Daikin Altherma low temperature split Technical Data

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

EHBH04EF6V
EHBH08EF6V
EHBH08EF9W
EHBX04EF6V
EHBX08EF6V
EHBX08EF9W

EEDEN21

TABLE OF CONTENTS
EHBH-E6V / EHBH-E9W / EHBX-E6V / EHBX-E9W

1 Features

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

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

- 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, EHBX-E6V, EHBH-E9W, 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 8	
	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 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	
	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 (6)	
	Voltage range	Min.	%	-10	
		Max.	%	10	
IP class	IP			IP X0B	

2 Specifications

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

Electrical specifications				EHBH04E6V	EHBH08E6V
Electric heater	Power supply	Name		6V3	
		Phase		1~ / 3~	
		Frequency	Hz	50	
		Voltage	V	230	
	Current	Maximum running current	A	26.0	
	Recommended fuses		A	20.000 (7)	
Wiring connections	Communication cable	Quantity		3	
		Remark		1.5 mm²	
	Electric meter	Quantity		2	
		Remark		Minimum 0.75 mm² (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 mm² (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 mm²	
	For connection with A3P	Quantity		Depends on thermostat type, cf. installation manual	
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 9	
	For connection with M2S	Quantity		2	
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 9	
	For connection with optional	Quantity		4	
		Remark		100 mA, minimum 0.75 mm²	

(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)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. |
(7)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |
(8)PED unit category: Art3§3: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC |
(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
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 8
	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

2 Specifications

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

Technical specifications					EHBH08E9W
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 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
	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					EHBH08E9W
Power supply	Name				See note (6)
	Voltage range	Min.		%	-10
		Max.		%	10
IP class	IP				IP X0B
Electric heater	Power supply	Name			9W
		Phase			3~
		Frequency		Hz	50
		Voltage		V	400
	Current	Maximum running current		A	13.0
		Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12
	Recommended fuses			A	20.000 (7)
Wiring connections	Communication cable	Quantity			3
		Remark			1.5 mm²
	Electric meter	Quantity			2
		Remark			Minimum 0.75 mm² (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 mm² (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 mm²
	For connection with A3P	Quantity			Depends on thermostat type, cf. installation manual
		Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 9
	For connection with M2S	Quantity			2
		Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 9
	For connection with optional	Quantity			4
		Remark			100 mA, minimum 0.75 mm²

(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.

2 Specifications

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

Sound power level is an absolute value that a so |
(5)For more details, see operation range drawing |
(6)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. |
(7)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |
(8)PED unit category: Art3§3: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC |
(9)Select diameter and type according to national and local regulations

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 8	
	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)	

2 Specifications

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

Technical specifications					EHBX04E6V	EHBX08E6V
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				EHBX04E6V	EHBX08E6V
Power supply	Name			See note (6)	
	Voltage range	Min.	%	-10	
		Max.	%	10	
IP class	IP			IP X0B	
Electric heater	Power supply	Name		6V3	
		Phase		1~ / 3~	
		Frequency	Hz	50	
		Voltage	V	230	
	Current	Maximum running current	A	26.0	
	Recommended fuses		A	20.000 (7)	
Wiring connections	Communication cable	Quantity		3	
		Remark		1.5 mm²	
	Electric meter	Quantity		2	
		Remark		Minimum 0.75 mm² (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 mm² (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 mm²	
	For connection with A3P	Quantity		Depends on thermostat type, cf. installation manual	
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 9	
	For connection with M2S	Quantity		2	
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 9	
	For connection with optional	Quantity		4	
		Remark		100 mA, minimum 0.75 mm²	

(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)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. |
(7)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |
(8)PED unit category: Art3§3: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC |
(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

2 Specifications

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

Technical specifications					EHBX08E9W
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 8
	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)
Safety devices	Item	01			Thermal cut out

Electrical specifications				EHBX08E9W
Power supply	Name			See note (6)
	Voltage range	Min.	%	-10
		Max.	%	10
IP class	IP			IP X0B

2 Specifications

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

Electrical specifications				EHBX08E9W
Electric heater	Power supply	Name		9W
		Phase		3~
		Frequency	Hz	50
		Voltage	V	400
	Current	Maximum running current	A	13.0
		Minimum Ssc value		Equipment complying with EN/IEC 61000-3-12
	Recommended fuses		A	20.000 (7)
Wiring connections	Communication cable	Quantity		3
		Remark		1.5 mm²
	Electric meter	Quantity		2
		Remark		Minimum 0.75 mm² (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 mm² (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 mm²
	For connection with A3P	Quantity		Depends on thermostat type, cf. installation manual
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 9
	For connection with M2S	Quantity		2
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 9
	For connection with optional	Quantity		4
		Remark		100 mA, minimum 0.75 mm²

(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)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. |
(7)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |
(8)PED unit category: Art3§3: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC |
(9)Select diameter and type according to national and local regulations

