WWB 0300-0900

Water-water heat pumps only

Heating capacity 56,7 ÷ 265,9 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

WWB 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 WWB 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.

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.
AERBAC-ONE: Ethernet communication interface for Bacnet/IP and Modbus TCP/IP protocols, HTTPS protocol for web interface, encrypted communication protocols and access credential management in accordance with the latest standards. One accessory is provided for each unit control board.
AERBACP: Ethernet communication interface for Bacnet/IP and Modbus TCP/IP protocols. 1 accessory is provided for each unit control board.
AERNET: The device remotely controls, manages and remotely monitors a chiller/heat pump using a PC, smartphone or table via a Cloud connection. AERNET acts as Master while each connected unit is configured as Slave up to a maximum of 6 control cards. The connection is made via cable and/or USB key. Wi-Fi connectivity is not available. It is also possible to save a log file with all the data from the connected units to your terminal with a simple click for possible post-analysis. With the purchase of the Router, the Customer benefits from a 24-month free period during which he can use the Aernet Service at no additional cost. At the end of this initial period, the Service may be renewed by subscribing to a 1, 2 or 3 year subscription. For further details on costs and renewal methods, please contact our office or consult the technical documentation available on our website. www.aermec.com.
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.
SGD: Electronic expansion that enables connecting to the photovoltaic system and heat pumps to accumulate heat in the DHW tank or in the heating system during the photovoltaic production phase and release it at times when heating demand is highest.
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	0300	0330	0350	0550	0600	0700	0800	0900
AER485P1	L	•	•	•	•	•	•	•	•
AERBAC-ONE	L	•	•	•	•	•	•	•	•
AERBACP	L	•	•	•	•	•	•	•	•
AERNET	L	•	•	•	•	•	•	•	•
MULTICHILLER-EVO	L	•	•	•	•	•	•	•	•
PGD1	L	•	•	•	•	•	•	•	•
SGD	L	•	•	•	•	•	•	•	•

MULTICHILLER_EVO: Contact the factory for compatibility of the accessory with the type of implant envisaged.

Antivibration

Ver	0300	0330	0350	0550	0600	0700	0800	0900
L	VT9	VT9	VT9	VT9	VT15	VT15	VT15	VT15

Power factor correction

Ver	0300	0330	0350	0550	0600	0700	0800	0900
L	RIFWWB0300	RIFWWB0330	RIFWWB0350	RIFWWB0550	RIFWWB0600	RIFWWB0700	RIFWWB0800	RIFWWB0900

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

PR4

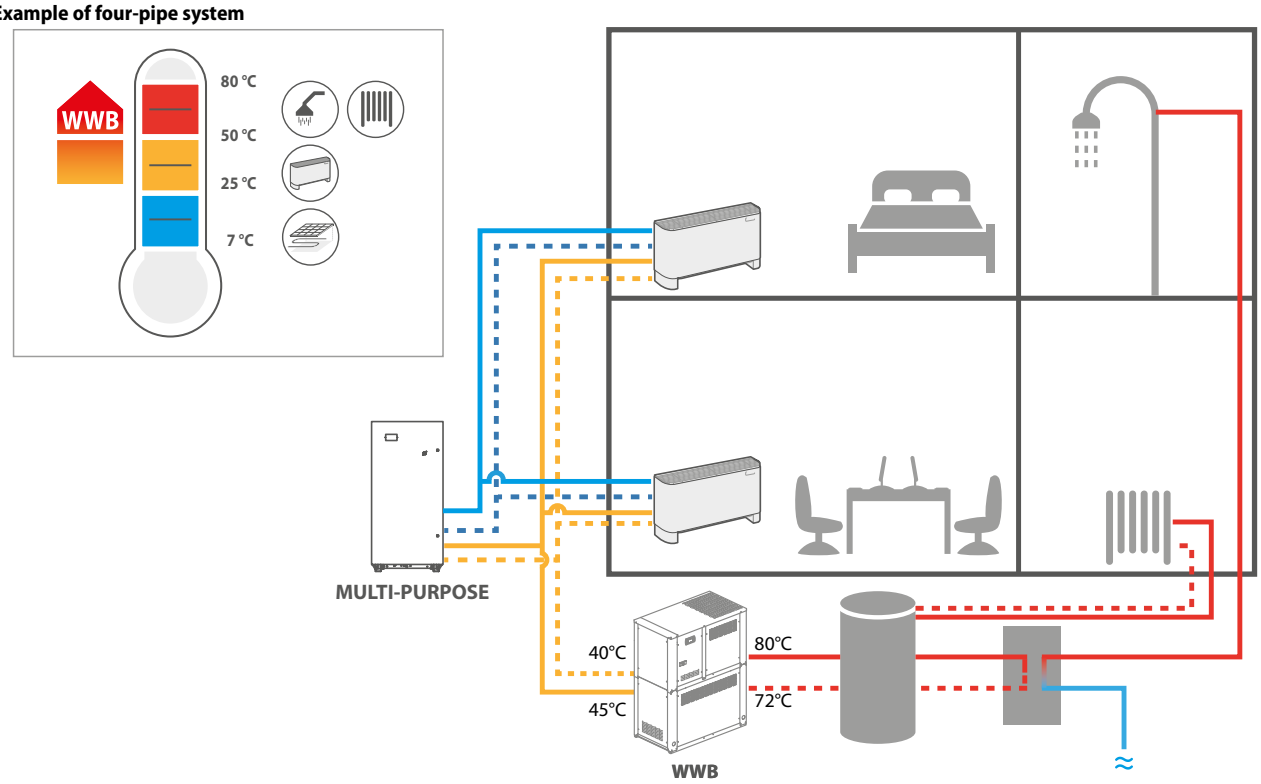
Model	Ver	0300	0330	0350	0550	0600	0700	0800	0900
PR4	L	•	•	•	•	•	•	•	•

