

WRL 180/650 reversible water-side

R410A



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



PGD1
Simplified remote panel.
ACCESSORY



TAT - TAH
terminal environment
ACCESSORY



- **HIGH EFFICIENCIES**
- **POSSIBILITY OF HAVING: PARTIAL HEAT RECOVERY PRODUCTION OF HOT WATER UP TO 55 °C**
- **SUITABLE FOR GEOTHERMAL APPLICATIONS**

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.

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.

Model

- **WRL_°:** Reversible water-side
- **WRL_K:** Reversible water-side with low pressure drops system side
- **WRL_E:** Evaporating unit

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

- Flow switch as standard
- 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.
- **AERWEB300:** Accessory AERWEB allows remote control of a chiller through a common PC and an ethernet connection over a common browser; 4 versions available:
 - **AERWEB300-6:** Web server to monitor and remote control max. 6 units in RS485 network;
 - **AERWEB300-18:** Web server to monitor and remote control max. 18 units in RS485 network;
 - **AERWEB300-6G:** Web server to monitor and remote control max. 6 units in RS485 network with integrated GPRS modem;
 - **AERWEB300-18G:** Web server to monitor and remote control max. 18 units in RS485 network with integrated GPRS modem;
- **VT:** Anti-vibration mounts: four anti-vibration mounts to be installed under the unit's steel base.
- **TAT:** 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.
- **TAH:** 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 control of the remaining Zone 2 and Zone 3 is possible using the VMFCRP + SSM accessories for each zone.

Accessory compatibility

WRL	180	200	300	400	500	550	600	650
AER485P1	•	•	•	•	•	•	•	•
AERWEB300	•	•	•	•	•	•	•	•
VT	9	9	9	9	15	15	15	15
TAT	•	•	•	•	•	•	•	•
TAH	•	•	•	•	•	•	•	•
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.

Field	Code
1,2,3	WRL
4,5,6	Size 180-200-300-400-500-550-600-650
7	Filed use ° Standard (Standard with leaving water above +4°C)
	Y Low temperature with leaving liquid down to -8°C
	X Electronic expansion valve with leaving liquid down to +4°C (for different temperature contact us)
8	Model ° Reversible water-side
	K Reversible water-side with low pressure drops system side
	E Evaporating unit (1)
9	Version ° Standard
10	Heat recovery ° Without heat recovery
	D Con desurriscaldatore
11	Pumps condenser side ° Without pumps
	B Low static pressure pump
	U High static pressure pump
	F Low static pressure inverter pump
	I High static pressure inverter pump
	V 2-way modulating valve
	Pumps evaporator side ° Without pumps
	P Low static pressure pump
	N High static pressure pump
12	Field not used °
13	Soft-start ° Without Soft Start
	S With Soft Start
13	Power supply ° 400V/3/50Hz
	5 500V/3/50Hz (2)

(1) shipped with holding charge only

(2) 500V/3/50Hz only size 400+650

Technical data

Model WRL_° standard			180°	200°	300°	400°	500°	550°	600°	650°
Cooling capacity	(3)	kW	50	64	74	86	100	129	150	168
Input power	(3)	kW	10,95	14,52	16,91	18,34	20,51	26,96	30,98	35,73
E.E.R.	(3)	W/W	4,52	4,42	4,39	4,67	4,86	4,79	4,83	4,71
E.S.E.E.R.	-		4,61	4,43	4,40	4,40	5,47	5,67	5,23	4,82
Evaporator water flow rate		l/h	8559	11094	12838	14838	17205	22320	25872	29126
Pressure drops system side		kPa	27	43	46	60	30	49	53	67
Condenser water flow rate		l/h	10176	13210	15290	17459	20242	26265	30400	34312
Pressure drops geothermal side		kPa	27	46	62	81	32	52	57	72
Heating capacity		kW	51	69	76	89	102	140	161	180
Input power		kW	12,79	17,46	19,16	21,29	23,49	32,51	37,00	42,04
COP		W/W	4,02	3,97	3,98	4,18	4,35	4,32	4,34	4,28
Condenser water flow rate		l/h	8808	11858	13031	15201	17494	24030	27518	30791
Pressure drops system side		kPa	20	37	44	61	24	44	47	59
Evaporator water flow rate		l/h	6668	8963	9859	11711	13560	18640	21381	23843
Pressure drops geothermal side		kPa	19	31	30	41	20	37	38	47

Cooling (14511:2013)

Evaporator water temperature (in/out) 12°C/7°C; Condenser water temperature (in/out) 30°C/35°C
(3) EUROVENT for reversible units side water certifies the sun made cold (12/7°C - 30/35°C)

Heating

Condenser water temperature (in/out) 40°C/45°C; Evaporator water temperature (in/out) 10°C/5°C

Model WRL_K low pressure drops			180K	200K	300K	400K	500K	550K	600K	650K
Cooling capacity	(3)	kW	50	66	76	88	100	133	154	173
Input power	(3)	kW	10,95	14,49	16,91	18,31	20,51	26,75	30,81	35,55
E.E.R.	(3)	W/W	4,52	4,56	4,52	4,83	4,86	4,98	5,01	4,89
E.S.E.E.R.	-		4,61	4,43	4,40	4,40	5,47	5,67	5,23	4,82
Evaporator water flow rate		l/h	8559	11427	13223	15284	17205	22990	26648	30000
Pressure drops system side		kPa	27	34	42	48	30	24	33	41
Condenser water flow rate		l/h	10176	13543	15675	17904	20242	26934	31176	35186
Pressure drops geothermal side		kPa	27	48	65	85	32	55	60	76
Heating capacity		kW	51	71	78	91	102	144	164	184
Input power		kW	12,79	17,46	19,19	21,30	23,49	32,38	37,00	41,96
COP		W/W	4,02	4,06	4,06	4,28	4,35	4,44	4,46	4,39
Condenser water flow rate		l/h	8808	12135	13336	15563	17494	24605	28178	31528
Pressure drops system side		kPa	20	39	46	64	24	46	49	62
Evaporator water flow rate		l/h	6668	9530	10482	12422	13560	19754	22655	25274
Pressure drops geothermal side		kPa	19	25	30	35	20	20	25	32