2 Specifications

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

3 Electrical data

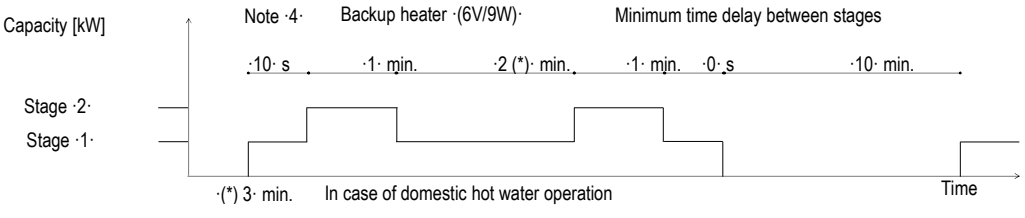
3 - 1 Electrical Data

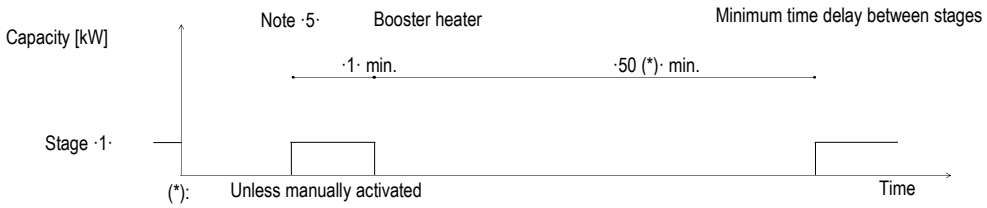
EHBH-E6V
EHBH-E9W
EHBX-E6V
EHBX-E9W

Electrical specifications of the backup heaters and booster heaters

Backup heater	Type				6V					9W				
	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 · ·				2	2	2	2	1	2	2	2	2	
	Capacity stage ·1·			kW	2	2	2	2	6	3	3	3	3	
	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						-				
				Complex	0,22				-	-				
		Minimum Ssc value		kVA	(3)					-				
Booster heater (optional) (·KHW·· models)	Capacity setting			kW	3									
	Capacity stage · ·				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 · + 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
  Three-phase AC meter
  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

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

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

Description	EHB(H/X)04E(A/F)6V	EHB(H/X)08E(A/F)*	
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)E(A/F)*

Description		ERGA04EAV3	ERGA06EAV3	ERGA08EAV3	ERGA04EAV3A	ERGA06EAV3A	ERGA08EAV3A	ERGA04EAV37
EHBH04E(A/F)*	Heating only indoor unit	o	---	---	o	---	---	o
EHBX04E(A/F)*	Reversible indoor unit	o	---	---	o	---	---	o
EHBH08E(A/F)*	Heating only indoor unit	---	o	o	---	o	o	---
EHBX08E(A/F)*	Reversible indoor unit	---	o	o	---	o	o	---

Kit availability

Reference	Description		EHB*(04/08)E(A/F)*		
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	o
EKRP1AHTA	Demand PCB	*(3)	o	o	o
EKPCCAB4	PC cable	*(4)	o	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	o
EKHWP500BA	Domestic hot water tank with solar connection	*(5)	o	o	o
EKHWP300PBA	Domestic hot water tank with solar connection	*(5)	o	o	o
EKHWP500PBA	Domestic hot water tank with solar connection	*(5)	o	o	o
EKHY3PART	Third-party tank connection kit for thermistor pocket		o	o	o
EKHY3PART2	Third-party tank connection kit for thermostat contact		o	o	o
BZKA7V3	Bizone kit		o	o	o
KRCS01-1	Remote indoor sensor	*(6)	o	o	o
EKRSCA1	Remote sensor for outdoor	*(6)	o	o	o
BRP069A71	WLAN module	*(7)	o	o	o
BRC1HH*	HCI (Human Comfort Interface)		o	o	o
EKRELSG	Relay for Smart Grid		o	o	o
EKHBCONV	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
EKRTETS	External sensor room thermostat	*(8)	o	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)E(A/F)*.
(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 EKRTR1.
(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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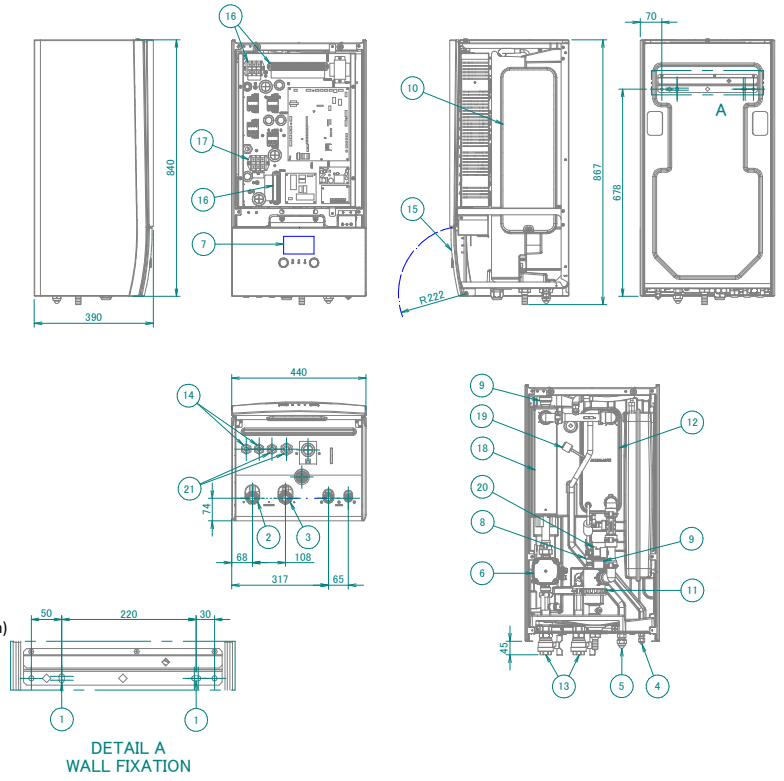
5 Dimensional drawings

