

# Daikin Altherma low temperature split Technical Data

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



EBBH11DF6V  
EBBH16DF6V  
EBBH11DF9W  
EBBH16DF9W  
EBBX11DF6V  
EBBX16DF6V  
EBBX11DF9W  
EBBX16DF9W



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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				7	
PED	Category				Category II	
	Most critical part	Name	Ps*V	Bar*I	Plate heat exchanger 75	
Refrigerant side heat exchanger	Type				Plate heat exchanger	
	Quantity				1	
Pump	Plates	Quantity	90			
	Type	Grundfos UPM3LK 15-75 130 PWM			Grundfos UPML GEO 25-105 130 PWM	
	Nr of speeds				PWM	
Water side Heat exchanger	Power input				52	
	Type				Plate heat exchanger	
Expansion vessel	Quantity				1	
	Plates	Quantity	90			
	Water volume				2.16	
	Water flow rate	Min.	l/min	22.0 (1)		
	Volume				10	
Water filter	Max. water pressure				3	
	Pre pressure				1	
	Diameter perforations				0.8	
General	Material				Stainless steel / Plastic	
	Supplier/ Manu- facturer details	Name or trademark	Name and address		Daikin Europe N.V. Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	
Water circuit	Piping connections diameter				G 1" (female)	
Water circuit	Piping material				Cu	
	Internal piping diameter				1"	
	Piping				1"	
	Safety valve				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				15.9
		Liquid side diameter				9.52
	Sound power level	Nom.				44 (3)
Sound pressure level	Nom.				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)	

# 2 Specifications

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

**2**

Technical specifications				EBBH11D6V		EBBH16D6V		
Safety devices	Item	01		Thermal cut out				
Electrical specifications				EBBH11D6V		EBBH16D6V		
Power supply	Name			See note 7				
	Voltage	Min.	%	-10				
	range	Max.	%	10				
IP class	IP			IP X0B				
Electric heater	Power supply	Name		6V3				
		Phase		1~ / 3~				
		Frequency	Hz	50				
	Current	Voltage	V		230			
		Maximum running current	A		26.0			
		Zmax List	Ω		0.22			
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12				
Wiring connections	Recommended fuses		A	20 (6)				
		Quantity		3				
	Communication cable	Remark			1.5 mm <sup>2</sup>			
		Quantity			2			
	Electric meter	Remark			Minimum 0.75 mm <sup>2</sup> (5VDC pulse detection)			
		Quantity			Power: 2			
	Preferential kWh rate power supply	Remark			Power 6.3A (Select diameter and type according to national and local regulations)			
		Quantity			2			
	Domestic hot water pump	Remark			Minimum 0.75 mm <sup>2</sup> (2A inrush, 1A continuous)			
		Quantity			Prewired			
	For power supply back-up heater	Remark			Select diameter & type according to national & local regulations			
		Quantity			2			
	For connection with R6T	Remark			Minimum 0.75 mm <sup>2</sup>			
		Quantity			Depends on thermostat type, cf. installation manual			
	For connection with A3P	Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 8			
Quantity				2				
For connection with M2S	Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 8				
	Quantity			4				
For connection with optional	Remark			100 mA, minimum 0.75 mm <sup>2</sup>				

(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 sufficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is  $\geq 45^{\circ}\text{C}$  (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*I		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/ 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.	dB(A)	44 (3)				
Sound pressure level	Nom.	dB(A)	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			
	Current	Voltage	V	400			
		Maximum running current	A	13.0			
		Recommended fuses	A	20 (6)			

# 2 Specifications

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

2

Electrical specifications			EBBH11D9W	EBBH16D9W
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>	
For connection with M2S	For connection with optional	Quantity	2	
		Remark	Minimum 0.75 mm <sup>2</sup> (2A inrush, 1A continuous)	
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>	
For connection with optional		Quantity	Depends on thermostat type, cf. installation manual	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 8	
For connection with optional		Quantity	2	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 8	
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 depending on operation mode - refer to ESP curve. |

(2) Excluding the water volume in the unit. This volume will guarantee sufficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is  $\geq 45^{\circ}\text{C}$  (eg. Fan coils) |

(3) Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water  $47\text{--}55^{\circ}\text{C}$  in a room with an ambient of  $20^{\circ}\text{C}$ . DB/WB  $7^{\circ}\text{C}/6^{\circ}$ . |

(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/ 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)		
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	Min.	°CDB	10 (5)	
			Max.	°CDB	43 (5)	
	Domestic hot water	Water side	Min.	°C	5 (5)	
			Max.	°C	22 (5)	
		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

2

Electrical specifications			EBBX11D6V	EBBX16D6V
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>	
For connection with M2S	For connection with optional	Quantity	2	
		Remark	Minimum 0.75 mm <sup>2</sup> (2A inrush, 1A continuous)	
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>	
For connection with optional		Quantity	Depends on thermostat type, cf. installation manual	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 8	
For connection with optional		Quantity	2	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 8	
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 depending on operation mode - refer to ESP curve. |

(2)Excluding the water volume in the unit. This volume will guarantee sufficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is  $\geq 45^{\circ}\text{C}$  (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	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/ 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)		
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	Min.	°CDB	10 (5)	
			Max.	°CDB	43 (5)	
	Domestic hot water	Water side	Min.	°C	5 (5)	
			Max.	°C	22 (5)	
		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

**2**

Electrical specifications			EBBX11D9W	EBBX16D9W
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 8	
For connection with M2S		Quantity	2	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup> / See note 8	
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 depending on operation mode - refer to ESP curve. |

(2)Excluding the water volume in the unit. This volume will guarantee sufficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating seipoint is  $\geq 45^{\circ}\text{C}$  (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

