

Heating
Technical Data

EABH-D9W



> EABH16DA9W

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EABH-D9W

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1 Features

- 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.
- Energy efficient heating only system based on air to water heat pump technology

1



Online
controller

2 Specifications

2-1 Technical Specifications					EABH16D9W	
Power input	Nom.		kW		0.21	
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		38.0	
	Packed unit		kg		42	
Packing	Material				Carton / PP (Straps) / EPS	
	Weight		kg		4	
Pump	Type				Grundfos UPMXL GEO 25-125 130 PWM	
	Nr of speeds				PWM	
	Power input		W		179	
Expansion vessel	Volume		l		10	
	Max. water pressure		bar		3	
	Pre pressure		bar		1	
Operation range	Heating	Ambient	Min.	°C	0 (1)	
			Max.	°C	0 (1)	
		Water side	Min.	°C	0 (1)	
			Max.	°C	0 (1)	
	Indoor installation	Ambient	Min.	°CDB	5 (2)	
			Max.	°CDB	35 (3)	
	Cooling	Ambient	Min.	°CDB	0 (1)	
			Max.	°CDB	0 (1)	
		Water side	Min.	°C	0 (1)	
			Max.	°C	0 (1)	
	Domestic hot water	Water side	Min.	°C	0 (1)	
			Max.	°C	0 (1)	
Water side Heat exchanger	Water flow rate	Min.	l/min		20.0 (4)	
Sound power level	Nom.		dBA		44.0 (5)	
Sound pressure level	Nom.		dBA		30.0 (6)	
Water filter	Diameter perforations		mm		0.8	
	Material				Stainless steel / Plastic	
Water circuit	Piping connections diameter		inch		G 1" (female)	
	Piping material				Cu	
	Internal piping diameter		inch		1-1/4"	
	Piping		inch		1"	
	Safety valve		bar		3	
	Manometer				Digital	
	Drain valve / fill valve				No	
	Shut off valve				Yes	
	flowswitch				Yes	
	Air purge valve				Yes	
	Total water volume		l		2.2 (7)	
	Minimum water volume in the system for cooling		l		20 (8)	
	Minimum water volume in the system for heating		l		20 (8)	
	Safety devices	Item	01			Thermal cut out
Heater capacity	Step 1		kW		3	
	Step 2		kW		max. 6 kW	
General	Supplier/ Manufacturer details	Name or trademark			Daikin Europe N.V.	
		Name and address			Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	

2 Specifications

2-2 Electrical Specifications				EABH16D9W	
Power supply	Name			(9)	
	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	20.000 (2)	
	Wiring connections-Communication cable	Quantity			3
Remark			2.5 mm²		
Wiring connections-Electric meter	Quantity			2	
	Remark			Minimum 0.75 mm² (5VDC pulse detection)	
Wiring connections-Preferential kWh rate power supply	Quantity			Power: 2	
	Remark			Power 6.3A (Select diameter and type according to national and local regulations)	
Wiring connections-Domestic hot water pump	Quantity			2	
	Remark			Minimum 0.75 mm² (2A inrush, 1A continuous)	
Wiring connections-For power supply back-up heater	Quantity			Prewired	
Wiring connections-For connection with R6T	Quantity			2	
	Remark			Minimum 0.75 mm²	
Wiring connections-For connection with A3P	Quantity			Depends on thermostat type, cf. installation manual	
	Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm²	
Wiring connections-For connection with M2S	Quantity			2	
	Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm²	
Wiring connections-For connection with optional FWXV* (demand input and output)	Quantity			4	
	Remark			100 mA, minimum 0.75 mm²	

Notes

- (1) Refer to operation range of the unit.
- (2) 4 pole 20 A curve 400V tripping class C (refer to wiring diagram)
- (3) Depends on operation mode, refer to installation manual.
- (4) 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).
- (5) 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°.
- (6) Value measured in an anechoic room at 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is 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.
- (7) Including piping + back-up heater; excluding expansion vessel
- (8) Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required.
- (9) 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.

3 Electrical data

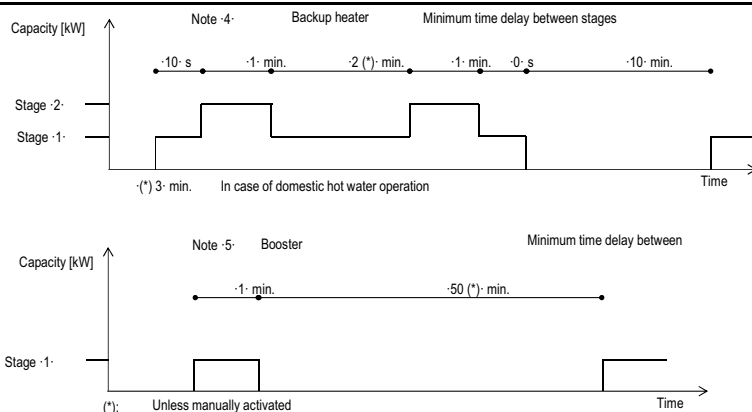
3 - 1 Electrical Data

EABH-D6V
EABH-D9W
EABX-D6V
EABX-D9W

3

Electrical specifications of the backup heaters and booster heaters

Electrical specifications of the backup heaters and booster heaters																											
Backup heater	Type			6V						9W																	
	Capacity setting			[kW]		2 - 4		2 - 6		2-4 (in case of emergency: 2-6)		6		3 - 6		3 - 9		3 - 6 (in case of emergency: 3 - 9)									
	Capacity stage - 1 -					2		2		2		2		1		2		2		2							
	Capacity stage - 1 -			kW		2		2		2		2		6		3		3		3							
	Capacity stage - 2 -			kW		4		6		4		6		-		6		9		6							
	Minimum time delay between stages			Note -4-											Note -4-												
Booster heater (optional)(-KHW- models)	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)			Ω								-												
							Complex		0,22						-		-										
Minimum Ssc value			kVA		(3)						-																
Capacity setting														kW					3								
Capacity stage - 1 -																			1								
Minimum time delay between stages																			Note -5-								
Nominal running current				+EK*V3		A								13													
Booster heater				+EK*Z2		-						75															
Zmax		Booster heater (2)				Ω		-						-													
						Complex		-						-													
Nominal running current		Backup heater +		Booster heater		Backup heater + EK*V3		A		30,4 (17,4+13)		39,1 (26,1+13)		30,4 (17,4+13)		39,1 (26,1+13)		28 (15 + 13)		21,7 (8,7+13)		26 (13+13)		21,7 (8,7+13)		26 (13+13)	
						Backup heater + EK*Z2												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 Booster heater + EK*Z2		kVA		(3)																			
						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.													
														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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4 Combination table

