

# WWBG

## Water-water heat pumps only

Heating capacity 77,2 ÷ 138,2 kW

- Optimised to produce high temperature hot water
- Can be used with any air or water cooled heat pump
- Max. processed water temperature: 80 °C
- Max inlet temperature on source side: 45 °C



### DESCRIPTION

WWBG is a range of irreversible water-water heat pumps that produce high temperature water with a low or medium temperature source. Internal unit suitable for use in centralised residential systems, in systems that serve hotels and other forms of accommodation, and for applications in the tertiary and industrial sectors.

### FEATURES

#### Maximum energy efficiency

Aermec, which has focused for years on energy efficiency, designed the WWBG units with the aim of guaranteeing high efficiency both with full and partial loads.

#### Operating field

With its wide operating range, it can be integrated with numerous applications and is a valid alternative to boilers and all conventional systems used to produce high temperature hot water since it also uses existing systems. Production of hot water up to 80 °C (Max inlet temperature on source side 45 °C).

#### Constructional characteristics of unit

- Optimised plate heat exchangers with low pressure drops.
- 2 cooling circuits, 1 compressor per circuit.
- Scroll compressors for high condensing temperatures.
- Compact size for easier installation.

The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

#### Electronic expansion valve

The possibility to use electronic expansion valve, offers significant benefits, especially when the chiller is working with partial loads, increasing the energy efficiency of the unit.

#### R513A (XP10) refrigerant gas

Thanks to the R513A (XP10) refrigerant, the environmental impact of the units is significantly reduced.

Combining a reduced refrigerant load with a low global warming potential (GWP), these units boast low equivalent CO<sub>2</sub> values.

### CONTROL

Control unit accessible externally with touch-screen user interface, multilingual display of all operating parameters.

Optimised control logic for use with low and medium temperature heat pumps.

Complies with safety (EC) and electromagnetic compatibility directives.

**Removable slide-out electrical panel with opening side (LH/RH side) configurator option**

### ACCESSORIES

**AER485P1:** RS-485 interface for supervising systems with MODBUS protocol. 1 accessory is provided for each unit control board.

**AERBACP:** Ethernet communication interface for Bacnet/IP, Modbus TCP/IP, SNMP protocols. 1 accessory is provided for each unit control board.

**AERNET:** The device allows the control, the management and the remote monitoring of a Chiller with a PC, smartphone or tablet using Cloud connection. AERNET works as Master while every unit connected is configured as Slave (max. 6 control boards). Also, with a simple click is possible to save a log file with all the connected unit datas in the personal terminal for post analysis.

**MULTICHILLER-EVO:** Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel (max. no. 9), always ensuring constant flow rate to the evaporators.

**PGD1:** Allows you to control the unit at a distance.

**VT:** Anti-vibration supports.

**PR4:** Remote panel with LCD display and touch keyboard that allows carrying out the basic controls, the programming of time ranges and the signalling of the alarms of a single unit.

■ *The accessory PR4 should only be combined with the RS485 communication interface when the serial port is occupied by another device.*

### FACTORY FITTED ACCESSORIES

**RIF:** Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current.

## ACCESSORIES COMPATIBILITY

Model	Ver	0330	0350	0550	0600
AER485P1	L	•	•	•	•
AERBACP	L	•	•	•	•
AERNET	L	•	•	•	•
MULTICHILLER-EVO	L	•	•	•	•
PGD1	L	•	•	•	•

