Daikin Altherma low temperature split Technical Data EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W



EBBH11DF6V
EBBH16DF6V
EBBH11DF9W
EBBH16DF9W
EBBX11DF6V
EBBX16DF6V
EBBX11DF9W
EBBX16DF9W

EEDEN21

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EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

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1 Features

1 - 1 EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

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



Daikin Residential Controller (optional)

Voice control

2 Specifications

1 - 1 EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

Technical specifications					EBBH11D6V	EBBH16D6V
Heater capacity	Step 1			kW	2	
	Step 2			kW	2 or 4	
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	52.5	54.5
	Packed unit			kg	60	62
Packing	Material				Carton / PP (Straps) / EPS	
	Weight			kg	7	
PED	Category				Category II	
	Most critical part	Name			Plate heat exchanger	
		Ps*V		Bar*l	75	
Refrigerant side heat exchanger	Type				Plate heat exchanger	
	Quantity				1	
	Plates	Quantity			90	
Pump	Type				Grundfos UPM3LK 15-75 130 PWM	Grundfos UPML GEO 25-105 130 PWM
	Nr of speeds				PWM	
	Power input			W	52	
Water side Heat exchanger	Type				Plate heat exchanger	
	Quantity				1	
	Plates	Quantity			90	
	Water volume			l	2.16	
	Water flow rate	Min.		l/min	22.0 (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/ Manu-facturer 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	4.2	4.4
	Minimum water volume in the system for cooling			l	20 (2)	
	Minimum water volume in the system for heating			l	20 (2)	
Refrigerant circuit	Gas side diameter			mm	15.9	
	Liquid side diameter			mm	9.52	
Sound power level	Nom.			dBA	44 (3)	
Sound pressure level	Nom.			dBA	30 (4)	
Operation range	Heating	Ambient	Min.	°C	-25 (5)	
			Max.	°C	35 (5)	
		Water side	Min.	°C	15 (5)	
			Max.	°C	60 (5)	
	Indoor installa-tion	Ambient	Min.	°CDB	5	
			Max.	°CDB	35	
	Cooling	Ambient	Min.	°CDB	10 (5)	
			Max.	°CDB	43 (5)	
		Water side	Min.	°C	5 (5)	
			Max.	°C	22 (5)	
	Domestic hot water	Ambient	Min.	°CDB	-25 (5)	
			Max.	°CDB	35 (5)	
		Water side	Min.	°C	25 (5)	
			Max.	°C	55 (5)	

2 Specifications

1 - 1 EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

Technical specifications				EBBH11D6V	EBBH16D6V
Safety devices	Item	01		Thermal cut out	

Electrical specifications				EBBH11D6V	EBBH16D6V
Power supply	Name			See note 7	
	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	
		Zmax List	Ω	0.22	
		Minimum Ssc value		Equipment complying with EN/IEC 61000-3-12	
	Recommended fuses		A	20 (6)	
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 8	
	For connection with M2S	Quantity		2	
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 8	
	For connection with optional	Quantity		4	
		Remark		100 mA, minimum 0.75 mm²	

(1)Operation area is extended to lower flow rates depending on operation mode - refer to ESP curve. |
(2)Excluding the water volume in the unit. This volume will guarantee suficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is ≥ 45° C (eg. Fan coils) |
(3)Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°. |
(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. |
(5)For more details, see operation range drawing |
(6)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |
(7)Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply. |
Select diameter and type according to national and local regulations

Technical specifications				EBBH11D9W	EBBH16D9W
Heater capacity	Step 1		kW	3	
	Step 2		kW	max. 6 kW	
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	52.5	54.5
	Packed unit		kg	60	62
Packing	Material			Carton / PP (Straps) / EPS	
	Weight		kg	7	
PED	Category			Category II	
	Most critical part	Name		Plate heat exchanger	
		Ps*V	Bar*l	75	

2 Specifications

1 - 1 EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

Technical specifications					EBBH11D9W	EBBH16D9W
Refrigerant side heat exchanger	Type				Plate heat exchanger	
	Quantity				1	
	Plates	Quantity			90	
Pump	Type				Grundfos UPM3LK 15-75 130 PWM	Grundfos UPML GEO 25-105 130 PWM
	Nr of speeds				PWM	
	Power input			W	52	
Water side Heat exchanger	Type				Plate heat exchanger	
	Quantity				1	
	Plates	Quantity			90	
	Water volume			l	2.16	
	Water flow rate	Min.		l/min	22.0 (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	4.2	4.4
	Minimum water volume in the system for cooling			l	20 (2)	
	Minimum water volume in the system for heating			l	20 (2)	
Refrigerant circuit	Gas side diameter			mm	15.9	
	Liquid side diameter			mm	9.52	
Sound power level	Nom.			dBA	44 (3)	
Sound pressure level	Nom.			dBA	30 (4)	
Operation range	Heating	Ambient	Min.	°C	-25 (5)	
			Max.	°C	35 (5)	
		Water side	Min.	°C	15 (5)	
			Max.	°C	60 (5)	
	Indoor installation	Ambient	Min.	°CDB	5	
			Max.	°CDB	35	
	Cooling	Ambient	Min.	°CDB	10 (5)	
			Max.	°CDB	43 (5)	
		Water side	Min.	°C	5 (5)	
			Max.	°C	22 (5)	
	Domestic hot water	Ambient	Min.	°CDB	-25 (5)	
			Max.	°CDB	35 (5)	
		Water side	Min.	°C	25 (5)	
			Max.	°C	55 (5)	
Safety devices	Item	01			Thermal cut out	

Electrical specifications				EBBH11D9W	EBBH16D9W
Power supply	Name			See note 7	
	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	
	Recommended fuses		A	20 (6)	

2 Specifications

1 - 1 EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

Electrical specifications			EBBH11D9W	EBBH16D9W
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 8	
	For connection with M2S	Quantity	2	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 8	
	For connection with optional	Quantity	4	
		Remark	100 mA, minimum 0.75 mm²	

(1)Operation area is extended to lower flow rates depending on operation mode - refer to ESP curve. |
(2)Excluding the water volume in the unit. This volume will guarantee suficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is ≥ 45° C (eg. Fan coils) |
(3)Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°. |
(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. |
(5)For more details, see operation range drawing |
(6)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |
(7)Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply. |
Select diameter and type according to national and local regulations

Technical specifications				EBBX11D6V	EBBX16D6V
Heater capacity	Step 1		kW	2	
	Step 2		kW	2 or 4	
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	52.5	54.5
	Packed unit		kg	60	62
Packing	Material			Carton / PP (Straps) / EPS	
	Weight		kg	7	
PED	Category			Category II	
	Most critical part	Name		Plate heat exchanger	
		Ps*V	Bar*l	75	
Refrigerant side heat exchanger	Type			Plate heat exchanger	
	Quantity			1	
	Plates	Quantity		90	
Pump	Type			Grundfos UPM3LK 15-75 130 PWM	Grundfos UPML GEO 25-105 130 PWM
	Nr of speeds			PWM	
	Power input		W	52	
Water side Heat exchanger	Type			Plate heat exchanger	
	Quantity			1	
	Plates	Quantity		90	
	Water volume		l	2.16	
	Water flow rate	Min.	l/min	22.0 (1)	
Expansion vessel	Volume		l	10	
	Max. water pressure		bar	3	
	Pre pressure		bar	1	

