

Daikin Altherma low temperature split Technical data book

EHBH-E6V /
EHBH-E9W /
EHBX-E6V /
EHBX-E9W



EHBH04EA6V
EHBH08EA6V
EHBH08EA9W
EHBX04EA6V
EHBX08EA6V
EHBX08EA9W

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EHBH-E6V / EHBH-E9W / EHBX-E6V / EHBX-E9W

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1 Features

1 - 1 EHBX-E9W, EHBH-E9W, EHBX-E6V, EHBH-E6V

Wall mounted reversible air to water heat pump ideal for low energy houses

1

- › W-LAN Adapter connection
- › PCB board and hydraulic components are located in the front for easy access
- › Compact dimensions allows for small installation space, as almost no side clearances are required.
- › The unit's sleek design blends in with other household appliances.
- › Combine with a stainless steel tank or ECH2O thermal store.



Daikin
Residential
Controller



Online
controller

2 Specifications

1 - 1 EHBX-E9W, EHBH-E9W, EHBX-E6V, EHBH-E6V

Technical specifications				EHBH04E6V	EHBH08E6V	
Heater capacity	Step 1		kW	2		
	Step 2		kW	2 or 4		
Power input	Nom.		kW	0.09		
Casing	Colour			White + Black		
	Material			Resin, sheet metal		
Dimensions	Unit	Height	mm	840		
		Width	mm	440		
		Depth	mm	390		
	Packed unit	Height	mm	450		
		Width	mm	650		
		Depth	mm	1,016		
Weight	Unit		kg	42.0		
	Packed unit		kg	46		
Packing	Material			Carton / PP (Straps) / EPS		
	Weight		kg	4		
PED	Category			Art4.3 / See note 7		
	Most critical part	Name Ps*V	Bar*l	Plate heat exchanger 38		
	Refrigerant side heat exchanger	Type		Plate heat exchanger		
Pump	Quantity			1		
	Plates	Quantity		42		
Water side Heat exchanger	Nr of speeds			PWM		
	Power input		W	52		
Expansion vessel	Type			Plate heat exchanger		
	Quantity			1		
	Plates	Quantity		42		
	Water volume		l	0.95		
	Water flow rate	Min.	l/min	12.0 (1)		
Water filter	Volume		l	10		
	Max. water pressure		bar	3		
	Pre pressure		bar	1		
General	Diameter perforations		mm	0.8		
	Material			Stainless steel / Plastic		
Supplier/Manufacturer details	Name or trademark			Daikin Europe N.V.		
	Name and address			Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium		
Water circuit	Piping connections diameter		inch	G 1" (female)		
Water circuit	Piping material			Cu		
	Internal piping diameter		inch	1"		
	Piping		inch	1"		
	Safety valve		bar	3		
	Manometer			Digital		
	Drain valve / fill valve			Yes		
	Shut off valve			Yes		
	Air purge valve			Yes		
	Total water volume		l	3.2		
	Minimum water volume in the system for heating		l	10 (2)		
	Refrigerant circuit	Gas side diameter		mm	15.9	
		Liquid side diameter		mm	6.35	
Sound power level	Nom.		dB(A)	42 (3)		
Sound pressure level	Nom.		dB(A)	28 (4)		
Operation range	Heating	Ambient	Min.	°C	0 (5)	
			Max.	°C	0 (5)	
		Water side	Min.	°C	0 (5)	
			Max.	°C	0 (5)	
	Indoor installation	Ambient	Min.	°CDB	5	
			Max.	°CDB	35	
	Domestic hot water	Ambient	Min.	°CDB	0 (5)	
			Max.	°CDB	0 (5)	
		Water side	Min.	°C	0 (5)	
			Max.	°C	0 (5)	
Safety devices	Item	01		Thermal cut out		
Electrical specifications				EHBH04E6V	EHBH08E6V	
Power supply	Name			See note 8		
	Voltage range	Min.	%	-10		
		Max.	%	10		
IP class	IP			IP X0B		

2 Specifications

1 - 1 EHBX-E9W, EHBH-E9W, EHBX-E6V, EHBH-E6V

2

Electrical specifications			EHBH04E6V	EHBH08E6V	
Electric heater supply	Name		6V3		
	Phase		1~ / 3~		
	Frequency	Hz	50		
	Voltage	V	230		
	Current	Maximum running current	A	26.0	
	Recommended fuses		A	20.000 (6)	
Wiring connections	Communication cable	Quantity	3		
		Remark	1.5 mm ²		
	Electric meter	Quantity	2		
		Remark	Minimum 0.75 mm ² (5VDC pulse detection)		
	Preferential kWh rate power supply	Quantity	Power: 2		
		Remark	Power 6.3A (Select diameter and type according to national and local regulations)		
	Domestic hot water pump	Quantity	2		
		Remark	Minimum 0.75 mm ² (2A inrush, 1A continuous)		
	For power supply back-up heater	Quantity	Prewired		
		Remark	Select diameter & type according to national & local regulations		
	For connection with R6T	Quantity	2		
		Remark	Minimum 0.75 mm ²		
	For connection with A3P	Quantity	Depends on thermostat type, cf. installation manual		
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm ² / See note 9		
	For connection with M2S	Quantity	2		
	Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm ² / See note 9			
For connection with optional FWXV* (demand	Quantity	4			
	Remark	100 mA, minimum 0.75 mm ²			

(1) Operation area is extended to lower flow rates only in case the unit operates with heat pump only. (Not in startup, no BUH operation, no defrost operation). |

(2) Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |

(3) DBB/WB 7°C/6°C - LWC 35°C (DT=5°C) |

(4) Sound values are measured in a semi-anechoic room. Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings. Sound power level is an absolute value that a so |

(5) For more details, see operation range drawing |

(6) 4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |

(7) PED unit category: Art3S3: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC |

(8) Above mentioned power supply for control box is for booster heater only. The switchbox of the controller box is supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply. |

(9) Select diameter and type according to national and local regulations

Technical specifications			EHBH08E9W	
Heater capacity	Step 1	kW	3	
	Step 2	kW	max. 6 kW	
Power input	Nom.	kW	0.09	
	Colour		White + Black	
Casing	Material		Resin, sheet metal	
	Dimensions	Unit	Height	mm
		Width	mm	440
		Depth	mm	390
Packed unit	Height	mm	450	
	Width	mm	650	
	Depth	mm	1,016	
Weight	Unit	kg	42.4	
	Packed unit	kg	46	
Packing	Material		Carton / PP (Straps) / EPS	
	Weight	kg	4	
PED	Category		Art4.3 / See note 7	
	Most critical part	Name Ps*V	Bar*l	Plate heat exchanger
				38
Refrigerant side heat exchanger	Type		Plate heat exchanger	
	Quantity		1	
Pump	Plates	Quantity	42	
	Nr of speeds		PWM	
Water side Heat exchanger	Power input	W	52	
	Type		Plate heat exchanger	
	Quantity		1	
	Plates	Quantity	42	
	Water volume	l	0.95	
Expansion vessel	Water	Min. flow rate	l/min	12.0 (1)
	Volume	l	10	
Water filter	Max. water pressure	bar	3	
	Pre pressure	bar	1	
	Diameter perforations	mm	0.8	
	Material		Stainless steel / Plastic	

2 Specifications

1 - 1 EHBX-E9W, EHBH-E9W, EHBX-E6V, EHBH-E6V

Technical specifications				EHBH08E9W	
General	Supplier/Manufacturer details	Name or trademark Name and address		Daikin Europe N.V. Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	
	Water circuit	Piping connections diameter	inch	G 1" (female)	
Water circuit	Piping material			Cu	
	Internal piping diameter	inch		1"	
	Piping	inch		1"	
	Safety valve	bar		3	
	Manometer			Digital	
	Drain valve / fill valve			Yes	
	Shut off valve			Yes	
	Air purge valve			Yes	
	Total water volume	l		3.2	
	Minimum water volume in the system for heating	l		10 (2)	
Refrigerant circuit	Gas side diameter	mm		15.9	
	Liquid side diameter	mm		6.35	
Sound power level	Nom.	dB(A)		42 (3)	
Sound pressure level	Nom.	dB(A)		28 (4)	
Operation range	Heating	Ambient	Min.	°C	0 (5)
			Max.	°C	0 (5)
		Water side	Min.	°C	0 (5)
			Max.	°C	0 (5)
	Indoor installation	Ambient	Min.	°CDB	5
			Max.	°CDB	35
		Domestic hot water	Min.	°CDB	0 (5)
			Max.	°CDB	0 (5)
	Water side	Min.	°C	0 (5)	
		Max.	°C	0 (5)	
Safety devices	Item	01	Thermal cut out		