4 - 1 Combination Table

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EABH-D6V

EABH-D9W

EABX-D6V

EABX-D9W

Factory-mounted equipment for ·EAB(H/X)16DA*·

Description	EAB(H/X)16DA*	
Heating only model ·EABH*·	6V (8)	9W (8)
Reversible model ·EABX*·	6V (8)	9W (8)
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 ·HB(H/X)(04/08)DA*·

Description	EPGA11DAV3	EPGA14DAV3	EPGA16DAV3
EABH16DA* Heating only	o	o	o
EABX16DA* Reversible	o	o	o

Kit availability for indoor units

Reference	Description	EAB*16DA*	
EABH*	Heating only indoor unit	6V	9W
EABX*	Reversible indoor unit	6V	9W
EKRP1HBAA	Digital I/O PCB	o	o
EKRP1AHTA	Demand PCB	o	o
BRC1HHDA	Simplified user interface	o	o
EKPCCB4	PC cable	o	o
EKHWS150D3V3	Domestic hot water tank ·150 l 1~230 V·	o	o
EKHWS180D3V3	Domestic hot water tank ·180 l 1~230 V·	o	o
EKHWS200D3V3	Domestic hot water tank ·200 l 1~230 V·	o	o
EKHWS250D3V3	Domestic o wate tank ·250 l 1~230 V·	o	o
EKHWS300D3V3	Domestic o wate tank ·300 l 1~230 V·	o	o
EKHWSU150D3V3	Domestic o wate tank ·150 l 1~230 V·	o	o
EKHWSU180D3V3	Domestic o wate tank ·180 l 1~230 V·	o	o
EKHWSU200D3V3	Domestic o wate tank ·200 l 1~230 V·	o	o
EKHWSU250D3V3	Domestic hot water tank ·250 l 1~230 V·	o	o
EKHWSU300D3V3	Domestic hot water tank ·300 l 1~230 V·	o	o
EKHWP500B	Domestic o wate tank wi solar connection	o	o
EKHWP500PB	Domestic o wate tank with solar connection	o	o
EKHYP3PART	Third- a y ank connection ki fo ermis or pocket	o	o
EKHYP3PART2	Third-party tank connection kit for thermostat contact	o	o
BZKA7V3	Bizone kit	o	o
KRCS01-1	Remote indoor sensor	o	o
EKRSCA1	Remote sensor for outdoor	o	o
BRP069A61	LAN adapter for smartphone control	o	o
BRP069A62	LAN adapte fo smar one con ol	o	o
EKCC8-W	Universal centralised user interface	o	o
EKHBCONV	Conversion kit: heating only to reversible.	o	o
FWXV15AVEB	Heat pump convector	o	o
FWXV20AVEB	Heat pump convector	o	o
EKVHPC	Heat pump convector valve kit	o	o
EKRTWA	Wired room thermostat	o	o
EKRTR1	Wireless room thermos at	o	o
EKRTEIS	Ex emal sensor room thermostat	o	o

Notes

- (1) PCB that provides additional output connections:
 - Control external heat source (bivalent operation).
 - Output remote ON/OFF signal space heating/cooling
 - 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
- (4) Data cable for connection with PC
- (5) Only 1 remote sensor can be connected: indoor OR outdoor sensor.
- (6) The valve kit is mandatory if a heat pump convector is installed on a reversible model (not mandatory for heating only models).
- (7) -EKRTETS- can only be used in combination with ·*KRTR1-
- (8) The backup heater capacity depends on a user interface setting.
- (9) Dedicated connection kit available.

Remark

Other combinations than mentioned in this combination table are prohibited.

Kit availability for domestic hot water tanks

Reference	Description	*KHWP*	
KHWP	Domestic hot water tank with solar connection	500B	500PB
*KSRRPS4A	Solar kit	o	o

Kit availability for outdoor units

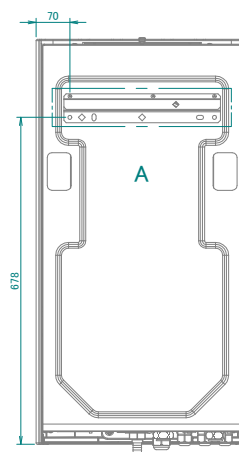
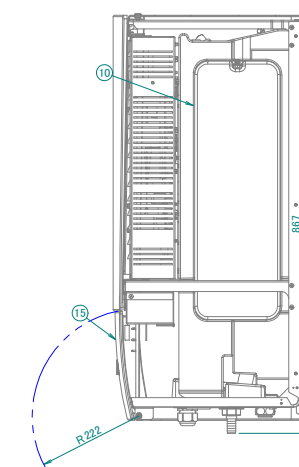
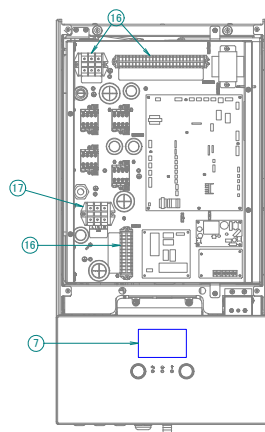
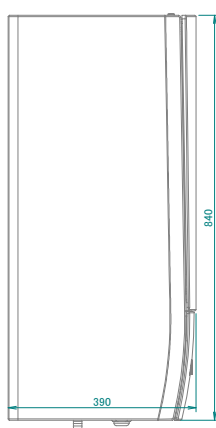
	EPGA11DAV3	EPGA14DAV3	EPGA16DAV3
EKBP1140L7 Bottom plate heater	o	o	o