2 Specifications

1 - 1 EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

Technical specifications					EBBX11D6V	EBBX16D6V
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	4.2	4.4
	Minimum water volume in the system for cooling			l	20 (2)	
	Minimum water volume in the system for heating			l	20 (2)	
Refrigerant circuit	Gas side diameter			mm	15.9	
	Liquid side diameter			mm	9.52	
Sound power level	Nom.			dBA	44 (3)	
Sound pressure level	Nom.			dBA	30 (4)	
Operation range	Heating	Ambient	Min.	°C	-25 (5)	
			Max.	°C	35 (5)	
		Water side	Min.	°C	15 (5)	
			Max.	°C	60 (5)	
	Indoor installation	Ambient	Min.	°CDB	5	
			Max.	°CDB	35	
	Cooling	Ambient	Min.	°CDB	10 (5)	
			Max.	°CDB	43 (5)	
		Water side	Min.	°C	5 (5)	
			Max.	°C	22 (5)	
	Domestic hot water	Ambient	Min.	°CDB	-25 (5)	
			Max.	°CDB	35 (5)	
		Water side	Min.	°C	25 (5)	
			Max.	°C	55 (5)	
Safety devices	Item	01			Thermal cut out	

Electrical specifications					EBBX11D6V	EBBX16D6V
Power supply	Name				See note 7	
	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	
		Zmax	List	Ω	0.22	
		Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12	
	Recommended fuses			A	20 (6)	

2 Specifications

1 - 1 EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

Electrical specifications				EBBX11D6V	EBBX16D6V
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 8	
	For connection with M2S	Quantity		2	
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 8	
	For connection with optional	Quantity		4	
		Remark		100 mA, minimum 0.75 mm²	

(1)Operation area is extended to lower flow rates depending on operation mode - refer to ESP curve. |
(2)Excluding the water volume in the unit. This volume will guarantee suficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is ≥ 45° C (eg. Fan coils) |
(3)Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°. |
(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. |
(5)For more details, see operation range drawing |
(6)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |
(7)Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply. |
Select diameter and type according to national and local regulations

Technical specifications				EBBX11D9W	EBBX16D9W
Heater capacity	Step 1		kW	3	
	Step 2		kW	max. 6 kW	
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	52.5	54.5
	Packed unit		kg	60	62
Packing	Material			Carton / PP (Straps) / EPS	
	Weight		kg	7	
PED	Category			Category II	
	Most critical part	Name		Plate heat exchanger	
		Ps*V	Bar*l	75	
Refrigerant side heat exchanger	Type			Plate heat exchanger	
	Quantity			1	
	Plates	Quantity		90	
Pump	Type			Grundfos UPM3LK 15-75 130 PWM	Grundfos UPML GEO 25-105 130 PWM
	Nr of speeds			PWM	
	Power input		W	52	
Water side Heat exchanger	Type			Plate heat exchanger	
	Quantity			1	
	Plates	Quantity		90	
	Water volume		l	2.16	
	Water flow rate	Min.	l/min	22.0 (1)	
Expansion vessel	Volume		l	10	
	Max. water pressure		bar	3	
	Pre pressure		bar	1	

2 Specifications

1 - 1 EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

Technical specifications					EBBX11D9W	EBBX16D9W
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	4.2	4.4
	Minimum water volume in the system for cooling			l	20 (2)	
	Minimum water volume in the system for heating			l	20 (2)	
Refrigerant circuit	Gas side diameter			mm	15.9	
	Liquid side diameter			mm	9.52	
Sound power level	Nom.			dBA	44 (3)	
Sound pressure level	Nom.			dBA	30 (4)	
Operation range	Heating	Ambient	Min.	°C	-25 (5)	
			Max.	°C	35 (5)	
		Water side	Min.	°C	15 (5)	
			Max.	°C	60 (5)	
	Indoor installation	Ambient	Min.	°CDB	5	
			Max.	°CDB	35	
	Cooling	Ambient	Min.	°CDB	10 (5)	
			Max.	°CDB	43 (5)	
		Water side	Min.	°C	5 (5)	
			Max.	°C	22 (5)	
	Domestic hot water	Ambient	Min.	°CDB	-25 (5)	
			Max.	°CDB	35 (5)	
		Water side	Min.	°C	25 (5)	
			Max.	°C	55 (5)	
Safety devices	Item	01			Thermal cut out	

Electrical specifications				EBBX11D9W	EBBX16D9W
Power supply	Name			See note 7	
	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	
	Recommended fuses		A	20 (6)	

2 Specifications

1 - 1 EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

Electrical specifications			EBBX11D9W	EBBX16D9W
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 8	
	For connection with M2S	Quantity	2	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm²/ See note 8	
	For connection with optional	Quantity	4	
		Remark	100 mA, minimum 0.75 mm²	

(1)Operation area is extended to lower flow rates depending on operation mode - refer to ESP curve. |
(2)Excluding the water volume in the unit. This volume will guarantee suficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is ≥ 45° C (eg. Fan coils) |
(3)Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°. |
(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. |
(5)For more details, see operation range drawing |
(6)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |
(7)Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply. |
Select diameter and type according to national and local regulations

3 Electrical data

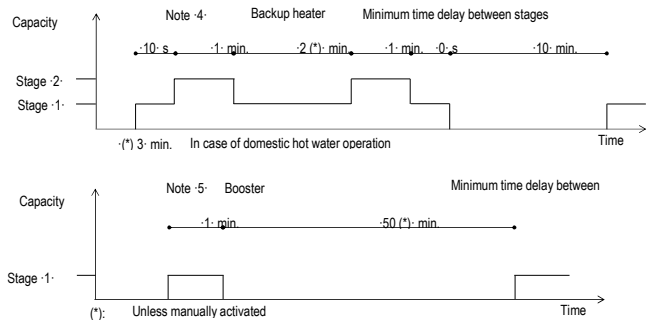
3 - 1 Electrical Data

EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W
EBVH-D6V
EBVH-D9W
EBVH-UD6V
EBVX-D6V
EBVX-D9W

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**	**3 - 6**	**3 - 9**	**·3 - 6· (in case of**		
	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 heater)	(2)		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)		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



4D121020C

3 Electrical data

3 - 1 Electrical Data

EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W
EBVH-D6V
EBVH-D9W
EBVH-UD6V
EBVX-D6V
EBVX-D9W

* 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
  - 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 metering is not allowed).
- Required number of electrical meters

Outdoor unit type		ERLA(11/14/16)DA(V3/W1)							
Indoor unit type		EBB(H/X)(11/16)DF*			EBV(H/X/Z)(11/16)S(18/23)DJ*			EBVH16SU23DJ6V	
	Backup heater type	6V		9W	6V		9W	6V	
	Backup heater power supply	1~ 230V	3~ 230V	3~ 400V	1~ 230V	3~ 230V	3~ 400V	1~ 230V	3~ 230V
	Backup heater configuration	2 / 4 / 6 kW	6 kW	3 / 6 / 9 kW	2 / 4 / 6 kW	6 kW	3 / 6 / 9 kW	2 / 4 / 6 kW	6 kW
		Normal kWh rate power supply							
Electrical meter type	1~	1	-	-	1	-	-	1	-
	3~ balanced	-	-	-	-	-	-	-	-
	3~ unbalanced	-	1	1	-	1	1	-	1
		Preferential kWh rate power supply							
Electrical meter type	1~	2	1	1	2	1	1	2	1
	3~ balanced	-	-	-	-	-	-	-	-
	3~ unbalanced	-	1	1	-	1	1	-	1