Cooling (14511:2013)

Evaporator water temperature (in/out) 12°C/7°C; Condenser water temperature (in/out) 30°C/35°C
(3) EUROVENT for reversible units side water certifies the sun made cold (12/7°C - 30/35°C)

Heating

Condenser water temperature (in/out) 40°C/45°C; Evaporator water temperature (in/out) 10°C/5°C

Model WRL_E evaporating unit			180E	200E	300E	400E	500E	550E	600E	650E
Cooling capacity		kW	46,0	60,1	69,6	80,1	90,6	121,3	140,2	158,7
Input power		kW	12,4	16,0	18,5	19,8	23,1	29,6	34,1	38,5
E.E.R.		W/W	3,7	3,8	3,8	4,1	3,9	4,1	4,1	4,1
Evaporator water flow rate		l/h	7900	10340	11980	13770	15580	20860	24110	27300
Pressure drops system side		kPa	23	39	39	56	25	42	47	57

Cooling

Evaporator water temperature (in/out) 12°C/7°C; Condensing temperature 45°C

Technical data

GENERAL DATA				180	200	300	400	500	550	600	650
Electrical data											
Total input current cooling mode	(4)	°	A	19,90	25,00	28,50	31,90	36,30	50,80	59,30	68,30
Total input current heating mode	(4)	°	A	22,80	29,50	32,00	35,90	41,10	57,80	66,70	76,10
Total input current cooling mode	(4)	E	A	22,9	28,5	32,4	35,6	41,8	55,8	64,8	73,9
Maximum current (FLA)			A	32	42	45	52	59	99	112	125
Starting current (LRA)			A	119	123	125	167	174	265	310	323
Compressors											
Compressors	type			Scroll							
	n°			2	2	2	2	2	2	2	2
Circuits	n°			1	1	1	1	1	1	1	1
Capacity control	%			50-100							
Refrigerant	type			R410A							
System side exchanger											
Evaporator	type			Plate							
	n°			1	1	1	1	1	1	1	1
Hydraulic connections Victaulic (in/out)	Ø			2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Geothermal side exchanger											
Condenser	type			Plate							
	n°			1	1	1	1	1	1	1	1
Hydraulic connections Victaulic (in/out)	Ø			2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Heat recovery side exchanger											
Desuperheater	type			Plate							
	n°			1	1	1	1	1	1	1	1
Hydraulic connections Victaulic (in/out)	Ø			1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Hydronic kit											
for more information, refer to the selection program											
Sound data											
Sound pressure	dB(A)			29,1	29,8	30,9	39,1	35,6	47,1	47,1	47,1
Sound power	dB(A)			61,1	61,8	62,9	71,1	67,6	79,1	79,1	79,1
Power supply	V/ph/Hz			400V/3/50Hz							

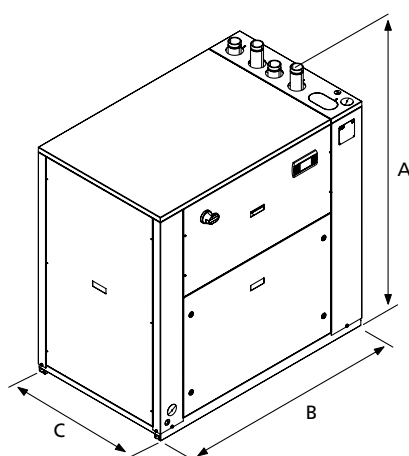
(4) The electrical data of the versions without hydronic module integrated

Sound power Aermec determines sound power values on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification.

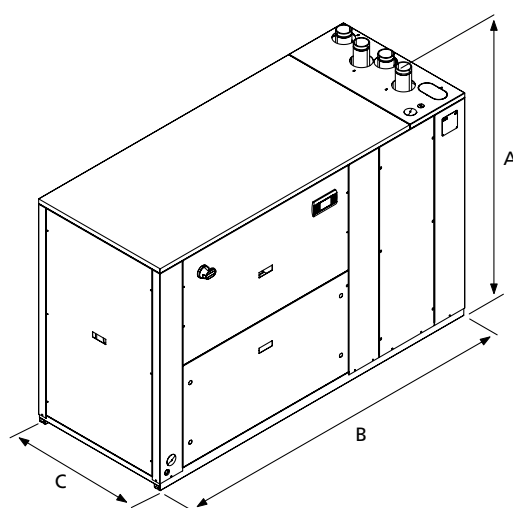
Sound pressure Sound pressure in free field, at 10 m distance from the external surface of the unit (in accordance with UNI EN ISO 3744).

Note: For more information, refer to the selection program Magellan or the technical documentation available on the website www.aermec.com

Dimensions (mm)



WRL 180-400



WRL 500-650

Model WRL			180	200	300	400	500	550	600	650
Height	A	mm	1380	1380	1380	1380	1380	1380	1380	1380
Width	B	mm	1320	1320	1320	1320	2060	2060	2060	2060
Depth	C	mm	845	845	845	845	845	845	845	845
Weight		kg	375	375	381	388	518	594	670	715