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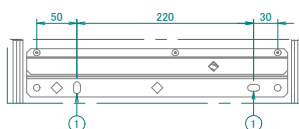
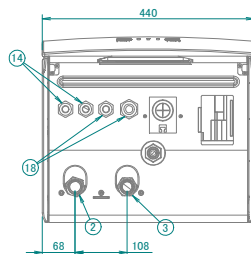
5 Dimensional drawings

5 - 1 Dimensional Drawings

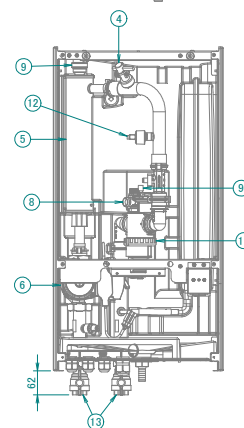
EABH-D6V
EABH-D9W
EABX-D6V
EABX-D9W



- ① Holes (Ø8.5) for wall fixation
- ② Water out connection (1" F BSP)
- ③ Water in connection (1" F BSP)
- ④ Flow switch
- ⑤ Backup heater
- ⑥ Pump
- ⑦ User interface
- ⑧ Safety valve Pressure
- ⑨ Air purge
- ⑩ Expansion vessel
- ⑪ Magnetic filter / dirt separator
- ⑫ Space heating water pressure sensor
- 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 Options