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4 Combination table

4 - 1 Combination Table

EBBH-D6V / EBBH-D9W
EBBX-D6V / EBBX-D9W

Factory-mounted equipment for ·EBB(H/X)*DF*·

Description	EBB(H/X)(11/16)DF*	
Heating only model ·EBBH*·	6V (9)	9W (9)
Reversible model ·EBBX*·	6V (9)	9W (9)
Backup heater ·2-4-6kW 1N~230 V·	o	-
Backup heater ·2-4-6kW 3~230 V·	o	-
Backup heater ·3-6-9kW 3N~400 V·	-	o

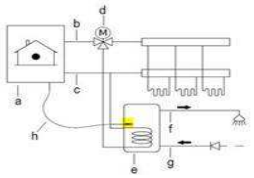
Outdoor combination table for ·EBB(H/X)(11/16)DF*·

	Description	ERLA11DAV3	ERLA14DAV3	ERLA16DAV3	ERLA11DAW1	ERLA14DAW1	ERLA16DAW1
EBBH11DF*	Heating only indoor unit	o	---	---	o	---	---
EBBX11DF*	Reversible indoor unit	o	---	---	o	---	---
EBBH16DF*	Heating only indoor unit	---	o	o	---	o	o
EBBX16DF*	Reversible indoor unit	---	o	o	---	o	o

Kit availability

Reference	Description		EBB*(11/16)DF*			
EBBH*	Heating only indoor unit		11 - 6V	11 - 9W	16 - 6V	16 - 9W
EBBX*	Reversible indoor unit		11 - 6V	11 - 9W	16 - 6V	16 - 9W
EKRP1HBAA	Digital I/O PCB	*(1) (2)	o	o	o	o
EKRP1AHTA	Demand PCB	*(3)	o	o	o	o
EKPCCAB4	PC cable	*(4)	o	o	o	o
EKHWS150D3V3	Domestic hot water tank ·150 l 1~230 V·		o	o	o	o
EKHWS180D3V3	Domestic hot water tank ·180 l 1~230 V·		o	o	o	o
EKHWS200D3V3	Domestic hot water tank ·200 l 1~230 V·		o	o	o	o
EKHWS250D3V3	Domestic hot water tank ·250 l 1~230 V·		o	o	o	o
EKHWS300D3V3	Domestic hot water tank ·300 l 1~230 V·		o	o	o	o
EKHWSU150D3V3	Domestic hot water tank ·150 l 1~230 V·		o	o	o	o
EKHWSU180D3V3	Domestic hot water tank ·180 l 1~230 V·		o	o	o	o
EKHWSU200D3V3	Domestic hot water tank ·200 l 1~230 V·		o	o	o	o
EKHWSU250D3V3	Domestic hot water tank ·250 l 1~230 V·		o	o	o	o
EKHWSU300D3V3	Domestic hot water tank ·300 l 1~230 V·		o	o	o	o
EKHWP300B	Domestic hot water tank with solar connection	*(5)	o	o	o	o
EKHWP500B	Domestic hot water tank with solar connection	*(5)	o	o	o	o
EKHWP300PB	Domestic hot water tank with solar connection	*(5)	o	o	o	o
EKHWP500PB	Domestic hot water tank with solar connection	*(5)	o	o	o	o
EKHY3PART	Third-party tank connection kit for thermistor pocket	*(11) (12)	o	o	o	o
EKMIKPOA	Bizone kit		o	o	o	o
EKMIKPHA			o	o	o	o
KRCS01-1	Remote indoor sensor	*(6)	o	o	o	o
EKRSCA1	Remote sensor for outdoor	*(6)	o	o	o	o
EKCC8-W	Universal centralised user interface		o	o	o	o
BRP069A71	WLAN module		o	o	o	o
BRP069A78	WLAN cartridge		o	o	o	o
BRC1HHDA*	HCI (Human Comfort Interface)		o	o	o	o
EKRELSG	Relay for Smart Grid		o	o	o	o
EKHBCONV	Conversion kit: heating only to reversible.	*(7)	o	o	o	o
FWXT10ATV3	Heat pump convector		o	o	o	o
FWXT15ATV3	Heat pump convector		o	o	o	o
FWXT20ATV3	Heat pump convector		o	o	o	o
EKWUFHTA1V3	Multi-zoning base unit 230 V	*(10)	o	o	o	o
EKRTWA	Wired room thermostat		o	o	o	o
EKRTR1	Wireless room thermostat		o	o	o	o
EKRTETS	External sensor room thermostat	*(8)	o	o	o	o

(11) ·EKHY3PART· can be used if you have a tank in which you can insert a thermistor.



(12) Conditions for third-party tank

Third-party with identical specifications as ·EKHWS*·
Coil surface >·1.05·m² and <·3.7·m²
Tank thermistor and booster heater above heat pump coil.

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 ·EBB(H/X)(11/16)DF*·.
(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) Heating only indoor unit
(8) Can only be used in combination with wireless room thermostat ·EKRTR1·.
(9) The backup heater capacity depends on a user interface setting.
(10) Multi-zoning wired controls

Remark

Other combinations than mentioned in this combination table are prohibited.

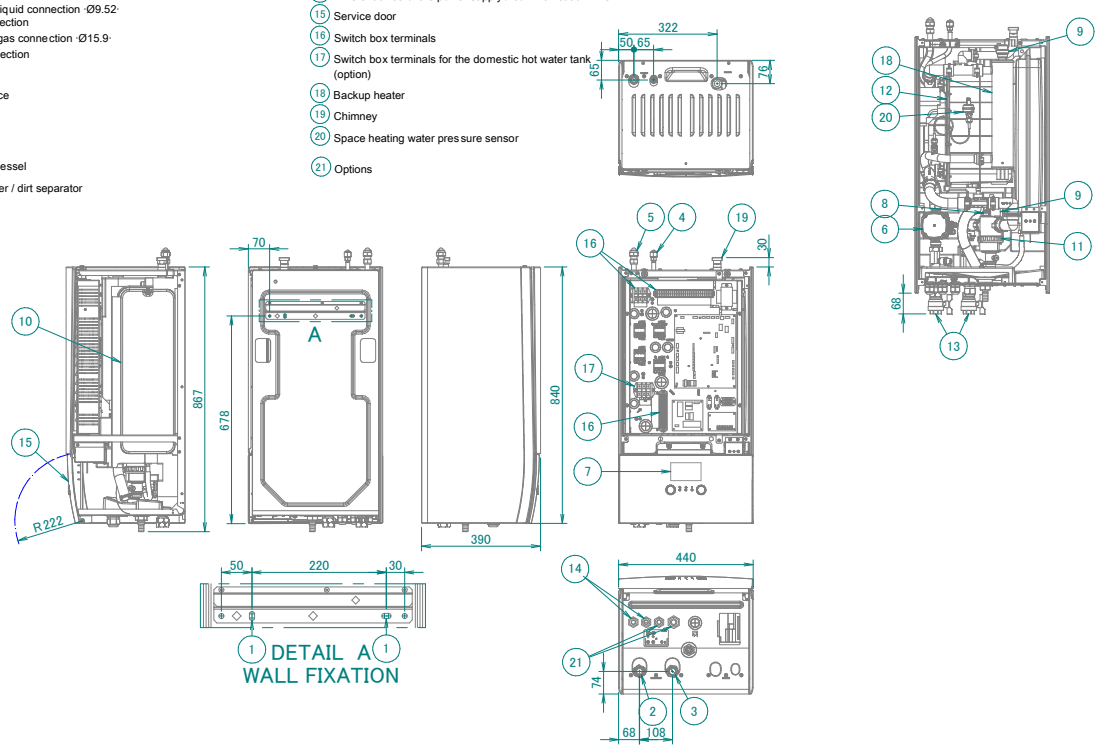
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5 Dimensional drawings

