



# Daikin Altherma low temperature split Technical Data

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





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

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# 1 Features

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

Wall mounted heating only 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.



Onecta app  
(optional)



Online  
controller

## 2 Specifications

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	P <sub>5</sub> *V	Bar*l	Plate heat exchanger
					38
Refrigerant side heat exchanger	Type				Plate heat exchanger
	Quantity				1
Pump	Plates	Quantity			42
	Type				DC motor
Water side Heat exchanger	Nr of speeds				PWM
	Power input		W		52
	Type				Plate heat exchanger
Expansion vessel	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
Water circuit	Supplier/ Manu- facturer details	Name or trademark	Name and address		Daikin Europe N.V. Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium
	Piping connections diameter		inch		G 1" (female)
Refrigerant 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)
Sound power level	Gas side diameter		mm		15.9
	Liquid side diameter		mm		6.35
Sound pressure level	Nom.		dB(A)		42 (3)
	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

## 2 Specifications

Electrical specifications				EHBH04E6V	EHBH08E6V	
Power supply	Name			See note 8		
	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 (6)	
Wiring connections	Communication cable	Quantity		3		
		Remark		1.5 mm <sup>2</sup>		
	Electric meter	Quantity		2		
		Remark		Minimum 0.75 mm <sup>2</sup> (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 <sup>2</sup> (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 <sup>2</sup>		
	For connection with A3P	Quantity		Depends on thermostat type, cf. installation manual		
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 9		
	For connection with M2S	Quantity		2		
Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 9				
For connection with optional	Quantity		4			
	Remark		100 mA, minimum 0.75 mm <sup>2</sup>			

(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
	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*I	
Refrigerant side heat exchanger	Type			Plate heat exchanger
	Quantity			1
	Plates	Quantity		42

## 2 Specifications

Technical specifications				EHBH08E9W		
Pump	Type			DC motor		
	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/ Name or trademark			Daikin Europe N.V.		
	Manu- Name and address facturer details			Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium		
Water circuit	Piping connections diameter	inch			G 1" (female)	
	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	Ambient	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		Ambient	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
		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 (6)	

## 2 Specifications

2

Electrical specifications			EHBH08E9W
Wiring connections	Communication cable	Quantity	3
		Remark	1.5 mm <sup>2</sup>
Electric meter		Quantity	2
		Remark	Minimum 0.75 mm <sup>2</sup> (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 <sup>2</sup> (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 <sup>2</sup>
For connection with A3P		Quantity	Depends on thermostat type, cf. installation manual
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 9
For connection with M2S		Quantity	2
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 9
For connection with optional		Quantity	4
		Remark	100 mA, minimum 0.75 mm <sup>2</sup>

(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: Art3§3: 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				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	Ps*V	Bar*l	Plate heat exchanger
					38
Refrigerant side heat exchanger	Type			Plate heat exchanger	
	Quantity			1	
	Plates	Quantity		42	
Pump	Type			DC motor	
	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)	



## 2 Specifications

Technical specifications				EHBX04E6V	EHBX08E6V	
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/ Name or trademark	Daikin Europe N.V.				
	Manu- Name and address facturer details	Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium				
Water circuit	Piping connections diameter	inch		G 1" (female)		
	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				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	
	Current	Voltage	V		230	
		Maximum running current	A		26.0	
		Recommended fuses	A		20.000 (6)	

## 2 Specifications

2

Electrical specifications			EHBX04E6V	EHBX08E6V
Wiring connections	Communication cable	Quantity	3	
		Remark	1.5 mm <sup>2</sup>	
Electric meter	Preferential kWh rate power supply	Quantity	2	
		Remark	Minimum 0.75 mm <sup>2</sup> (5VDC pulse detection)	
Domestic hot water pump	For power supply back-up heater	Quantity	Power: 2	
		Remark	Power 6.3A (Select diameter and type according to national and local regulations)	
For connection with R6T	For connection with A3P	Quantity	2	
		Remark	Minimum 0.75 mm <sup>2</sup> (2A inrush, 1A continuous)	
For connection with M2S	For connection with optional	Quantity	Prewired	
		Remark	Select diameter & type according to national & local regulations	
For connection with optional		Quantity	2	
		Remark	Minimum 0.75 mm <sup>2</sup>	
		Quantity	Depends on thermostat type, cf. installation manual	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 9	
		Quantity	2	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 9	
		Quantity	4	
		Remark	100 mA, minimum 0.75 mm <sup>2</sup>	

(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: Art3§3: 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	Type			DC motor
	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)

## 2 Specifications

Technical specifications				EHBX08E9W		
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/ Name or trademark	Daikin Europe N.V.				
	Manu- Name and address facturer details	Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium				
Water circuit	Piping connections diameter	inch		G 1" (female)		
	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 supply	Power	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

2

Electrical specifications			EHBX08E9W
Wiring connections	Communication cable	Quantity	3
		Remark	1.5 mm <sup>2</sup>
Electric meter		Quantity	2
		Remark	Minimum 0.75 mm <sup>2</sup> (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 <sup>2</sup> (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 <sup>2</sup>
For connection with A3P		Quantity	Depends on thermostat type, cf. installation manual
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 9
For connection with M2S		Quantity	2
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 9
For connection with optional		Quantity	4
		Remark	100 mA, minimum 0.75 mm <sup>2</sup>

(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: Art3§3: 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

