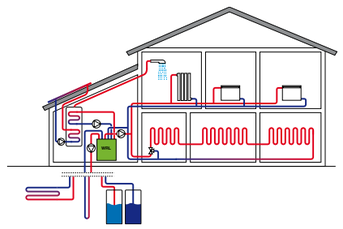
WRL–H

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

R410A



STA - STH
ACCESSORIES

PGD1
Simplified remote panel.
ACCESSORIES

Aermec participates in the EUROVENT Programme: LCP / W / P / C
The products of interest can be found on the website
www.eurovent-certification.com

- **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 REFRIGERANT SIDE**

Characteristics

WRL is the range of water cooled chillers operating with refrigerant R410A. They are internal units with hermetic scroll compressors that respond perfectly to the market requirements: small dimensions, ease of installation, low noise.

High efficiency
Aermec has designed these units to optimise heat pump operation, providing high performances and low energy consumption.

Connections
The electric and hydraulic connections are all located on the upper part of the unit facilitating installation and maintenance. This allows reduced plant room space and installation in the smallest space possible.

Silent
The WRL units are distinguished for their silence in operation. Careful soundproofing of the unit with suitable sound-absorbent material results in low sound levels for all units.

Priority production of domestic hot water
The unit guarantees the prioritised production of DHW both in summer and winter. The temperature of DHW produced depends on the type of combination between the WRL heat pump and associated DHW devices.
The heat pump unit is shipped with a temperature sensor kit for the DHW tank.

Dynamic set point
Using the latest generation of electronic controller and with an external air temperature sensor (accessory). the heat pump unit can vary the leaving water temperature based on climatic conditions, thus increasing the energy efficiency of the system.

Advantages
Using the latest innovative technology and focus on maximum quality gives the WRL series the maximum energy efficiency, ease of installation, and most versatile application using renewable energy sources.

Range
Available in 9 sizes with refrigerant side reversing.

Versions
- WRL H
- WRL HA

Technical features
- Structure and base in hot dip galvanised sheet steel with epoxy paint finish (RAL 9002)
- Generously sized plate heat exchangers
- Compressors with high performance and low electrical input
- Pressostat as standard
- One temperature sensor kit for the DHW tank
- Conforms with Safety Directives (CE) and the standards regarding electromagnetic compatibility.
  The safety of the unit is provided by the door interlocked isolator and active protection of the main components
- Externally mounted user interface with display of all operating parameters in 4 languages
- Latest generation of electronic controller
- User-friendly remote mounted control panel with alarm notification.

Accessories

- **AER485P1**: RS-485 interface for supervising systems with MODBUS protocol.
- **VT:** Anti-vibration mounts: four anti-vibration mounts to be installed under the unit's steel base.
- **STA:** Room temperature sensor. 230 Vac recess mounted kit containing the ambient sensor with display and control knob, able to control an ON-OFF valve or a zone pump.
- **STH:** Room temperature and humidity sensor. 230 Vac recess mounted kit containing the sensor with display and control knob, able to control an ON-OFF valve or a zone pump and dehumidifier enable.
- **SSM:** Sensor to be used together with the mixing valve in applications with radiant panels. Accessory to be requested together with the VMFCRP zone accessory.
- **S...I:** System buffer tanks: available in sizes 200, 300, 400 and 500 litres (S200I, S300I, S400I and S500I).
- **PGD1:** Simplified remote panel. Allows control of basic unit functions and alarm notification. Remote mounted up to 500 m away with TWISTED PAIR SCREENED cable and TCONN6J000.
- **KSAE:** External air sensor. Temperature sensor with plastic enclosure.
- **VMFCRP:** WRL Zones Control can control up to a maximum of 3 zones with the following modes:
  - Zone 1: Controlled as standard with the latest generation electronic controller. The *"SSM" clamp on sensor (accessory) is recommended to control the flow temperature.*
  - The unit is shipped with a temperature sensor kit for the DHW tank.
  - The control of the remaining Zone 2 and Zone 3 is possible using the VMFCRP + SSM accessories for each zone.