5 - 1 Dimensional Drawings

EBBH-D6V / EBBH-D9W
EBBX-D6V / EBBX-D9W

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 ·Ø9.52· 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. Chimney
20. Space heating water pressure sensor
21. Options

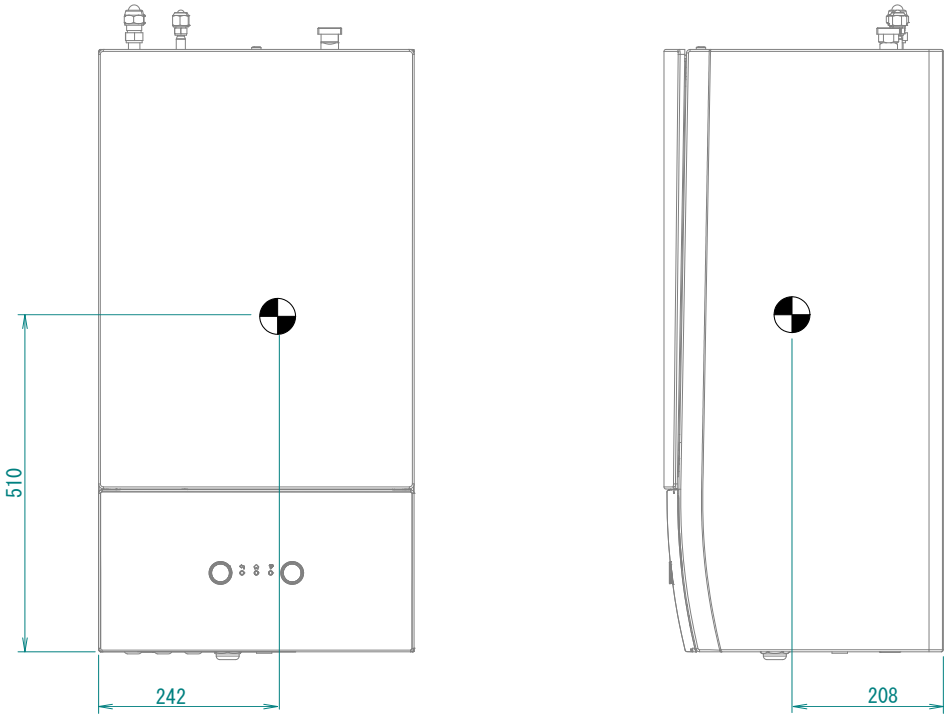


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6 Centre of gravity

6 - 1 Centre of Gravity

EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W



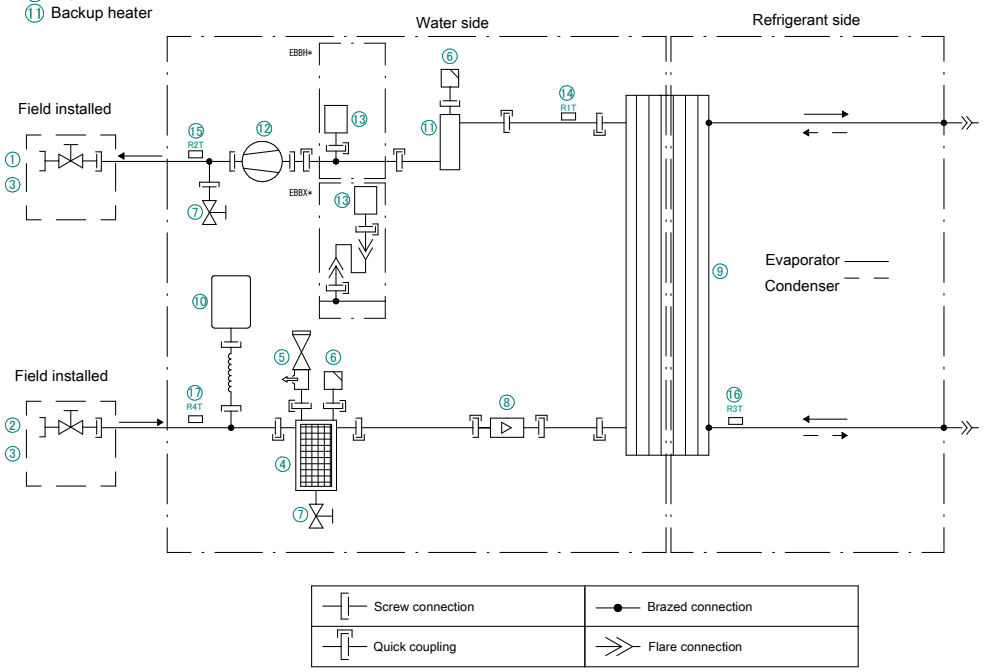
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7 Piping diagrams

7 - 1 Piping Diagrams

EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W

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 Space heating water pressure sensor
⑭ R1T – Outlet water heat exchanger thermistor
⑮ R2T – Outlet water backup heater thermistor
⑯ R3T – Thermistor (heat exchanger, liquid pipe)
⑰ R4T – Inlet water thermistor



3D133750

8 Wiring diagrams

8 - 1 Notes & Legend

EBBH-D6V / EBBH-D9W / EBBX-D6V / EBBX-D9W

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

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

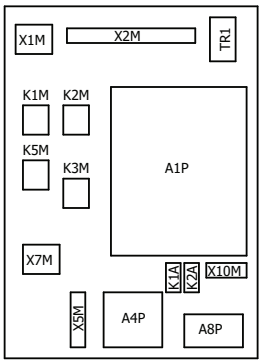
Backup heater power supply
- ☐ 6T1 (3~, 230V, 6kW)
- ☐ 6V3 (1N~, 230V, 6kW)
- ☐ 6WN/9WN (3N~, 400V, 6/9kW)

User installed options:
- ☐ 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
- ☐ Bizone mixing kit

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
A14P	*	user interface PCB
A15P	*	receiver PCB (wireless ON/OFF thermostat)
A20P	*	WLAN module
A30P	*	Bizone mixing kit PCB
B2L		flow 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 spaceheating/ domestic hot water
P1M		MMI display
PC (A15P)	*	power circuit