DETAIL A
WALL FIXATION

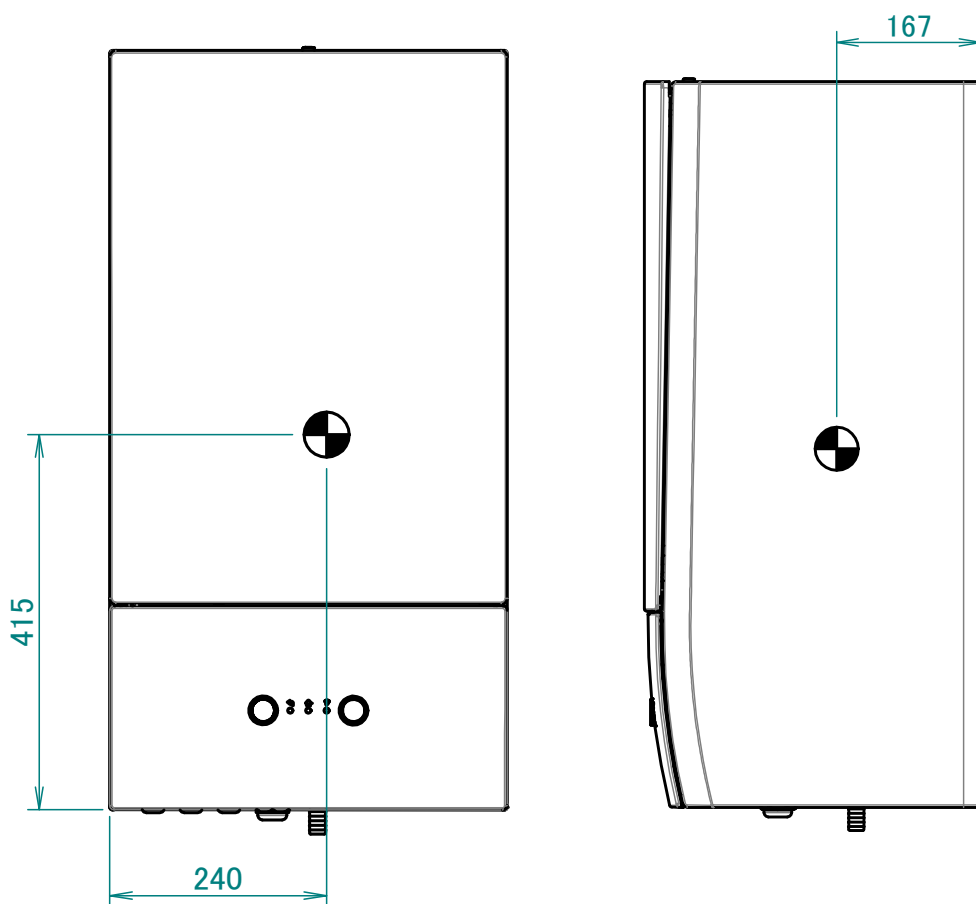


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6 Centre of gravity

6 - 1 Centre of Gravity

EABH-D6V
EABH-D9W
EABX-D6V
EABX-D9W

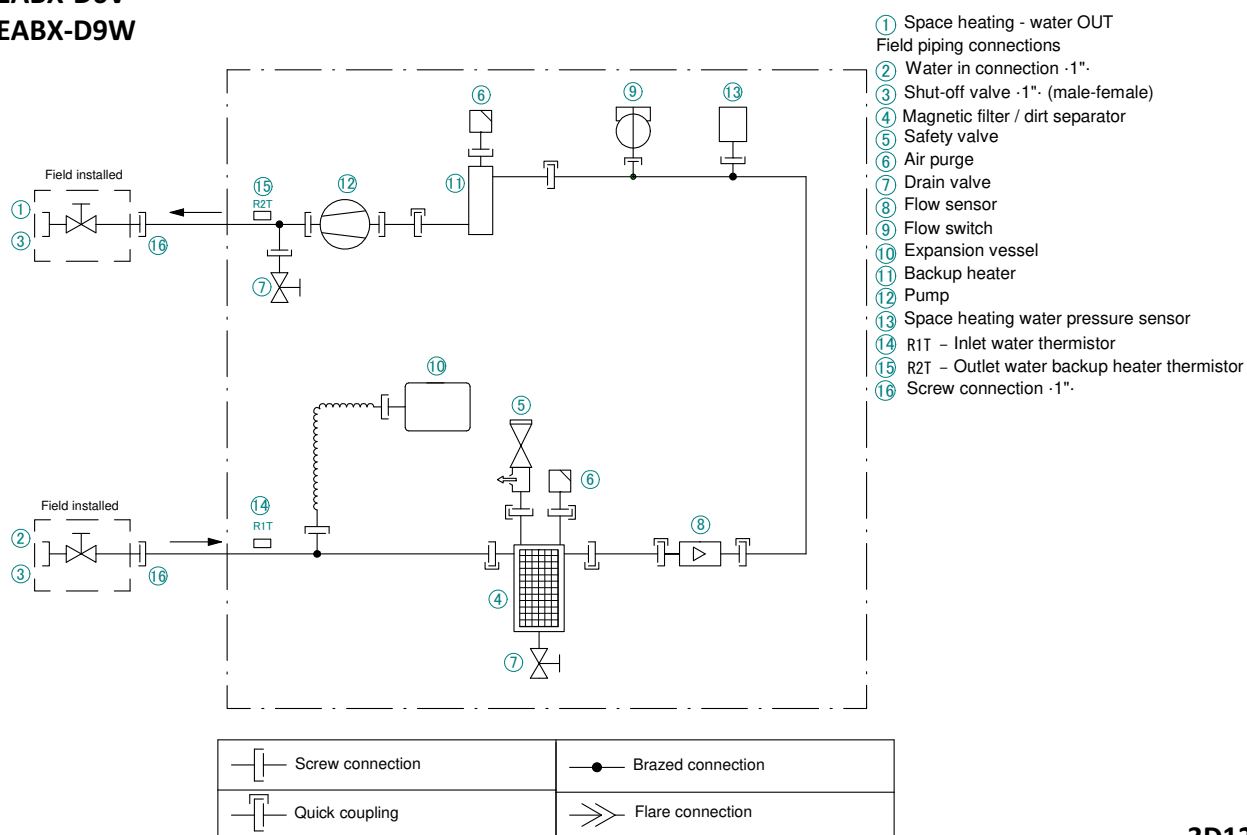


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7 Piping diagrams

7 - 1 Piping Diagrams

EABH-D6V
EABH-D9W
EABX-D6V
EABX-D9W



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8 Wiring diagrams

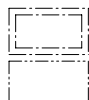
8 - 1 Wiring Diagrams - Single Phase

EABH-D6V
EABH-D9W
EABX-D6V
EABX-D9W

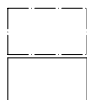
NOTES to go through before starting the unit

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

--- : Earth wiring
- - - : Field supply
① : Several wiring possibilities



: Option



: Not mounted in switch box

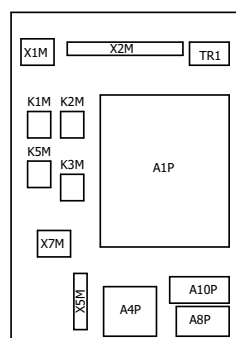
: PCB

Note 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)
☐ 6V (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
☐ Bottom plate heater
Main LWT:
☐ On/OFF thermostat (wired)
☐ On/OFF thermostat (wireless)
☐ Ext. thermistor
Add LWT:
☐ On/OFF thermostat (wired)
☐ On/OFF thermostat (wireless)
☐ Ext. thermistor
☐ Heat pump convactor

POSITION IN SWITCH BOX



LEGEND

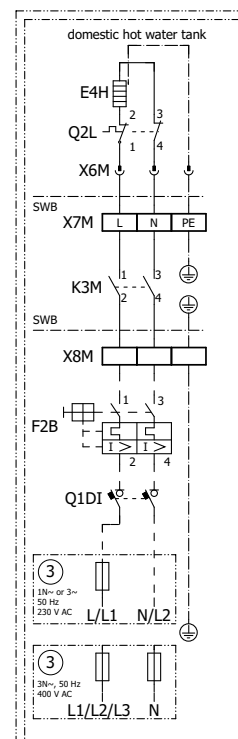
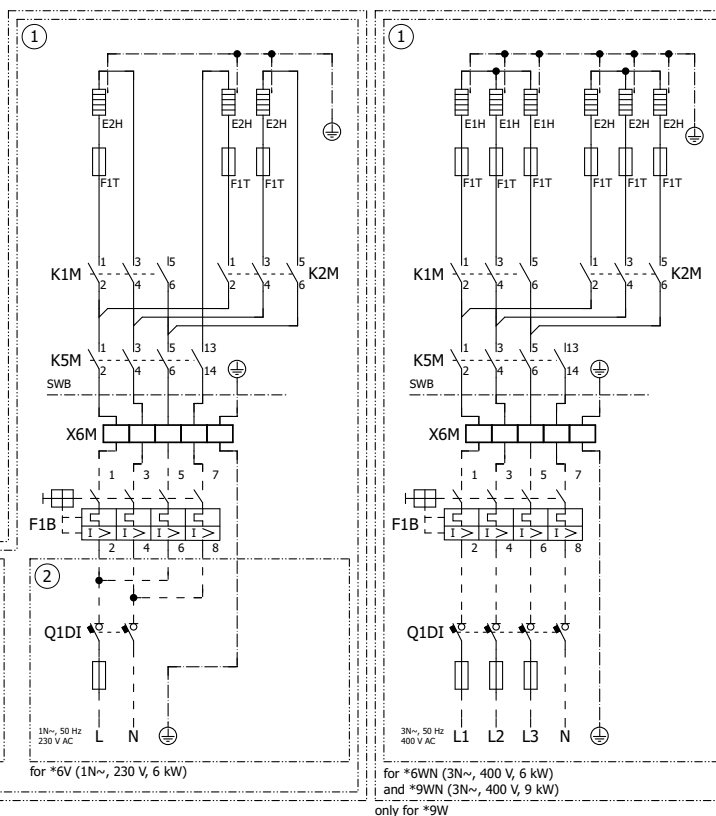
Translation can be found in the installation manual.