5 - 1 Dimensional Drawings

5

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

1. Holes ·(Ø8.5)· for wall fixation
2. Water out connection ·(1" F BSP)·
3. Water in connection ·(1" F BSP)·
4. Refrigerant liquid connection ·Ø6.35· Flare connection
5. Refrigerant gas connection ·Ø15.9· 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



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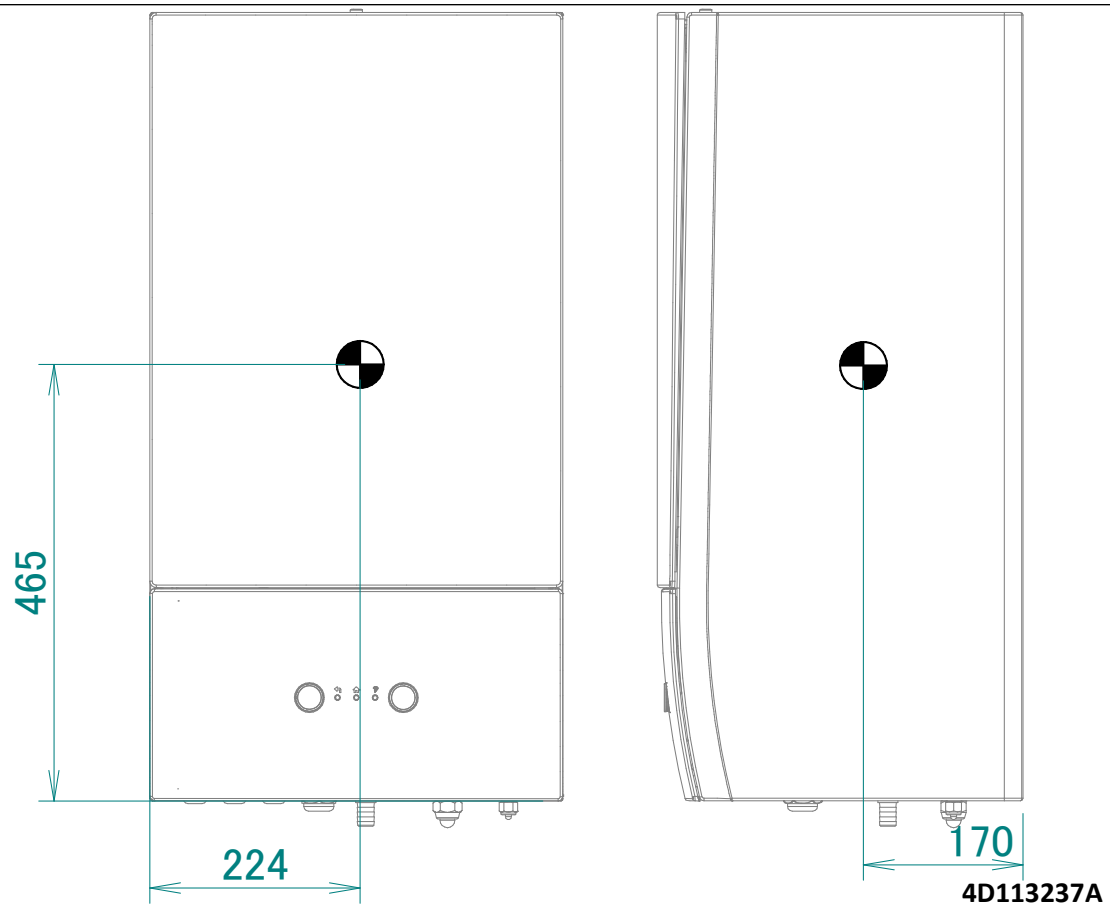
6 Centre of gravity