Part n°		Description
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
X10M	*	smartgrid power supply terminal strip
X*, X*A, X*H*, X*Y		connector
X*M		terminal strip

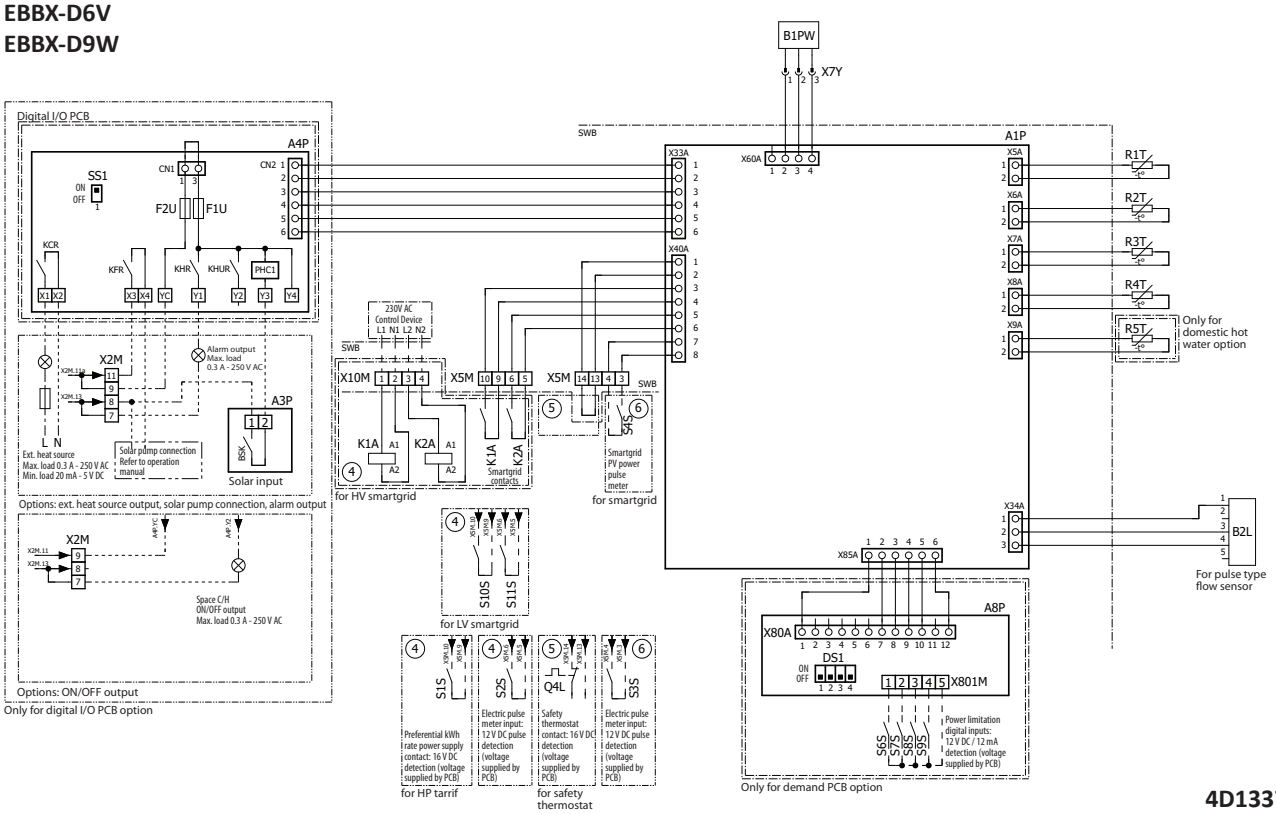
* : optional #: field supply

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8 Wiring diagrams

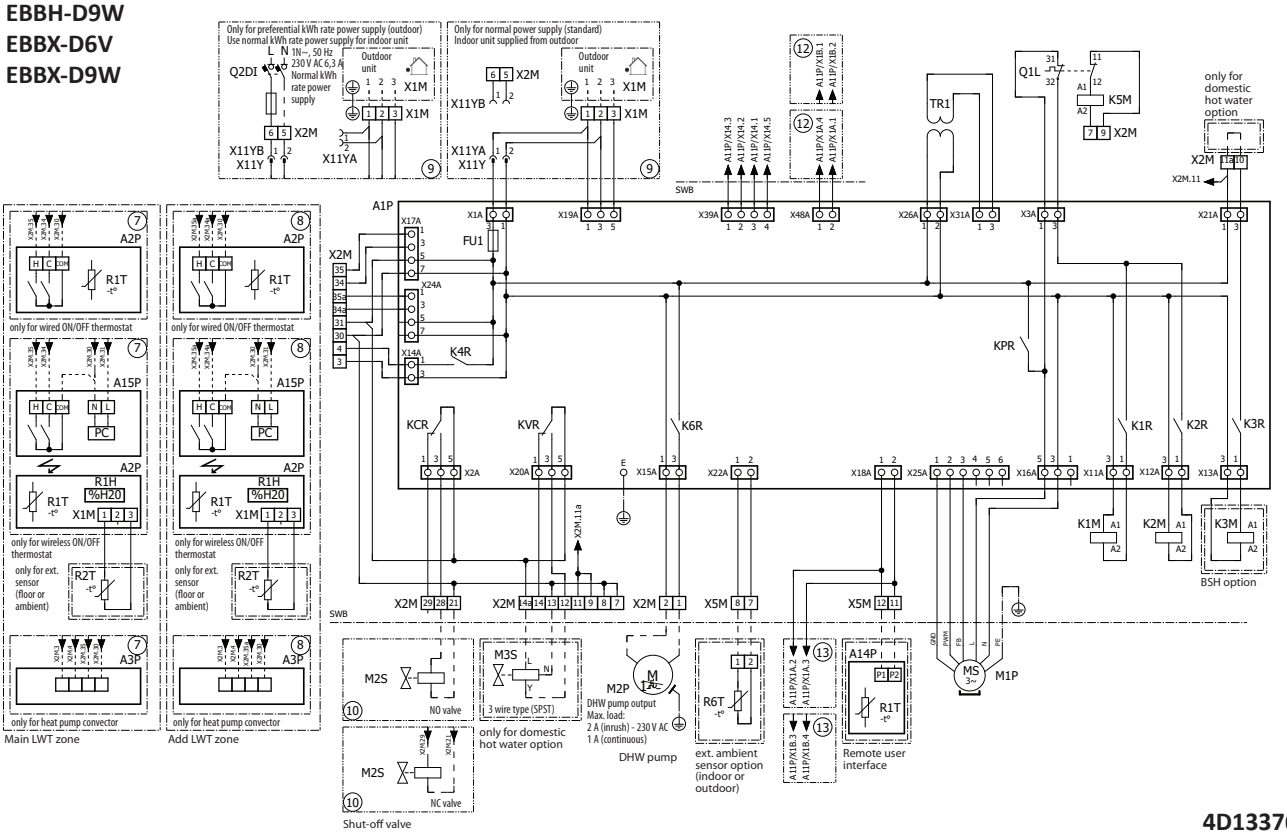
8 - 2 Control Circuit

EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W



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EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W