* : optional # : field supply

Part n°	Description	M2P	#	domestic hot water pump
A1P	main PCB	M2S	#	2 way valve for cooling mode
A2P	* On/OFF thermostat (PC=power circuit)	M3S	*	3 way valve for floorheating /domestic hot water
A3P	* heat pump convactor	P1M		MMI display
A4P	* digital I/O PCB	PC (A15P)	*	power circuit
A8P	* demand PCB	PHC1 (A4P)	*	optocoupler input circuit
A9P	status indicator	Q1L		thermal protector backup heater
A10P	MMI PSU PCB	Q2L	*	thermal protector booster heater
A11P	MMI main PCB	Q4L	#	safety thermostat
A12P	MMI display PCB	Q*DI	#	earth leakage circuit breaker
A13P	* LAN adapter	R1H (A2P)	*	humidity sensor
A14P	* user interface PCB	R1T (A1P)	*	inlet water thermistor
A15P	* receiver PCB (wireless On/OFF thermostat)	R1T (A2P)	*	ambient sensor On/OFF thermostat
B1L	flow sensor	R1T (A14P)	*	ambient sensor user interface
B1PW	water pressure sensor	R2T (A1P)	*	outlet backup heater thermistor
BSK (A3P)	solar pump station relay	R2T (A2P)	*	external sensor (floor or ambient)
CN* (A4P)	* connector	R5T		domestic hot water thermistor
DS1 (A8P)	* dipswitch	R6T	*	external indoor or outdoor ambient thermistor
E1H	backup heater element (1 kW)	S1L		flow switch
E2H	backup heater element (2 kW)	S1S	#	preferential kWh rate PS contact
E4H	* booster heater (3 kW)	S2S	#	electrical meter pulse input 1
E*P (A9P)	indication LED	S3S	#	electrical meter pulse input 2
F1B	# overcurrent fuse backup heater	S6S-S9S	*	digital power limitation inputs
F2B	# overcurrent fuse booster heater	SS1 (A4P)	*	selector switch
F1T	thermal fuse backup heater	SW1~2 (A12P)		turn buttons
F1U, F2U (A4P)	* fuse 5 A 250 V for digital I/O PCB	SW3~5 (A12P)		push button
FU1 (A1P)	fuse T 5 A 250 V for PCB	TR1		power supply transformer
FU2 (A10P)	fuse T 1.6 A 250 V for PCB	X6M	#	BUH power supply terminal strip
K1M, K2M	contactor backup heater	X6M	*	BSH power supply connector
K3M	* contactor booster heater	X7M, X8M		BSH power supply terminal strip
K5M	safety contactor BUH	X*Y*, Y*		connector
K*R (A1P-A4P)	relay on PCB	X*M		terminal strip
M1P	main supply pump			

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EABH-D9W
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EABX-D9W

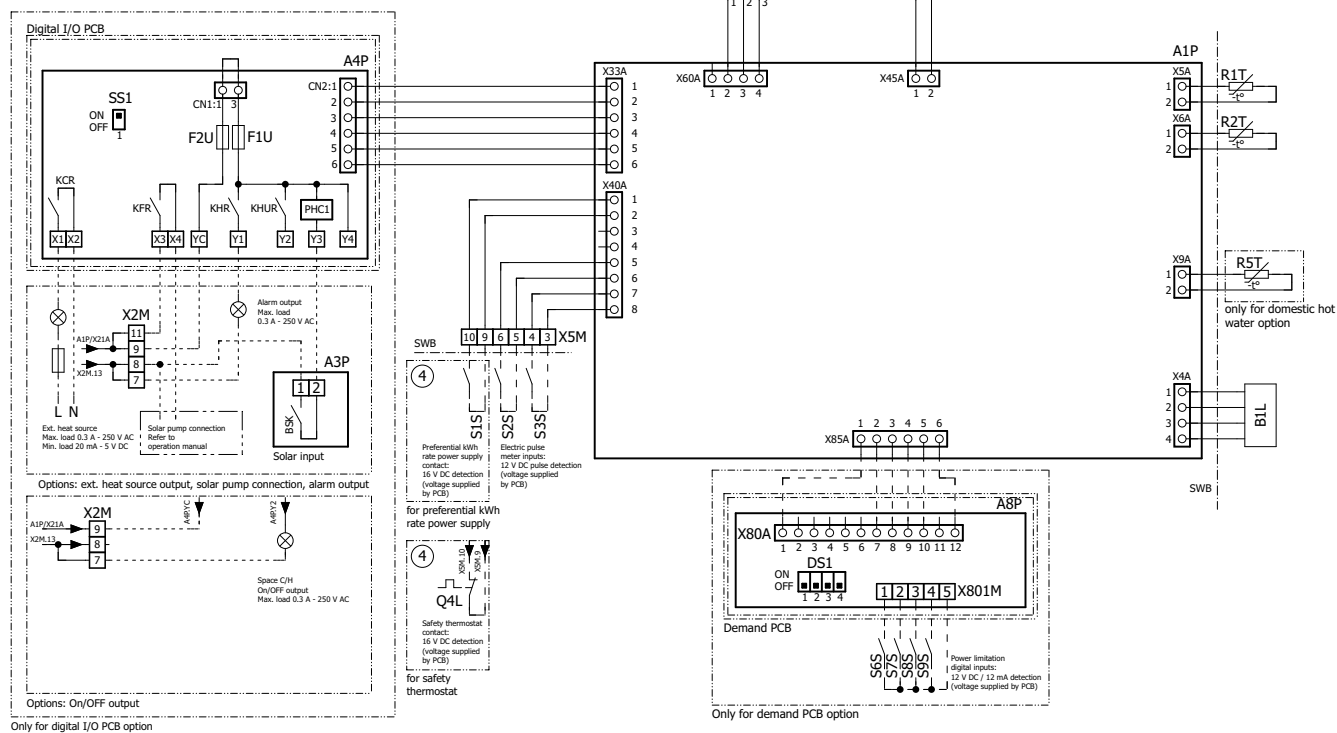


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8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

