

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.

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 | 0300 | 0330 | 0350 | 0550 | 0600 | 0700 | 0800 | 0900 |
|------------------|-----|------|------|------|------|------|------|------|------|
| 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 | 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 | . | . | . | . | . | . | . | . |

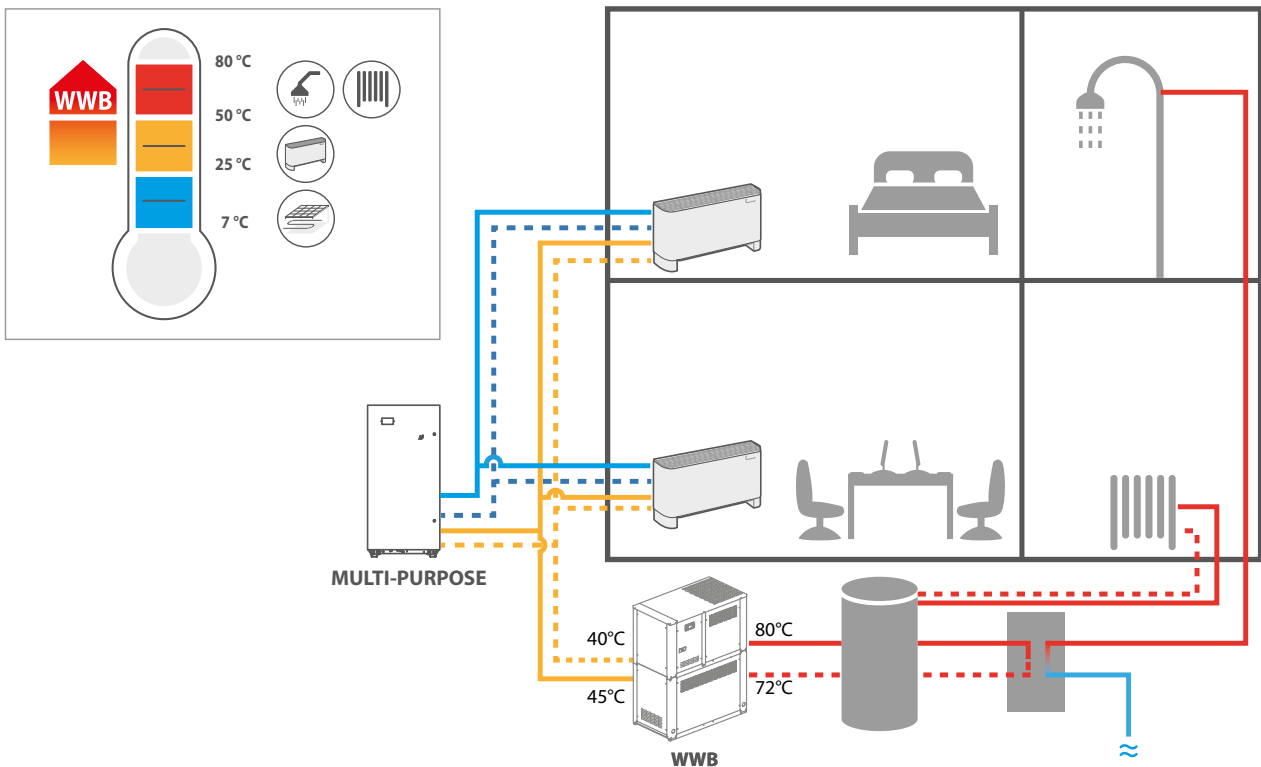
CONFIGURATOR

| 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 |

| Field | Description |
|-------|---------------------------------|
| 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 | L | kW | 70,3 | 77,7 | 93,2 | 114,6 | 143,7 | 181,7 | 220,5 | 265,9 |
| Input power | L | kW | 16,7 | 18,0 | 21,6 | 27,7 | 34,7 | 44,3 | 55,4 | 66,4 |
| Heating total input current | L | A | 29,0 | 30,0 | 36,0 | 46,0 | 61,0 | 71,0 | 89,0 | 104,0 |
| COP | L | W/W | 4,22 | 4,31 | 4,33 | 4,14 | 4,14 | 4,11 | 3,98 | 4,00 |
| Water flow rate system side | L | l/h | 7721 | 8537 | 10243 | 12592 | 15787 | 19973 | 24229 | 29221 |
| Pressure drop system side | L | kPa | 18 | 22 | 31 | 21 | 33 | 24 | 35 | 24 |
| Water flow rate source side | L | l/h | 9339 | 10400 | 12491 | 15141 | 18986 | 23950 | 28791 | 34785 |
| Pressure drop source side | L | 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 | L | kW | 56,7 | 62,7 | 75,2 | 92,4 | 115,9 | 146,5 | 177,8 | 214,4 |
| Input power | L | kW | 16,3 | 17,6 | 21,0 | 27,0 | 33,9 | 43,2 | 54,0 | 64,7 |
| Heating total input current | L | A | 28,0 | 29,0 | 35,0 | 45,0 | 59,0 | 70,0 | 87,0 | 102,0 |
| COP | L | W/W | 3,48 | 3,56 | 3,58 | 3,42 | 3,42 | 3,39 | 3,29 | 3,31 |
| Water flow rate system side | L | l/h | 6228 | 6886 | 8262 | 10157 | 12734 | 16110 | 19543 | 23570 |
| Pressure drop system side | L | kPa | 12 | 14 | 20 | 14 | 22 | 15 | 23 | 16 |
| Water flow rate source side | L | l/h | 7008 | 7820 | 9396 | 11340 | 14221 | 17924 | 21486 | 25974 |