Electrical specifications				EHBH08E9W	
Power supply	Name			See note 8	
	Voltage range	Min.	%	-10	
Max.		%	10		
IP class	IP			IP X0B	
Electric heater	Power supply	Name			9W
		Phase			3~
		Frequency	Hz	50	
	Current	Voltage	V	400	
		Maximum running current	A	13.0	
		Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12
Recommended fuses	A			20.000 (6)	
Wiring connections	Communication cable	Quantity			3
		Remark			1.5 mm ²
	Electric meter	Quantity			2
		Remark			Minimum 0.75 mm ² (5VDC pulse detection)
	Preferential kWh rate power supply	Quantity			Power: 2
		Remark			Power 6.3A (Select diameter and type according to national and local regulations)
	Domestic hot water pump	Quantity			2
		Remark			Minimum 0.75 mm ² (2A inrush, 1A continuous)
	For power supply back-up heater	Quantity			Prewired
		Remark			Select diameter & type according to national & local regulations
	For connection with R6T	Quantity			2
		Remark			Minimum 0.75 mm ²
	For connection with A3P	Quantity			Depends on thermostat type, cf. installation manual
		Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm ² / See note 9
For connection with M2S	Quantity			2	
	Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm ² / See note 9	
For connection with optional FWXV* (demand	Quantity			4	
	Remark			100 mA, minimum 0.75 mm ²	

- (1) Operation area is extended to lower flow rates only in case the unit operates with heat pump only. (Not in startup, no BUH operation, no defrost operation). |
- (2) Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |
- (3) DB/WB 7°C/6°C - LWC 35°C (DT=5°C) |
- (4) Sound values are measured in a semi-anechoic room. Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings. Sound power level is an absolute value that is so |
- (5) For more details, see operation range drawing |
- (6) 4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |
- (7) PED unit category: Art353: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC |
- (8) Above mentioned power supply for control box is for booster heater only. The switchbox of the controller box is supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply. |
- (9) Select diameter and type according to national and local regulations

2 Specifications

1 - 1 EHBX-E9W, EHBH-E9W, EHBX-E6V, EHBH-E6V

2

Technical specifications					EHBX04E6V	EHBX08E6V	
Heater capacity	Step 1			kW		2	
	Step 2			kW		2 or 4	
Power input	Nom.			kW		0.09	
Casing	Colour					White + Black	
	Material					Resin, sheet metal	
Dimensions	Unit	Height		mm		840	
		Width		mm		440	
		Depth		mm		390	
	Packed unit	Height		mm		450	
		Width		mm		650	
		Depth		mm		1,016	
Weight	Unit			kg		42.0	
	Packed unit			kg		46	
Packing	Material					Carton / PP (Straps) / EPS	
	Weight			kg		4	
PED	Category					Art4.3 / See note 7	
	Most critical part	Name				Plate heat exchanger	
		Ps*V		Bar*l			38
Refrigerant side heat exchanger	Type					Plate heat exchanger	
	Quantity					1	
	Plates	Quantity				42	
Pump	Nr of speeds					PWM	
	Power input			W		52	
Water side Heat exchanger	Type					Plate heat exchanger	
	Quantity					1	
	Plates	Quantity				42	
	Water volume			l		0.95	
	Water flow rate	Min.		l/min		12.0 (1)	
Expansion vessel	Volume			l		10	
	Max. water pressure			bar		3	
	Pre pressure			bar		1	
Water filter	Diameter perforations			mm		0.8	
	Material					Stainless steel / Plastic	
General	Supplier/Manufacturer details	Name or trademark				Daikin Europe N.V.	
		Name and address				Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	
Water circuit	Piping connections diameter			inch		G 1" (female)	
Water circuit	Piping material					Cu	
	Internal piping diameter			inch		1"	
	Piping			inch		1"	
	Safety valve			bar		3	
	Manometer					Digital	
	Drain valve / fill valve					Yes	
	Shut off valve					Yes	
	Air purge valve					Yes	
	Total water volume			l		3.2	
	Minimum water volume in the system for cooling			l		10 (2)	
	Minimum water volume in the system for heating			l		10 (2)	
	Refrigerant circuit	Gas side diameter			mm		15.9
		Liquid side diameter			mm		6.35
	Sound power level	Nom.			dBA		42 (3)
Sound pressure level	Nom.			dBA		28 (4)	
Operation range	Heating	Ambient	Min.	°C		0 (5)	
			Max.	°C		0 (5)	
		Water side	Min.	°C		0 (5)	
			Max.	°C		0 (5)	
	Indoor installation	Ambient	Min.	°CDB		5	
			Max.	°CDB		35	
	Cooling	Ambient	Min.	°CDB		0 (5)	
			Max.	°CDB		0 (5)	
		Water side	Min.	°C		0 (5)	
			Max.	°C		0 (5)	
	Domestic hot water	Ambient	Min.	°CDB		0 (5)	
			Max.	°CDB		0 (5)	
		Water side	Min.	°C		0 (5)	
			Max.	°C		0 (5)	

2 Specifications

1 - 1 EHBX-E9W, EHBH-E9W, EHBX-E6V, EHBH-E6V

Technical specifications				EHBX04E6V	EHBX08E6V
Safety devices	Item	01		Thermal cut out	
Electrical specifications				EHBX04E6V	EHBX08E6V
Power supply	Name			See note 8	
	Voltage range	Min.	%	-10	
		Max.	%	10	
IP class	IP			IP X0B	
Electric heater supply	Power	Name		6V3	
		Phase		1~ / 3~	
		Frequency	Hz	50	
		Voltage	V	230	
	Current	Maximum running current	A	26.0	
	Recommended fuses			20.000 (6)	
Wiring connections	Communication cable	Quantity		3	
		Remark		1.5 mm ²	
	Electric meter	Quantity		2	
		Remark		Minimum 0.75 mm ² (5VDC pulse detection)	
	Preferential kWh rate power supply	Quantity		Power: 2	
		Remark		Power 6.3A (Select diameter and type according to national and local regulations)	
	Domestic hot water pump	Quantity		2	
		Remark		Minimum 0.75 mm ² (2A inrush, 1A continuous)	
	For power supply back-up heater	Quantity		Prewired	
		Remark		Select diameter & type according to national & local regulations	
	For connection with R6T	Quantity		2	
		Remark		Minimum 0.75 mm ²	
	For connection with A3P	Quantity		Depends on thermostat type, cf. installation manual	
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm ² / See note 9	
	For connection with M2S	Quantity		2	
Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm ² / See note 9		
For connection with optional FWXV* (demand	Quantity		4		
	Remark		100 mA, minimum 0.75 mm ²		

(1) Operation area is extended to lower flow rates only in case the unit operates with heat pump only. (Not in startup, no BUH operation, no defrost operation). |

(2) Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |

(3) DB/WB 7°C/6°C - LWC 35°C (DT=5°C) |

(4) Sound values are measured in a semi-anechoic room. Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings. Sound power level is an absolute value that a so |

(5) For more details, see operation range drawing |

(6) 4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |

(7) PED unit category: Art3S3: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC |

(8) Above mentioned power supply for control box is for booster heater only. The switchbox of the controller box is supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply. |

(9) Select diameter and type according to national and local regulations

Technical specifications				EHBX08E9W
Heater capacity	Step 1		kW	3
	Step 2		kW	max. 6 kW
Power input	Nom.		kW	0.09
Casing	Colour			White + Black
	Material			Resin, sheet metal
Dimensions	Unit	Height	mm	840
		Width	mm	440
		Depth	mm	390
	Packed unit	Height	mm	450
		Width	mm	650
		Depth	mm	1,016
Weight	Unit		kg	42.4
	Packed unit		kg	46
Packing	Material			Carton / PP (Straps) / EPS
	Weight		kg	4
PED	Category			Art4.3 / See note 7
	Most critical part	Name		Plate heat exchanger
		Ps*V	Bar*l	
Refrigerant side heat exchanger	Type			Plate heat exchanger
	Quantity			1
	Plates	Quantity		42
Pump	Nr of speeds			PWM
	Power input		W	52