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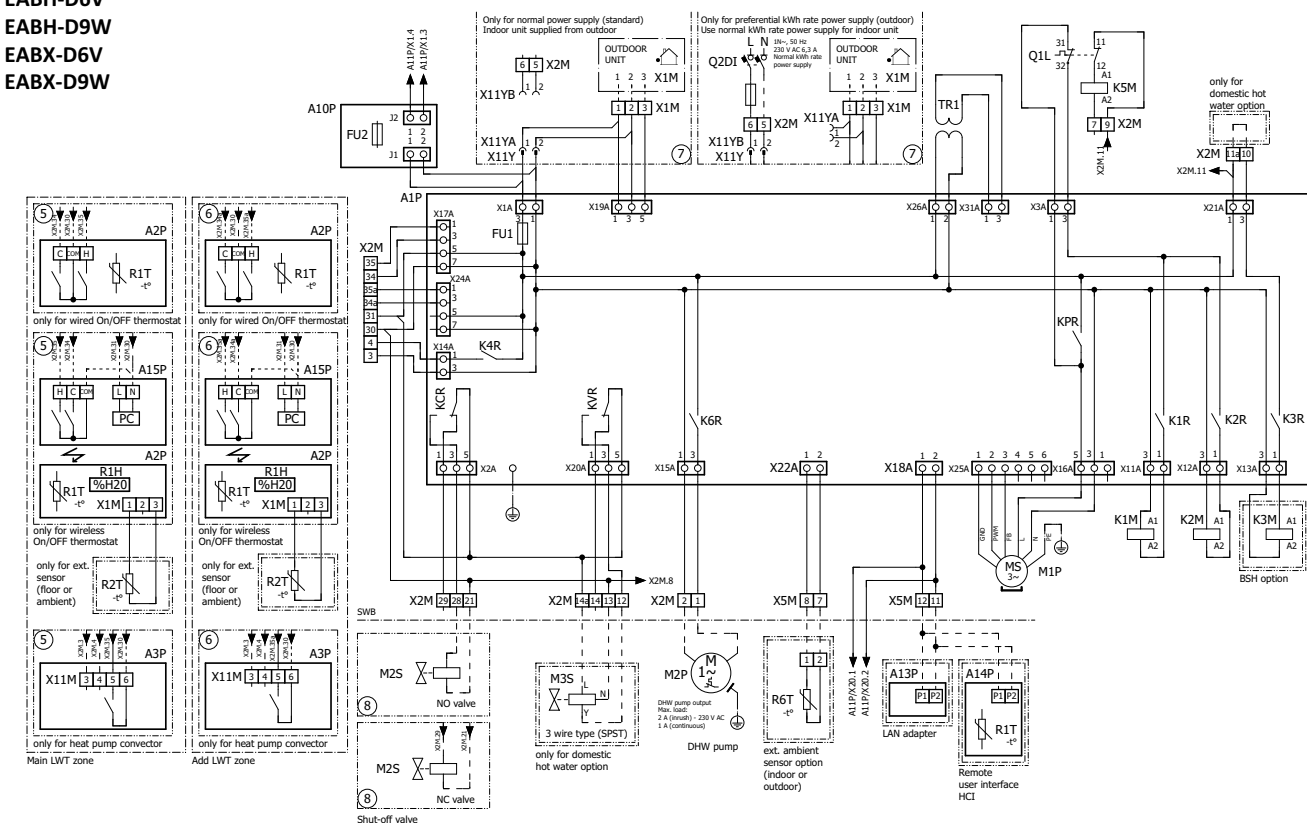
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EABH-D6V

EABH-D9W

EABX-D6V

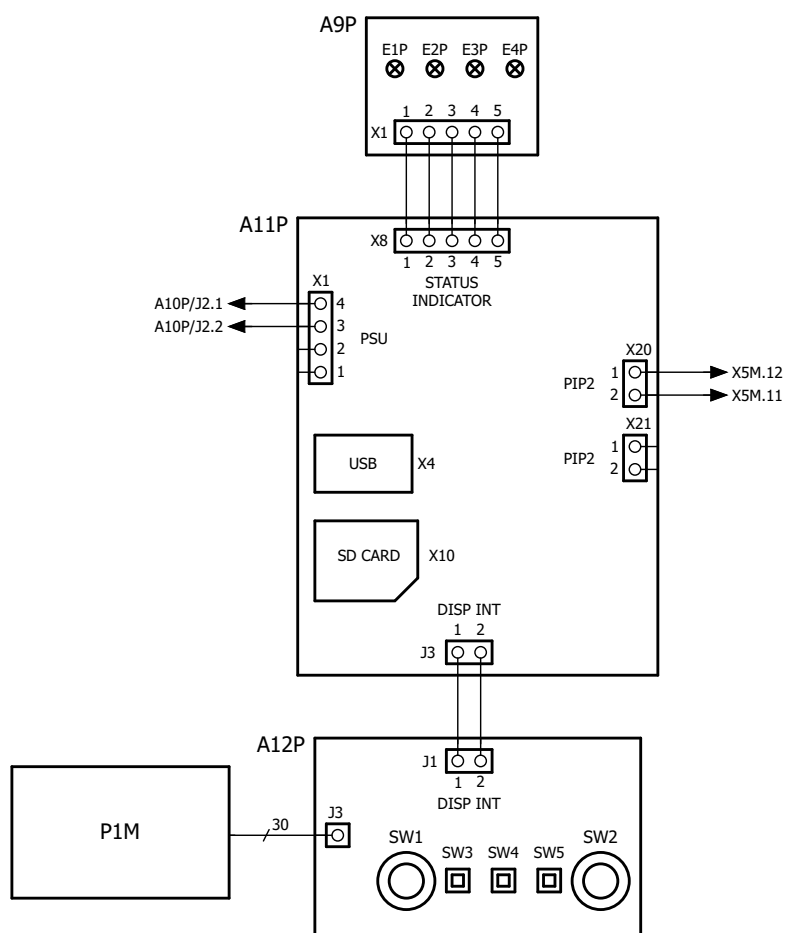
EABX-D9W

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8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

