

Heating
Technical Data

EHBH-D9W



TABLE OF CONTENTS

EHBH-D9W

1	Features	2
2	Specifications	3
	Technical Specifications	3
	Electrical Specifications	4
3	Electrical data	6
4	Combination table	7
5	Dimensional drawings	8
6	Centre of gravity	9
7	Piping diagrams	10
8	Wiring diagrams	11
	Wiring Diagrams - Single Phase	11
9	External connection diagrams	14
10	Installation	15
	Installation Method	15
11	Hydraulic performance	16
	Static Pressure Drop Unit	16

1 Features

- Inclusion of all hydraulic components means no third party components are required
- 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.

1



Online controller

2 Specifications

2-1 Technical Specifications				EHBH08D9W	
Power input	Nom.		kW	0.09	
Casing	Colour			White + Black	
	Material			Resin, sheet metal	
Dimensions	Unit	Height	mm	840	
		Width	mm	440	
		Depth	mm	390	
	Packed unit	Height	mm	450	
		Width	mm	650	
		Depth	mm	1,016	
Weight	Unit		kg	42.4	
	Packed unit		kg	46	
Packing	Material			Carton / PP (Straps) / EPS	
	Weight		kg	4	
Pump	Type			DC motor	
	Nr of speeds			PWM	
	Power input		W	52	
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
			Max.	°CDB	35
	Domestic hot water	Ambient	Min.	°CDB	0 (1)
			Max.	°CDB	0 (1)
		Water side	Min.	°C	0 (1)
			Max.	°C	0 (1)
Refrigerant side heat exchanger	Type			Plate heat exchanger	
	Quantity			1	
	Plates	Quantity		42	
Water side Heat exchanger	Type			Plate heat exchanger	
	Quantity			1	
	Plates	Quantity		42	
	Water volume		l	0.95	
	Water flow rate	Min.	l/min	12.0 (2)	
Refrigerant circuit	Gas side diameter		mm	15.9	
	Liquid side diameter		mm	6.35	
Sound power level	Nom.		dBA	42 (3)	
Sound pressure level	Nom.		dBA	28 (4)	
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"	
	Piping		inch	1"	
	Safety valve		bar	3	
	Manometer			Digital	
	Drain valve / fill valve			Yes	
	Shut off valve			Yes	
	Air purge valve			Yes	
	Total water volume		l	3.2	
	Minimum water volume in the system for heating		l	10 (5)	
	Safety devices	Item	01		Thermal cut out

2 Specifications

2

2-1 Technical Specifications				EHBH08D9W
PED	Category			Art4.3 / (6)
	Most critical part	Name		Plate heat exchanger
		Ps*V	Bar*l	38
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

2-2 Electrical Specifications				EHBH08D9W
Power supply	Name			(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
		Minimum Ssc value		
Recommended fuses		A	20.000 (8)	
Wiring connections- Communication cable	Quantity			3
	Remark			1.5 mm ²
Wiring connections- Electric meter	Quantity			2
	Remark			Minimum 0.75 mm ² (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 mm ² (2A inrush, 1A continuous)
Wiring connections- For power supply back-up heater	Quantity			Prewired
	Remark			Select diameter & type according to national & local regulations
Wiring connections- For connection with R6T	Quantity			2
	Remark			Minimum 0.75 mm ²
Wiring connections- For connection with A3P	Quantity			Depends on thermostat type, cf. installation manual
	Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm ² / (9)
Wiring connections- For connection with M2S	Quantity			2
	Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm ² / (9)
Wiring connections- For connection with optional FWXV* (demand input and output)	Quantity			4
	Remark			100 mA, minimum 0.75 mm ²

2 Specifications

Notes

- (1) For more details, see operation range drawing
- (2) 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).
- (3) DB/MB 7°C/6°C - LWC 35°C (DT=5°C)
- (4) Sound values are measured in a semi-anechoic room. Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings. Sound power level is an absolute value that a so
- (5) Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required.
- (6) PED unit category: Art3§3: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC
- (7) Above mentioned power supply for control box is for booster heater only. The switchbox of the controller box is supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.
- (8) 4 pole 20 A curve 400V tripping class C (refer to wiring diagram)
- (9) Select diameter and type according to national and local regulations