Accessory compatibility

WRL	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	✔	✔	✔	✔	✔	✔	✔	✔	✔

Unit Configurator

By suitably combining the numerous options available it is possible to configure each model in such a way as to meet even the most demanding of system requirements.

Configuration fields:

1 2 3	4 5 6	7	8	9	10	11	12	13	14	15
Code	Size	Field of use	Model	Version	Heat recovery	Geothermal side pumps kit	System side pump kit	Heat recovery pumps kit	Soft start	Power supply

CODE:
WRL

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

FIELD OF USE:
X - Electronic expansion valve with leaving liquid down to +4°C (for different temperature contact us)

MODEL:
H - Heat pump

VERSION:
° - Standard
A - With buffer tank

HEAT RECOVERY:
° - Without heat recovery
T - With total heat recovery **FOR HEAT PUMP VERSIONS ONLY**

VERSION "°/A" GEOTHERMAL SIDE PUMP KIT:
° - Without pump
Geothermal applications
B - 3-SPEED PUMP ON-OFF (UP TO MODEL WRL 080)
Single speed three-phase STANDARD PUMP
(WRL 100-140-160 MODELS)
U - Single speed three-phase HIGH HEAD PUMP (WRL 100-140-160)
F - Pump with phase cut control (MODELS UP TO WRL 080)
I - Pump Inverter recommended for TOTAL HEAT RECOVERY VERSIONS (MODELS UP TO WRL 080)
Applications with bore hole water
V - 2-way modulating valve

SYSTEM SIDE PUMP KIT:
Standard version "°"
° - Without pump
P - 3-speed PUMP ON-OFF (UP TO MODEL WRL 080)
Single speed three-phase STANDARD PUMP
(WRL 100-140-160 MODELS)
N - Single speed three-phase HIGH HEAD 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 HIGH HEAD PUMP ON-OFF
(MODELS WRL 025-030-040)
N - Single speed three-phase HIGH HEAD PUMP
(MODELS WRL 050-070-080-100-140-160)

HEAT RECOVERY PUMP KIT:
° - Without pump
Q - Pump

SOFT-START:
° - Without Soft-start
S - With Soft-start

POWER SUPPLY:
° - 400V 3N~ 50Hz
M - 230V ~ 50Hz (only for size WRL 025 - 030 - 040)
4 - 230V~3~50Hz (only for size WRL 050-070-080-100-140-160)

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	W/W	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	5,2	4,69	4,56	6,07	5,56	5,27
Evap water flow rate	230V-1	l/h	1090	1360	1780	-	-	-	-	-	-
	400V-3		1090	1400	1800	2370	3055	3490	4740	6100	6970
Evap pressure drop (system side)	230V-1	kPa	13	15	20	-	-	-	-	-	-
	400V-3		13	16	20	19	22	26	22	29	33
Cond water flow rate	230V-1	l/h	1370	1690	2190	-	-	-	-	-	-
	400V-3		1360	1700	2180	2890	3770	4325	5770	7525	8635
Cond pressure drop (geothermal side)	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	1355	1710	2165	-	-	-	-	-	-
	400V-3		1355	1630	2125	2810	3580	4120	5630	7160	8220
Cond pressure drop (system side)	230V-1	kPa	20	22	29	-	-	-	-	-	-
	400V-3		20	20	28	28	32	37	35	43	51
Evap water flow rate	230V-1	l/h	1370	1690	2190	-	-	-	-	-	-
	400V-3		1360	1700	2180	2890	3770	4325	5770	7525	8635
Evap pressure drop (geothermal side)	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	W/W	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	l/h	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 drop (system side)	230V-1	kPa	14	16	22	-	-	-	-	-	-
	400V-3		14	17	22	23	28	34	36	52	63
Cond water flow rate	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
Cond pressure drop (geothermal side)	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 drop (system side)	230V-1	kPa	21	24	32	-	-	-	-	-	-
	400V-3		21	22	31	33	40	48	55	75	93
Evap water flow rate	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 drop (geothermal side)	230V-1	kPa	21	23	30	-	-	-	-	-	-
	400V-3		21	23	30	28	34	40	33	43	51

Performance in accordance EN 14511.