2 Specifications

1 - 1 EHBX-E9W, EHBH-E9W, EHBX-E6V, EHBH-E6V

2

Technical specifications				EHBX08E9W	
Water side Heat exchanger	Type	Plate heat exchanger			
	Quantity	1			
	Plates	Quantity	42		
	Water volume	l	0.95		
Expansion vessel	Water flow rate	Min.	l/min	12.0 (1)	
	Volume	l	10		
Water filter	Max. water pressure	bar		3	
	Pre pressure	bar		1	
	Diameter perforations	mm		0.8	
General	Material	Stainless steel / Plastic			
	Supplier/Manufacturer details	Name or trademark	Daikin Europe N.V.		
		Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium			
Water circuit	Piping connections diameter	inch		G 1" (female)	
Water circuit	Piping material	Cu			
	Internal piping diameter	inch		1"	
	Piping	inch		1"	
	Safety valve	bar		3	
	Manometer	Digital			
	Drain valve / fill valve	Yes			
	Shut off valve	Yes			
	Air purge valve	Yes			
	Total water volume	l	3.2		
	Minimum water volume in the system for cooling	l	10 (2)		
	Minimum water volume in the system for heating	l	10 (2)		
	Refrigerant circuit	Gas side diameter	mm		15.9
Liquid side diameter		mm		6.35	
Sound power level	Nom.	dBA		42 (3)	
Sound pressure level	Nom.	dBA		28 (4)	
Operation range	Heating	Ambient	Min.	°C	0 (5)
			Max.	°C	0 (5)
		Water side	Min.	°C	0 (5)
			Max.	°C	0 (5)
	Indoor installation	Ambient	Min.	°CDB	5
			Max.	°CDB	35
	Cooling	Ambient	Min.	°CDB	0 (5)
			Max.	°CDB	0 (5)
		Water side	Min.	°C	0 (5)
			Max.	°C	0 (5)
	Domestic hot water	Ambient	Min.	°CDB	0 (5)
			Max.	°CDB	0 (5)
Water side		Min.	°C	0 (5)	
		Max.	°C	0 (5)	
Safety devices	Item	01		Thermal cut out	

Electrical specifications				EHBX08E9W	
Power supply	Name	See note 8			
	Voltage range	Min.	%		-10
		Max.	%		10
IP class	IP	IP X0B			
Electric heater	Power supply	Name	9W		
		Phase	3~		
		Frequency	Hz	50	
	Current	Voltage	V	400	
		Maximum running current	A	13.0	
		Minimum Ssc value	Equipment complying with EN/IEC 61000-3-12		
Recommended fuses	A	20.000 (6)			

2 Specifications

1 - 1 EHBX-E9W, EHBH-E9W, EHBX-E6V, EHBH-E6V

Electrical specifications			EHBX08E9W
Wiring connections	Communication cable	Quantity	3
		Remark	1.5 mm ²
	Electric meter	Quantity	2
		Remark	Minimum 0.75 mm ² (5VDC pulse detection)
	Preferential kWh rate power supply	Quantity	Power: 2
		Remark	Power 6.3A (Select diameter and type according to national and local regulations)
	Domestic hot water pump	Quantity	2
		Remark	Minimum 0.75 mm ² (2A inrush, 1A continuous)
	For power supply back-up heater	Quantity	Prewired
		Remark	Select diameter & type according to national & local regulations
	For connection with R6T	Quantity	2
		Remark	Minimum 0.75 mm ²
	For connection with A3P	Quantity	Depends on thermostat type, cf. installation manual
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm ² / See note 9
	For connection with M2S	Quantity	2
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm ² / See note 9
For connection with optional FWXV* (demand)	Quantity	4	
	Remark	100 mA, minimum 0.75 mm ²	

(1) Operation area is extended to lower flow rates only in case the unit operates with heat pump only. (Not in startup, no BUH operation, no defrost operation). |

(2) Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |

(3) DB/WB 7°C/6°C - LWC 35°C (DT=5°C) |

(4) Sound values are measured in a semi-anechoic room. Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings. Sound power level is an absolute value that a so |

(5) For more details, see operation range drawing |

(6) 4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |

(7) PED unit category: Art3S3: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC |

(8) Above mentioned power supply for control box is for booster heater only. The switchbox of the controller box is supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply. |

(9) Select diameter and type according to national and local regulations

3 Electrical data

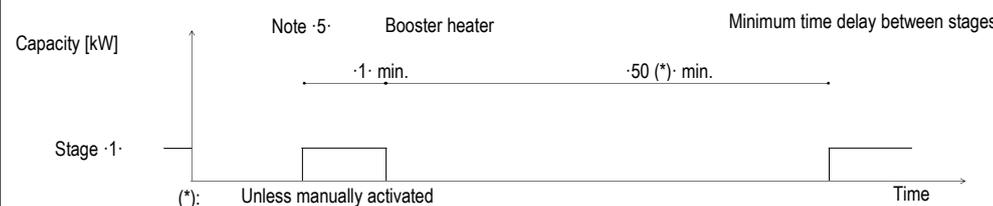
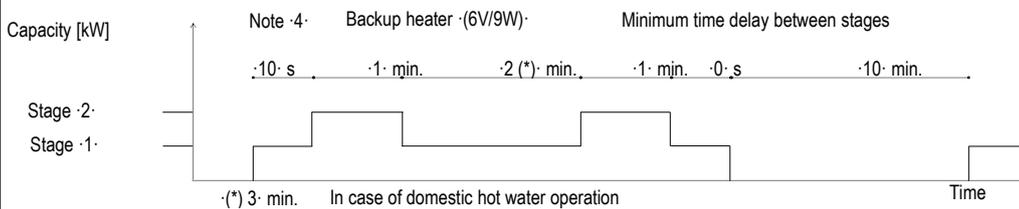
3 - 1 Electrical Data

3

- EHBH-E6V
- EHBH-E9W
- EHBX-E6V
- EHBX-E9W

Electrical specifications of the backup heaters and booster heaters

Type		6V						9W						
Backup heater	Capacity setting	[kW]	2 - 4	2 - 6	·2·4· (in case of emergency: ·2·6·)		6	3 - 6	3 - 9	·3 - 6· (in case of emergency: ·3 - 9·)				
	Capacity stage ·1·	kW	2	2	2	2	1	2	2	2	2			
	Capacity stage ·2·	kW	4	6	4	6	-	6	9	6	9			
	Minimum time delay between stages			Note ·4·						Note ·4·				
	Power supply (1)	Phase		1~			3~		3~					
	Frequency	Hz	50											
	Voltage	V	230 +-10%						400 +-10%					
Current	Nominal running current	A	17,4	26,1	17,4	26,1	15	8,7	13	8,7	13			
	Zmax (backup (2))	Ω	0,22						-					
		Complex	-						-					
	Minimum Ssc value	kVA	(3)						-					
Booster heater (optional)(·KHW· models)	Capacity setting	kW	3											
	Capacity stage ·1·		1											
	Minimum time delay between stages			Note ·5·										
	Nominal running current	+EK·V3	A	13										
	Booster heater	+EK·Z2		-			75							
	Zmax	Booster heater (2)	Ω	-										
			Complex	-										
	Nominal running current	Backup heater →	Booster heater	Backup heater → +EK·V3	A	30,4 (17,4+13)	39,1 (26,1+13)	30,4 (17,4+13)	39,1 (26,1+13)	28 (15 + 13)	21,7 (8,7+13)	26 (13+13)	21,7 (8,7+13)	26 (13+13)
				Backup heater → +EK·Z2	A				22,5 (15 + 7,5)	16,2 (8,7+7,5)	20,5 (13+7,5)	16,2 (8,7+7,5)	20,5 (13+7,5)	
	Minimum Ssc value	Backup heater →	Booster heater → +EK·V3	kVA	(3)									
Booster heater → +EK·Z2			kVA					(3)	-	(3)	-	(3)		
Notes	(1)	The above-mentioned power supply of the hydrobox is for the backup heater only. The optional domestic hot water tank has a separate power supply.												
	(2)	In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys ≤ Zmax.												
	(3)	The equipment complies with EN/IEC 61000-3-12.												
	EN/IEC 61000-3-11	European/International Technical Standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated current ≤ 75 A.												
	EN/IEC 61000-3-12	European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16 A and ≤ 75 A per phase.												
Zsys	System impedance													