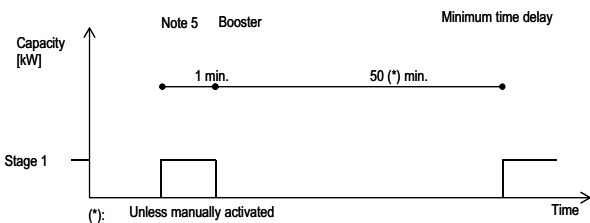
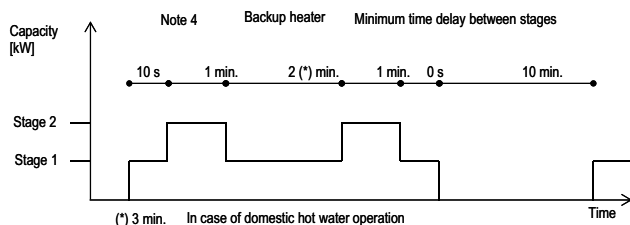
3 Electrical data

3 - 1 Electrical Data

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-D9W

Electrical specifications of the backup heaters and booster heaters

Type	6V						9W			
	Capacity setting	[kW]	2 - 4	2 - 6	2-4 (in case of emergency: 2 6)		6	3 - 6	3 - 9	3 - 6 (in case of emergency: 3 - 9)
Capacity stage		2	2	2	2	1	2	2	2	2
Capacity stage 1	kW	2	2	2	2	6	3	3	3	3
Capacity stage 2	kW	4	6	4	6	-	6	9	6	9
Minimum time delay between stages										
Power supply										
Phase										
Frequency										
Voltage										
Nominal running current										
Zmax (backup heater)										
Minimum Ssc value										
Type										
Capacity setting										
Capacity stage										
Minimum time delay between stages										
Nominal running current										
Booster heater										
Zmax										
Nominal running current										
Minimum Ssc value										
Notes										



4 Combination table

4 - 1 Combination Table

EHBH-D6V

EHBH-D9W

EHBX-D6V

EHBX-D9W

Factory-mounted equipment for -EHB(H/X)04DA*.

Description	EHB(H/X)04DA*	EHB(H/X)08DA*	
Heating only model -EHBH*	6V (9)	6V (9)	9W (9)
Reversible model -EHBX*	6V (9)	6V (9)	9W (9)
Backup heater -3kW 1N~230 V.	-	-	-
Backup heater -2.4-6kW 1N~230 V.	o	o	-
Backup heater -2.4-6kW 3~230 V.	o	o	-
Backup heater -3-6-9kW 3N~400 V.	-	-	o

Outdoor combination table for -EHB(H/X)04/08DA*.

Description	ERGA04DAV3	ERGA06DAV3	ERGA08DAV3	ERGA06DAV3A	ERGA08DAV3A
EHBH04DA* Heating only	o	---	---	---	---
EHBX04DA* Reversible	o	---	---	---	---
EHBH08DA* Heating only	---	o	o	o	o
EHBX08DA* Reversible	---	o	o	o	o

Kit availability

Reference	Description	EHB(04/08)DA*		
		04 - 6V	08 - 6V	08 - 9W
EHBH*	Heating only indoor unit	04 - 6V	08 - 6V	08 - 9W
EHBX*	Reversible indoor unit	04 - 6V	08 - 6V	08 - 9W
EKR11HBAA	Digital I/O PCB	*(1) (2)	o	o
EKR11AHTA	Demand PCB	*(3)	o	o
EKRUDAS	Simplified user interface	o	o	o
EKPCCAB3	PC cable	*(4)	o	o
EKHWS150D3V3	Domestic hot water tank -150 l 1~230 V.	o	o	o
EKHWS180D3V3	Domestic hot water tank -180 l 1~230 V.	o	o	o
EKHWS200D3V3	Domestic hot water tank -200 l 1~230 V.	o	o	o
EKHWS250D3V3	Domestic hot water tank -250 l 1~230 V.	o	o	o
EKHWS300D3V3	Domestic hot water tank -300 l 1~230 V.	o	o	o
EKHWSU150D3V3	Domestic hot water tank -150 l 1~230 V.	o	o	o
EKHWSU180D3V3	Domestic hot water tank -180 l 1~230 V.	o	o	o
EKHWSU200D3V3	Domestic hot water tank -200 l 1~230 V.	o	o	o
EKHWSU250D3V3	Domestic hot water tank -250 l 1~230 V.	o	o	o
EKHWSU300D3V3	Domestic hot water tank -300 l 1~230 V.	o	o	o
EKHWP300B	Domestic hot water tank with solar connection	*(10)	o	o
EKHWP500B	Domestic hot water tank with solar connection	*(10)	o	o
EKHWP300PB	Domestic hot water tank with solar connection	*(10)	o	o
EKHWP500PB	Domestic hot water tank with solar connection	*(10)	o	o
BZKA7V3	Bizone kit	o	o	o
KRCS01-1	Remote indoor sensor	*(5)	o	o
EKRSCA1	Remote sensor for outdoor	*(5)	o	o
BRP069A61	LAN adapter for smartphone control	*(6)	o	o
BRP069A62	LAN adapter for smartphone control	*(6)	o	o
EKHBCONV	Conversion kit: heating only to reversible.	o	o	o
FWXV15AVEB	Heat pump convactor	*(7)	o	o
FWXV20AVEB	Heat pump convactor	*(7)	o	o
EKRTRWA	Wired room thermostat	o	o	o
EKRTR1	Wireless room thermostat	o	o	o
EKRTE1S	External sensor room thermostat	*(8)	o	o

