hz (WRL 025 - 030 - 040)

Technical data

WRL Model		025H	030H	040H	050H	070H	080H	100H	140H	160H
Cooling capacity	230V-1 kW	6,3	7,9	10,3	-	-	-	-	-	-
	400V-3	6,3	8,1	10,4	13,7	17,7	20,2	27,4	35,3	40,3
Input power	230V-1 kW	1,67	1,90	2,42	-	-	-	-	-	-
	400V-3	1,57	1,81	2,29	3,03	4,22	4,95	6,08	8,45	9,91
Input current	230V-1 A	8,5	10,8	13,5	-	-	-	-	-	-
	400V-3	4,2	3,8	5,8	7,2	9,0	10,2	13,3	16,7	19,1
E.E.R.	230V-1	3,77	4,16	4,25	-	-	-	-	-	-
	400V-3	4,01	4,49	4,54	4,54	4,19	4,08	4,52	4,18	4,07
E.S.E.E.R.	230V-1	4,36	4,85	4,95	-	-	-	-	-	-
	400V-3	4,66	5,24	5,22	5,20	4,69	4,56	6,07	5,56	5,27
Evap water flow rate	230V-1 lh	1.090	1.360	1.780	-	-	-	-	-	-
	400V-3	1.090	1.400	1.800	2.370	3.055	3.490	4.740	6.100	6.970
Evap pressure drops	230V-1 lh	13	15	20	-	-	-	-	-	-
	400V-3	13	16	20	19	22	26	22	29	33
Cond. water consumption	230V-1 lh	1.370	1.690	2.190	-	-	-	-	-	-
	400V-3	1.360	1.700	2.180	2.890	3.770	4.325	5.770	7.525	8.635
Cond pressure drops	230V-1 kPa	22	22	30	-	-	-	-	-	-
	400V-3	22	23	29	29	36	41	37	48	56
Heating capacity	230V-1 kW	7,9	10,0	12,6	-	-	-	-	-	-
	400V-3	7,9	9,5	12,4	16,4	20,9	24,1	32,9	41,9	48,2
Input power	230V-1 kW	1,97	2,48	3,15	-	-	-	-	-	-
	400V-3	1,97	2,31	2,94	3,91	5,05	5,90	7,86	10,12	11,91
Input current	230V-1 A	10,5	13,1	16,6	-	-	-	-	-	-
	400V-3	4,9	4,9	6,7	8,5	10,7	12,2	16,1	20,7	23,9
C.O.P.	230V-1	4,01	4,02	4,01	-	-	-	-	-	-
	400V-3	4,01	4,12	4,22	4,20	4,14	4,09	4,19	4,14	4,05
Cond water flow rate	230V-1 l/h	1.355	1.710	2.165	-	-	-	-	-	-
	400V-3	1.355	1.630	2.125	2.810	3.580	4.120	5.630	7.160	8.220
Cond pressure drops	230V-1 kPa	20	22	29	-	-	-	-	-	-
	400V-3	20	20	28	28	32	37	35	43	51
Evap water consumption	230V-1 l/h	1.370	1.690	2.190	-	-	-	-	-	-
	400V-3	1.360	1.700	2.180	2.890	3.770	4.325	5.770	7.525	8.635
Evap pressure drops	230V-1 kPa	21	23	30	-	-	-	-	-	-
	400V-3	21	23	30	28	34	40	33	43	51