CONFIGURATOR

Field	Description
1,2,3	**WWB**
4,5,6,7	**Size** 0300, 0330, 0350, 0550, 0600, 0700, 0800, 0900
8	**Operating field (1)**
X	Standard
9	**Model**
H	Heat pump
10	**Version**
L	Silenced
11	**Power supply**
S	400V ~ 3 50Hz with Soft-Start
°	400V ~ 3 50Hz
12	**Electrical panel version**
R	Reverse opening (RH)
°	Standard opening (LH)

(1) Evaporator water up to +5°C. Electronic thermostatic valve as standard.

Example of four-pipe system



PERFORMANCE SPECIFICATIONS

Size		0300	0330	0350	0550	0600	0700	0800	0900
Heating performances (Water user side 70 °C / 78 °C; Water source side 45 °C / 40 °C) (1)									
Heating capacity	kW	70,3	77,7	93,2	114,6	143,7	181,7	220,5	265,9
Input power	kW	16,6	18,0	21,6	27,7	34,7	44,3	55,4	66,4
Heating total input current	A	28,50	30,00	36,10	46,30	60,60	71,00	88,90	104,30
COP	W/W	4,22	4,31	4,33	4,14	4,14	4,11	3,98	4,00
Water flow rate system side	l/h	7.721	8.537	10.243	12.592	15.787	19.973	24.229	29.221
Pressure drop system side	kPa	18	22	31	21	33	24	35	24
Water flow rate source side	l/h	9.339	10.400	12.491	15.141	18.986	23.950	28.791	34.785
Pressure drop source side	kPa	12	15	10	15	8	12	16	23
Heating performances (Water user side 70 °C / 78 °C; Water source side 35 °C / 30 °C) (2)									
Heating capacity	kW	56,7	62,6	75,2	92,4	115,9	146,5	177,8	214,4
Input power	kW	16,3	17,6	21,0	27,0	33,9	43,2	54,0	64,7
Heating total input current	A	28,00	29,40	35,40	45,40	59,50	29,70	87,30	102,40
COP	W/W	3,48	3,56	3,58	3,42	3,42	3,39	3,29	3,31
Water flow rate system side	l/h	6.228	6.886	8.262	10.157	12.734	16.110	19.543	23.570
Pressure drop system side	kPa	12	14	20	14	22	15	23	16
Water flow rate source side	l/h	7.008	7.820	9.396	11.340	14.221	17.924	21.486	25.974
Pressure drop source side	kPa	7	9	6	8	4	7	9	13
Heating performances (Water user side 47 °C / 55 °C; Water source side 10 °C / 7 °C) (3)									
Heating capacity	kW	35,6	39,4	47,3	58,1	72,9	92,2	111,8	134,8
Input power	kW	9,8	10,6	12,7	16,3	20,4	26,1	32,6	39,1
Input current	A	16,9	17,8	21,4	27,4	35,9	42,1	52,7	61,8
COP	W/W	3,62	3,71	3,73	3,56	3,57	3,53	3,43	3,45
Water flow rate system side	l/h	3.881	4.291	5.148	6.329	7.935	10.039	12.178	14.688
Pressure drop system side	kPa	5	6	8	8	8	6	9	6
Water flow rate source side	l/h	7.405	8.259	9.923	11.988	15.034	18.952	22.733	27.478
Pressure drop source side	kPa	8	10	6	9	5	7	10	15

(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		0300	0330	0350	0550	0600	0700	0800	0900
Performance in average ambient conditions (average) - 55 °C (1)									
Pdesignh	kW	46,00	51,00	61,00	76,00	95,00	120,00	145,00	175,00
SCOP	W/W	4,60	4,70	4,70	4,58	4,55	4,55	4,43	4,48
ηsh	%	176,00	180,00	180,00	175,00	174,00	174,00	169,00	171,00
Water Regulation (2)	type	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW

(1) Efficiencies for average temperature applications (55 °C)
(2) VW/VO - variable water flow rate/variable outlet temperature; FW/VO - fixed water flow rate/variable outlet temperature; VW/FO - variable water flow rate/fixed outlet temperature; FW/FO - fixed water flow rate/fixed outlet temperature.