**MULTICHILLER\_EVO:** Contact the factory for compatibility of the accessory with the type of implant envisaged.

### Antivibration

Ver	0330	0350	0550	0600
L	VT9	VT9	VT9	VT15

### PR4

Model	Ver	0330	0350	0550	0600
PR4	L	•	•	•	•

### Power factor correction

Ver	0330	0350	0550	0600
L	RIFWWBG0330	RIFWWBG0350	RIFWWBG0550	RIFWWBG0600

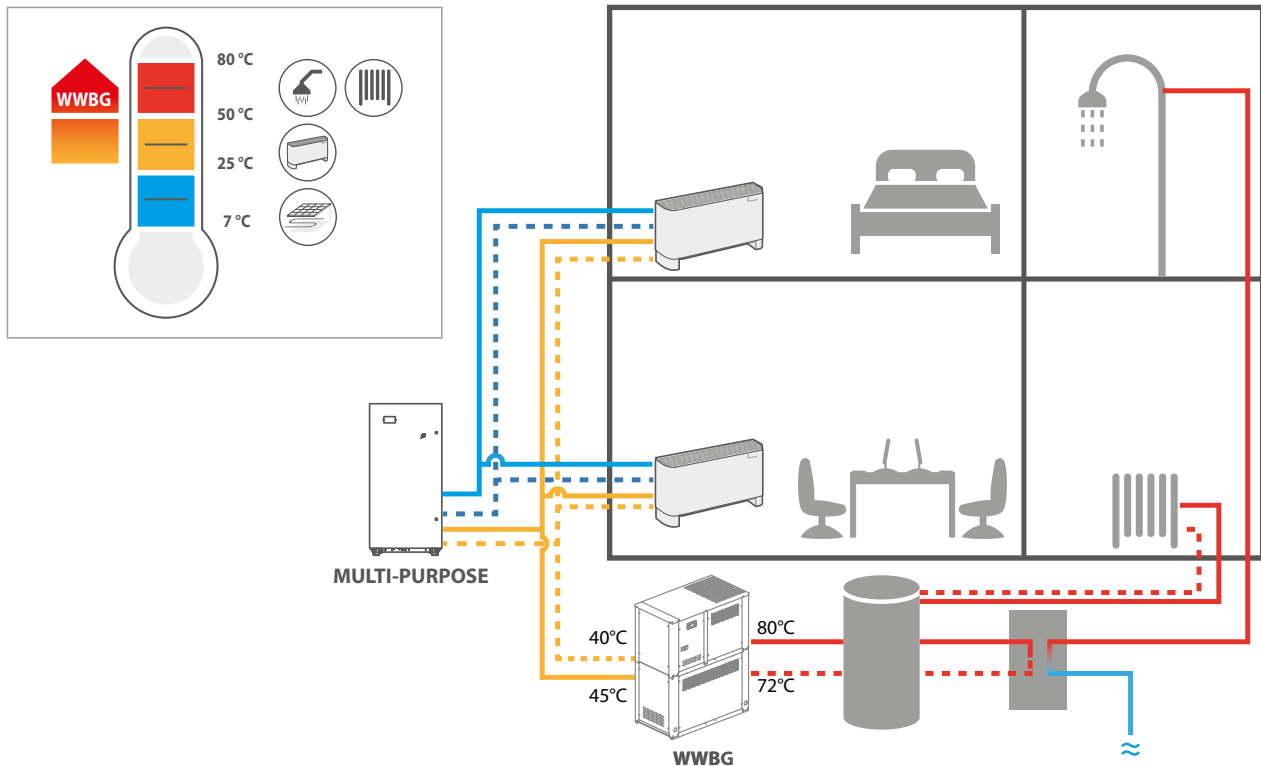
A grey background indicates the accessory must be assembled in the factory

## CONFIGURATOR

Field	Description
1,2,3,4	WWBG
5,6,7,8	Size 0330, 0350, 0550, 0600
9	Operating field
X	Standard
10	Model
H	Heat pump
11	Version
L	Silenced

Field	Description
12	Power supply
S	400V ~ 3 50Hz with Soft-Start
°	400V ~ 3 50Hz
13	Electrical panel version
R	Reverse opening (RH)
°	Standard opening (LH)
14	Leak detector
G	with leak detector
°	Without leak detector

### Example of four-pipe system



## PERFORMANCE SPECIFICATIONS

Size			0330	0350	0550	0600
<b>Heating performances (Water user side 70 °C / 78 °C; Water source side 45 °C / 40 °C) (1)</b>						
Heating capacity	L	kW	77,2	92,5	115,4	138,2
Input power	L	kW	18,4	21,9	28,0	33,6
COP	L	W/W	4,19	4,22	4,13	4,11
Water flow rate system side	L	l/h	8485	10161	12667	15166
Pressure drop system side	L	kPa	10	14	21	31
Water flow rate source side	L	l/h	10279	12336	15279	18264
Pressure drop source side	L	kPa	15	10	15	7
<b>Heating performances (Water user side 70 °C / 78 °C; Water source side 35 °C / 30 °C) (2)</b>						
Heating capacity	L	kW	63,0	75,4	94,1	112,7
Input power	L	kW	18,2	21,6	27,6	33,1
COP	L	W/W	3,46	3,49	3,41	3,40
Water flow rate system side	L	l/h	6922	8289	10334	12372
Pressure drop system side	L	kPa	6	9	14	20
Water flow rate source side	L	l/h	7806	9373	11588	13845
Pressure drop source side	L	kPa	9	6	9	4
<b>Heating performances (Water user side 47 °C / 55 °C; Water source side 10 °C / 7 °C) (3)</b>						
Heating capacity	L	kW	40,0	47,9	59,8	71,6
Input power	L	kW	11,3	13,4	17,1	20,6
COP	L	W/W	3,53	3,57	3,48	3,48
Water flow rate system side	L	l/h	4343	5200	6483	7761
Pressure drop system side	L	kPa	3	4	6	8
Water flow rate source side	L	l/h	8505	10210	12631	15094
Pressure drop source side	L	kPa	10	7	10	5

(1) Date 14511:2022; Water user side 70 °C / 78 °C; Water source side 45 °C / 40 °C

(2) Date 14511:2022; Water user side 70 °C / 78 °C; Water source side 35 °C / 30 °C

(3) Date 14511:2022; Water user side 47 °C / 55 °C; Water source side 10 °C / 7 °C