WRL Model		025HA	030HA	040HA	050HA	070HA	080HA	100HA	140HA	160HA
Cooling capacity	230V-1 kW	6,3	7,9	10,3	-	-	-	-	-	-
	400V-3	6,3	8,1	10,4	13,8	17,8	20,3	27,8	35,9	41,03
Input power	230V-1 kW	1,86	2,06	2,57	-	-	-	-	-	-
	400V-3	1,76	1,97	2,44	3,22	4,39	5,12	5,93	8,10	9,46
Input current	230V-1 A	9,1	11,4	14,2	-	-	-	-	-	-
	400V-3	4,9	4,4	6,5	9,2	11,2	12,4	14,8	19,2	21,7
E.E.R.	230V-1	3,38	3,84	4,01	-	-	-	-	-	-
	400V-3	3,57	4,12	4,27	4,29	4,05	3,97	4,70	4,43	4,34
Evap water flow rate	230V-1 lh	1.090	1.360	1.780	-	-	-	-	-	-
	400V-3	1.090	1.400	1.800	2.370	3.055	3.490	4.740	6.100	6.970
Evap pressure drops	230V-1 lh	14	16	22	-	-	-	-	-	-
	400V-3	14	17	22	23	28	34	36	52	63
Cond. water consumption	230V-1 lh	1.370	1.690	2.190	-	-	-	-	-	-
	400V-3	1.360	1.700	2.180	2.890	3.770	4.325	5.770	7.525	8.635
Cond pressure drops	230V-1 kPa	22	22	30	-	-	-	-	-	-
	400V-3	22	23	29	29	36	41	37	48	56
Heating capacity	230V-1 kW	7,90	9,96	12,60	-	-	-	-	-	-
	400V-3	7,90	9,50	12,38	16,35	20,79	23,98	32,71	41,52	47,71
Input power	230V-1 kW	2,14	2,63	3,28	-	-	-	-	-	-
	400V-3	2,15	2,46	3,07	4,07	5,19	6,04	7,65	9,62	11,30
Input current	230V-1 A	12,0	14,6	18,1	-	-	-	-	-	-
	400V-3	6,4	6,5	8,2	11,2	13,5	15,0	17,7	22,8	25,8
C.O.P.	230V-1	3,69	3,79	3,84	-	-	-	-	-	-
	400V-3	3,67	3,86	4,03	4,02	4,01	3,97	4,28	4,32	4,22
Cond water flow rate	230V-1 l/h	1.355	1.710	2.165	-	-	-	-	-	-
	400V-3	1.355	1.630	2.125	2.810	3.580	4.120	5.630	7.160	8.220
Cond pressure drops	230V-1 kPa	21	24	32	-	-	-	-	-	-
	400V-3	21	22	31	33	40	48	55	75	93
Evap water consumption	230V-1 l/h	1.370	1.690	2.190	-	-	-	-	-	-
	400V-3	1.360	1.700	2.180	2.890	3.770	4.325	5.770	7.525	8.635
Evap pressure drops	230V-1 kPa	21	23	30	-	-	-	-	-	-
	400V-3	21	23	30	28	34	40	33	43	51

Performance in compliance with the EN 14511 Standard.

WARNING:

Please refer to the data of HA version for the units with buffer tanks and pumps
The technical data are including the input power of the standard pumps (plant - and geothermal side)

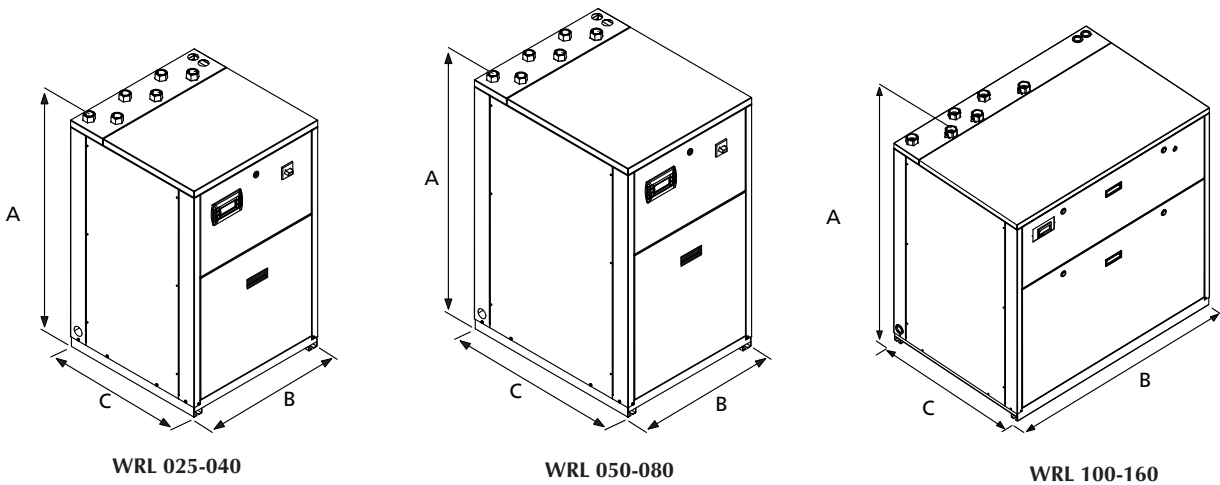
Cooling:	
Evaporator	
Input temperature	12 °C
Output temperature	7 °C
Condenser	
Input temperature	30 °C
Output temperature	35 °C
Heating:	