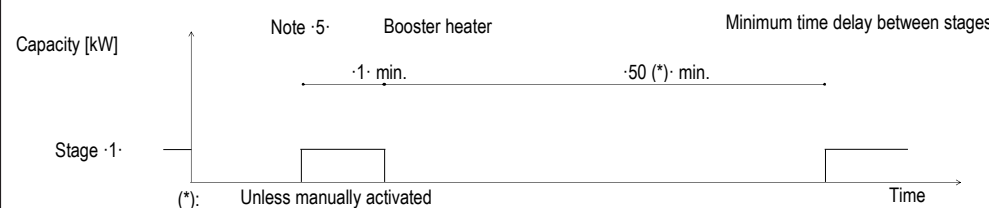
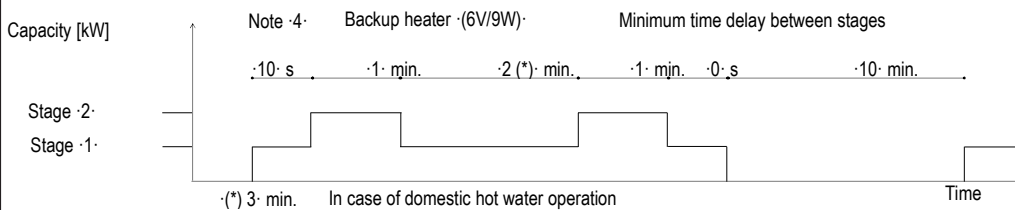
# 3 Electrical data

## 3 - 1 Electrical Data

**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 ··		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										
Current	Voltage	V	230 +-10%						400 +-10%				
	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						-				
	Minimum Ssc value	Complex 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 +EK·Z2	A	13									
	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	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												



**4D112011A**

# 3 Electrical data

## 3 - 1 Electrical Data

### EHBH-E6V / EHBH-E9W / EHBX-E6V / EHBX-E9W / EHVH-E6V / EHVH-E9W / EHVH-UE6V / EHVX-E6V / EHVX-E9W / EHVZ-E6V / EHVZ-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
    - 1· pulse/kWh
    - 10· pulse/kWh
    - 100· 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 metering is not allowed).
  - Required number of electrical meters

Outdoor unit type		ERGA(04/06/08)(D/E)AV3(H)(7)							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	-

Outdoor unit type		ERGA(04/06/08)(D/E)AV3(H)(7)	
Indoor unit type		*HV(H/X)(04/08)(D/E)(A/J)V	
Backup heater type		Booster heater (·2.4· kW)	
Immersion heater		1~	
Immersion heater power supply		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)\*E(A/F)\*.

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 ·*HBM*.	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
EHBH04E(A/F)* Heating only indoor unit	o	---	---	o	---	---
EHBX04E(A/F)* Reversible indoor unit	o	---	---	o	---	---
EHBH08E(A/F)* Heating only indoor unit	---	o	o	---	o	o
EHBX08E(A/F)* Reversible indoor unit	---	o	o	---	o	o

Description	ERGA04EAV37	ERGA06EAV3H	ERGA06EAV3H	ERGA08EAV3H	ERGA08EAV3H7
EHBH04E(A/F)* Heating only indoor unit	o	o	---	---	---
EHBX04E(A/F)* Reversible indoor unit	o	o	---	---	---
EHBH08E(A/F)* Heating only indoor unit	---	---	o	o	o
EHBX08E(A/F)* Reversible indoor unit	---	---	o	o	o

#### Kit availability

Reference	Description	EHB*(04/08)E(A/F)*		
		04 - 6V	08 - 6V	08 - 9W
EHBH*	Heating only indoor unit	o	o	o
EHBX*	Reversible indoor unit	o	o	o
EKRP1HBAA	Digital I/O PCB	*(1) (2) o	o	o
EKRP1AHTA	Demand PCB	*(3) o	o	o
EKPCAB4	PC cable	*(4) o	o	o
EKHWS150D3V3	Domestic hot water tank ·150l 1~230 V·	o	o	o
EKHWS180D3V3	Domestic hot water tank ·180l 1~230 V·	o	o	o
EKHWS200D3V3	Domestic hot water tank ·200l 1~230 V·	o	o	o
EKHWS250D3V3	Domestic hot water tank ·250l 1~230 V·	o	o	o
EKHWS300D3V3	Domestic hot water tank ·300l 1~230 V·	o	o	o
EKHWSU150D3V3	Domestic hot water tank ·150l 1~230 V·	o	o	o
EKHWSU180D3V3	Domestic hot water tank ·180l 1~230 V·	o	o	o
EKHWSU200D3V3	Domestic hot water tank ·200l 1~230 V·	o	o	o
EKHWSU250D3V3	Domestic hot water tank ·250l 1~230 V·	o	o	o
EKHWSU300D3V3	Domestic hot water tank ·300l 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
EKRTEETS	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 ·\*KBPTH16\*· 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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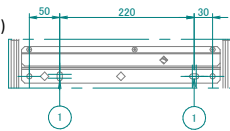
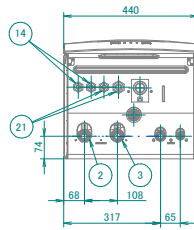
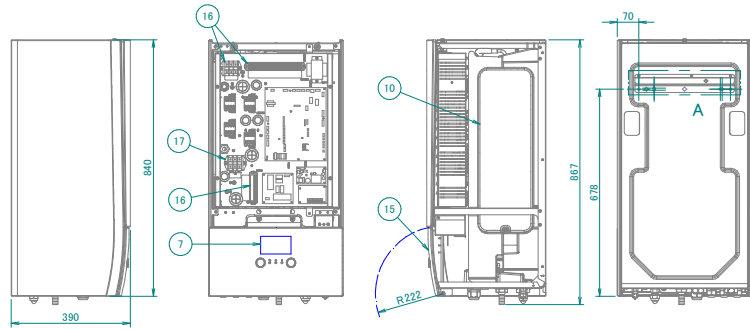
# 5 Dimensional drawings