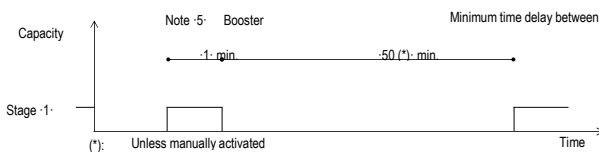
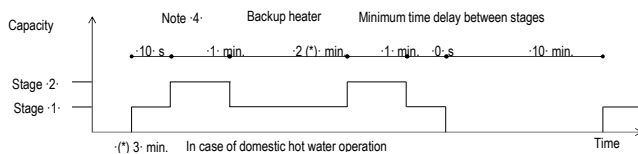
# 3 Electrical data

## 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

Type	6V											9W				
	2 - 4	2 - 6	2-4* (in case of emergency: 2)		6	3 - 6	3 - 9	3 - 6* (in case of								
Capacity setting	[kW]											3				
Capacity stage -	2											1				
Capacity stage -1-	2											2				
Capacity stage -2-	4											6				
Backup heater	Minimum time delay between stages											Note 4-				
	Power supply (1)	Phase	1~											3~		
		Frequency	50											3~		
	Current	Voltage	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 heater) (2)	Complex	0,22											-	
Minimum Ssc value		kVA	(3)											-		
Booster heater (optional)* (KHW* models)	Capacity setting	kW											3			
	Capacity stage -	1											1			
	Minimum time delay between stages											Note 5-				
	Nominal running current	+EK*V3											13			
		+EK*Z2											75			
	Zmax	Booster heater	(2)	Complex											-	
Nominal running current	Backup heater +-	Booster heater	Backup heater + EK*V3	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	22,5 (15 + 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	-											(3)	
Notes	(1) The above-mentioned power supply of the hydrobox is for the backup heater only.															
	(2) The optional domestic hot water tank has a separate power supply. 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

3

- 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
      - 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
<b>Normal kWh rate power supply</b>									
Electrical meter type	1~	1	-	-	1	-	-	1	-
	3~ balanced	-	-	-	-	-	-	-	-
	3~ unbalanced	-	1	1	-	1	1	-	1
<b>Preferential kWh rate power supply</b>									
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*	
	6V (9)	9W (9)
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

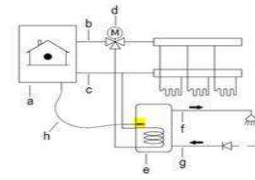
Outdoor combination table for -EBB(H/X)(11/16)DF\*.

Description	ERLA11DAV3	ERLA14DAV3	ERLA16DAV3	ERLA11DAW1	ERLA14DAW1	ERLA16DAW1
EBBH11DF*	o	---	---	o	---	---
EBBX11DF*	o	---	---	o	---	---
EBBH16DF*	---	o	o	---	o	o
EBBX16DF*	---	o	o	---	o	o

Kit availability

Reference	Description	EBB*(11/16)DF*			
		11 - 6V	11 - 9W	16 - 6V	16 - 9W
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
EKRP1AHTA	Demand PCB	*(3)	o	o	o
EKPCAB4	PC cable	*(4)	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
EKHWP500B	Domestic hot water tank with solar connection	*(5)	o	o	o
EKHWP300PB	Domestic hot water tank with solar connection	*(5)	o	o	o
EKHWP500PB	Domestic hot water tank with solar connection	*(5)	o	o	o
EKHY3PART	Third-party tank connection kit for thermistor pocket	*(11) (12)	o	o	o
EKMIKPOA	Bizone kit	o	o	o	o
EKMIKPHA	Bizone kit	o	o	o	o
KRCS01-1	Remote indoor sensor	*(6)	o	o	o
EKRSCA1	Remote sensor for outdoor	*(6)	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
FWXT10ATV3	Heat pump convactor	o	o	o	o
FWXT15ATV3	Heat pump convactor	o	o	o	o
FWXT20ATV3	Heat pump convactor	o	o	o	o
EKWJFHFTA1V3	Multi-zoning base unit 230 V	*(10)	o	o	o
EKRRTWA	Wired room thermostat	o	o	o	o
EKRTR1	Wireless room thermostat	o	o	o	o
EKRTEFS	External sensor room thermostat	*(8)	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-m<sup>2</sup> and <3.7-m<sup>2</sup>  
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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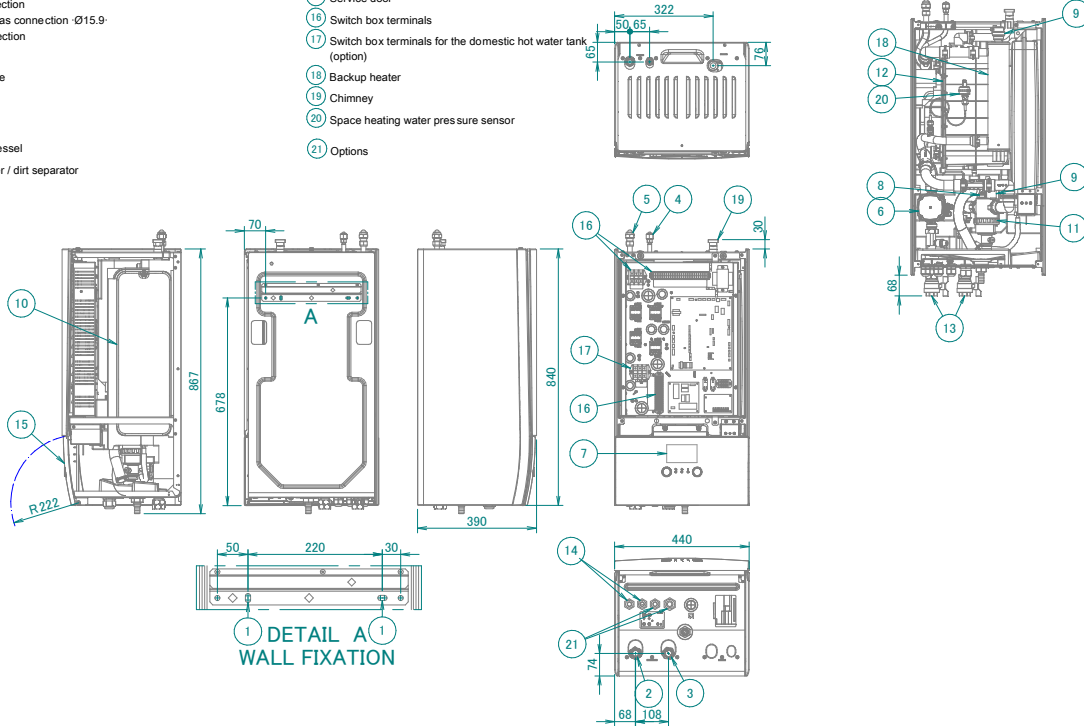
# 5 Dimensional drawings