ATTENTION:
Please refer to the data of the HA version for units with buffer tank and pumps.
The technical data includes the input power of the standard geothermal and system side pumps.

Cooling:	
Evaporator	
Inlet temperature	12 °C
Outlet temperature	7 °C
Condenser	
Inlet temperature	30 °C
Outlet temperature	35 °C

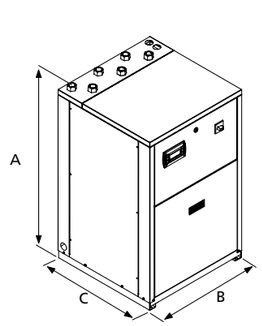
Heating:	
Evaporator	
Inlet temperature	10 °C
Outlet temperature	* °C
Condenser	
Inlet temperature	40 °C
Outlet temperature	45 °C

WRLH- °/A Model		025	030	040	050	070	080	100	140	160
Compressor						SCROLL				
N° circuits / N° compressors	n°/n°	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 2	1 / 2	1 / 2
Capacity control	%	0 - 100	0 - 100	0 - 100	0 - 100	0 - 100	0 - 100	0 - 50 - 100	0 - 50 - 100	0 - 50 - 100
Evaporator						PLATE				
Hydraulic connections	ø	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14
Quantity	n°	1	1	1	1	1	1	1	1	1
Condenser						PLATE				
Hydraulic connections	ø	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14	F / 1"/14
Quantity	n°	1	1	1	1	1	1	1	1	1
Buffer tank						**Only for units with buffer tank / buffer tank-pump**				
Buffer tank capacity	l	100	100	100	100	100	100	150	150	150
Expansion vessel										
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 buffer tank	n°/l	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Sound data										
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)	24,3	25,8	26,3	27,7	28,7	29,2	30,6	31,6	32,1

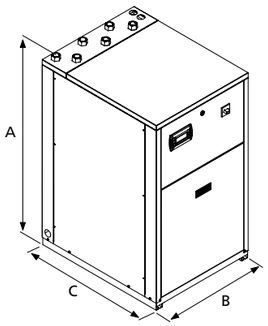
Sound power
Aermec determines the sound power value on the basis of measurements taken in accordance with standard 9614-2, in compliance with the Eurovent certification.

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.

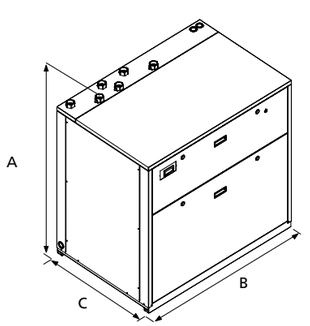
Dimensions (mm)



WRL 025-040

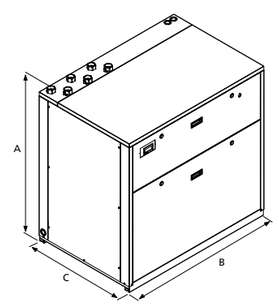


WRL 050-080

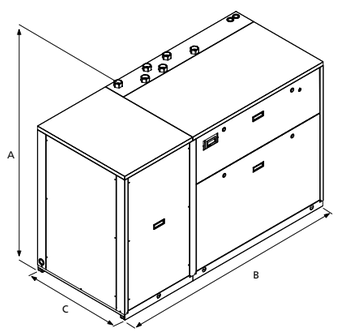


WRL 100-160

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 025-080



WRL 100-160

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 buffer tank without pumps.

Aermec S.p.A.
Via Roma. 996 - 37040 Bevilacqua (VR) - Italy
Tel. 0442633111 - Telefax 044293730
www.aermec.com

Cod.: SWRLHUY.06 / 1201