## 5 - 1 Dimensional Drawings

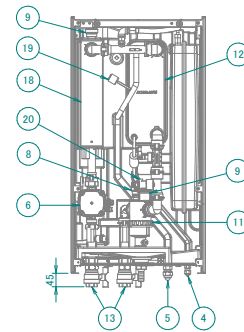
5

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

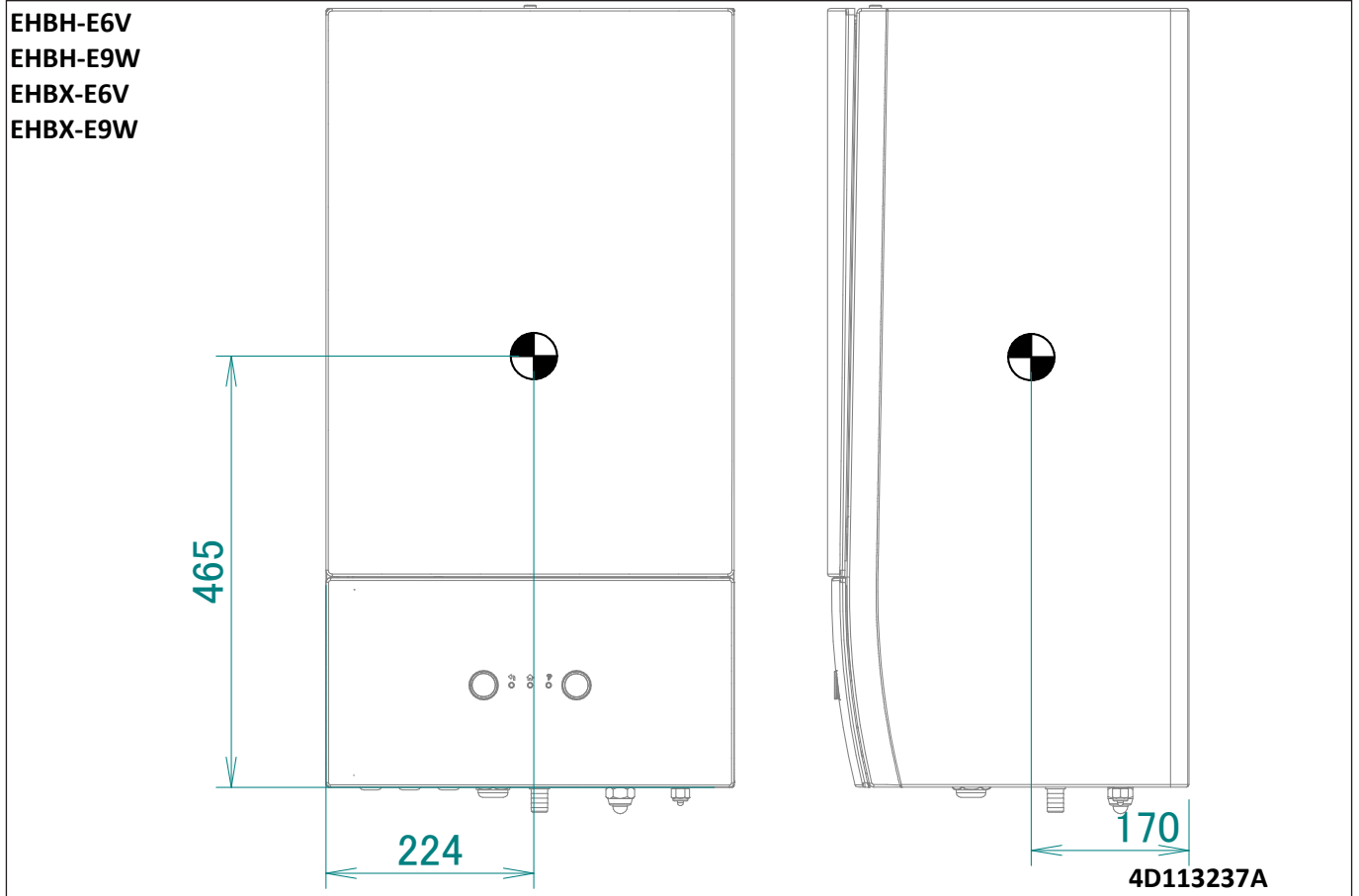


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# 6 Centre of gravity

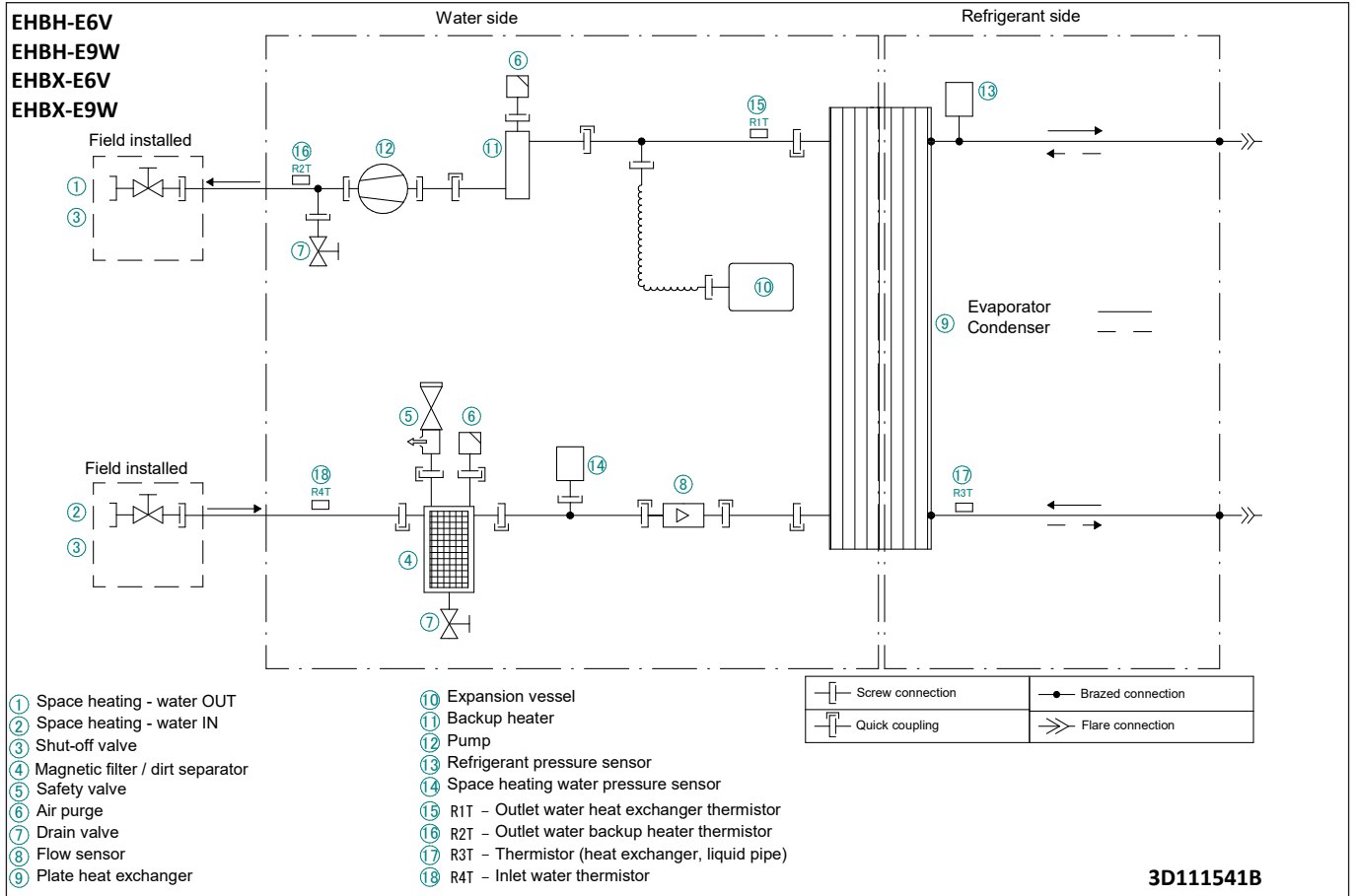
6 - 1 Centre of Gravity



# 7 Piping diagrams

## 7 - 1 Piping Diagrams

7



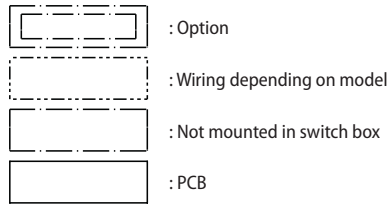
# 8 Wiring diagrams

## 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

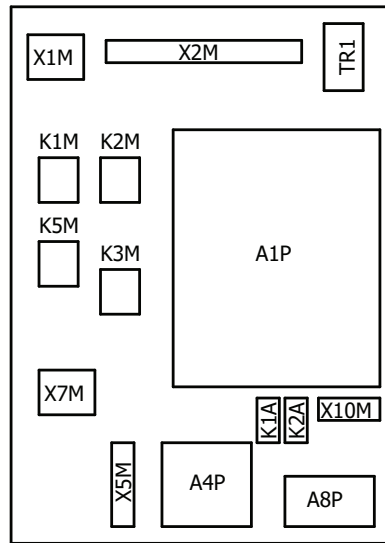