| Pressure drop source side | L | 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 | L | kW | 35,6 | 39,4 | 47,3 | 58,1 | 72,9 | 92,2 | 111,8 | 134,8 |
| Input power | L | kW | 9,8 | 10,6 | 12,7 | 16,3 | 20,4 | 26,1 | 32,6 | 39,1 |
| Input current | L | A | 16,9 | 17,8 | 21,4 | 27,4 | 35,9 | 42,1 | 52,7 | 61,8 |
| COP | L | W/W | 3,62 | 3,71 | 3,73 | 3,56 | 3,57 | 3,53 | 3,43 | 3,45 |
| Water flow rate system side | L | l/h | 3881 | 4291 | 5148 | 6329 | 7935 | 10039 | 12178 | 14688 |
| Pressure drop system side | L | kPa | 5 | 6 | 8 | 8 | 8 | 6 | 9 | 6 |
| Water flow rate source side | L | l/h | 7405 | 8259 | 9923 | 11988 | 15034 | 18952 | 22733 | 27478 |
| Pressure drop source side | L | 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 |
|--|---|-----|--------|--------|--------|--------|--------|--------|--------|--------|
| UE 813/2013 performance in average ambient conditions (average) - 55 °C - Pdesignh ≤ 400 kW (1) | | | | | | | | | | |
| Pdesignh | L | kW | 46 | 51 | 61 | 76 | 95 | 120 | 145 | 175 |
| ηsh | L | % | 176,00 | 180,00 | 180,00 | 175,00 | 174,00 | 174,00 | 169,00 | 175,00 |
| SCOP | L | W/W | 4,60 | 4,70 | 4,70 | 4,58 | 4,55 | 4,55 | 4,43 | 4,48 |
| Efficiency energy class | L | | A++ | A++ | A++ | - | - | - | - | - |

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

ELECTRIC DATA

| Size | | | 0300 | 0330 | 0350 | 0550 | 0600 | 0700 | 0800 | 0900 |
|------------------------|---|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Power supply: S | | | | | | | | | | |
| Electric data | | | | | | | | | | |
| Maximum current (FLA) | L | A | 30,9 | 32,2 | 38,2 | 50,2 | 64,6 | 79,8 | 94,6 | 113,7 |
| Peak current (LRA) | L | A | 53,4 | 60,5 | 66,3 | 81,1 | 101,9 | 129,9 | 156,1 | 180,9 |
| Power supply: ° | | | | | | | | | | |
| Electric data | | | | | | | | | | |
| Maximum current (FLA) | L | A | 30,9 | 32,2 | 38,2 | 50,2 | 64,6 | 79,8 | 94,6 | 113,7 |
| Peak current (LRA) | L | A | 110,4 | 127,1 | 137,1 | 165,1 | 206,3 | 264,9 | 319,3 | 366,9 |