6 - 1 Centre of Gravity

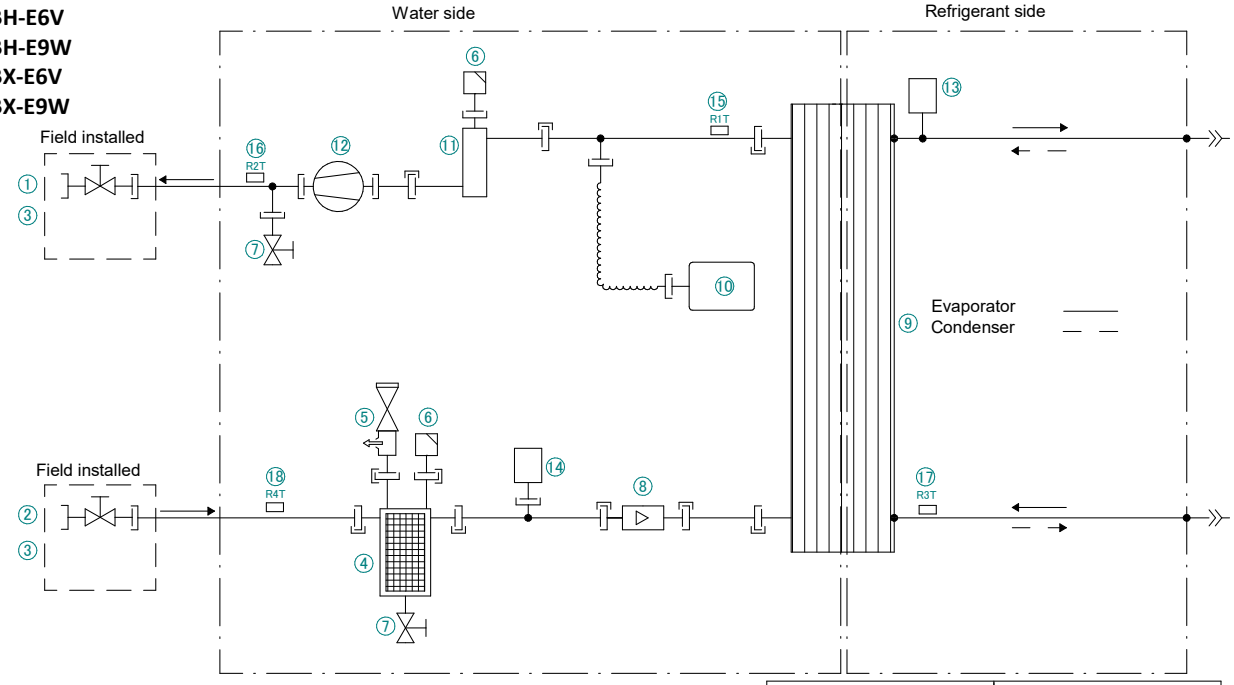
EHBH-E6V
EHBH-E9W
EHBX-E6V
EHBX-E9W



7 Piping diagrams

7 - 1 Piping Diagrams

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



① Space heating - water OUT
② Space heating - water IN
③ Shut-off valve
④ Magnetic filter / dirt separator
⑤ Safety valve
⑥ Air purge
⑦ Drain valve
⑧ Flow sensor
⑨ Plate heat exchanger
⑩ Expansion vessel
⑪ Backup heater
⑫ Pump
⑬ Refrigerant pressure sensor
⑭ Space heating water pressure sensor
⑮ R1T – Outlet water heat exchanger thermistor
⑯ R2T – Outlet water backup heater thermistor
⑰ R3T – Thermistor (heat exchanger, liquid pipe)
⑱ R4T – Inlet water thermistor

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8 Wiring diagrams

8 - 1 Notes & Legend

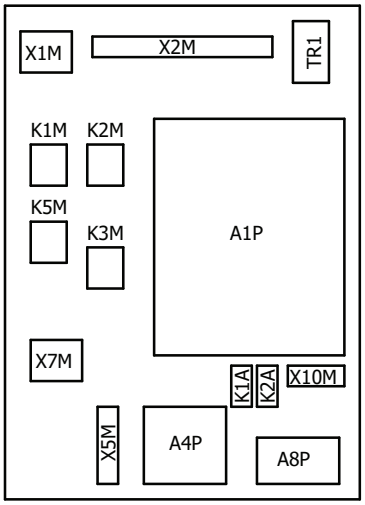
EHBH-E6V
EHBH-E9W
EHBX-E6V
EHBX-E9W

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
(1) : Several wiring possibilities
: Option
: Wiring depending on model
: Not mounted in switch box
: PCB

Backup heater power supply
User installed options:

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
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