#### NOTES

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

- 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 kit
  - 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



#### 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 (3kW)
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 spaceheating/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	# smart grid 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

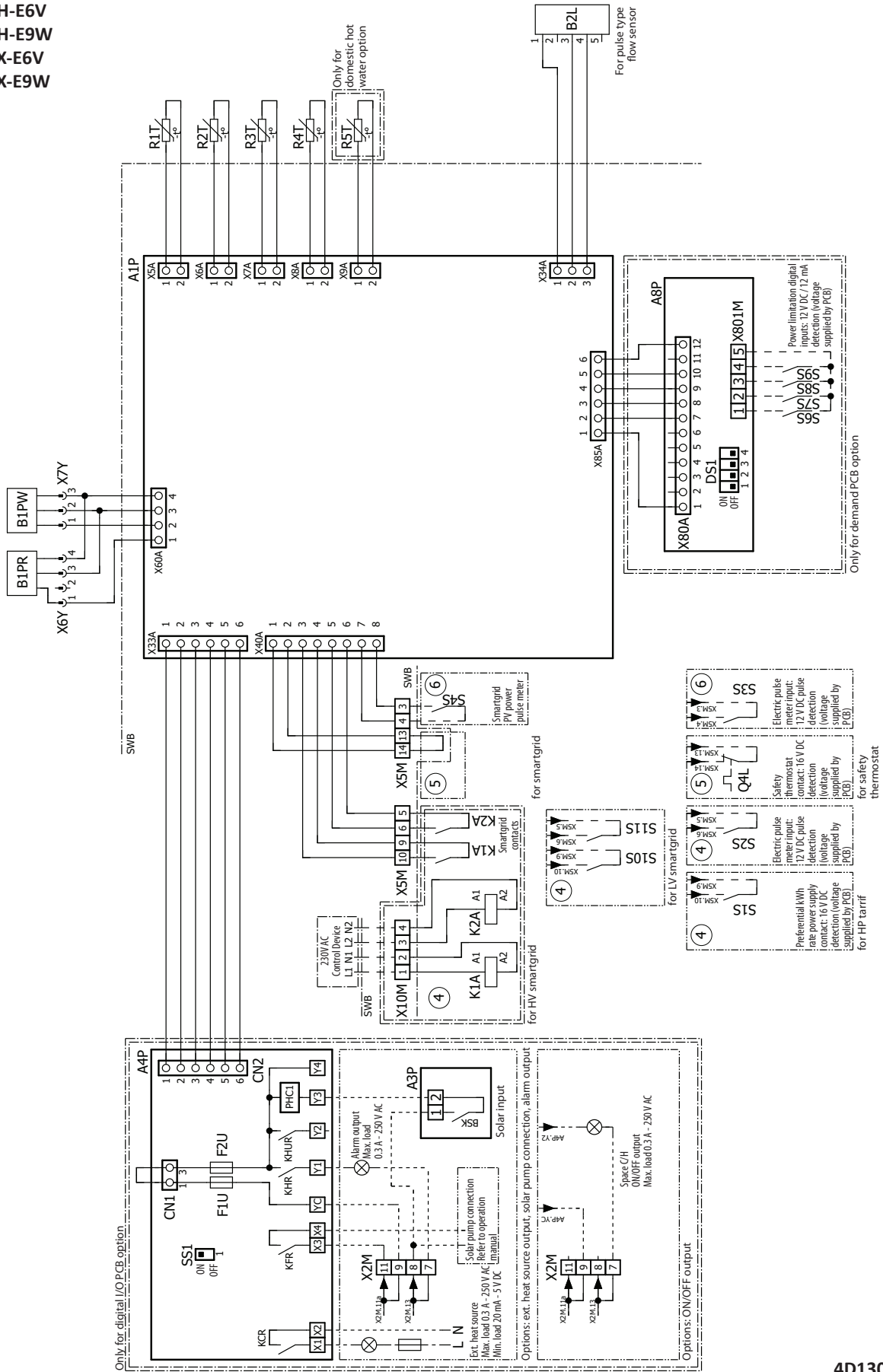
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# 8 Wiring diagrams