## 5 - 1 Dimensional Drawings

5

**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
- ⑤ Refrigerant gas connection Ø15.9
- ⑥ Pump
- ⑦ User interface
- ⑧ Safety valve
- 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



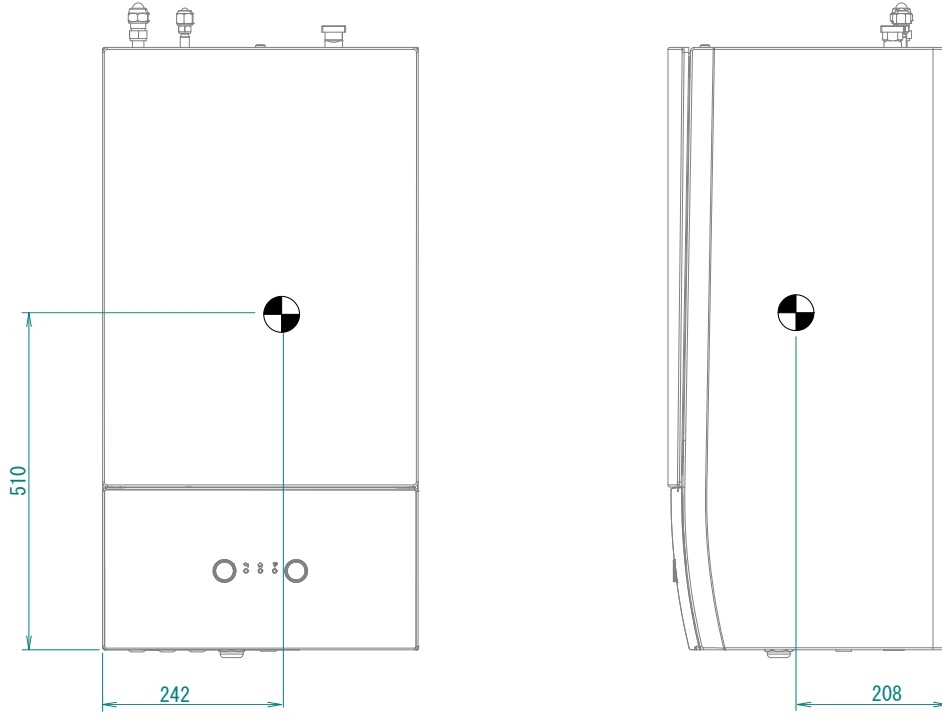
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# 6 Centre of gravity

6 - 1 Centre of Gravity

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



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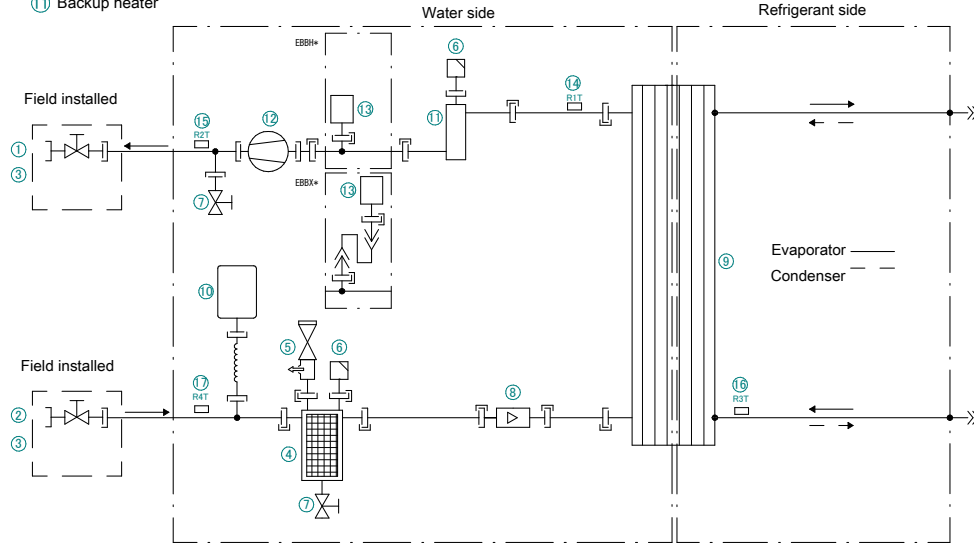
# 7 Piping diagrams

## 7 - 1 Piping Diagrams

7

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




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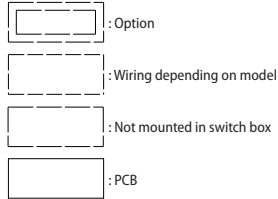
# 8 Wiring diagrams

## 8 - 1 Notes & Legend

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

#### NOTES to go through before starting the unit

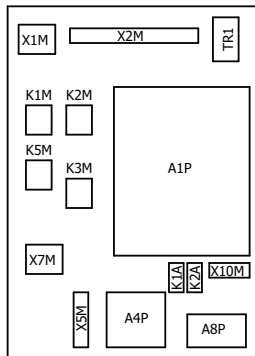
- X1M : Main terminal
- X2M : Field wiring terminal for AC
- X5M : Field wiring terminal for DC
- X6M : BUH Power supply terminal
- X7M, X8M : BSH Power supply terminal
- X10M : Smartgrid terminal
- : Earth wiring
- - - - - : Field supply
- ① : Several wiring possibilities