Kit availability for domestic hot water tanks

Reference	Description	EKHWP*			
		300B	500B	300PB	500PB
EKHWP*	Domestic hot water tank with solar connection	o	o	o	o
EKSRP54A	Solar kit	o	o	o	o

Notes

- (1) PCB that provides additional output connections: -
 - (a) Control external heat source (bivalent operation).
 - (b) Output remote ON/OFF signal space heating/cooling OR bottom plate heater *KBPHTH16* - control.
 - (c) Remote alarm output
- (2) Additional relays to allow bivalent control in combination with an external room thermostat are field-supplied.
- (3) PCB to receive up to 4 digital inputs for power limitation, only for -EHB(H/X)04/08DA*.
- (4) Data cable for connection with PC.
- (5) Only 1 remote sensor can be connected: indoor OR outdoor sensor.
- (6) Installation box -EKRPA6-
- (7) The valve kit is mandatory if a heat pump convactor is installed on a reversible model (not mandatory for heating only models).
- (8) -EKRTETS- can only be used in combination with -EKTR1-.
- (9) The backup heater capacity depends on a user interface setting.
- (10) Dedicated connection kit available.

Remark

Other combinations than mentioned in this combination table are prohibited.

3D111984A

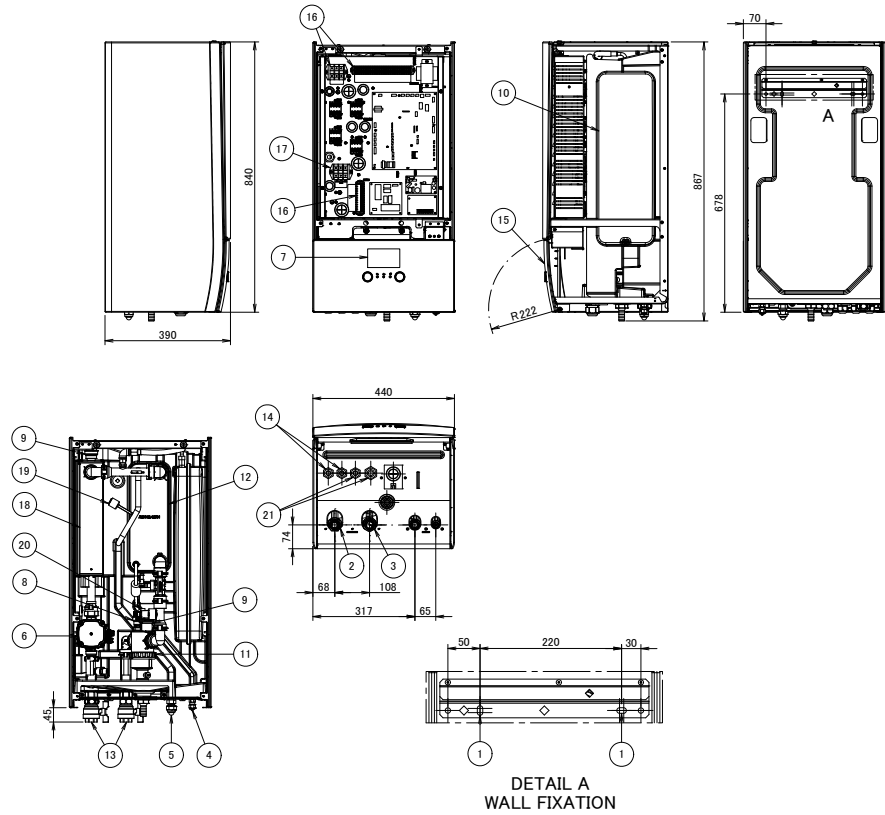
5 Dimensional drawings

5 - 1 Dimensional Drawings

5

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-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 Ø6.35
Flare connection
- ⑤ Refrigerant gas connection Ø15.9
Flare connection
- ⑥ Pump
- ⑦ User interface
- ⑧ Safety valve
Pressure
- ⑨ Air purge
- ⑩ Expansion vessel
- ⑪ Magnetic filter / dirt separator
- ⑫ Heat exchanger (refrigerant / water)
- ⑬ Shut-off valves
- ⑭ Wire entrance of the power supply / communication wire
- ⑮ Service door
- ⑯ Switch box terminals
- ⑰ Switch box terminals for the domestic hot water tank (option)
- ⑱ Backup heater
- ⑲ Refrigerant pressure sensor
- ⑳ Space heating water pressure sensor
- ㉑ Options