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3 Electrical data

3 - 1 Electrical Data

EHBH-E6V
EHBH-E9W
EHBX-E6V
EHBX-E9W

* Electrical meter specification

- Pulse meter type/voltage-free contact for 5 V DC detection by PCB.
- Possible number of pulses
 - 0.1· pulse/kWh ·100· pulse/kWh ·10· pulse/kWh
 - 1· pulse/kWh ·1000· pulse/kWh
- Pulse duration
 - Minimum On time: ·40ms· Minimum OFF time: ·100ms·
- Measurement type (depending on installation)
 - Single-phase AC meter
 - Three-phase AC meter
 - Balanced loads
 - Unbalanced loads

* Electrical meter installation guideline

- It is the responsibility of the installer to cover the complete power consumption with electrical meters (combination of estimation and
- Required number of electrical meters

Outdoor unit type		ERGA(04/06/08)(D/E)AV3						ERLA03DAV3	
Indoor unit type		*HB(H/X)(04/08)(D/E)A*			*HV(H/X)(04/08)(D/E)(A/J)*			EHF*03S18DJ3V	
	Backup heater type	6V		9W	3V	6V		9W	3V
	Backup heater power supply	1~230V	3~230V	3~400V	1~230V	1~230V	3~230V	3~400V	1~230V
	Backup heater configuration	2/4/6kW	6kW	3/6/9kW	3kW	2/4/6kW	6kW	3/6/9kW	3kW
Normal kWh rate power supply									
Electrical meter type	1~	1	-	-	1	1	-	-	1
	3~ balanced	-	-	-	-	-	-	-	-
	3~ unbalanced	-	1	1	-	-	1	1	-
Preferential kWh rate power supply									
Electrical meter type	1~	2	1	1	2	2	1	1	2
	3~ balanced	-	-	-	-	-	-	-	-
	3~ unbalanced	-	1	1	-	-	1	1	-

Immersion heater (no backup heater)

Outdoor unit type		ERGA(04/06/08)DAV3	
Indoor unit type		*HV(H/X)(04/08)D(A/J)V	
	Backup heater type	Booster heater (·2.4· kW)	
	Immersion heater power supply	1~	
		230V	
Normal kWh rate power supply			
Electrical meter type	1~	1	
	3~ balanced	-	
	3~ unbalanced	-	
Unit preferential kWh rate power supply			
Electrical meter type	1~	2	
	3~ balanced	-	
	3~ unbalanced	-	

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4 Combination table

4 - 1 Combination Table

4

EHB(H-X)-E6V

EHB(H-X)-E9W

Factory-mounted equipment for ·EHB(H/X)*EA*.

Description	EHB(H/X)04EA6V	EHB(H/X)08EA*	
Heating only model ·EHBH*.	6V (9)	6V (9)	9W (9)
Reversible model ·*HBX*.	6V (9)	6V (9)	9W (9)
Backup heater ·2-4-6kW 1N~230 V·	o	o	-
Backup heater ·2-4-6kW 3~230 V·	o	o	-
Backup heater ·3-6-9kW 3N~400 V·	-	-	o

Outdoor combination table for ·EHB(H/X)(04/08)EA*.

Description		ERGA04EAV3	ERGA06EAV3	ERGA08EAV3	ERGA04EAV3A	ERGA06EAV3A	ERGA08EAV3A	ERGA04EAV37
EHBH04EA*	Heating only indoor unit	o	---	---	o	---	---	o
EHBX04EA*	Reversible indoor unit	o	---	---	o	---	---	o
EHBH08EA*	Heating only indoor unit	---	o	o	---	o	o	---
EHBX08EA*	Reversible indoor unit	---	o	o	---	o	o	---

Kit availability

Reference	Description	EHB*(04/08)EA*		
		04 - 6V	08 - 6V	08 - 9W
EHBH*	Heating only indoor unit	04 - 6V	08 - 6V	08 - 9W
EHBX*	Reversible indoor unit	04 - 6V	08 - 6V	08 - 9W
EKRP1HBAA	Digital I/O PCB	* (1) (2)	o	o
EKRP1AHTA	Demand PCB	* (3)	o	o
EKPCCAB4	PC cable	* (4)	o	o
EKHWS150D3V3	Domestic hot water tank ·150 l 1~230 V·	o	o	o
EKHWS180D3V3	Domestic hot water tank ·180 l 1~230 V·	o	o	o
EKHWS200D3V3	Domestic hot water tank ·200 l 1~230 V·	o	o	o
EKHWS250D3V3	Domestic hot water tank ·250 l 1~230 V·	o	o	o
EKHWS300D3V3	Domestic hot water tank ·300 l 1~230 V·	o	o	o
EKHWSU150D3V3	Domestic hot water tank ·150 l 1~230 V·	o	o	o
EKHWSU180D3V3	Domestic hot water tank ·180 l 1~230 V·	o	o	o
EKHWSU200D3V3	Domestic hot water tank ·200 l 1~230 V·	o	o	o
EKHWSU250D3V3	Domestic hot water tank ·250 l 1~230 V·	o	o	o
EKHWSU300D3V3	Domestic hot water tank ·300 l 1~230 V·	o	o	o
EKHWP300BA	Domestic hot water tank with solar connection	* (5)	o	o
EKHWP500BA	Domestic hot water tank with solar connection	* (5)	o	o
EKHWP300PBA	Domestic hot water tank with solar connection	* (5)	o	o
EKHWP500PBA	Domestic hot water tank with solar connection	* (5)	o	o
BZKA7V3	Bizone kit	o	o	o
KRCS01-1	Remote indoor sensor	* (6)	o	o
EKRSCA1	Remote sensor for outdoor	* (6)	o	o
BRP069A71	WLAN module	* (7)	o	o
BRC1HH*	HCI (Human Comfort Interface)	o	o	o
EKRELSG	Relay for Smart Grid	o	o	o
EKBHCONV	Conversion kit: heating only to reversible.	o	o	o
FWXT10ATV3	Heat pump convector	o	o	o
FWXT15ATV3	Heat pump convector	o	o	o
FWXT20ATV3	Heat pump convector	o	o	o
EKRTWA	Wired room thermostat	o	o	o
EKRTR1	Wireless room thermostat	o	o	o
EKRTEFS	External sensor room thermostat	* (8)	o	o

Notes

- (1) PCB that provides additional output connections: ··
 - (a) Control external heat source (bivalent operation).
 - (b) Output remote ON/OFF signal space heating/cooling OR bottom plate heater ·*KBPHTH16*· control.
 - (c) Remote alarm output
- (2) Additional relays to allow bivalent control in combination with an external room thermostat are field-supplied.
- (3) PCB to receive up to 4 digital inputs for power limitation, only for ·EHB(H/X)(04/08)DA*·.
- (4) Data cable for connection with PC.
- (5) Dedicated connection kit available: ·*KSRPS4A·.
- (6) Only 1 remote sensor can be connected: indoor OR outdoor sensor.
- (7) The WLAN cartridge is supplied in the accessory bag of the unit and is meant to be plugged into the SD card slot on the MMI-2. In case of bad signal reception, the WLAN cartridge can be removed and replaced by the WLAN module.
- (8) Can only be used in combination with wireless room thermostat ·EKTR1·.
- (9) The backup heater capacity depends on a user interface setting.

Remark

Other combinations than mentioned in this combination table are prohibited.