## 8 - 2 Control Circuit

8

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



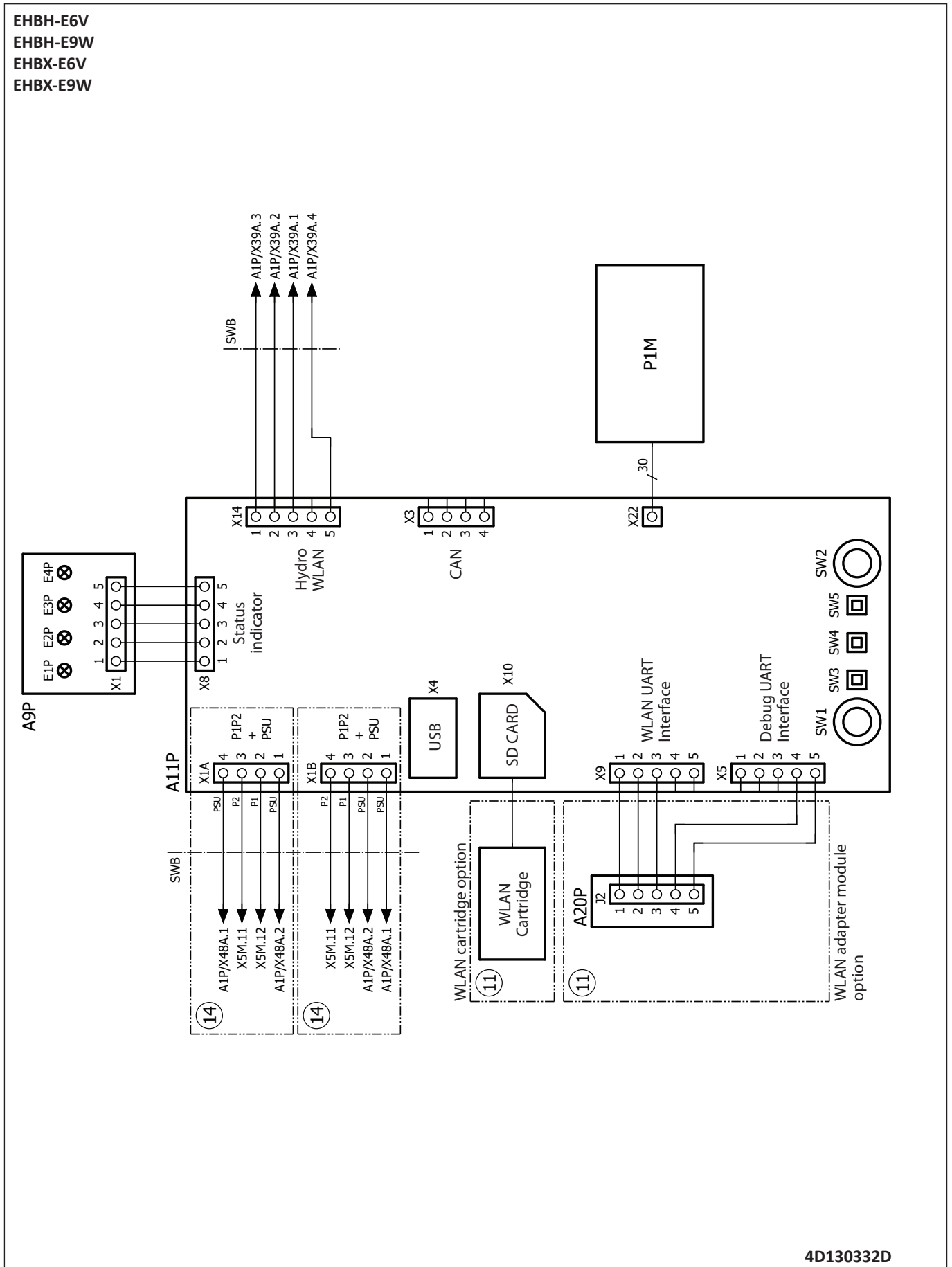
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# 8 Wiring diagrams