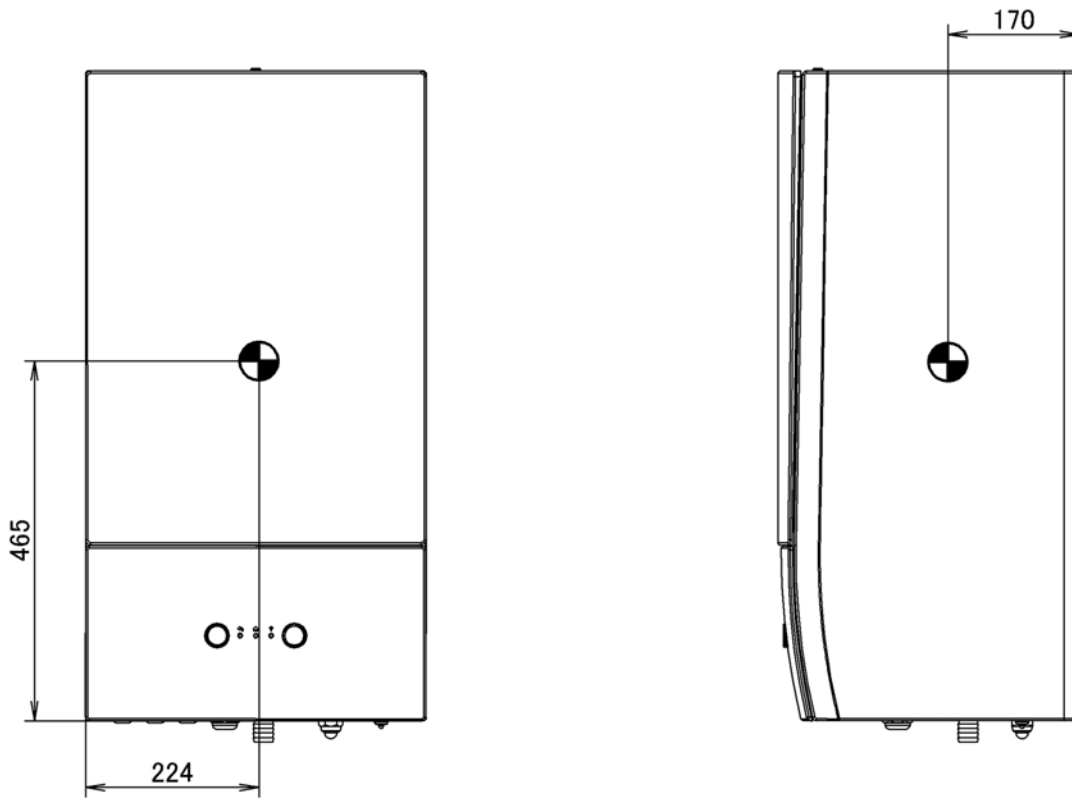
DETAIL A
WALL FIXATION

3D111842

6 Centre of gravity

6 - 1 Centre of Gravity

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-D9W



7 Piping diagrams

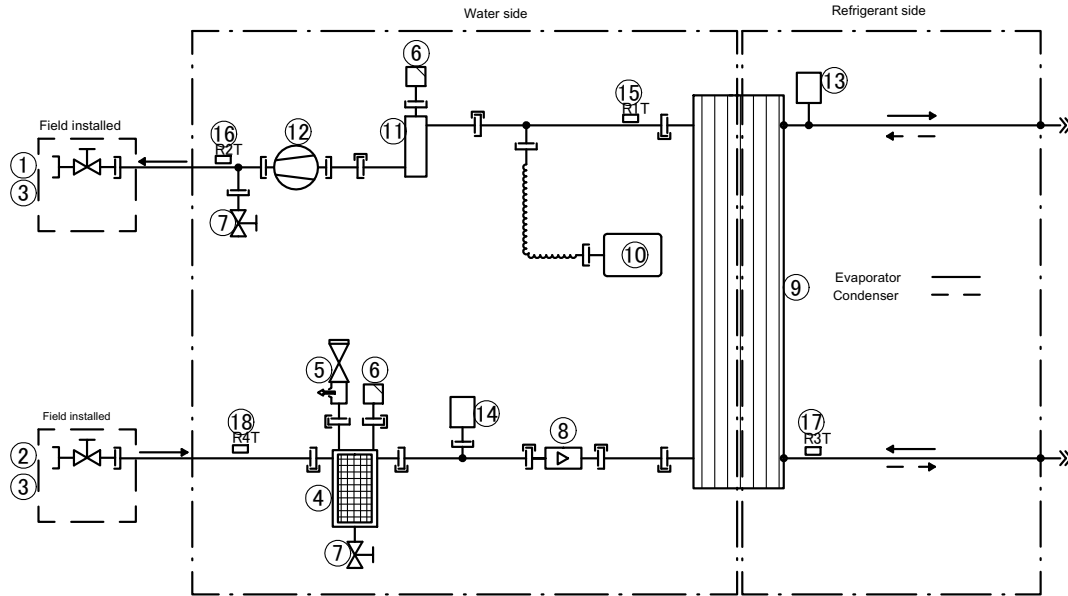
7 - 1 Piping Diagrams


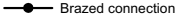

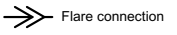
7

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-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 Refrigerant pressure sensor
- ⑭ Space heating water pressure sensor
- ⑮ R1T - Outlet water heat exchanger thermistor
- ⑯ R2T - Outlet water backup heater thermistor
- ⑰ R3T - Thermistor (heat exchanger, liquid pipe)
- ⑱ R4T - Inlet water thermistor