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
  - Bizonex mixing kit
- Main LWT:
- ON/OFF thermostat (wired)
  - ON/OFF thermostat (wireless)
  - Ext. thermistor
  - Heat pump convactor
- Add LWT:
- ON/OFF thermostat (wired)
  - ON/OFF thermostat (wireless)
  - Ext. thermistor
  - Heat pump convactor

#### POSITION IN SWITCH BOX



#### LEGEND

Part n°	Description
A1P	main PCB
A2P	* ON/OFF thermostat (PC=power circuit)
A3P	* heat pump convactor
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	* Bizonex 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*A, X*A', X*H*, X*Y	connector
X*M	terminal strip

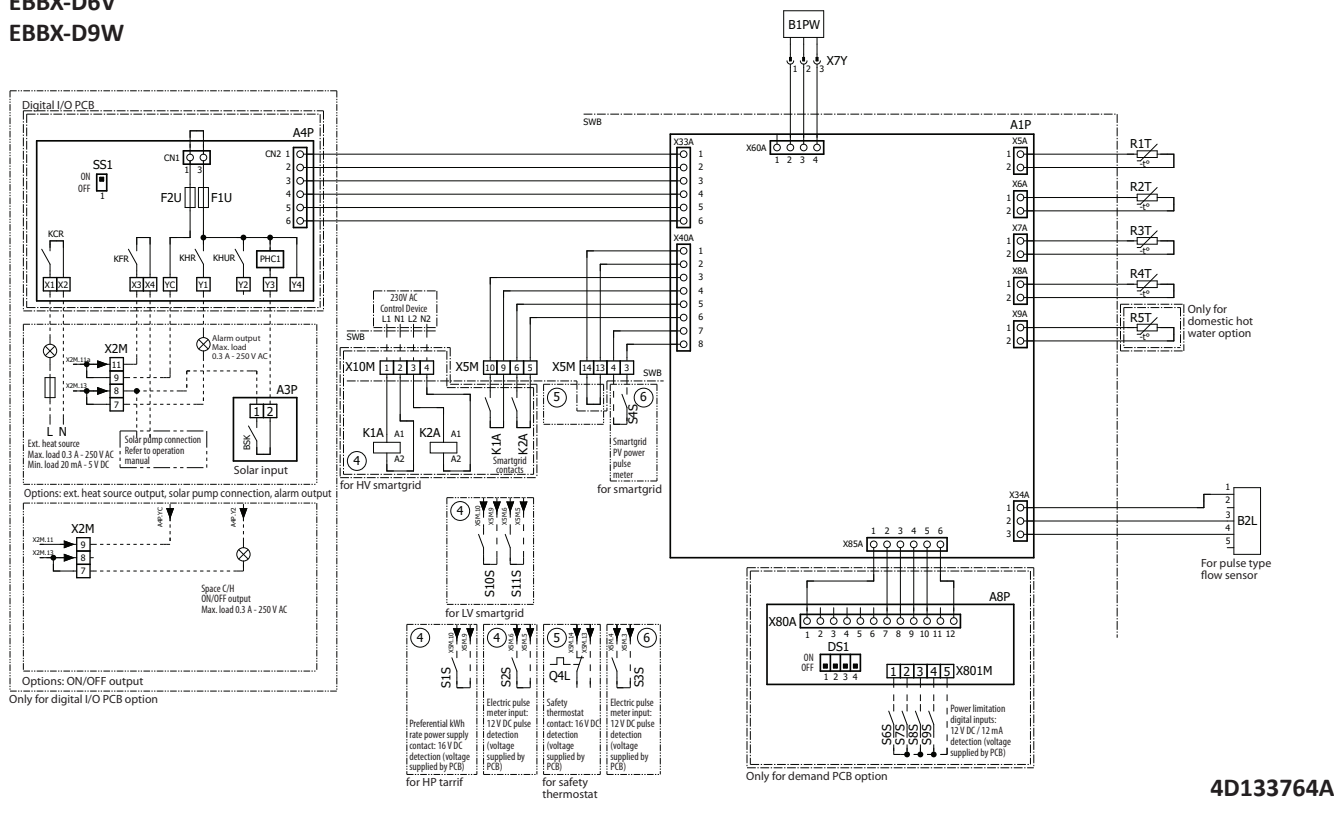
\*: optional #: field supply

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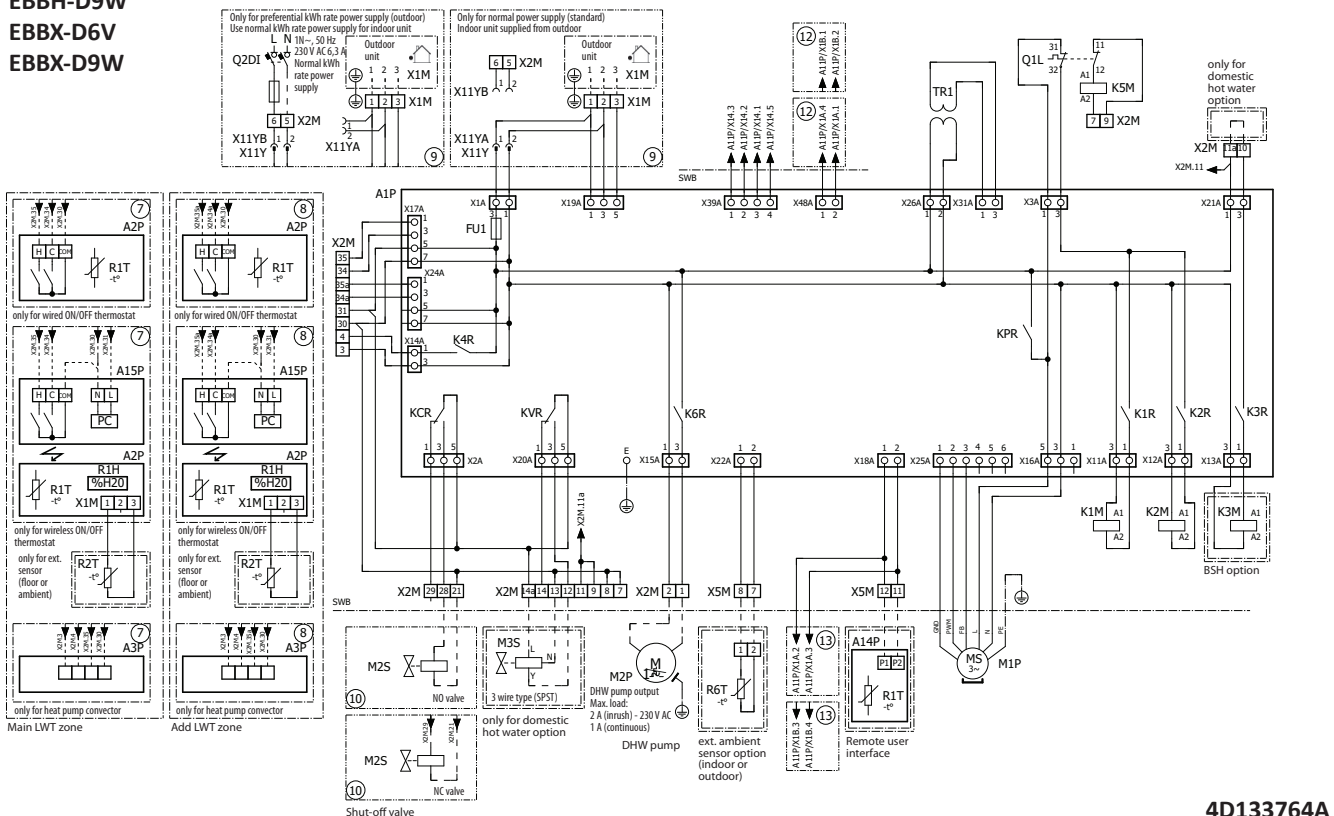
# 8 Wiring diagrams

## 8 - 2 Control Circuit

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



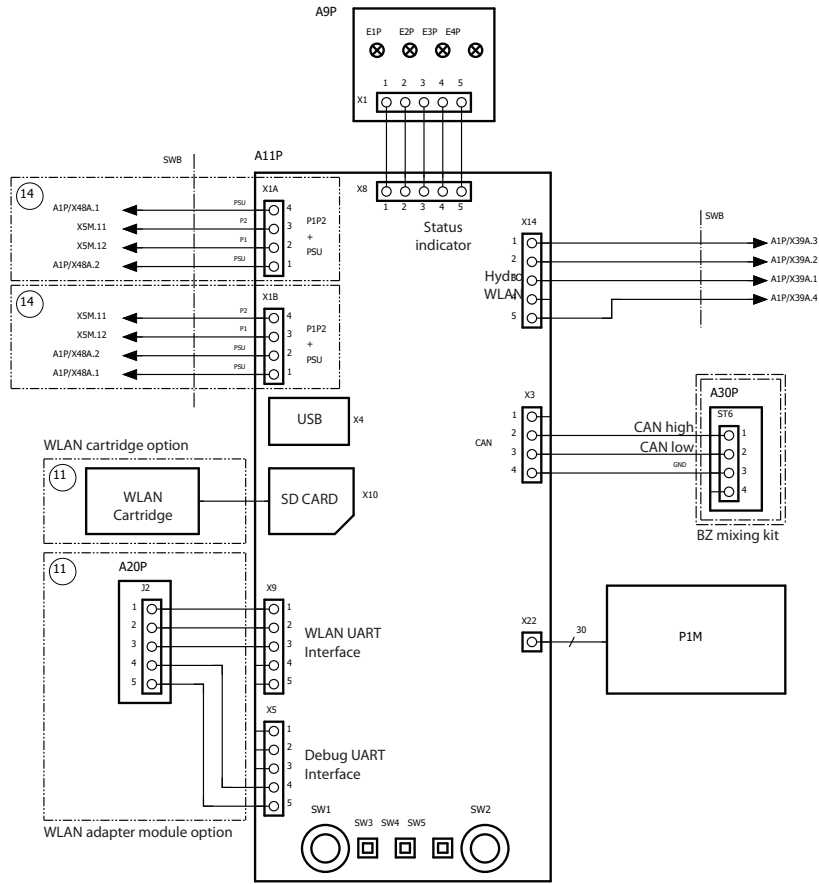
EBBH-D6V  
EBBH-D9W  
EBBX-D6V  
EBBX-D9W