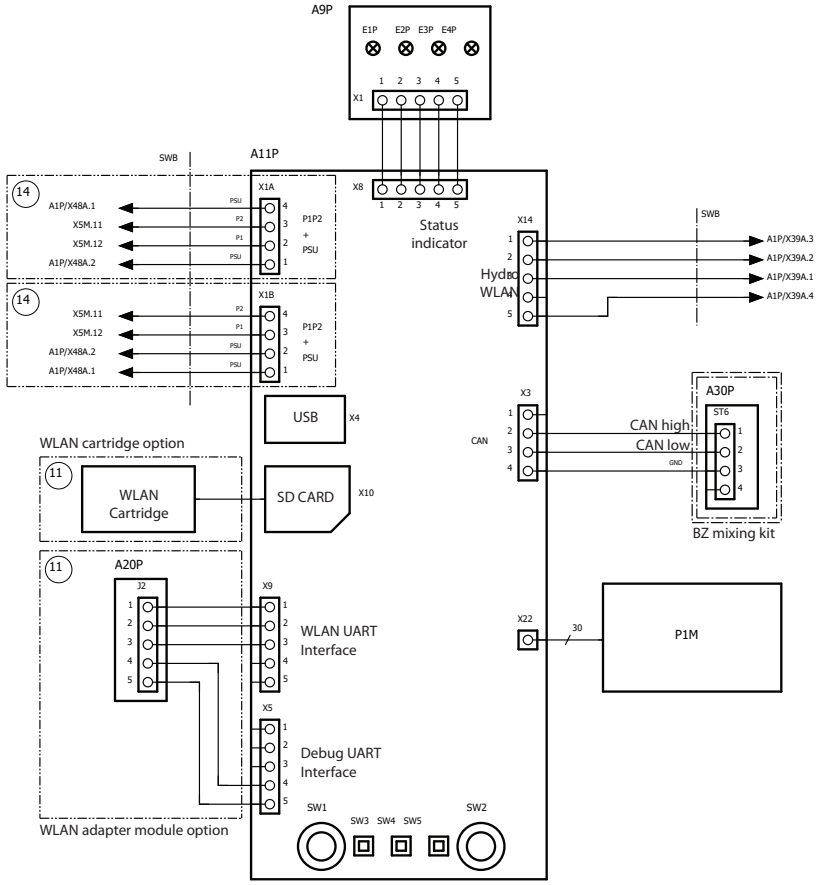


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8 Wiring diagrams

8 - 2 Control Circuit

EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W

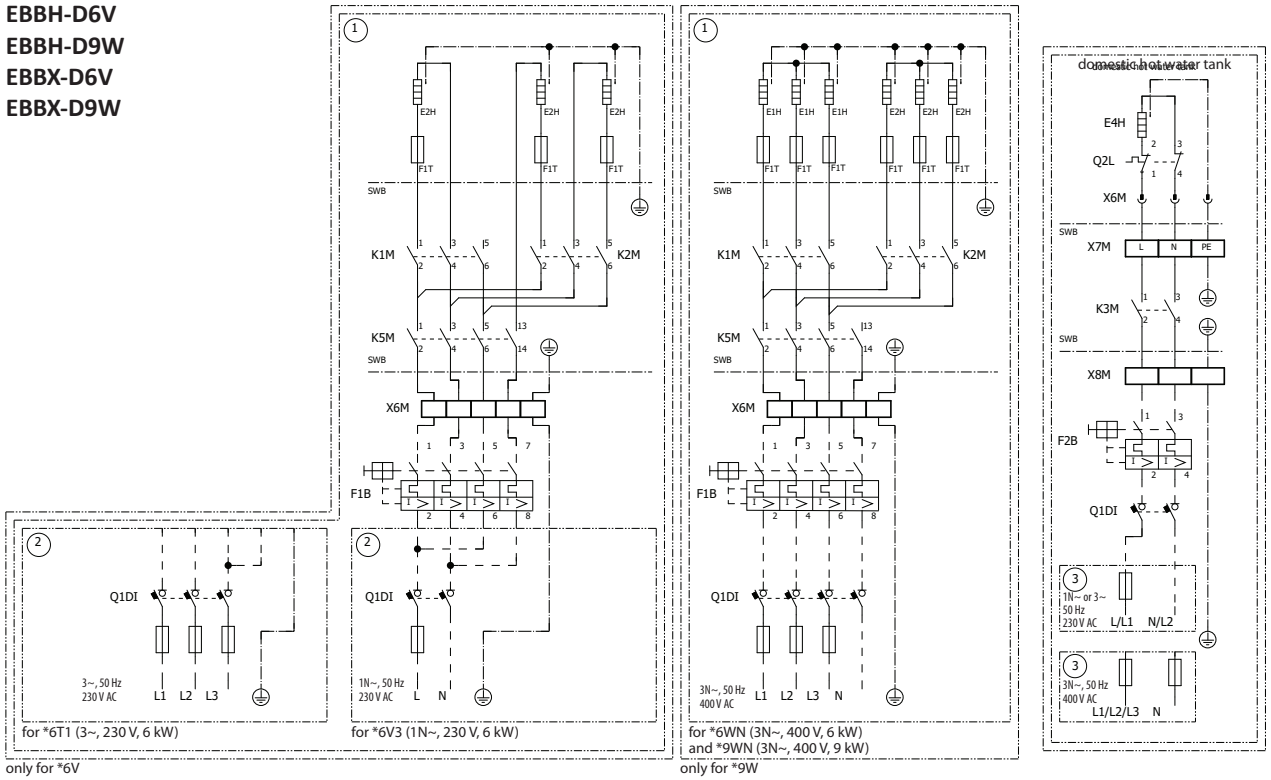


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8 Wiring diagrams

8 - 3 Power Supply, Back-up Heater

EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W

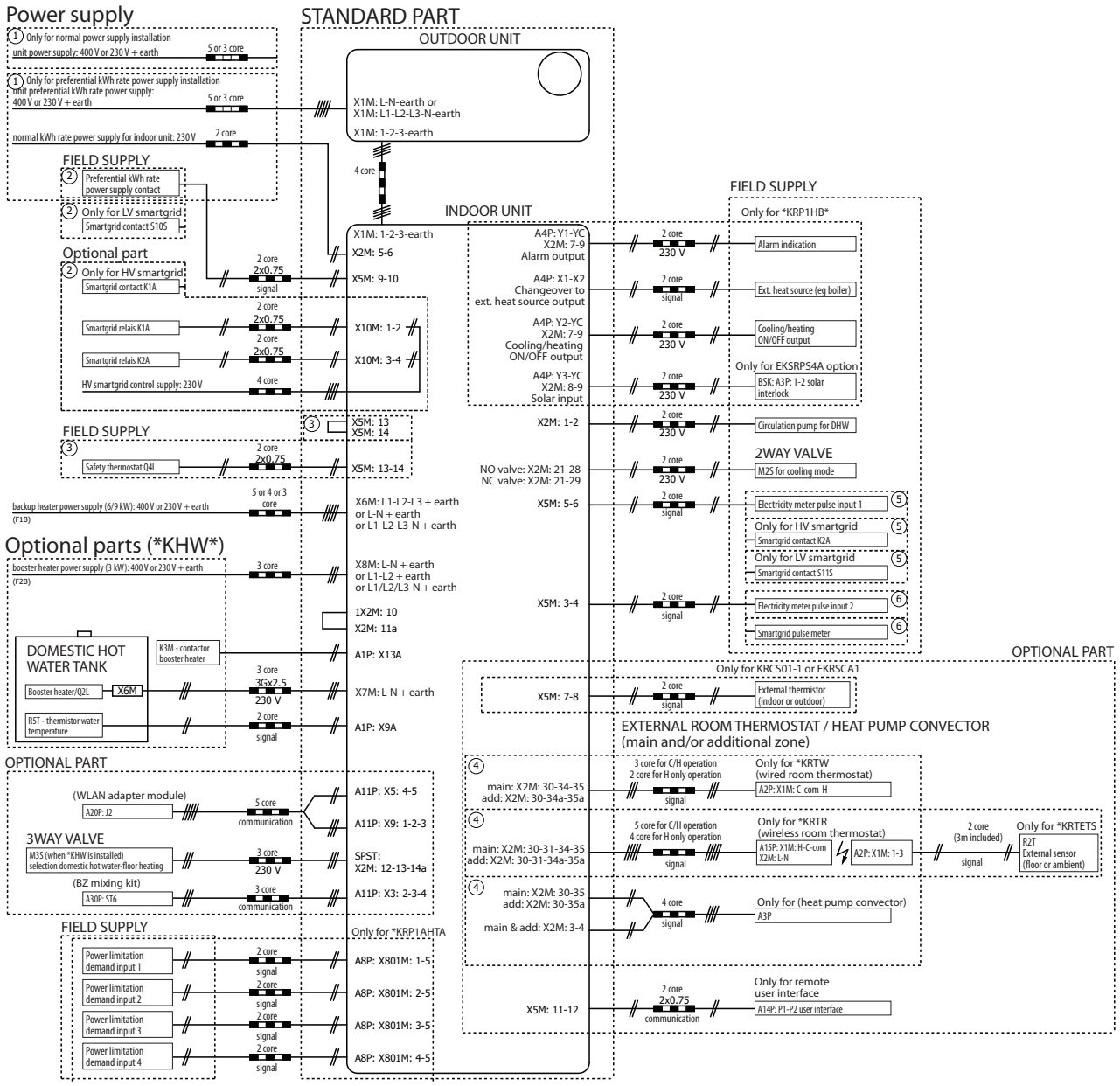


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9 External connection diagrams

9 - 1 External Connection Diagrams

EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W



NOTE

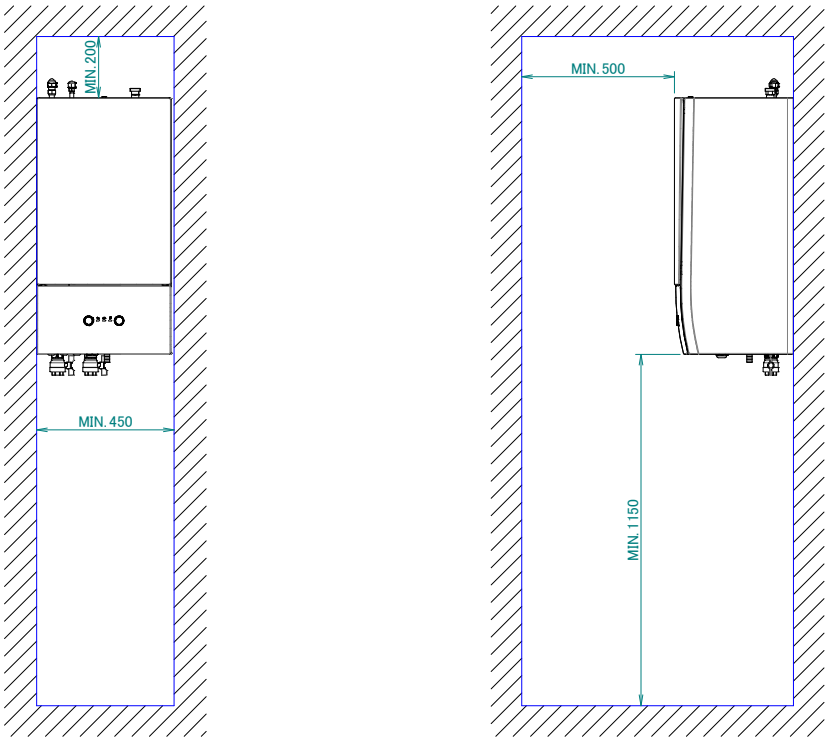