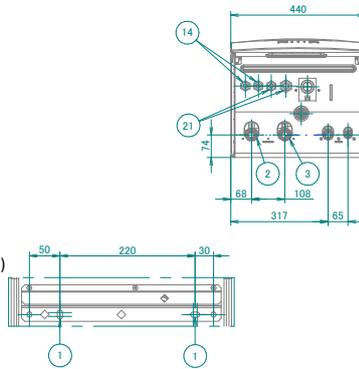
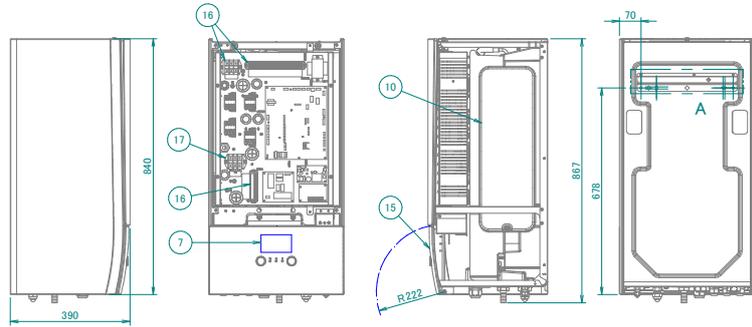
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5 Dimensional drawings

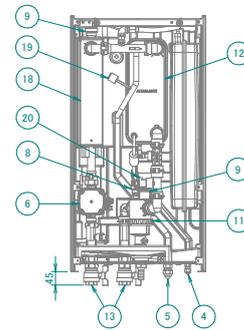
5 - 1 Dimensional Drawings

EHB(H-X)-E6V
EHB(H-X)-E9W

- 1 Holes (∅8.5) for wall fixation
- 2 Water out connection (1" F BSP)
- 3 Water in connection (1" F BSP)
- 4 Refrigerant liquid connection ∅6.35-Flare connection
- 5 Refrigerant gas connection ∅15.9-Flare connection
- 6 Pump
- 7 User interface
- 8 Safety valve Pressure
- 9 Air purge
- 10 Expansion vessel
- 11 Magnetic filter / dirt separator
- 12 Heat exchanger (refrigerant / water)
- 13 Shut-off valves
- 14 Wire entrance of the power supply / communication wire
- 15 Service door
- 16 Switch box terminals
- 17 Switch box terminals for the domestic hot water tank (option)
- 18 Backup heater
- 19 Refrigerant pressure sensor
- 20 Space heating water pressure sensor
- 21 Options



DETAIL A
WALL FIXATION



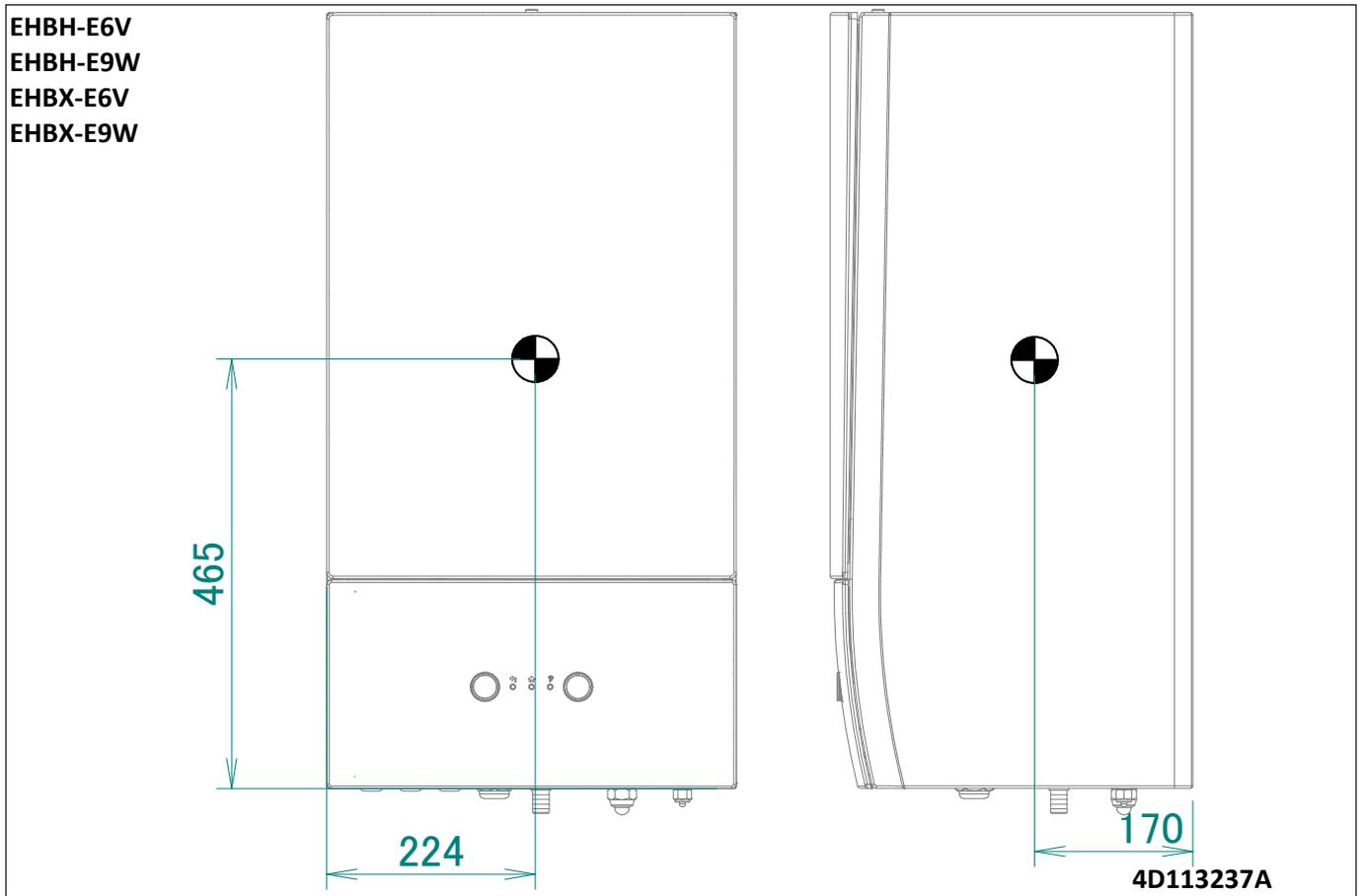
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6 Centre of gravity