Part n°		Description
P1M		MMI display
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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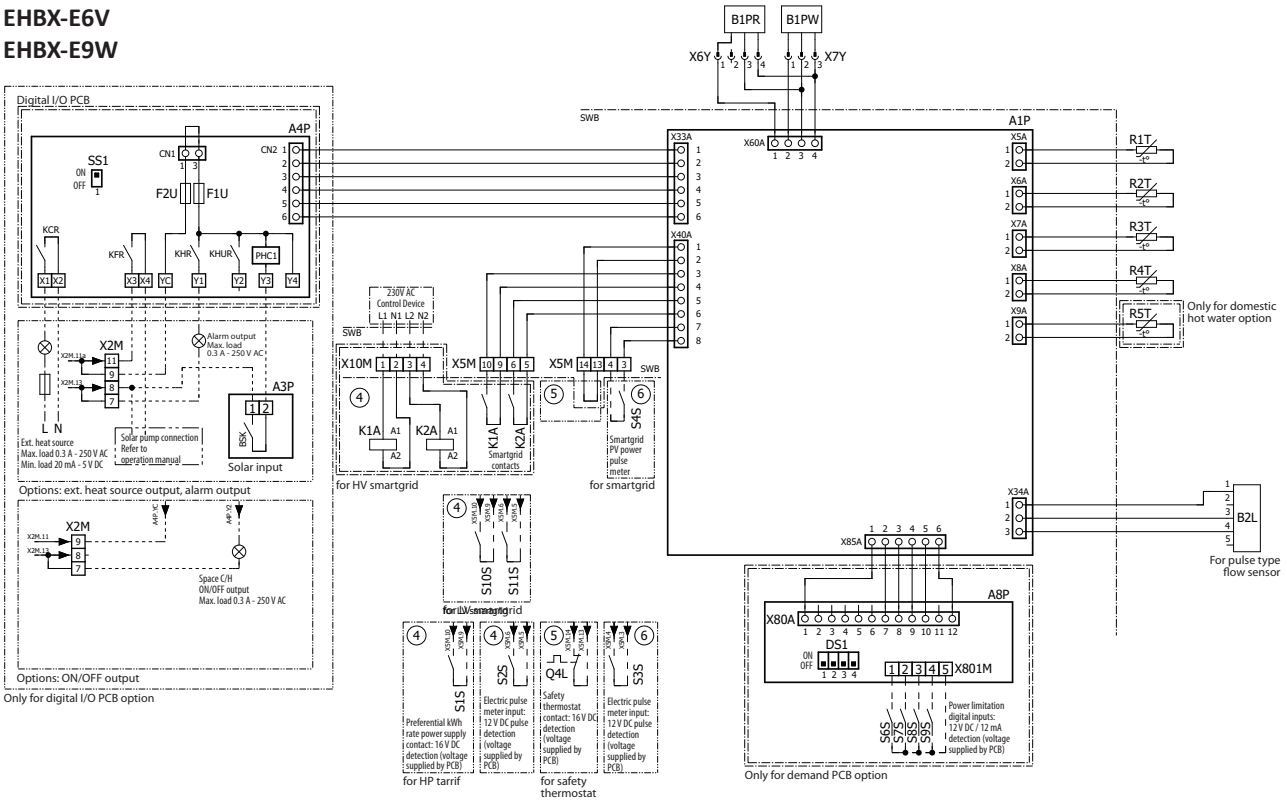
8 Wiring diagrams

8 - 2 Control Circuit

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



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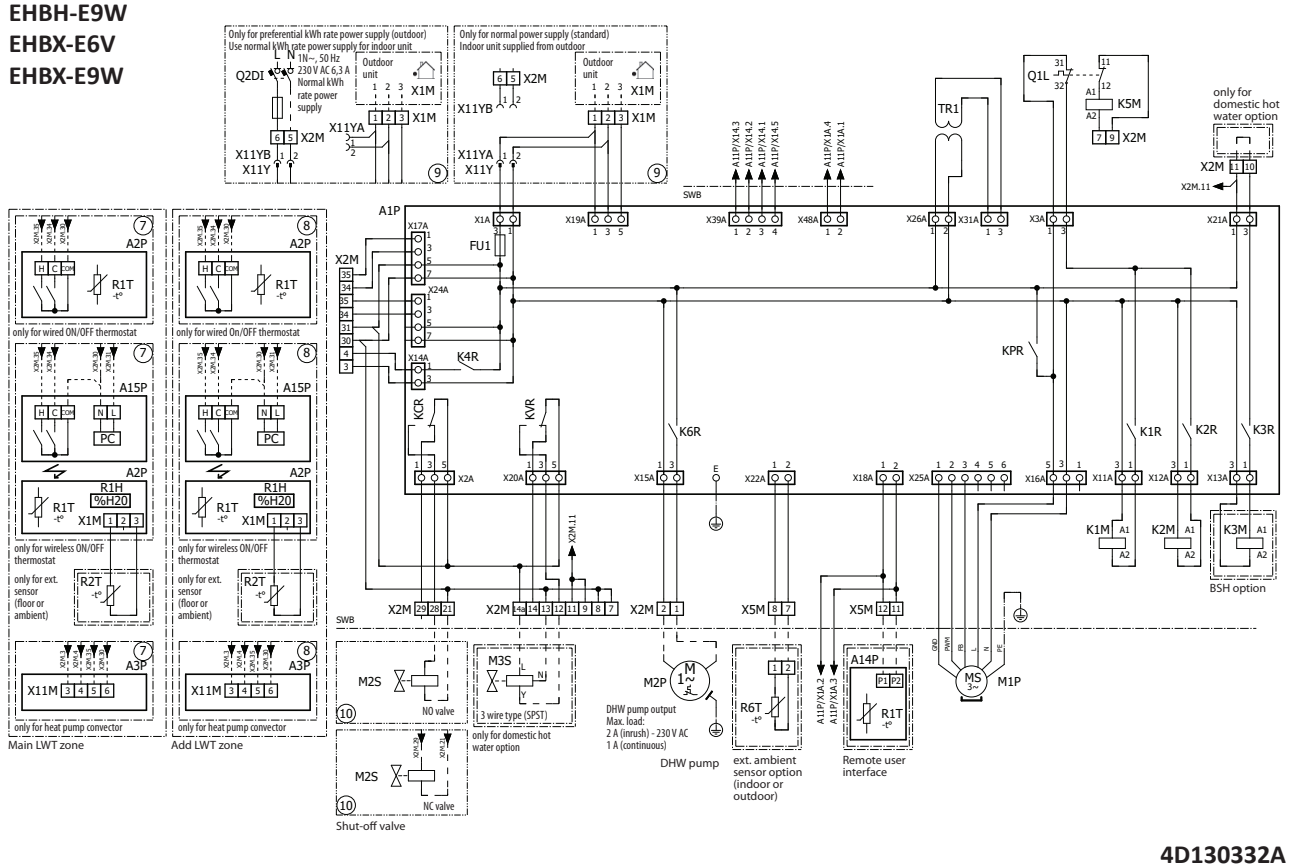
EHBH-E6V
EHBH-E9W
EHBX-E6V
EHBX-E9W