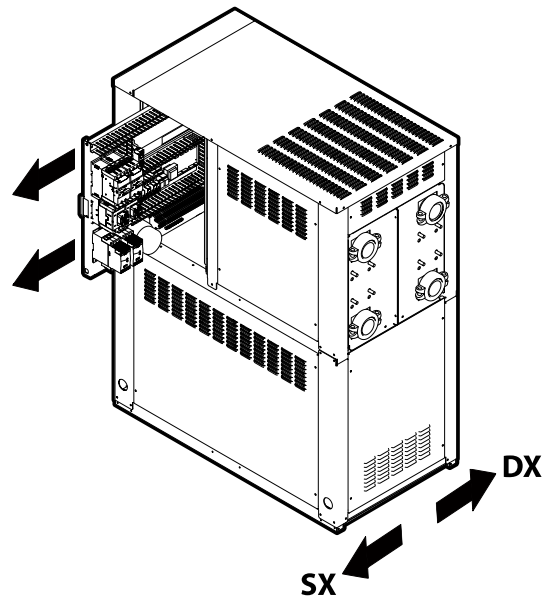
GENERAL TECHNICAL DATA

| Size | | | 0300 | 0330 | 0350 | 0550 | 0600 | 0700 | 0800 | 0900 |
|--|---|-------|------|------|------|------|----------------|--------|--------|--------|
| Compressor | | | | | | | | | | |
| Type | L | type | | | | | Scroll | | | |
| Compressor regulation | L | Type | | | | | On-Off | | | |
| Number | L | no. | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Circuits | L | no. | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Refrigerant | L | type | | | | | R134a | | | |
| Refrigerant load circuit 1 (1) | L | kg | 2,8 | 2,8 | 3,6 | 4,4 | 6,5 | 7,7 | 8,0 | 9,9 |
| Refrigerant load circuit 2 (1) | L | kg | 2,8 | 2,8 | 3,5 | 4,3 | 6,3 | 7,5 | 7,8 | 9,7 |
| Source side heat exchanger | | | | | | | | | | |
| Type | L | type | | | | | Brazed plate | | | |
| Number | L | no. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Connections (in/out) | L | Type | | | | | Grooved joints | | | |
| Sizes (in/out) | L | Ø | 2" | 2" | 2" | 2" | 2" | 2" 1/2 | 2" 1/2 | 2" 1/2 |
| System side heat exchanger | | | | | | | | | | |
| Type | L | type | | | | | Brazed plate | | | |
| Number | L | no. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Connections (in/out) | L | Type | | | | | Grooved joints | | | |
| Sizes (in/out) | L | Ø | 2" | 2" | 2" | 2" | 2" | 2" 1/2 | 2" 1/2 | 2" 1/2 |
| Sound data calculated in cooling mode (2) | | | | | | | | | | |
| Sound power level | L | dB(A) | 71,8 | 71,8 | 71,8 | 75,1 | 78,3 | 79,3 | 80,4 | 82,4 |
| Sound pressure level (10 m) | L | dB(A) | 40,2 | 40,2 | 40,2 | 43,5 | 46,7 | 47,7 | 48,9 | 50,9 |

(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.

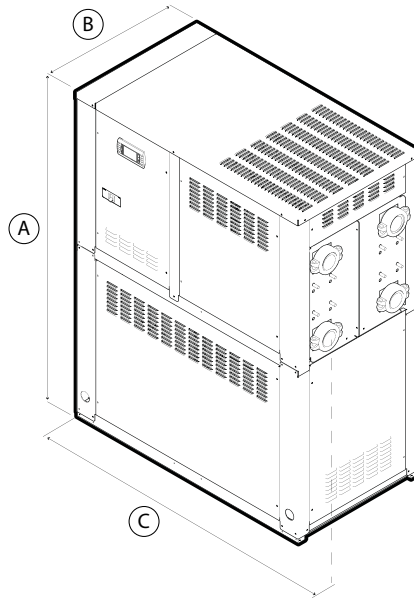
(2) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification. Sound pressure (cold functioning) measured in free field, 10m away from the unit external surface (in compliance with UNI EN ISO 3744).

Removal of electrical panel



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

DIMENSIONS



| Size | | | 0300 | 0330 | 0350 | 0550 | 0600 | 0700 | 0800 | 0900 |
|-------------------------------|---|----|------|------|------|------|------|------|------|------|
| Dimensions and weights | | | | | | | | | | |
| A | L | mm | 1650 | 1650 | 1650 | 1650 | 1650 | 1650 | 1650 | 1650 |
| B | L | mm | 710 | 710 | 710 | 710 | 710 | 710 | 710 | 710 |
| C | L | mm | 1300 | 1300 | 1300 | 1300 | 1300 | 1300 | 1300 | 1300 |
| Weights | | | | | | | | | | |
| Weight empty + packaging | L | kg | 420 | 425 | 440 | 455 | 500 | 715 | 760 | 820 |
| Weight functioning | L | kg | 415 | 420 | 440 | 460 | 510 | 730 | 775 | 840 |

Aermec reserves the right to make any modifications deemed necessary.
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