6 - 1 Centre of Gravity

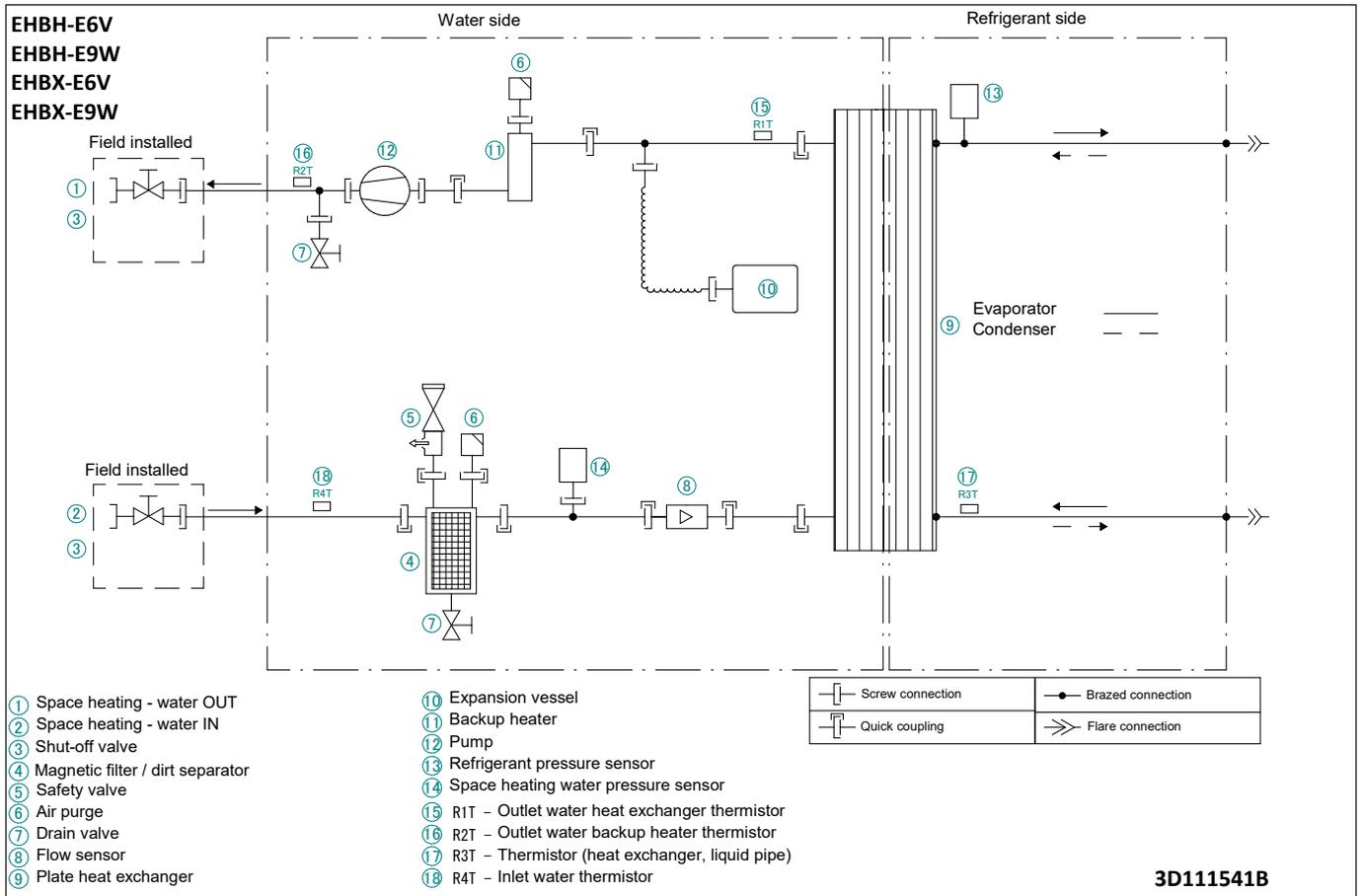
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EHBH-E6V
EHBH-E9W
EHBX-E6V
EHBX-E9W



7 Piping diagrams

7 - 1 Piping Diagrams



8 Wiring diagrams

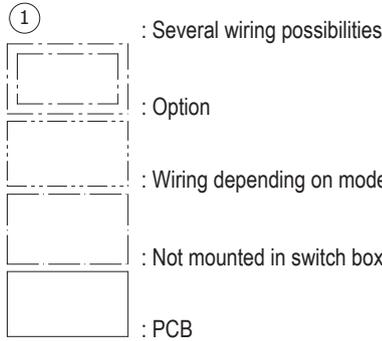
8 - 1 Notes & Legend

8

EHBH-E6V
EHBH-E9W
EHBX-E6V
EHBX-E9W

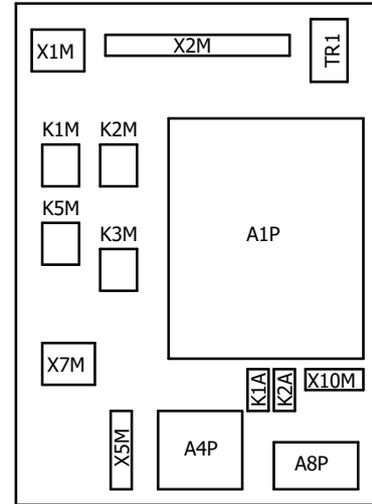
NOTES to go through before starting the unit

- X1M : Main terminal
- X2M : Field wiring terminal for AC
- X5M : Field wiring terminal for DC
- X6M : BUH Power supply terminal
- X7M, X8M : BSH Power supply terminal
- X10M : Smartgrid terminal
- — — — — : Earth wiring
- - - - - : Field supply



- Backup heater power supply
 - 6T1 (3~, 230V, 6kW)
 - 6V3 (1N~, 230V, 6kW)
 - 6WN/9WN (3N~, 400V, 6/9kW)
- User installed options:
 - LAN adapter
 - Domestic hot water tank
 - Remote user interface
 - Ext. indoor thermistor
 - Ext. outdoor thermistor
 - Digital I/O PCB
 - Demand PCB
 - Safety thermostat
 - Smartgrid
 - WLAN adapter module
 - WLAN cartridge
- Main LWT:
 - ON/OFF thermostat (wired)
 - ON/OFF thermostat (wireless)
 - Ext. thermistor
 - Heat pump convector
- Add LWT:
 - ON/OFF thermostat (wired)
 - ON/OFF thermostat (wireless)
 - Ext. thermistor
 - Heat pump convector

POSITION IN SWITCH BOX



NOTES

1. Connection point of the power supply for the BUH/BSH should be foreseen outside the unit.

LEGEND

Part n°	Description
A1P	main PCB
A2P	* ON/OFF thermostat (PC=power circuit)
A3P	* heat pump convector
A4P	* digital I/O PCB
A8P	* demand PCB
A9P	status indicator
A11P	MMI main PCB
A13P	* LAN adapter
A14P	* user interface PCB
A15P	* receiver PCB (wireless ON/OFF thermostat)
A20P	* WLAN module
B2L	flow sensor
B1PR	refrigerant pressure sensor
B1PW	water pressure sensor
BSK (A3P)	solar pump station relay
CN* (A4P)	* connector
DS1 (A8P)	* dipswitch
E1H	backup heater element (1 kW)
E2H	backup heater element (2 kW)
E4H	* booster heater (3 kW)
E*P (A9P)	indication LED
F1B	# overcurrent fuse backup heater
F2B	# overcurrent fuse booster heater
F1T	thermal fuse backup heater
F1U, F2U (A4P)	* fuse 5 A 250 V for digital I/O PCB
FU1 (A1P)	fuse T 6.3 A 250 V for PCB
K1A, K2A	* high voltage smartgrid relay
K1M, K2M	contactor backup heater
K3M	* contactor booster heater
K5M	safety contactor BUH
K*R (A1P-A4P)	relay on PCB
M1P	main supply pump
M2P	# domestic hot water pump
M2S	# 2 way valve for cooling mode
M3S	* 3 way valve for space heating / domestic hot water
P1M	MMI display

Part n°	Description
PC (A15P)	* power circuit
PHC1 (A4P)	* optocoupler input circuit
Q1L	thermal protector backup heater
Q2L	* thermal protector booster heater
Q4L	# safety thermostat
Q*DI	# earth leakage circuit breaker
R1H (A2P)	* humidity sensor
R1T (A1P)	outlet water heat exchanger thermistor
R1T (A2P)	* ambient sensor ON/OFF thermostat
R1T (A14P)	* ambient sensor user interface
R2T (A1P)	outlet backup heater thermistor
R2T (A2P)	* external sensor (floor or ambient)
R3T	refrigerant liquid side thermistor
R4T	inlet water thermistor
R5T	* domestic hot water thermistor
R6T	* external indoor or outdoor ambient thermistor
S1S	# preferential kWh rate PS contact
S2S	# electrical meter pulse input 1
S3S	# electrical meter pulse input 2
S4S	# smartgrid feed-in
S6S-S9S	* digital power limitation inputs
S10S-S11S	# low voltage smartgrid contact
SS1 (A4P)	* selector switch
SW1~2 (A12P)	turn buttons
SW3~5 (A12P)	push button
TR1	power supply transformer
X6M	# BUH power supply terminal strip
X6M	* BSH power supply connector
X7M, X8M	BSH power supply terminal strip
X10M	* smartgrid power supply terminal strip
X*, X*A, X*H*, X*Y	connector
X*M	terminal strip