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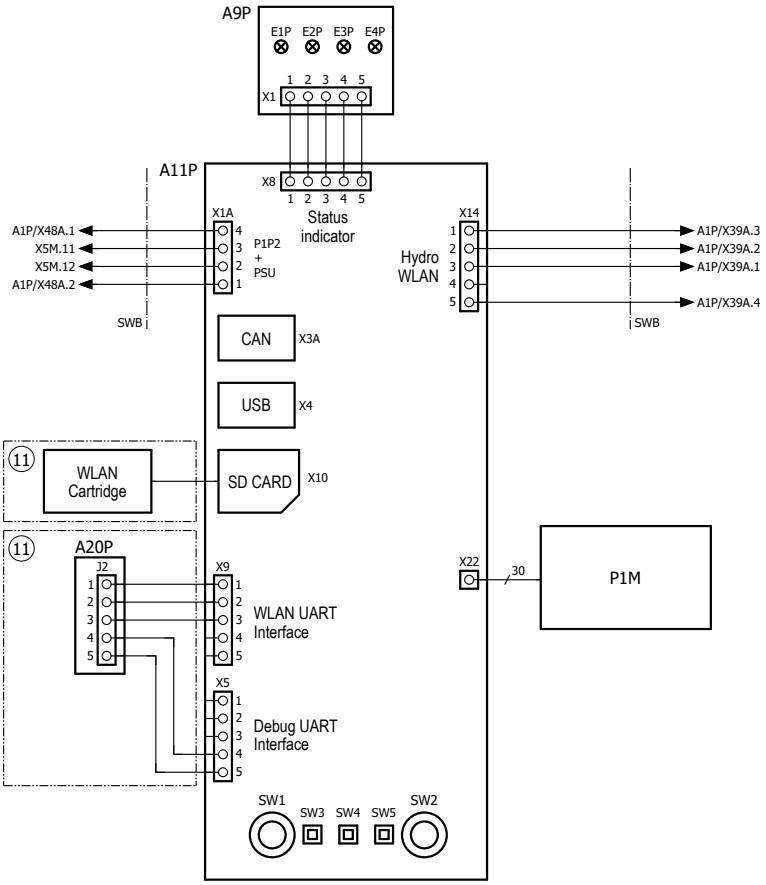
8 Wiring diagrams

8 - 2 Control Circuit

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



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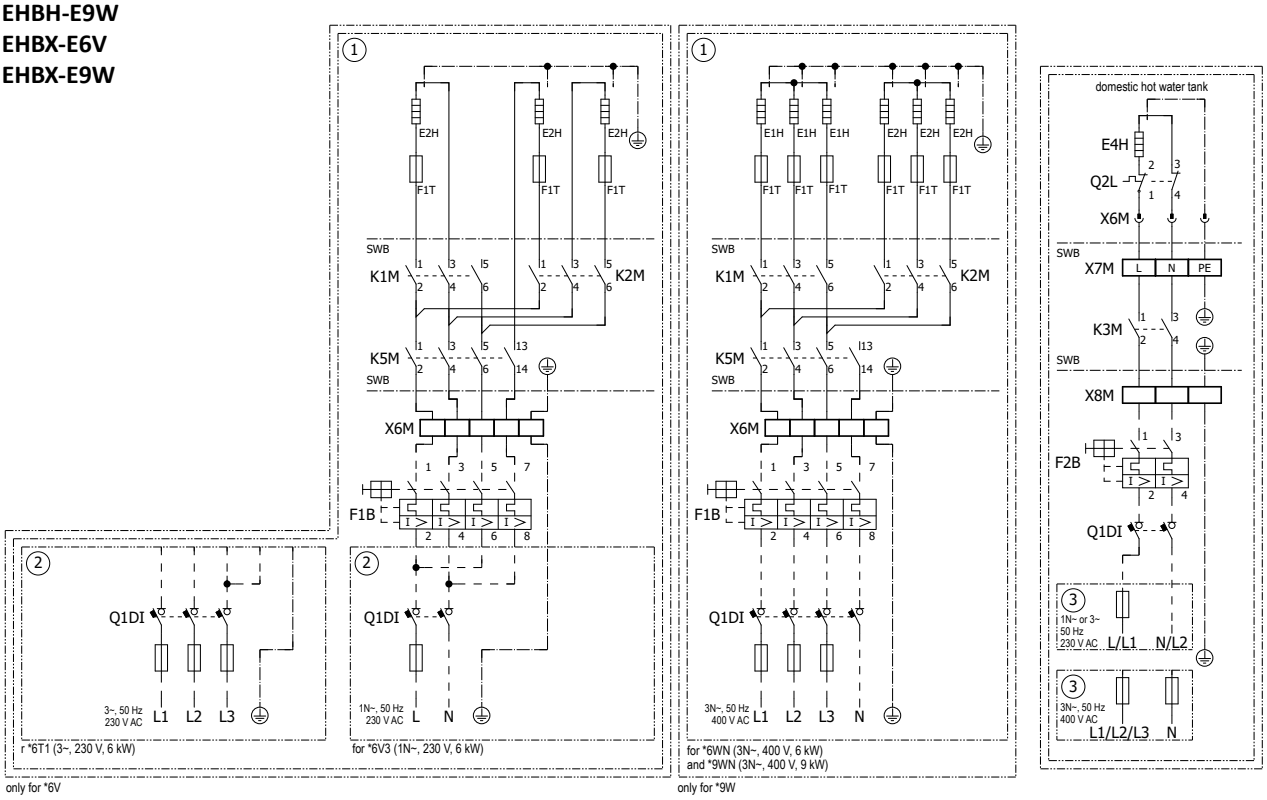
8 Wiring diagrams