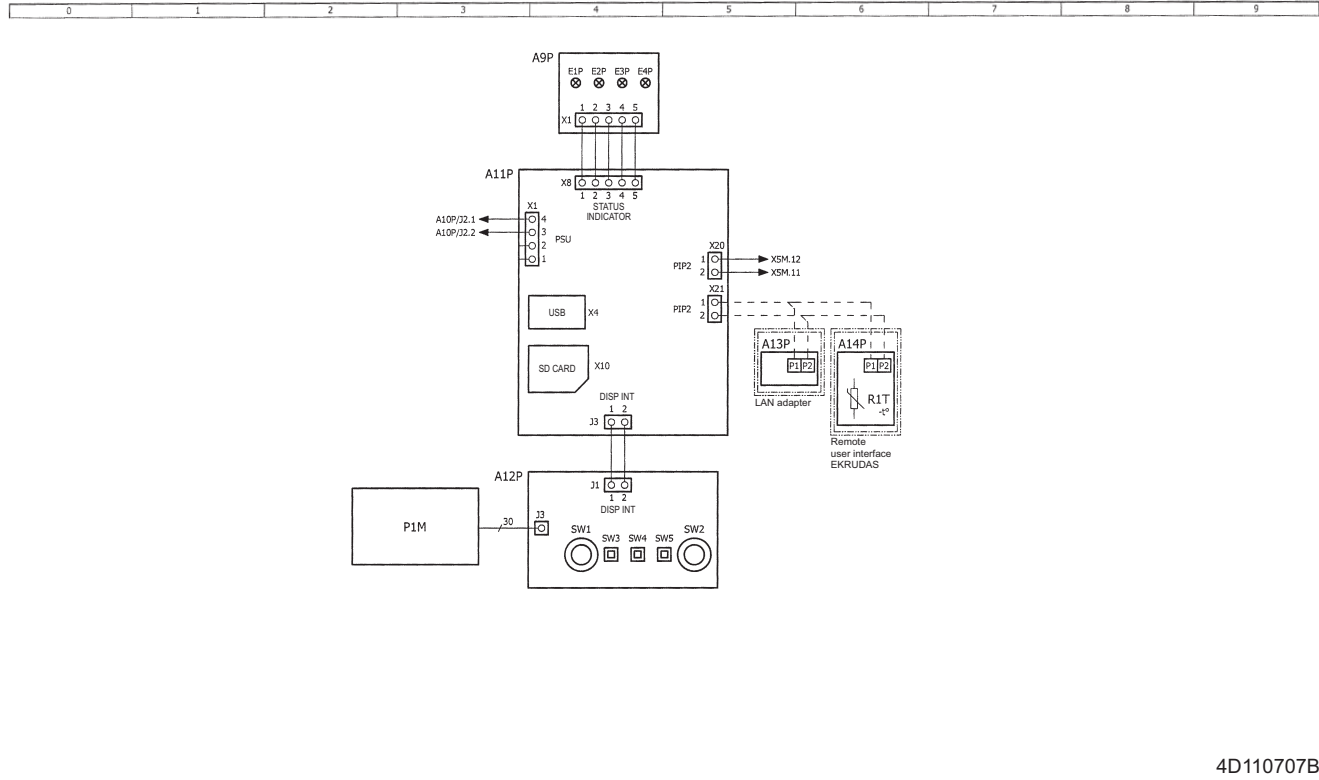
 Screw connection	 Brazed connection
 Quick coupling	 Flare connection