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EABH-D9W
EABX-D6V
EABX-D9W



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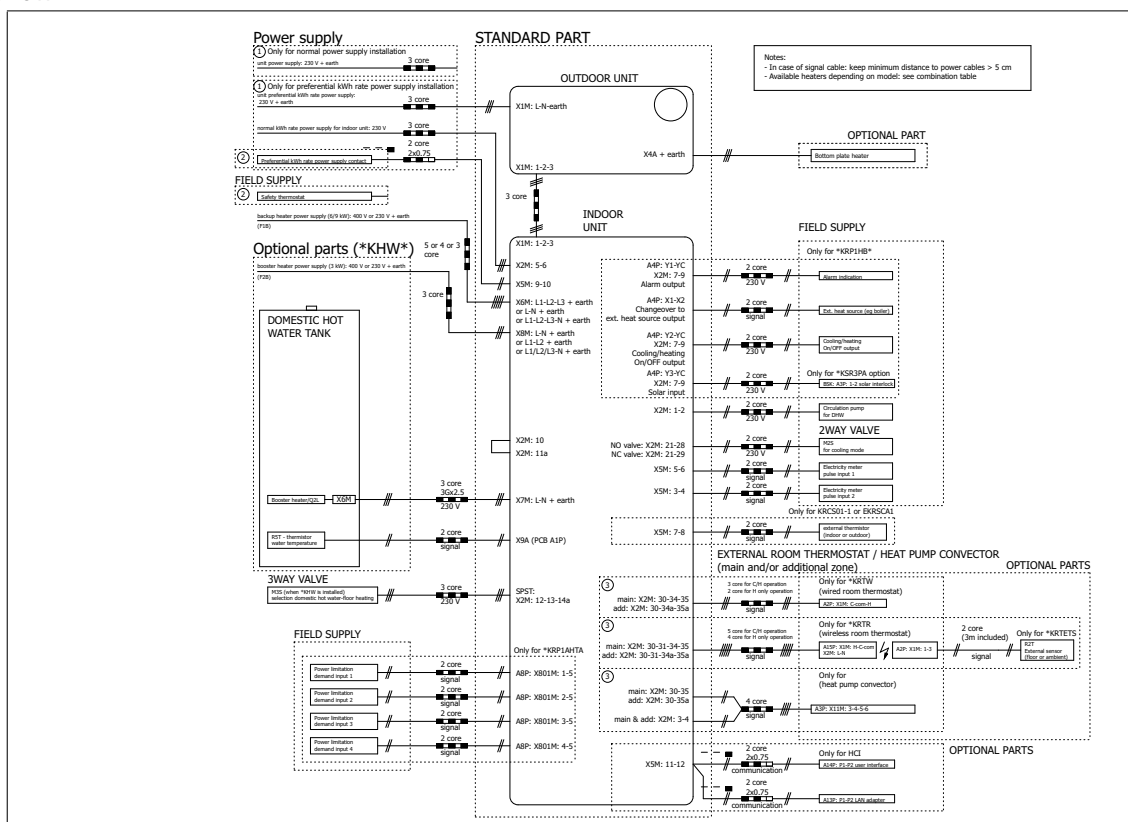
9 External connection diagrams

9 - 1 External Connection Diagrams

EABH-D6V
EABH-D9W
EABX-D6V
EABX-D9W

Electrical connection diagram Altherma Wallmounted Gas Injection

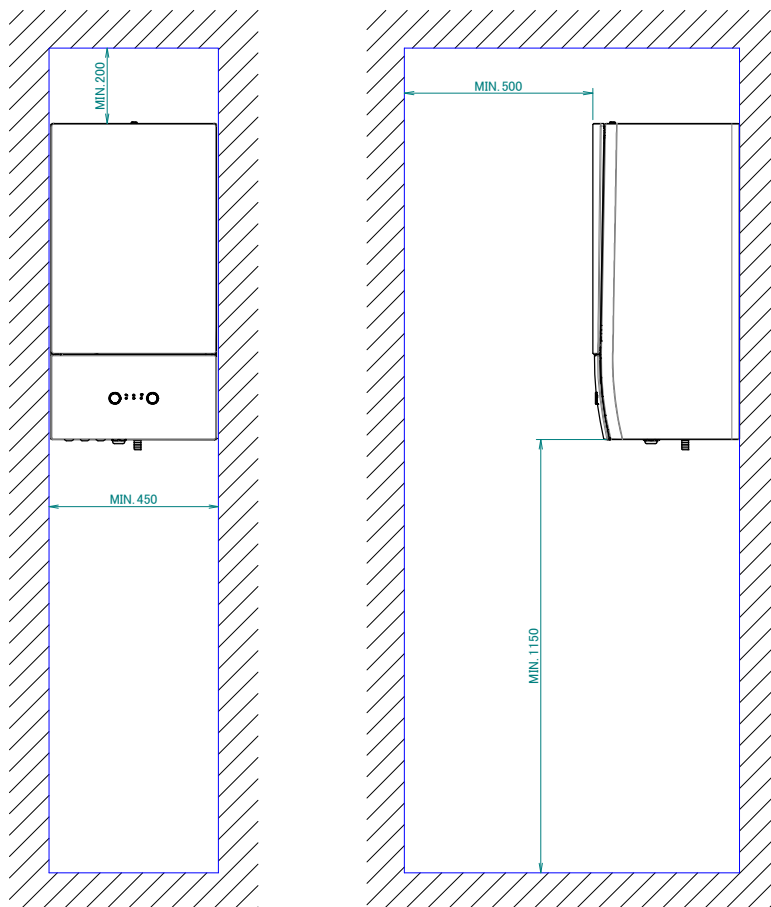
For more details
please check unit wiring



10 Installation

10 - 1 Installation Method

EABH-D6V
EABH-D9W
EABX-D6V
EABX-D9W



3D121023

11 Operation range

11 - 1 Operation Range

EABH-D6V

EABH-D9W

EABX-D6V

EABX-D9W

EAVH-D6V(G)

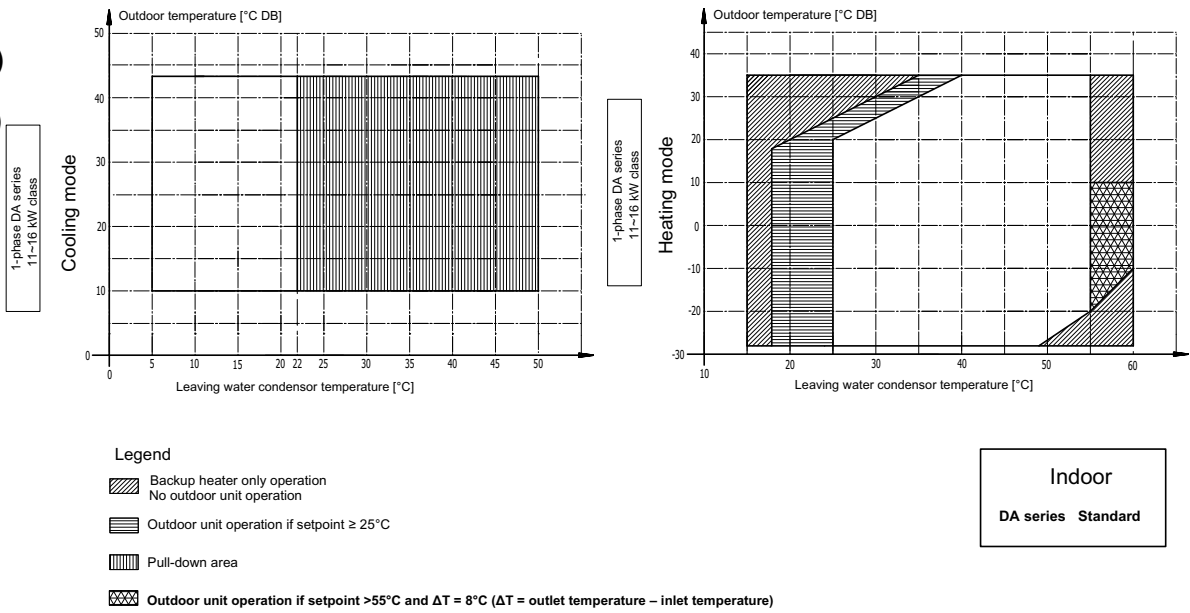
EAVH-D9W(G)