ELECTRIC DATA

Size		0300	0330	0350	0550	0600	0700	0800	0900
Power supply: S									
Electric data									
Maximum current (FLA)	A	30,9	32,2	38,2	50,2	64,6	79,8	94,6	113,7
Peak current (LRA)	A	53,4	60,5	66,3	81,1	101,9	129,9	156,1	180,9

Size		0300	0330	0350	0550	0600	0700	0800	0900
Power supply: °									
Electric data									
Maximum current (FLA)	A	30,9	32,2	38,2	50,2	64,6	79,8	94,6	113,7
Peak current (LRA)	A	110,4	127,1	137,1	165,1	206,3	264,9	319,3	366,9

GENERAL TECHNICAL DATA

Refrigerant circuit

Size		0300	0330	0350	0550	0600	0700	0800	0900
Compressor									
Type	type	Scroll							
Compressor regulation	Type	On-Off							
Number	no.	2	2	2	2	2	2	2	2
Circuits	no.	2	2	2	2	2	2	2	2
Refrigerant	type	R134a							
Total refrigerant charge (1)	kg	5,60	5,60	7,10	8,70	12,80	15,20	15,80	19,60
Potential global heating (GWP)		1430							
Equivalent CO_2	tCO_2eq	8,00	8,00	10,15	12,44	18,30	21,73	22,59	28,02

(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.

System side heat exchanger

Size		0300	0330	0350	0550	0600	0700	0800	0900
System side heat exchanger									
Type	type	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate
Number	no.	1	1	1	1	1	1	1	1
Connections (in/out)	Type	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints
Sizes (in/out)	Ø	2″	2″	2″	2″	2″	2″1/2	2″1/2	2″1/2

Source side heat exchanger

Size		0300	0330	0350	0550	0600	0700	0800	0900
Source side heat exchanger									
Type	type	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate
Number	no.	1	1	1	1	1	1	1	1
Connections (in/out)	Type	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints
Sizes (in/out)	Ø	2″	2″	2″	2″	2″	2″1/2	2″1/2	2″1/2

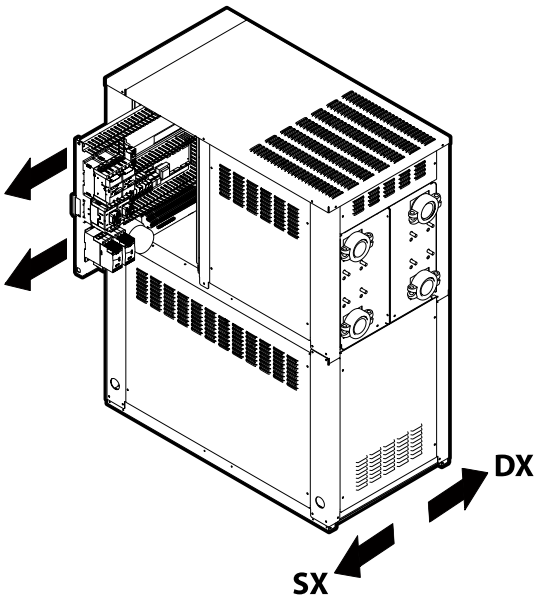
Sound data

Size		0300	0330	0350	0550	0600	0700	0800	0900
Sound data calculated in cooling mode (1)									
Sound power level	dB(A)	71,8	71,8	71,8	75,1	78,3	79,3	80,4	82,4

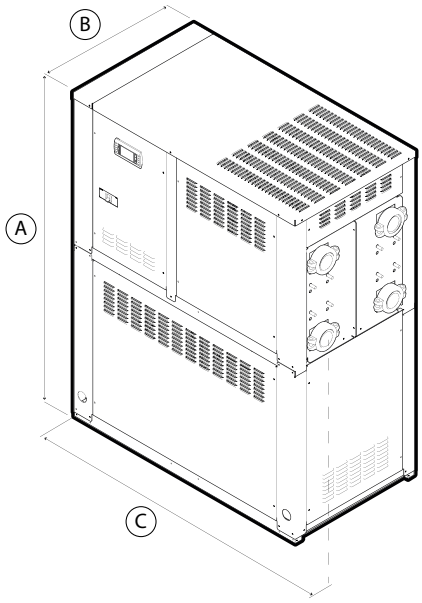
(1) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification. Sound pressure (cold functioning) measured in free field, 10m away from the unit external surface (in compliance with UNI EN ISO 3744).

DIMENSIONS

Removal of electrical panel



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



Size		0300	0330	0350	0550	0600	0700	0800	0900
Dimensions and weights									
A	mm	1.650	1.650	1.650	1.650	1.650	1.650	1.650	1.650
B	mm	710	710	710	710	710	710	710	710
C	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
Weights									
Weight empty + packaging	kg	420	425	440	455	500	715	760	820
Weight functioning	kg	415	420	440	460	510	730	775	840

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