# 8 Wiring diagrams

## 8 - 2 Control Circuit

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



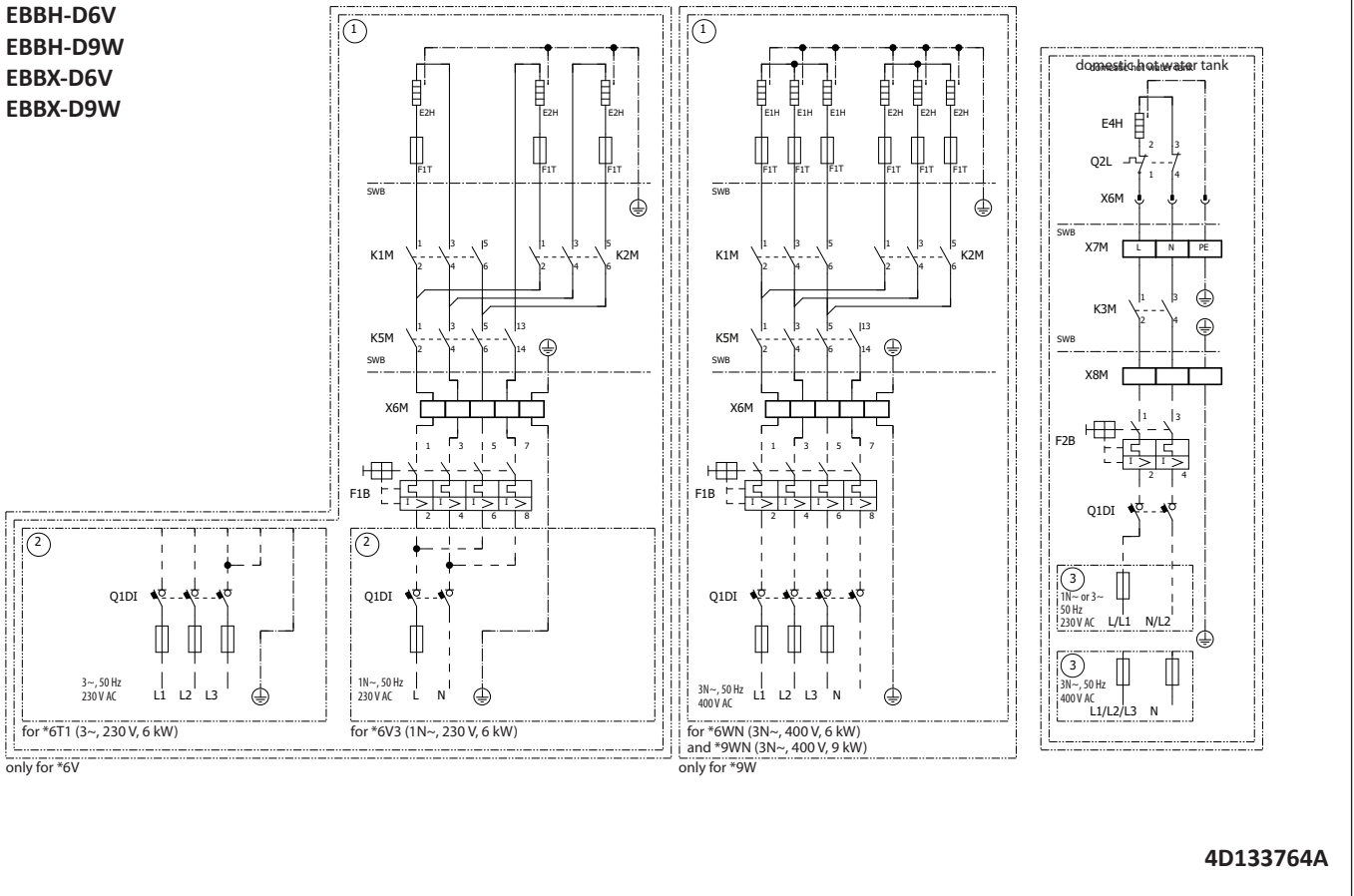
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# 8 Wiring diagrams

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

8

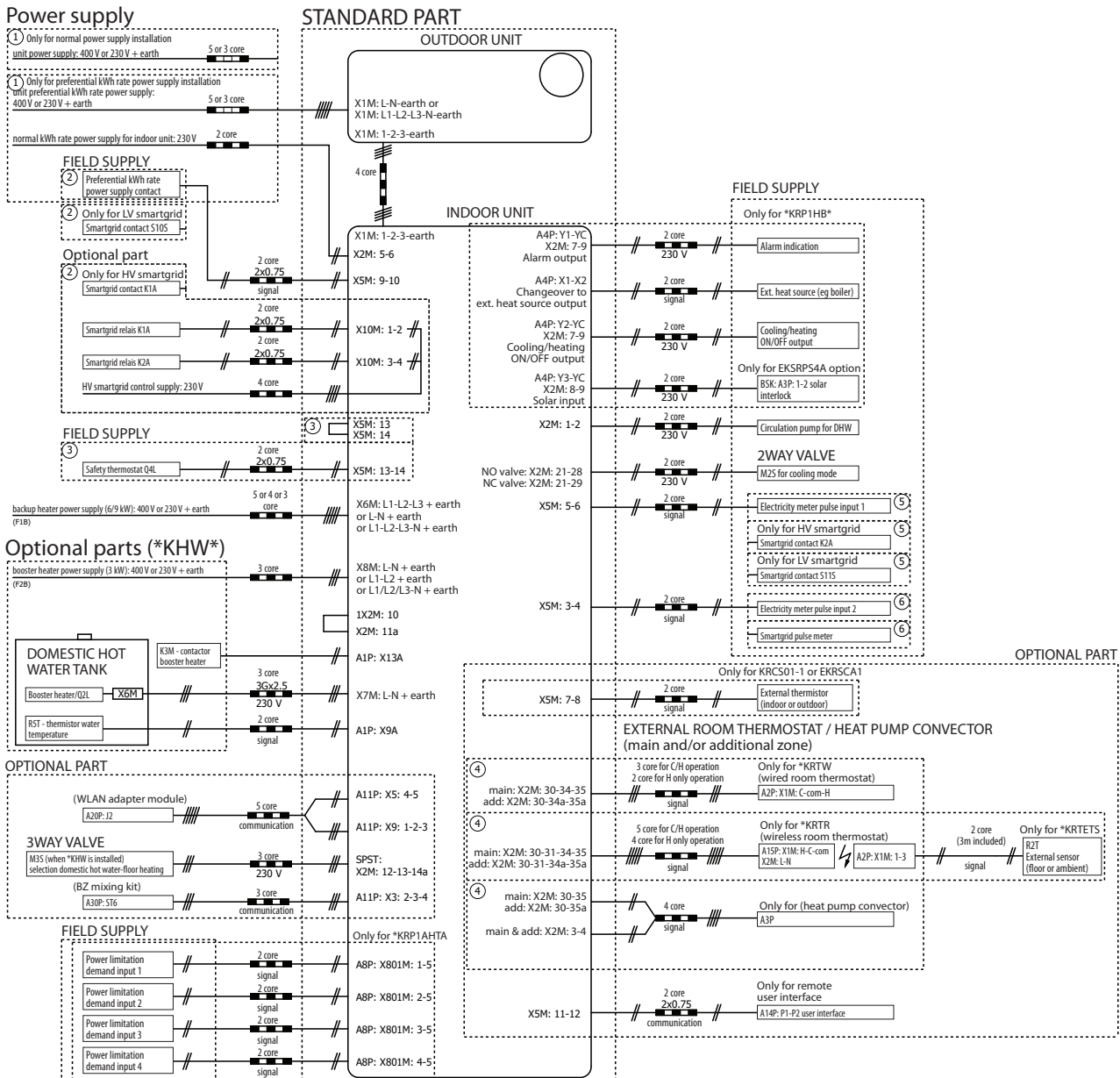
EBBH-D6V  
EBBH-D9W  
EBBX-D6V  
EBBX-D9W