* : optional
 # : field supply

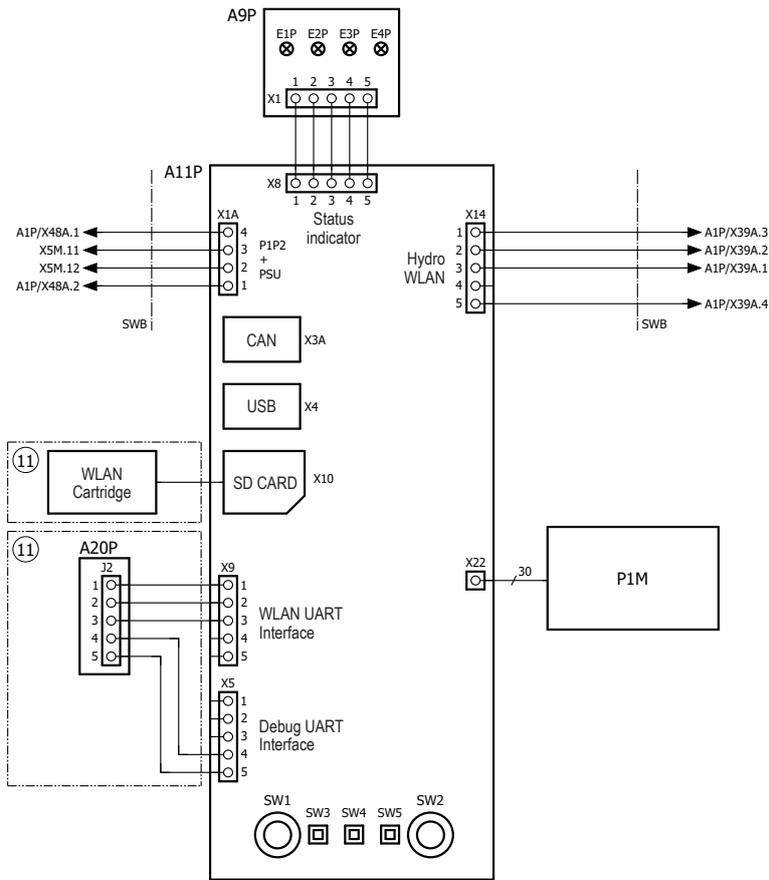
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8 Wiring diagrams

8 - 2 Control Circuit

8

EHBH-E6V
EHBH-E9W
EHBX-E6V
EHBX-E9W

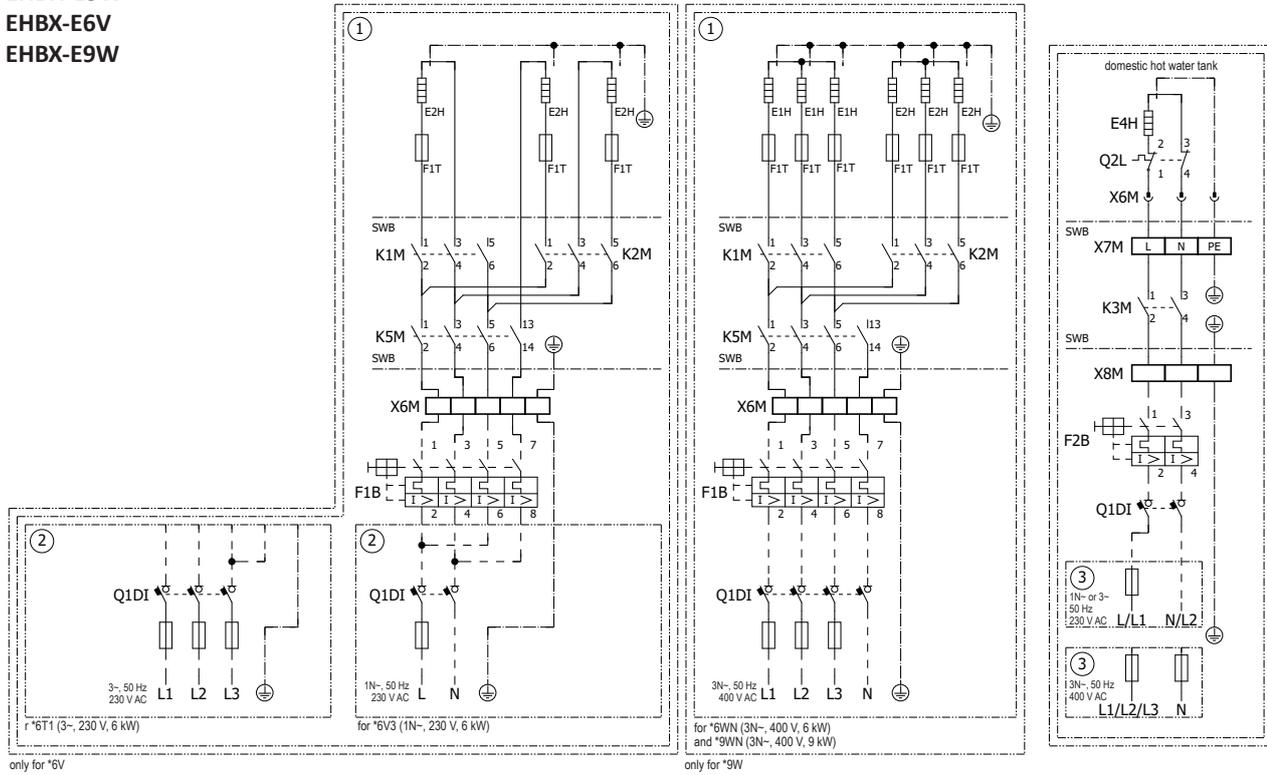


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8 Wiring diagrams

8 - 3 Power Supply, Back-up Heater

EHBH-E6V
 EHBH-E9W
 EHBX-E6V
 EHBX-E9W



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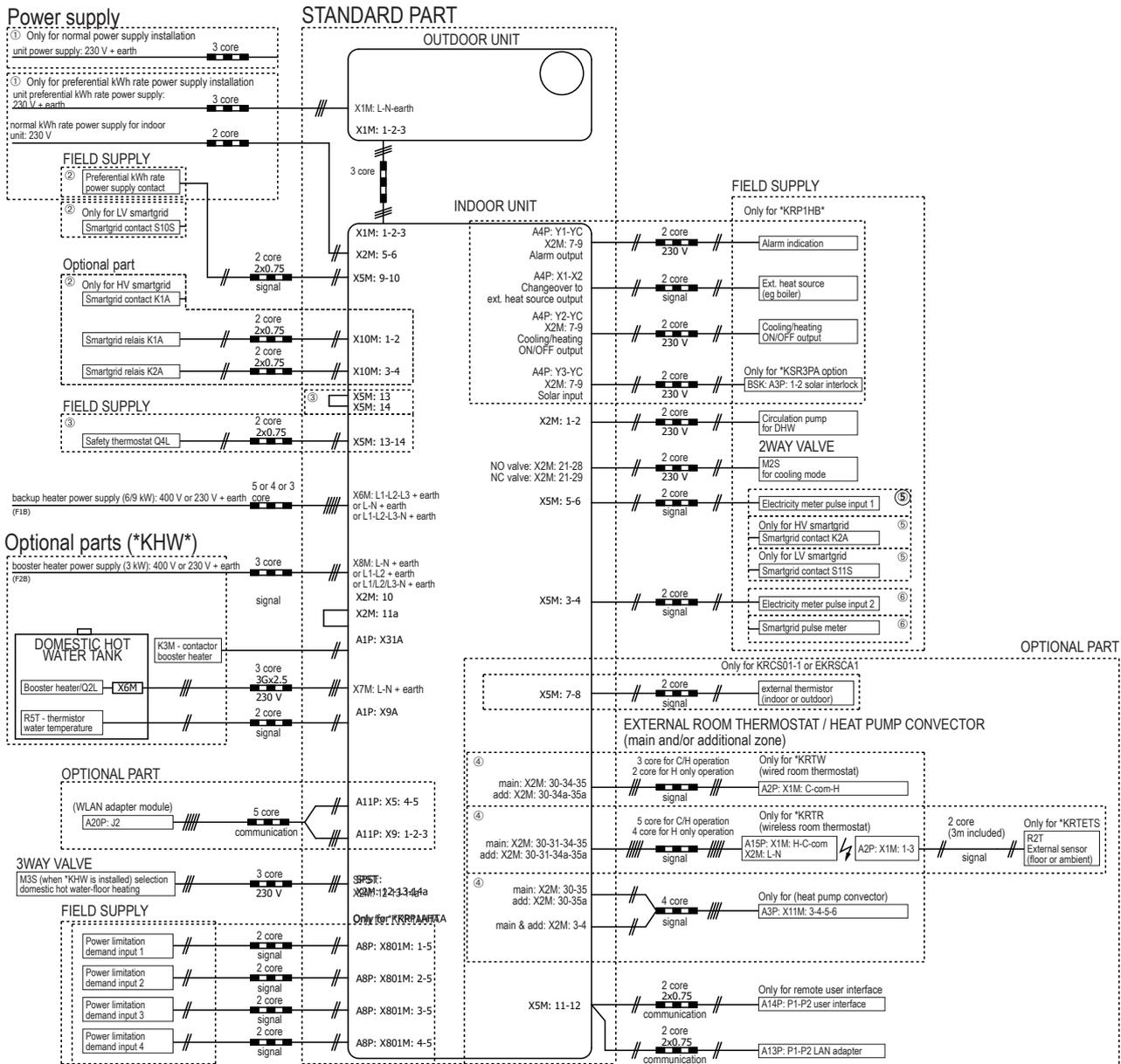
9 External connection diagrams