## 8 - 2 Control Circuit

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

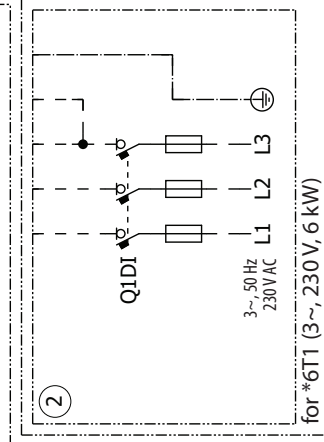
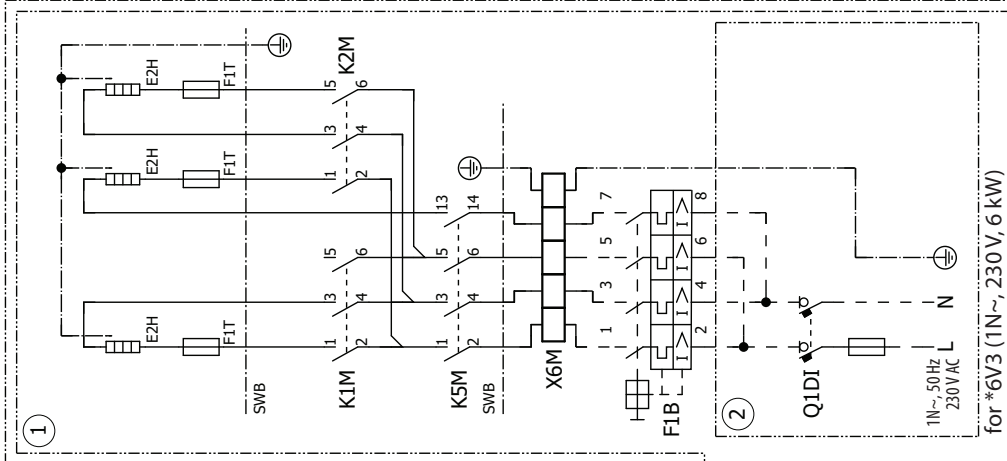
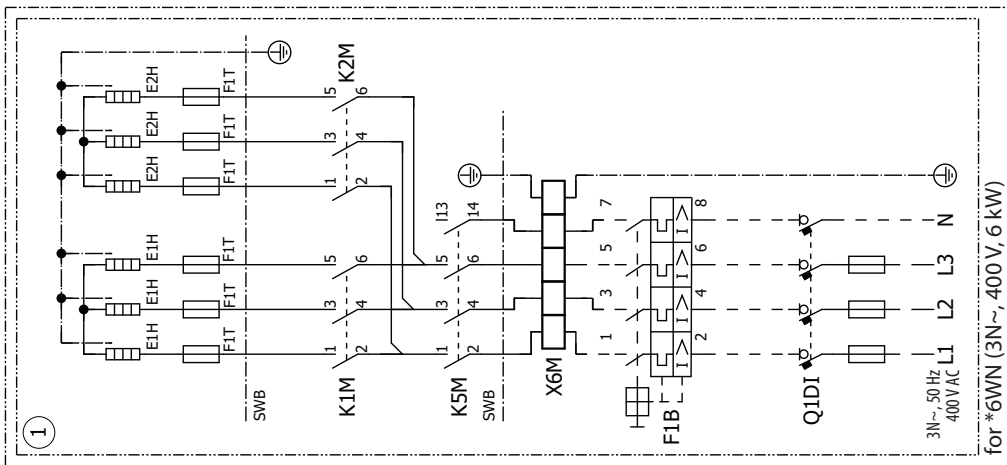
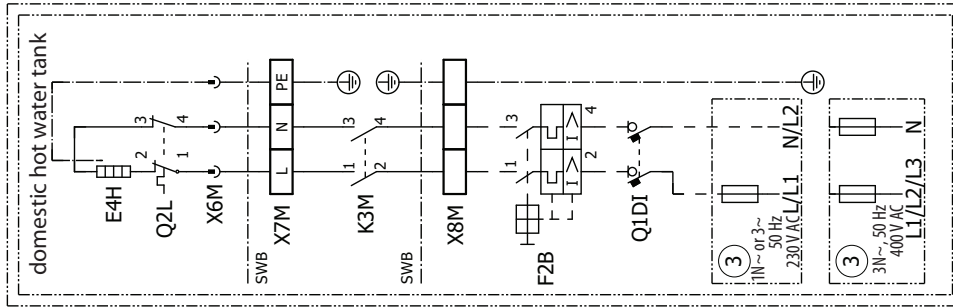


