

WRL

**180 / 650
reversible
refrigerant
circuit**



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
ACCESSORY

**Water cooled reversible heat pumps
for the production of hot water up to 55°C
Cooling capacity from 45 - 157kW
Heating capacity from 53 - 184kW**



- **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.

Range

Available in 8 sizes:
• Reversible refrigerant side

Version

• WRLH= Heat pump

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

WRLH	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
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.

CODE:

WRL

SIZE:

180 - 200 - 300 - 400 - 500 - 550 - 600 - 650

FIELD OF USE:

° - 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)

MODEL:

H - Reversible refrigerant circuit

VERSION:

° - Standard

HEAT RECOVERY

° - Without heat recovery

D - Desuperheater

PUMPS (GEOTHERMAL SIDE)

° - Without pump

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 (SYSTEM SIDE)

° - Without pump

P - Low static pressure pump

N - High static pressure pump

FIELD NOT USED

°

SOFT START

° - Without Soft Start

S - Soft Start

POWER SUPPLY

° - 400V-3N -50 Hz

5 - 500V-3-50Hz (only models WRL400-550-600-650)

Technical Data

WRL-H model		180	200	300	400	500	550	600	650
Cooling capacity	Kw	45	59	65	79	93	120	140	157
Input power	Kw	10,96	14,83	16,47	18,68	20,23	27,69	31,44	35,97
Input current	A	20	25	28	32	36	52	60	69
Evaporator water flow rate	l/h	7740	10286	11180	13726	16030	20709	24166	27142
Evaporator pressure drop	kPa	20	37	37	55	25	40	40	50
Condenser water flow rate	l/h	9365	12453	13595	16419	19034	24780	28795	32405
Condenser pressure drop	kPa	32	55	53	76	35	58	58	73
Heating capacity	Kw	53	71	77	93	107	144	165	184
Input power	Kw	13,04	17,76	19,11	22,57	23,98	33,06	37,16	42,60
Input current	A	23	29	31	37	41	57	65	75
Condenser water flow rate	l/h	9113	12175	13154	15913	18298	24705	28247	31523
Condenser pressure drop	kPa	30	52	49	72	32	58	56	70
Evaporator water flow rate	l/h	12009	16042	17343	21229	24645	33289	38175	42437
Evaporator pressure drop	kPa	49	89	92	132	61	107	101	125
Energy index									
E.E.R.	W/W	4,09	4,01	3,93	4,24	4,59	4,33	4,45	4,36
E.S.E.E.R.	W/W	4,72	4,53	4,58	4,54	5,62	5,43	5,42	5,00
Eurovent Class	D	D	D	D	D	C	C	C	C
C.O.P.	W/W	4,08	4,01	4,03	4,13	4,46	4,37	4,44	4,33
Eurovent Class	C	C	C	C	C	A	B	B	B
Compressor									
SCROLL									
N° circuits/N° compressors		1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Capacity control	%	50/100	50/100	50/100	50/100	50/100	50/100	50/100	50/100
Geothermal side heat exchanger									
PLATES									
Hydraulic connections	ø	2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Quantity	n°	1	1	1	1	1	1	1	1
System side heat exchanger									
PLATES									
Hydraulic connections	ø	2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Quantity	n°	1	1	1	1	1	1	1	1
Desuperheater (optional)									
PLATES									
Hydraulic connections	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"
Quantity	n°	1	1	1	1	1	1	1	1
Expansion vessel (versions with pumps)									
-									
Expansion vessel (per circuit)	n°/l	1/8	1/8	1/8	1/8	1/12	1/12	1/12	1/12
Sound data (Cooling mode)									
Sound power	dB(A)	61.1	61.8	62.9	71.1	67.6	79.1	79.1	79.1
Sound pressure	dB(A)	29.1	29.8	30.9	39.1	35.6	47.1	47.1	47.1

Cooling (14511:2013)

Evaporator water temperature (in/out) 12°C/7°C; Condenser water temperature (in/out) 30°C/35°C

Heating (14511:2013)

Condenser water temperature (in/out) 40°C/45°C; Evaporator water temperature (in/out) 10°C/7°C

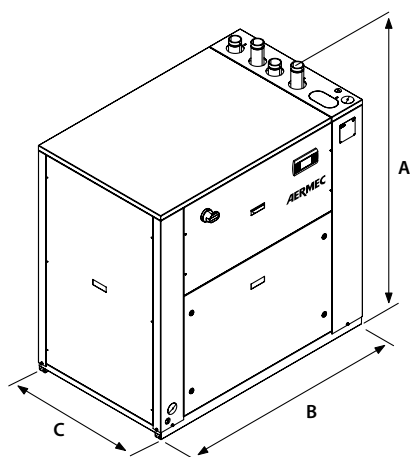
The electrical data of the versions without hydronic module integrated

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.

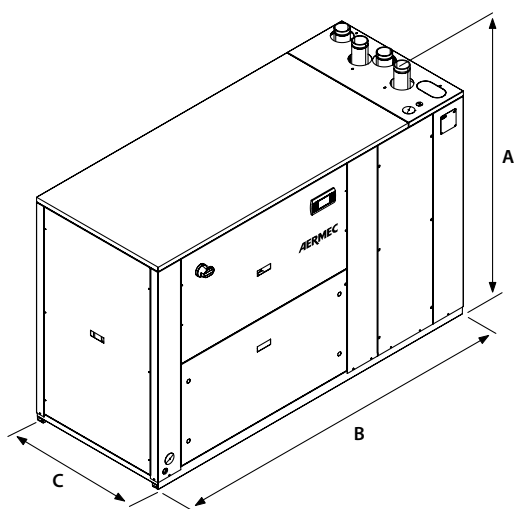
Sound pressure Sound pressure in free field, at 10 m distance from the external surface of the unit (in accordance with UNI EN ISO 3744).

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

Dimensions (mm)



WRLH 180-400



WRLH 500-650

WRLH Model		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 empty	kg	370	370	381	388	522	598	708	753