# 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

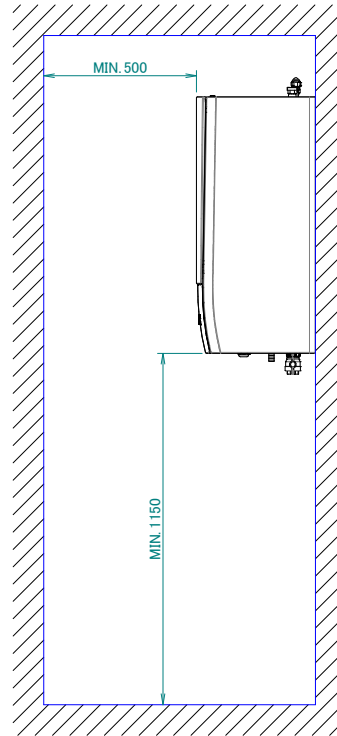
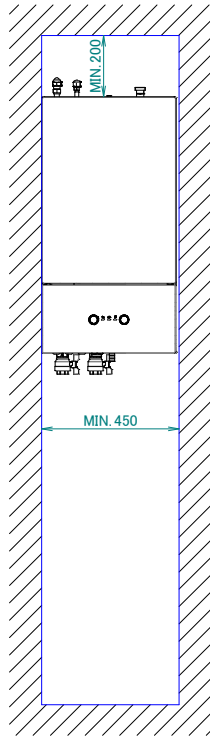
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# 10 Installation

## 10 - 1 Installation Method

10

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



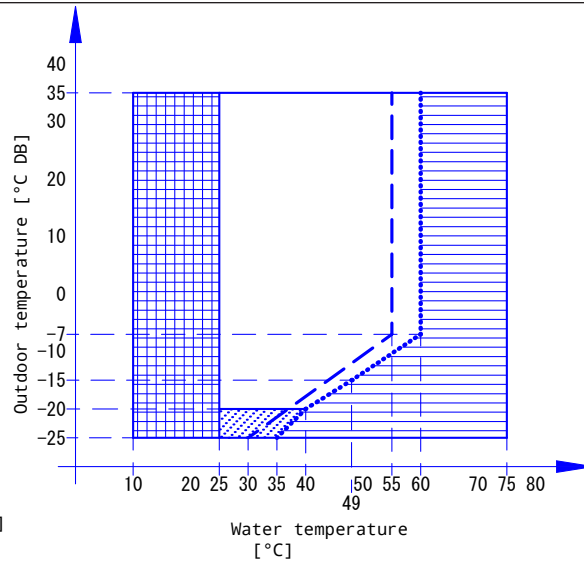
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# 11 Operation range

## 11 - 1 Operation Range

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



### Legend

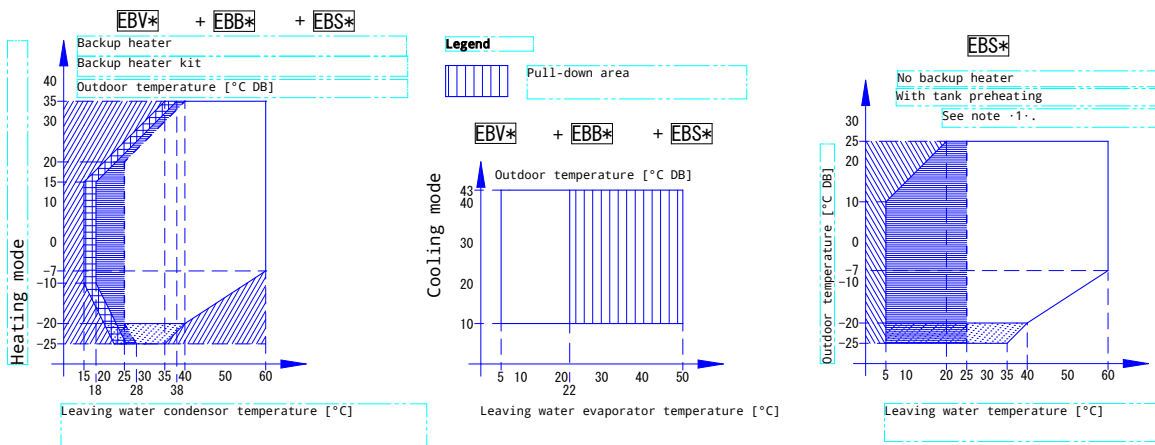
- Setpoint [°C]  
Domestic hot water
- Leaving water temperature [°C]
- Pull-up area
- Operation of outdoor unit possible, but with possible capacity reduction.
- Booster heater only operation (if a booster heater is part of the system)

### 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·m<sup>2</sup> and <·3.7·m<sup>2</sup>  
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.