8 - 3 Power Supply, Back-up Heater

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



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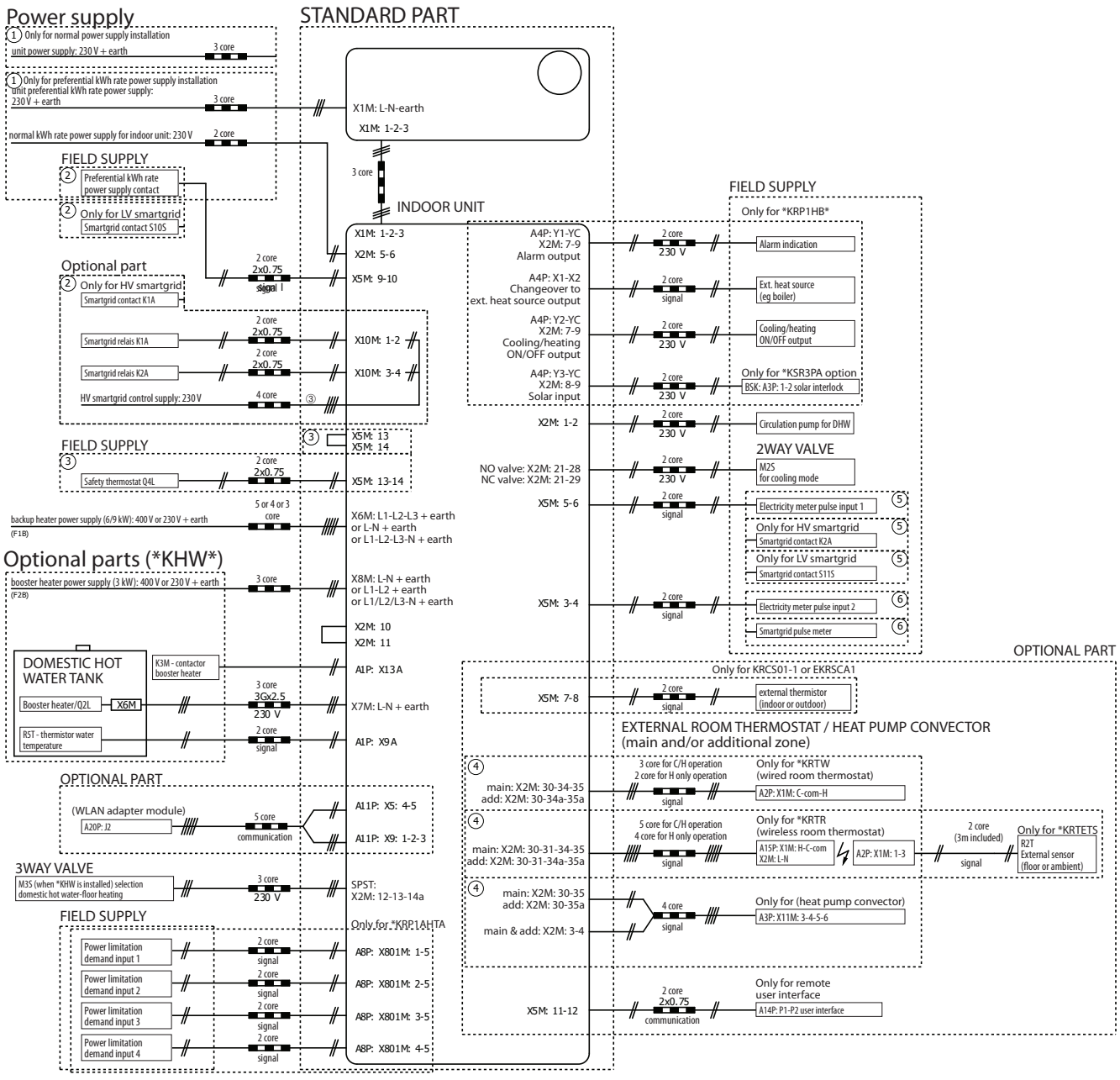
9 External connection diagrams