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# 8 Wiring diagrams

## 8 - 3 Power Supply, Back-up Heater

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



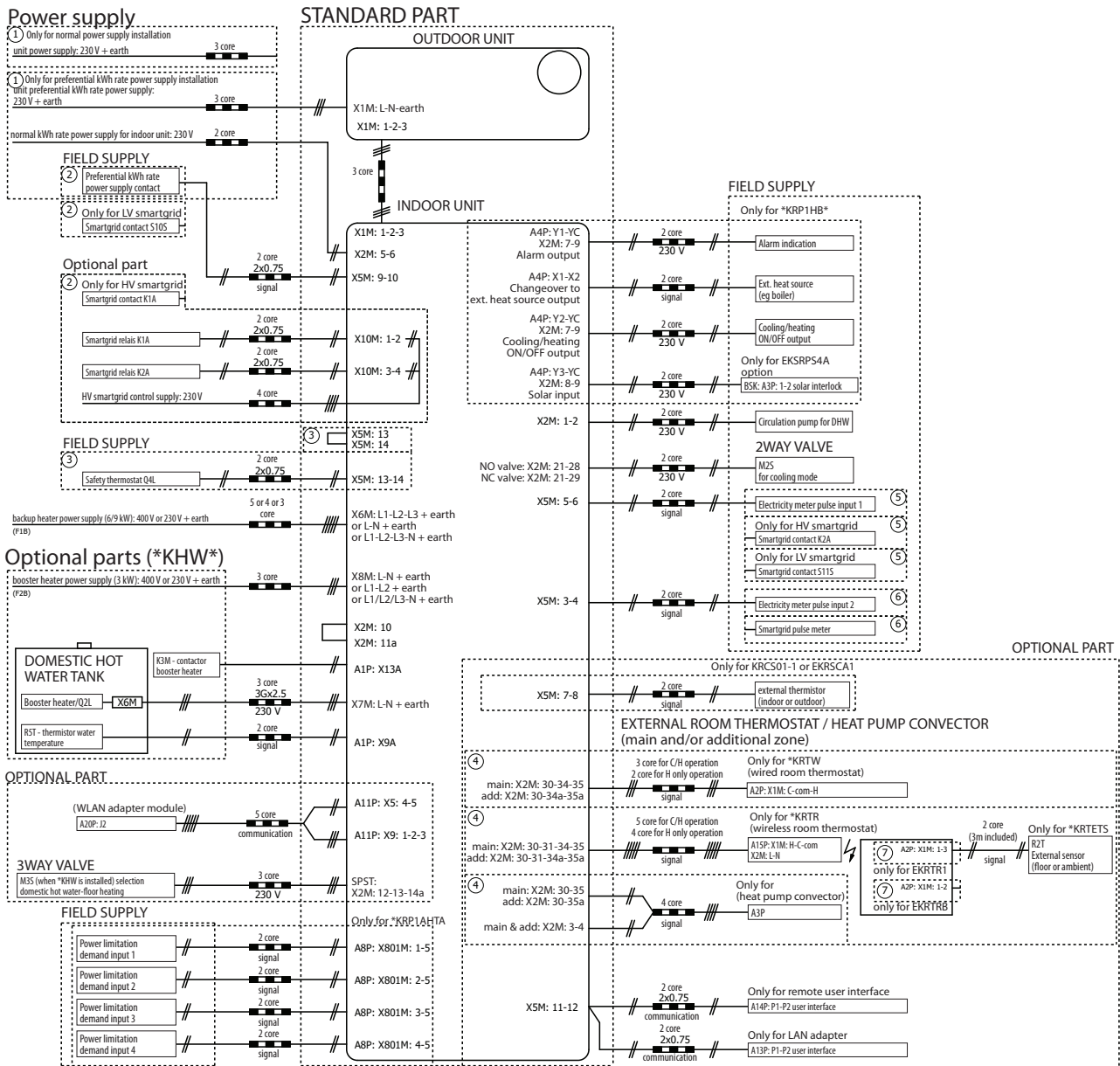
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# 9 External connection diagrams

## 9 - 1 External Connection Diagrams

9

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



**NOTE**

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

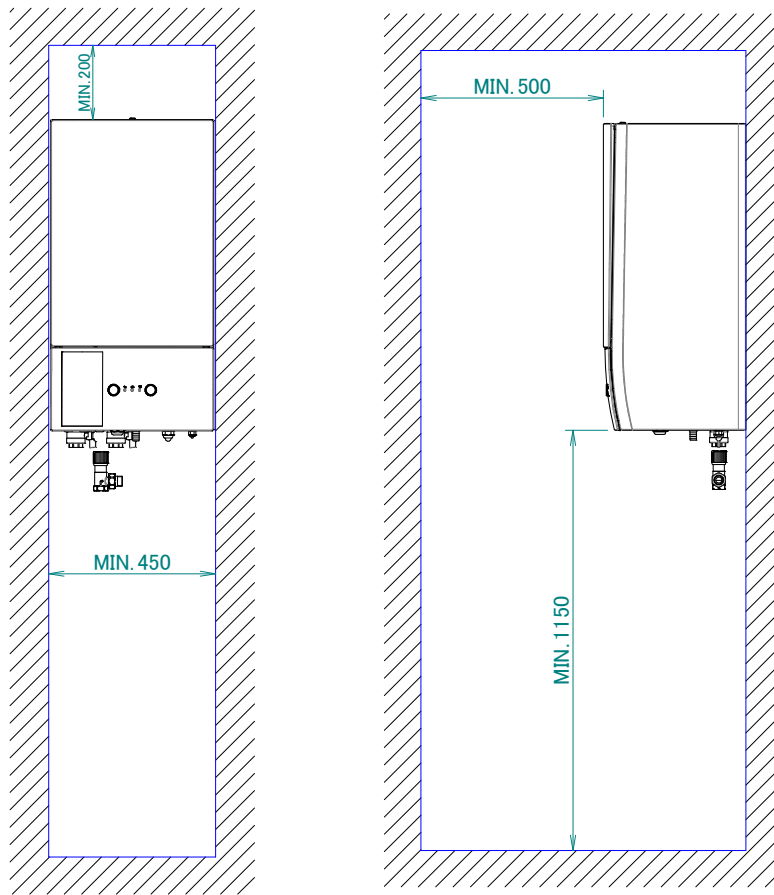
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# 10 Installation