## ENERGY DATA

Size			0330	0350	0550	0600
<b>UE 813/2013 performance in average ambient conditions (average) - 55 °C - Pdesignh ≤ 400 kW (1)</b>						
Pdesignh	L	kW	51	61	76	91
ηsh	L	%	175,00	177,00	173,00	172,00
SCOP	L	W/W	4,58	4,62	4,53	4,51
Efficiency energy class	L		A+++	A+++	-	-

(1) Efficiencies for average temperature applications (55 °C)

## ELECTRIC DATA

Size			0330	0350	0550	0600
<b>Electric data</b>						
Maximum current (FLA)	L	A	40,0	46,0	60,0	72,0
Peak current (LRA)	L	A	131,0	141,0	170,0	210,0
Peak current with Soft-start	L	A	66,0	71,0	85,0	105,0

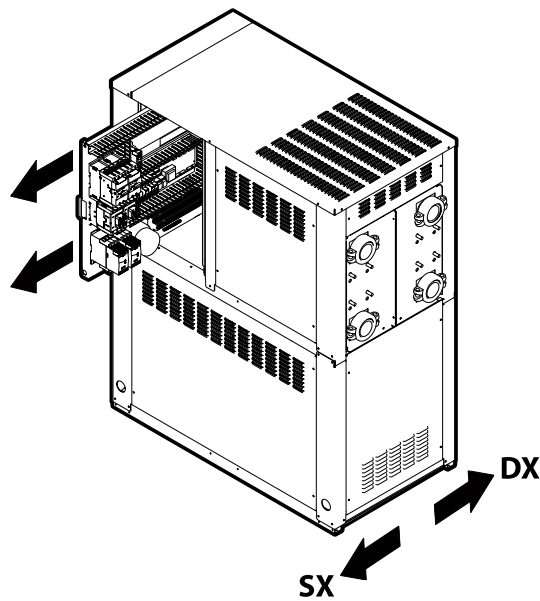
## GENERAL TECHNICAL DATA

Size			0330	0350	0550	0600
<b>Compressor</b>						
Type	L	type			Scroll	
Compressor regulation	L	Type			On-Off	
Number	L	no.	2	2	2	2
Circuits	L	no.	2	2	2	2
Refrigerant	L	type			RS13A (XP10)	
Refrigerant load circuit 1 (1)	L	kg	3,1	3,4	4,2	5,8
Refrigerant load circuit 2 (1)	L	kg	3,1	3,4	4,2	5,8
<b>Source side heat exchanger</b>						
Type	L	type			Brazed plate	
Number	L	no.	1	1	1	1
Connections (in/out)	L	Type			Grooved joints	
Sizes (in/out)	L	Ø			2"	
<b>System side heat exchanger</b>						
Type	L	type			Brazed plate	
Number	L	no.	1	1	1	1
Connections (in/out)	L	Type			Grooved joints	
Sizes (in/out)	L	Ø			2"	
<b>Sound data calculated in heating mode (2)</b>						
Sound power level	L	dB(A)	71,8	71,8	76,1	78,3
Sound pressure level (10 m)	L	dB(A)	40,2	40,2	44,5	46,7
Sound pressure level (1 m)	L	dB(A)	55,7	55,7	60,0	62,2

(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

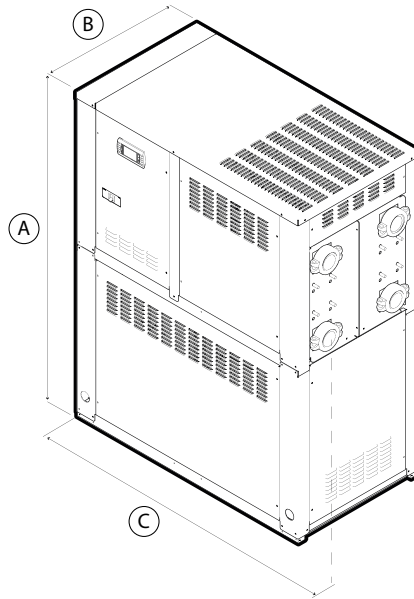
(2) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification. Sound pressure (cold functioning) measured in free field, 10m away from the unit external surface (in compliance with UNI EN ISO 3744).

### Removal of electrical panel



Electrical panel version	Configurator option
Sx - LH side	° (Standard)
Dx - RH side	R

## DIMENSIONS



Size			0330	0350	0550	0600
<b>Dimensions and weights</b>						
A	L	mm	1650	1650	1650	1650
B	L	mm	710	710	710	710
C	L	mm	1300	1300	1300	1300
<b>Weights</b>						
Weight empty + packaging	L	kg	430	445	455	500
Weight functioning	L	kg	430	445	460	510

Aermec reserves the right to make any modifications deemed necessary. All data is subject to change without notice. Aermec does not assume responsibility or liability for errors or omissions.

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