9 - 1 External Connection Diagrams

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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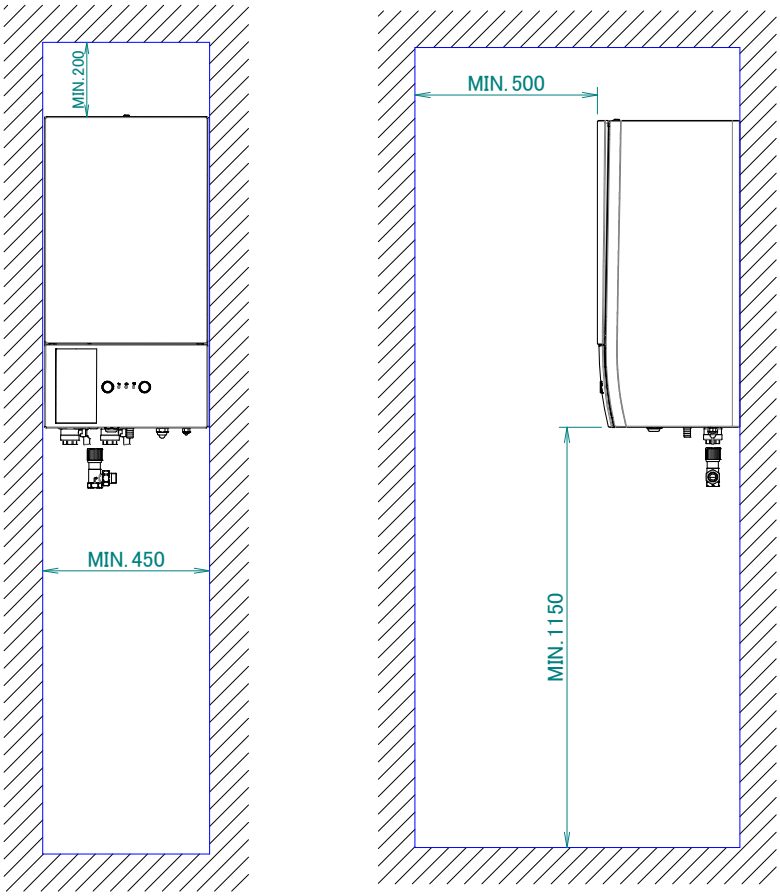
10 Installation

10 - 1 Installation Method

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



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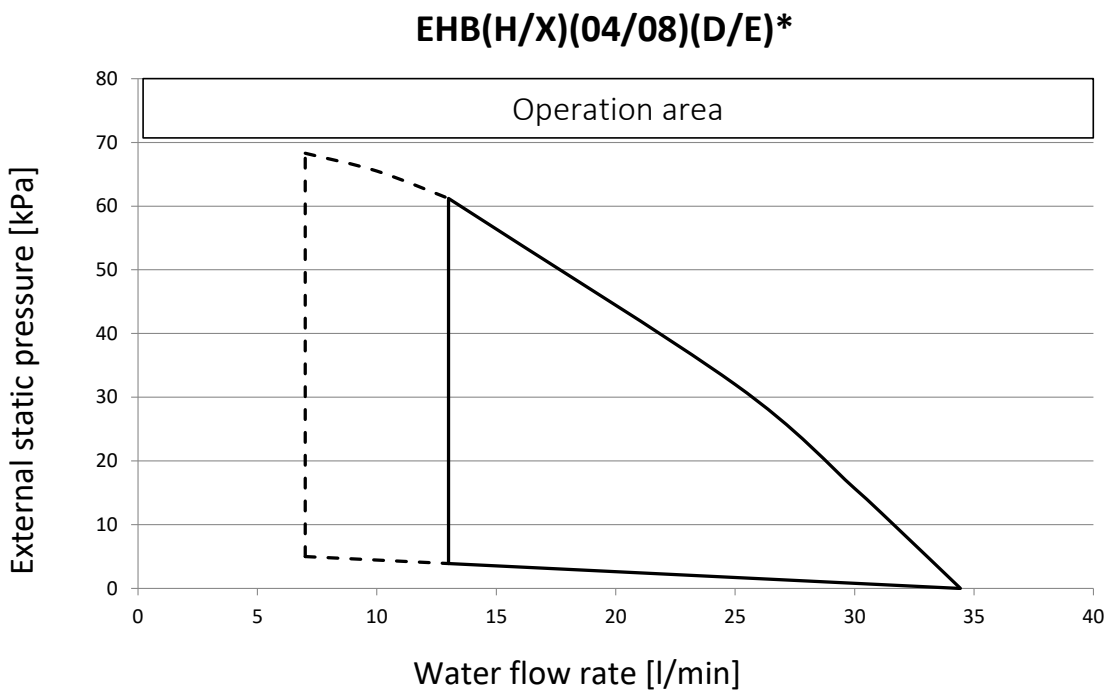
11 Hydraulic performance

11 - 1 Static Pressure Drop Unit

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



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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Daikin Europe N.V. Naamloze Vennootschap · Zandvoordestraat 300 · 8400 Oostende · Belgium · www.daikin.eu · BE 0412 120 336 · RPR Oostende (Responsible Editor)

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