- In case of signal cable: keep minimum distance to power cables > 5 cm
- Available heaters depending on model: see combination table

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10 Installation

10 - 1 Installation Method

EBBH-D6V
EBBH-D9W
EEBX-D6V
EBBX-D9W

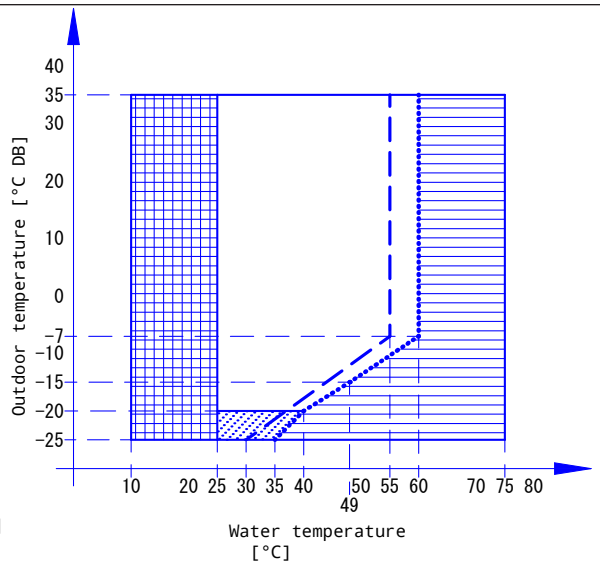


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11 Operation range

11 - 1 Operation Range

EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W
EBVH-D6V
EBVH-D9W
EBVH-UD6V
EBVX-D6V
EBVX-D9W



Legend

Setpoint [°C]
Domestic hot water

Leaving water temperature [°C]

Pull-up area

Operation of outdoor unit possible, but with possible capacity reduction.