Evaporator	
Input temperature	10 °C
Output temperature	* °C
Condenser	
Input temperature	40 °C
Output temperature	45 °C

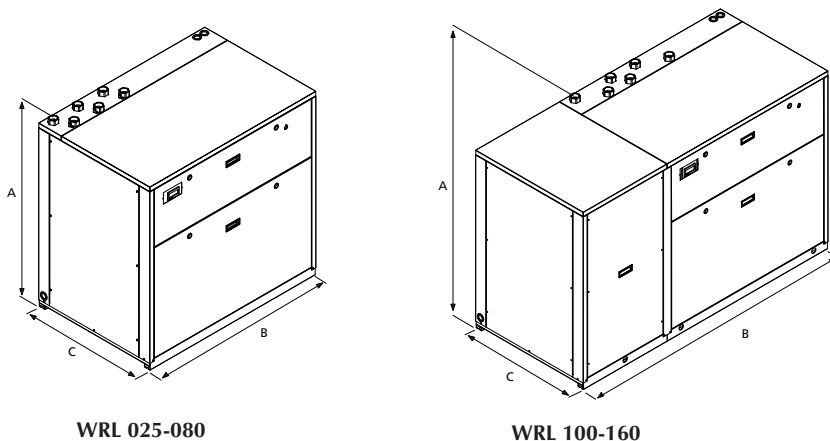
WRLH- °/A Model		025	030	040	050	070	080	100	140	160
Compressor		SCROLL								
N° circuits / N° compressors		1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 2	1 / 2	1 / 2
Control capacity	%	0 - 100	0 - 100	0 - 100	0 - 100	0 - 100	0 - 100	0 - 50 - 100	0 - 50 - 100	0 - 50 - 100
Evaporatore		PLATE								
Flow rate control	%	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
Quantity	n°	1	1	1	1	1	1	1	1	1
Condenser		PLATE								
Flow rate control	%	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
Quantity	n°	1	1	1	1	1	1	1	1	1
Storage tank		Only storage tank version / storage tank-pump								
Storage tank capacity	l	100	100	100	100	100	100	150	150	150
Expansion vassel										
WRLH with pump	n°/l	1/2	1/2	1/2	1/2	1/2	1/2	1/8	1/8	1/8
WRLH pump and Storage tank	n°/l	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Sound power	dB(A)	55,5	57,0	57,5	59,0	60,0	60,5	62,0	63,0	63,5
Sound pressure**	dB(A)	47,0	48,5	49,0	50,5	51,5	52,0	53,5	54,5	55,0

[**] Pressure measured in semi-room of 85 m3 and with reverberation time Tr = 0.5 s

Dimensions (mm)



WRL		025H	030H	040H	050H	070H	080H	100H	140H	160H
Height (A)	mm	976	976	976	1.126	1.126	1.126	1.126	1.126	1.126
Width (B)	mm	607	607	607	607	607	607	1.157	1.157	1.157
Depth (C)	mm	628	628	628	798	798	798	798	798	798
Weight	kg	120	125	130	150	170	180	260	270	280



WRL		025HA	030HA	040HA	050HA	070HA	080HA	100HA	140HA	160HA
Height (A)	mm	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
Width (B)	mm	1.157	1.157	1.157	1.157	1.157	1.157	1.757	1.757	1.757
Depth (C)	mm	798	798	798	798	798	798	798	798	798
Weight *	Kg	190	200	210	230	250	260	340	350	360

* Weight with two heat exchangers and storage tank without a pump.

The technical data given on this documentation is not binding. Aermec S.p.A. reserves the right to apply at any time all the modifications deemed necessary for improving the product.

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