## 10 - 1 Installation Method

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



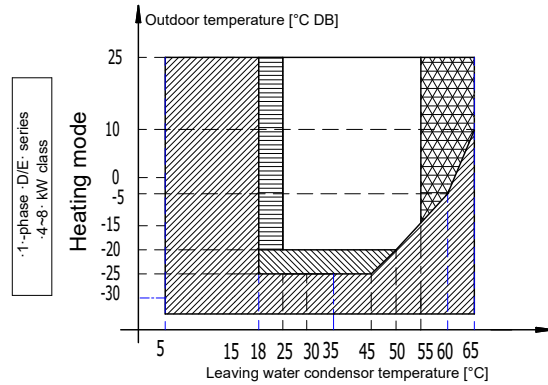
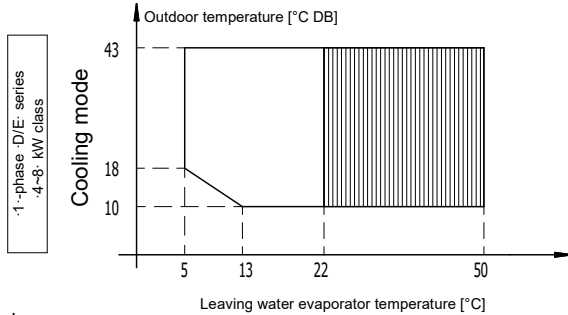
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# 11 Operation range






## 11 - 1 Operation Range

11

**EHBH-E6V / EHBH-E9W / EHBX-E6V / EHBX-E9W**  
**EHSH-E / EHSB-E / EHSX-E / EHSXB-E**  
**EHVH-E6V / EHVH-E9W / EHVH-UE6V / EHVX-E6V**  
**EHVX-E9W / EHVZ-E6V / EHVZ-E9W**



**Legend**

-  Backup heater only operation  
No outdoor unit operation
-  Outdoor unit operation if setpoint  $\geq -25^{\circ}\text{C}$
-  Operation of outdoor unit possible, but with possible capacity reduction.  
If the outdoor temperature  $< -25^{\circ}\text{C}$ , the outdoor unit will stop.  
Indoor unit and backup heater operation will continue.
-  Pull-down area
-  Outdoor unit operation if setpoint  $> -55^{\circ}\text{C}$  and  $\Delta T = -10^{\circ}\text{C}$  ( $\Delta T = \text{outlet temperature} - \text{inlet temperature}$ )

**Remark**

In restricted power supply mode, the outdoor unit, booster heater and backup heater can only operate separately.

**Warning**

In areas with low ambient temperatures and high humidity, or in areas with heavy snowfall, remove the suction grille to ensure proper operation.

Non-exhaustive list of areas: Austria, Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Latvia, Lithuania, Norway, Poland, Romania, Serbia, Slovakia, Sweden, ...

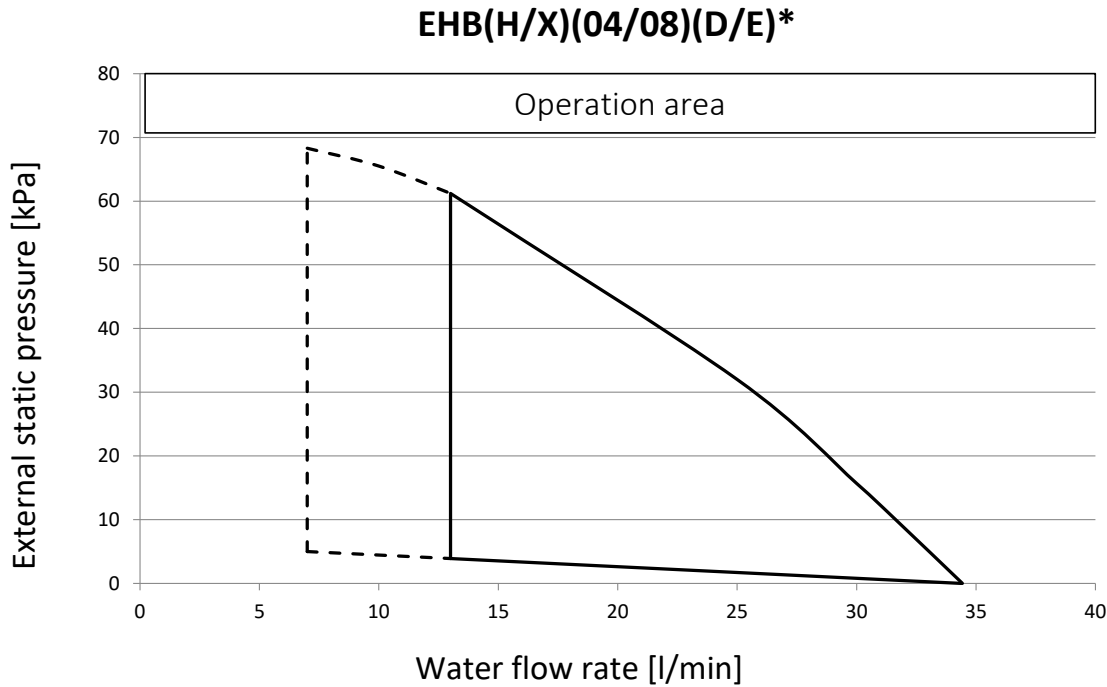
Indoor  
 ·D/E(A/F/J)· series Standard

**3D111563D**

# 12 Hydraulic performance

## 12 - 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.

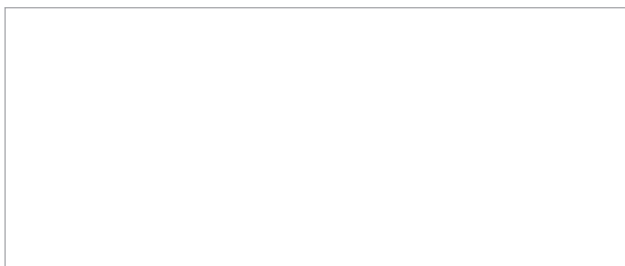
See dashed lines

### 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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