3D111541A

8 Wiring diagrams

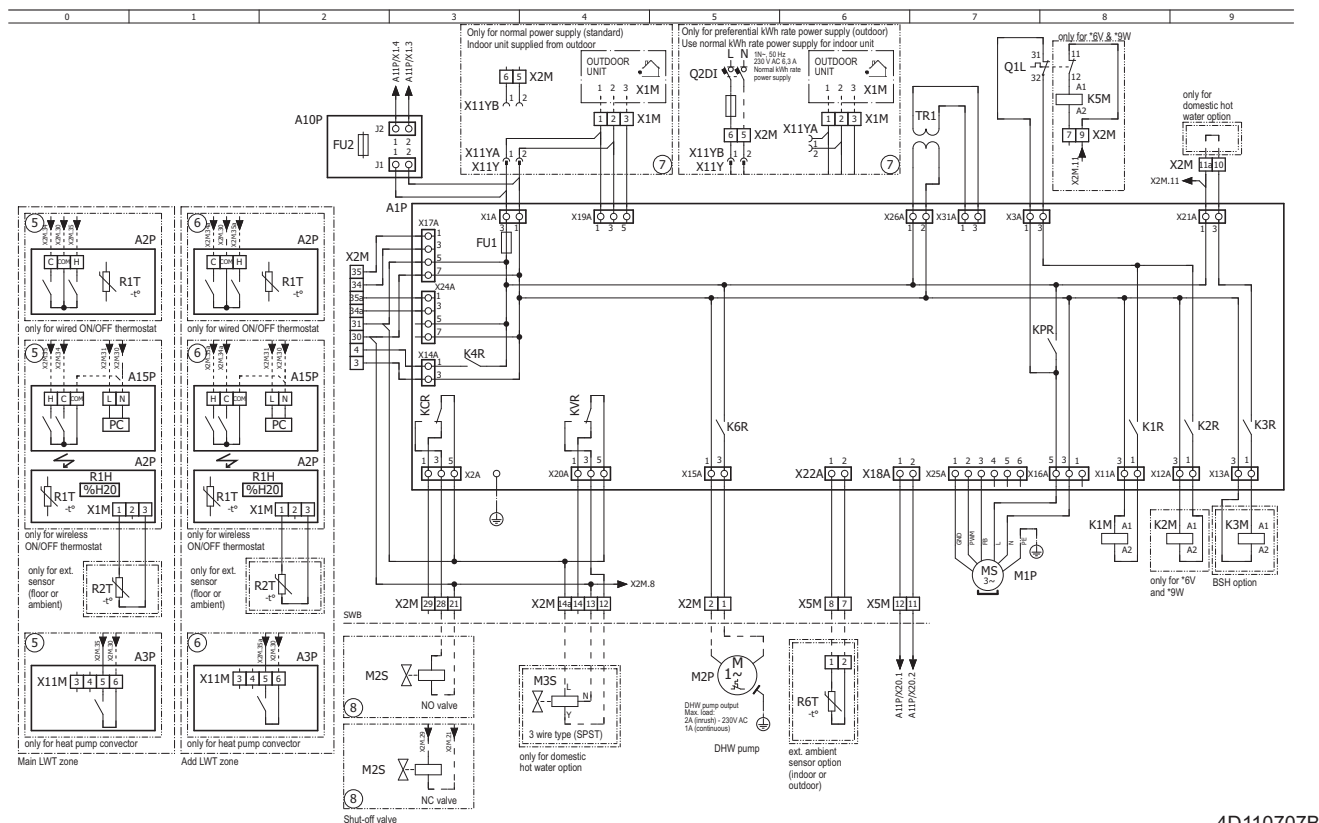
8 - 1 Wiring Diagrams - Single Phase

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-D9W