9 - 1 External Connection Diagrams

9

EHB(H-X)-E6V
EHB(H-X)-E9W

Electrical connection diagram Altherma BML WM - E-series



- NOTE**
- In case of signal cable: keep minimum distance to power cables > 5 cm
 - Available heaters depending on model: see combination table

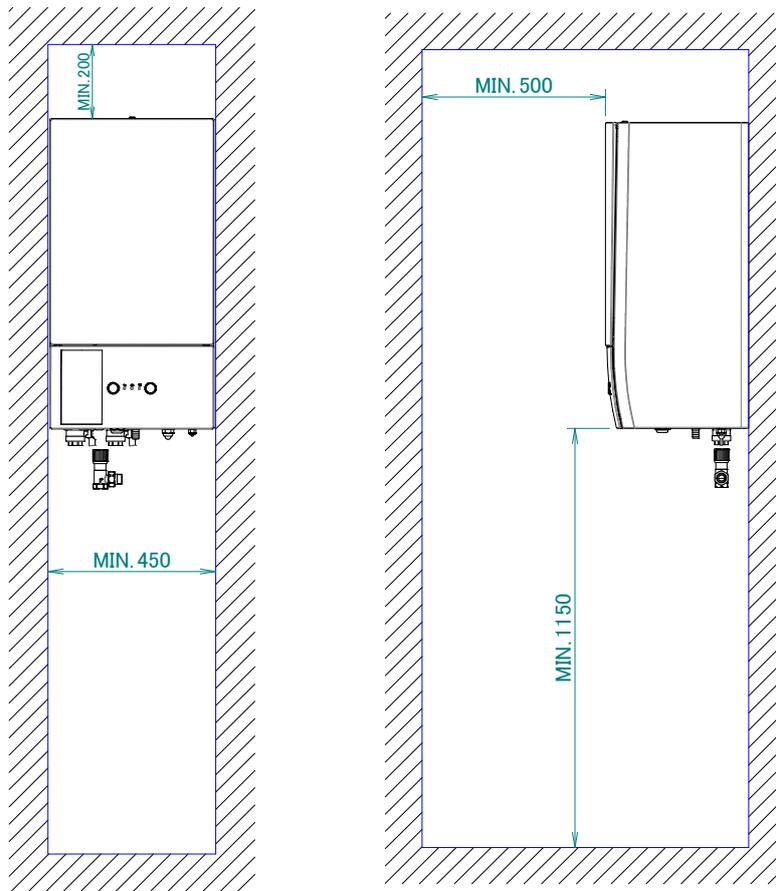
For more details please check unit wiring

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10 Installation

10 - 1 Installation Method

EHBH-E6V
EHBH-E9W
EHBX-E6V
EHBX-E9W



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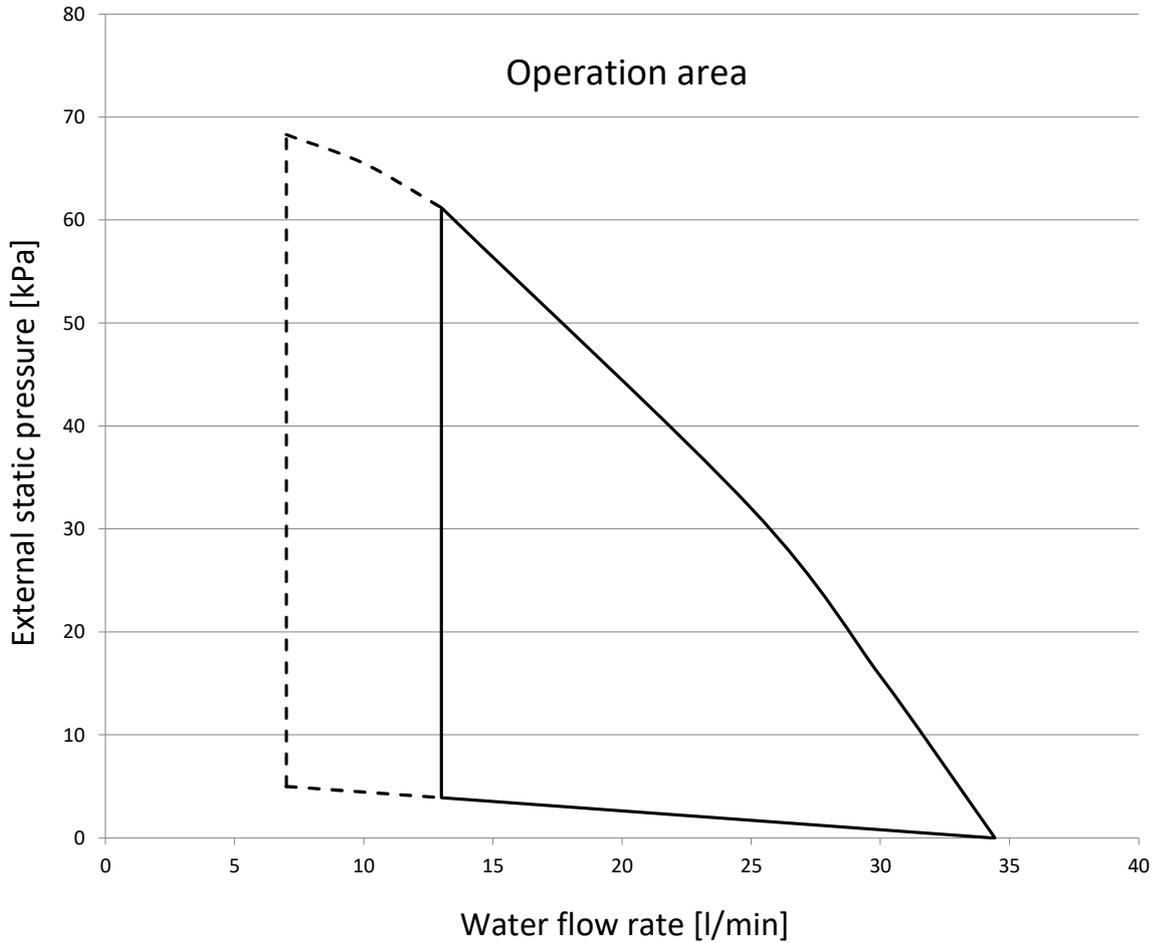
11 Hydraulic performance

11 - 1 Static Pressure Drop Unit

11

EHBH-E6V
EHBH-E9W
EHBX-E6V
EHBX-E9W

EHB(H/X)(04/08)(D/E)A*



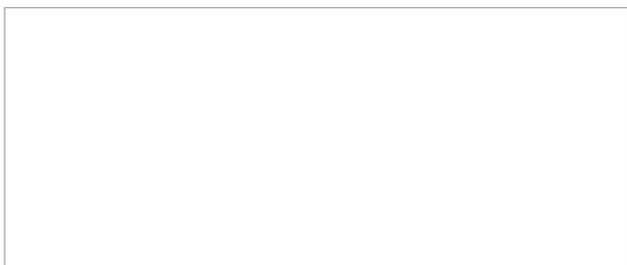
Operation area is extended to lower flow rates only in case the unit operates with heat pump only.

See dashed lines

Notes

1. Selecting a flow outside the operating area can damage the unit or cause the unit to malfunction.
See also the minimum and maximum allowed water flow range in the technical specifications.
2. Water quality must be according to EU directive 98/83 EC.

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