EAVX-D6V(G)

EAVX-D9W(G)

EAVZ-D6W

EAVZ-D9W



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, ...

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EABH-D6V

EABH-D9W

EABX-D6V

EABX-D9W

EAVH-D6V(G)

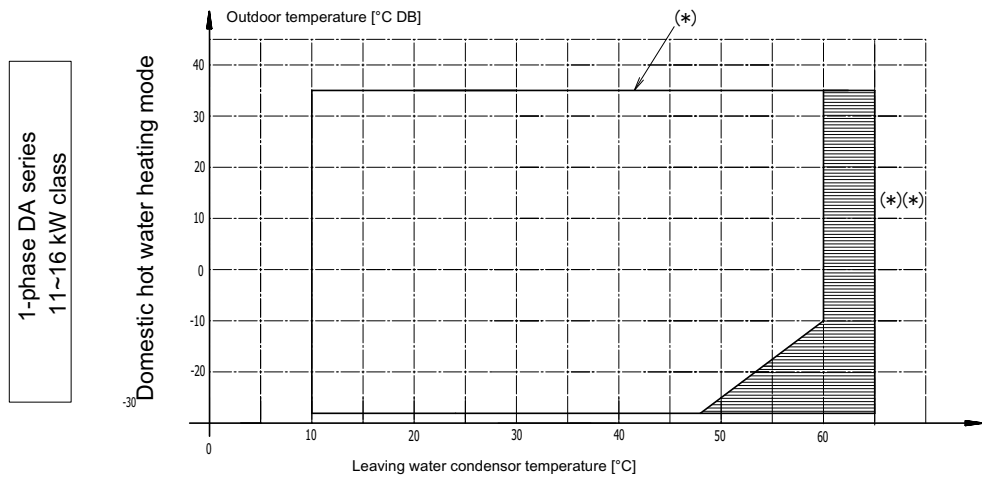
EAVH-D9W(G)

EAVX-D6V(G)

EAVX-D9W(G)

EAVZ-D6W

EAVZ-D9W



Legend

Backup heater only operation (or booster heater, if part of the system) to reach a tank temperature of 60°C.

(*) System operation: the system consists of an outdoor unit and indoor unit, and depending on the system, a booster heater and/or a backup heater.

In heat pump only operation, the heat pump can create a maximum domestic hot water temperature up to 56°C (depending on outdoor ambient condition).

(*)(*) Tank temperature up to 75°C only possible with booster heater only operation (if available in the system).

Remark

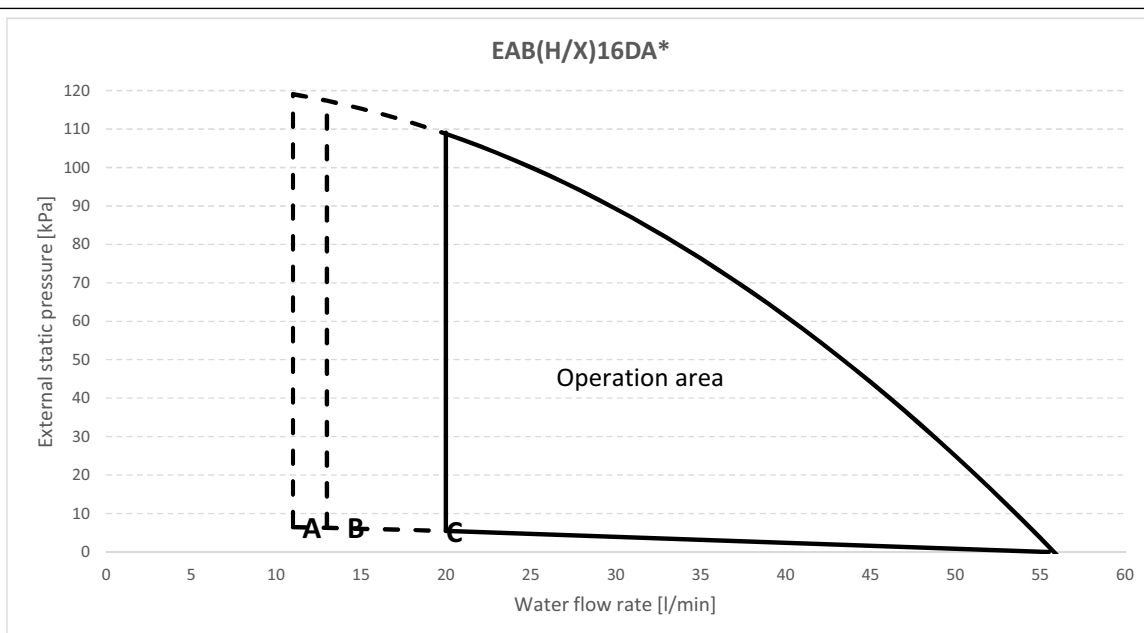
In restricted power supply mode (EKHW* only), the outdoor unit, booster heater and backup heater can only operate separately.

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12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EABH-D6V
EABH-D9W
EABX-D6V
EABX-D9W



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

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.)

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.

4D121019



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