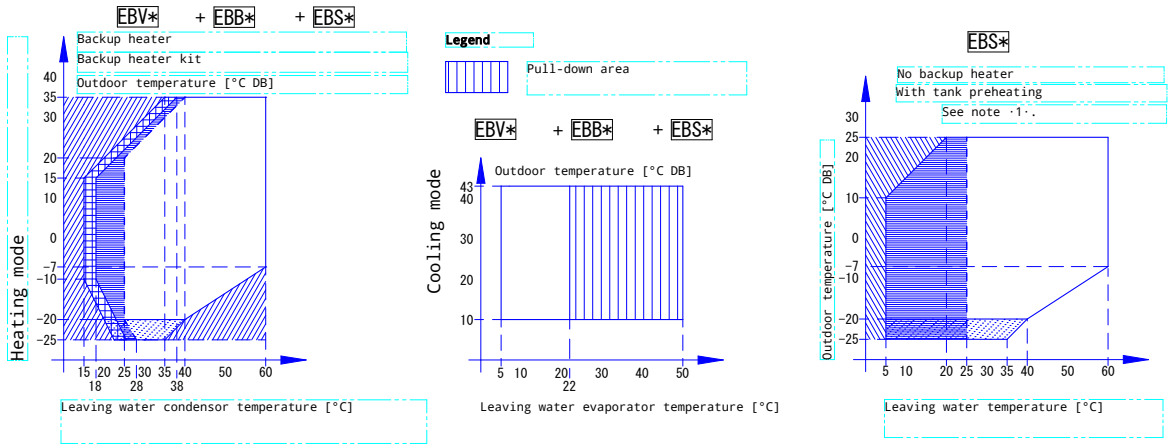
Booster heater only operation (if a booster heater is part of the system)

Notes

1. In restricted power supply mode (·EKHW*· only), the outdoor unit, booster heater and backup heater can only operate separately.
2. Third-party with identical specifications as ·EKHWS*·
   Coil surface >·1.05·m² and <·3.7·m²
   Tank thermistor and booster heater above heat pump coil.
3. If negative ambient temperatures are expected, both in operation or at standstill, take adequate countermeasures against freezing.
   For more information, refer to the installation manual.

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EBBH-D6V / EBBH-D9W / EBBX-D6V
EBBX-D9W / EBVH-D6V / EBVH-D9W
EBVH-UD6V / EBVX-D6V / EBVX-D9W



Legend

Backup heater only operation
No outdoor unit operation

Heat pump + backup heater operation
Pull-up area

Outdoor unit operation if controller setpoint is regulated to minimal leaving water temperature request.
See dashed lines

Operation of outdoor unit possible, but with possible capacity reduction.

Circulation pump operation only

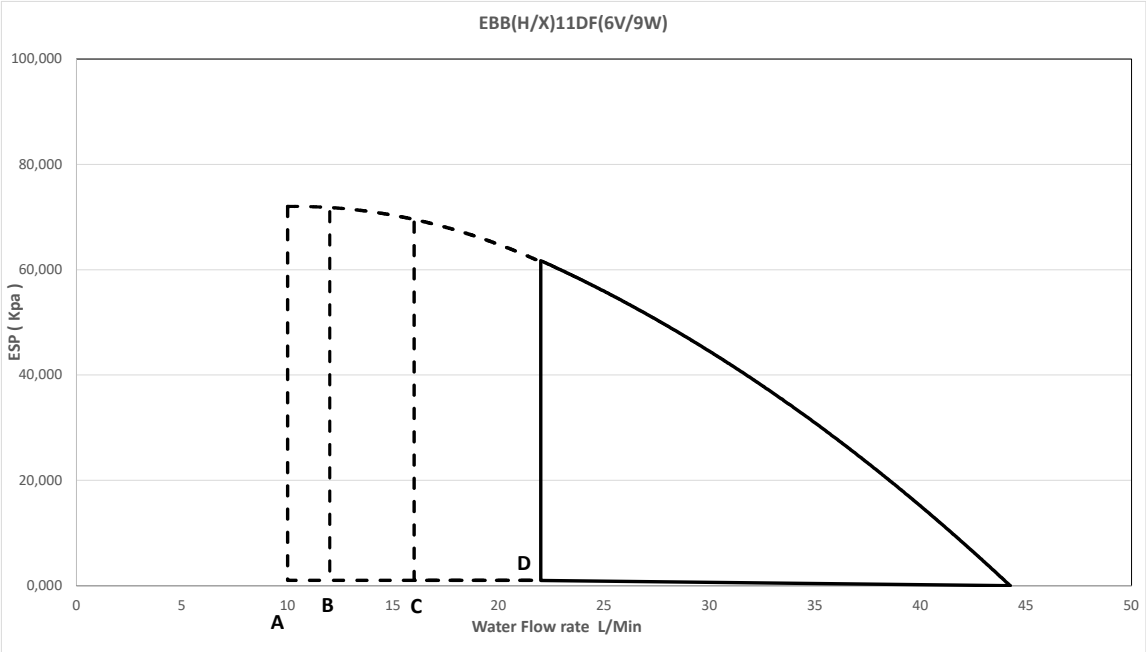
Notes
1. Tank preheating
   For details, see the installer reference guide.
2. In restricted power supply mode, the outdoor unit and backup heater can only operate separately.

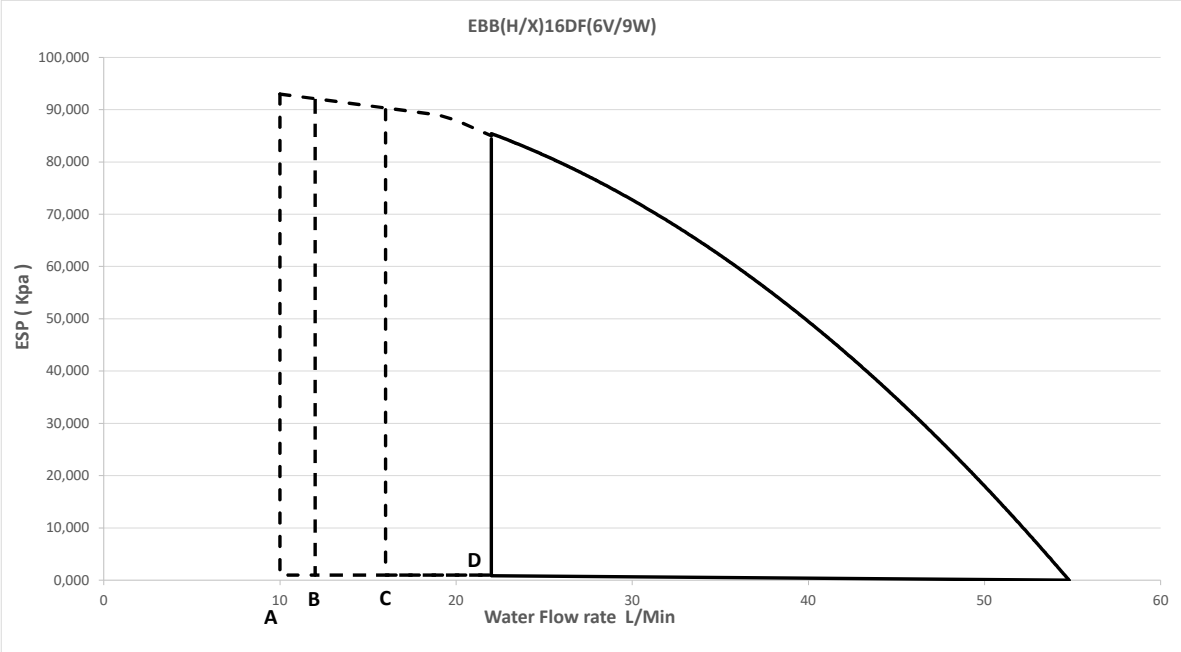
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12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EBBH-D6V
EBBH-D9W
EBBX-D6V
EBBX-D9W





A = Minimum water flow rate during normal operation
B = Minimum water flow rate during backup heater operation
C = Minimum water flow rate during cooling operation
D = Minimum water flow rate during defrost operation

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 2020/2184

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