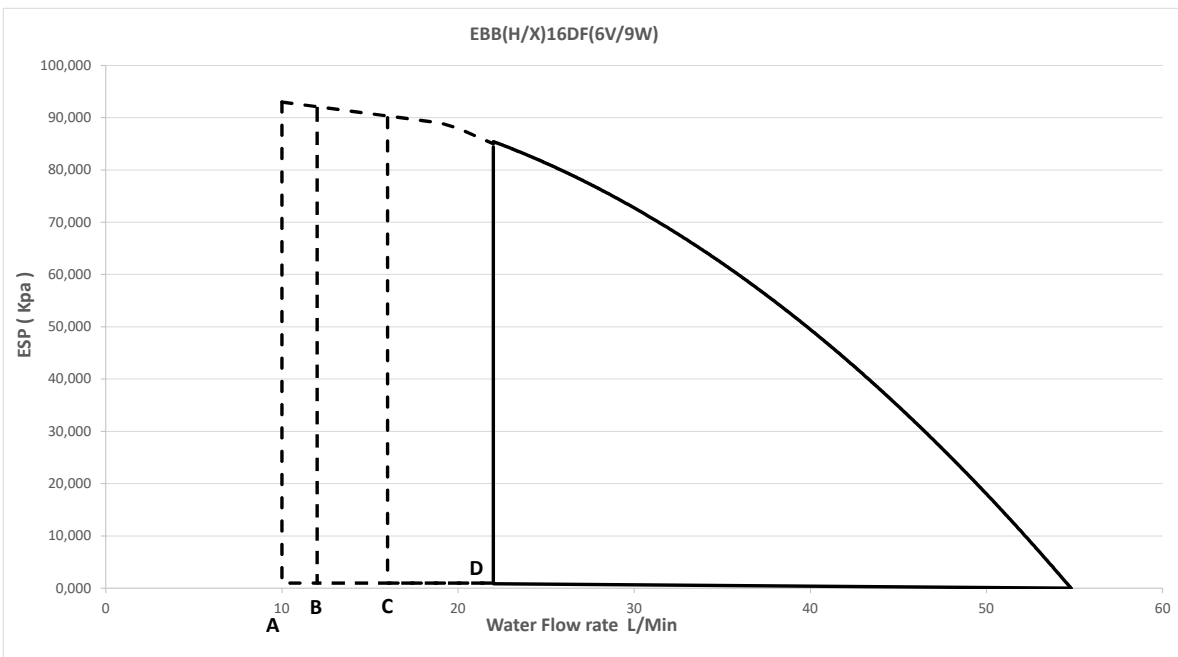
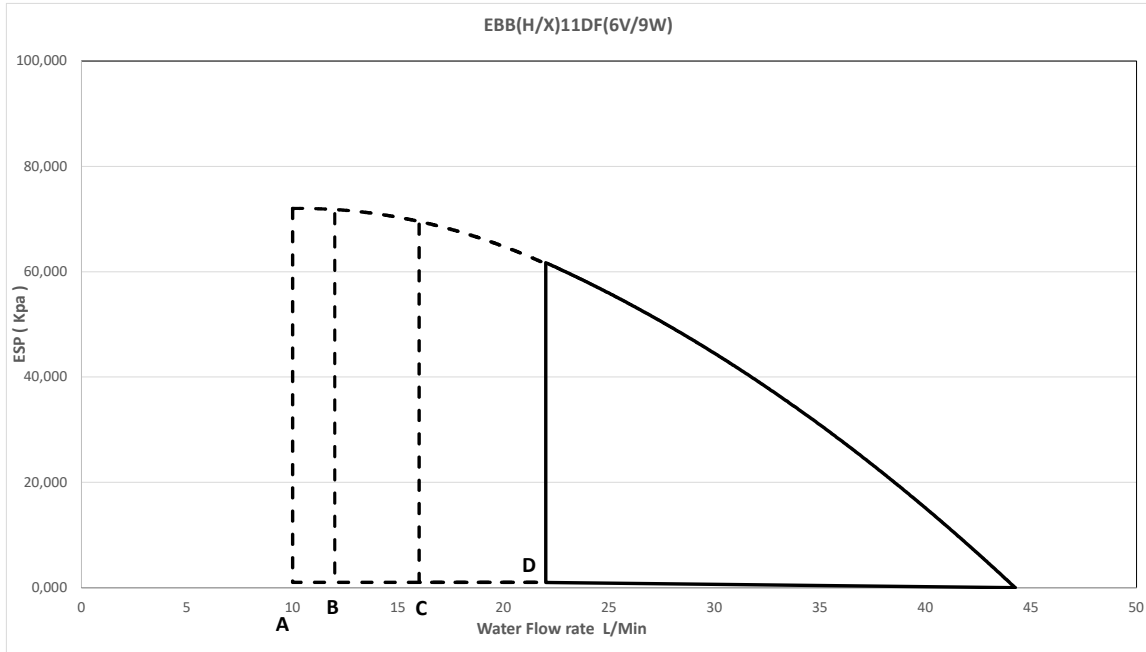
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# 12 Hydraulic performance

## 12 - 1 Static Pressure Drop Unit

12

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

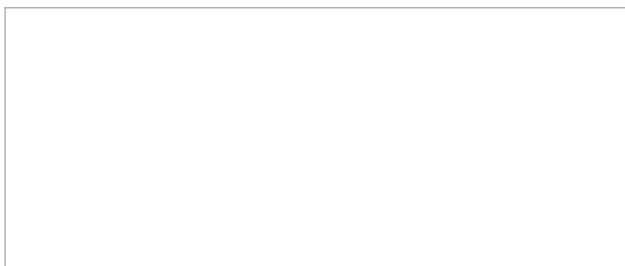


- A = Minimum water flow rate during normal operation
- B = Minimum water flow rate during backup heater operation
- C = Minimum water flow rate during cooling operation
- D = Minimum water flow rate during defrost operation

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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02/2022



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