4D110707B

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-D9W



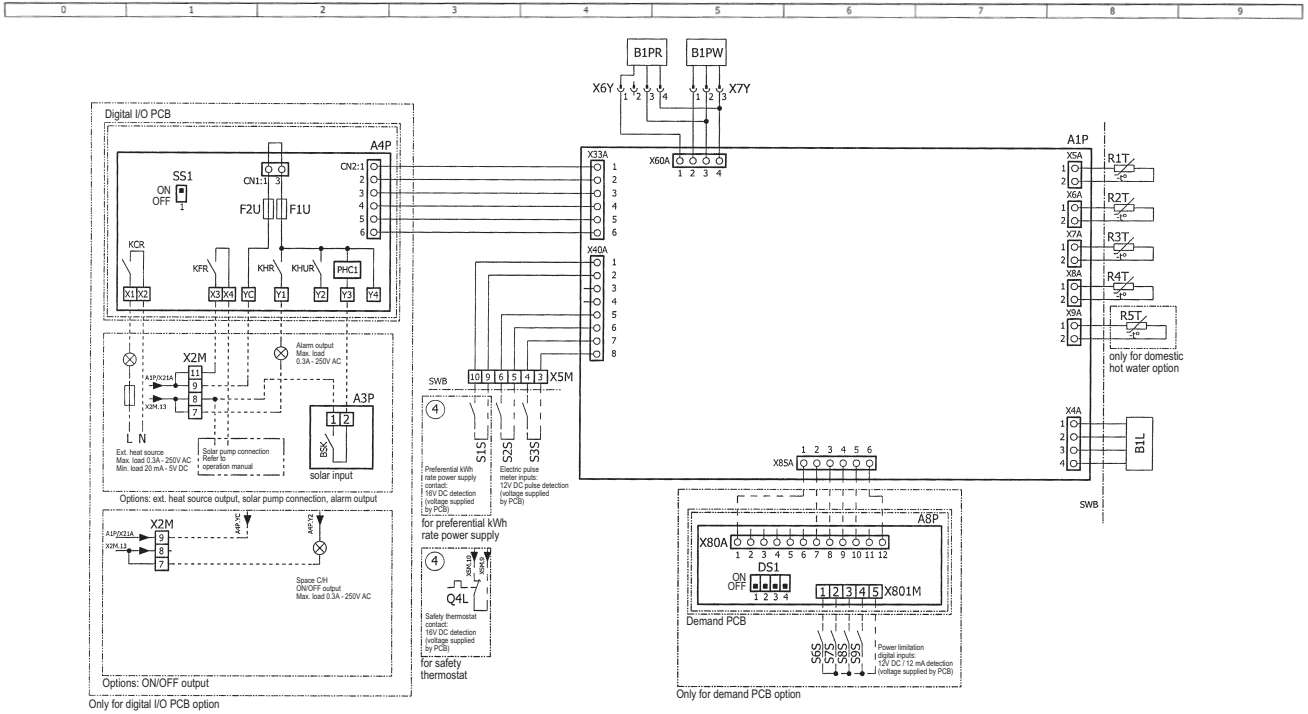
4D110707B

8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

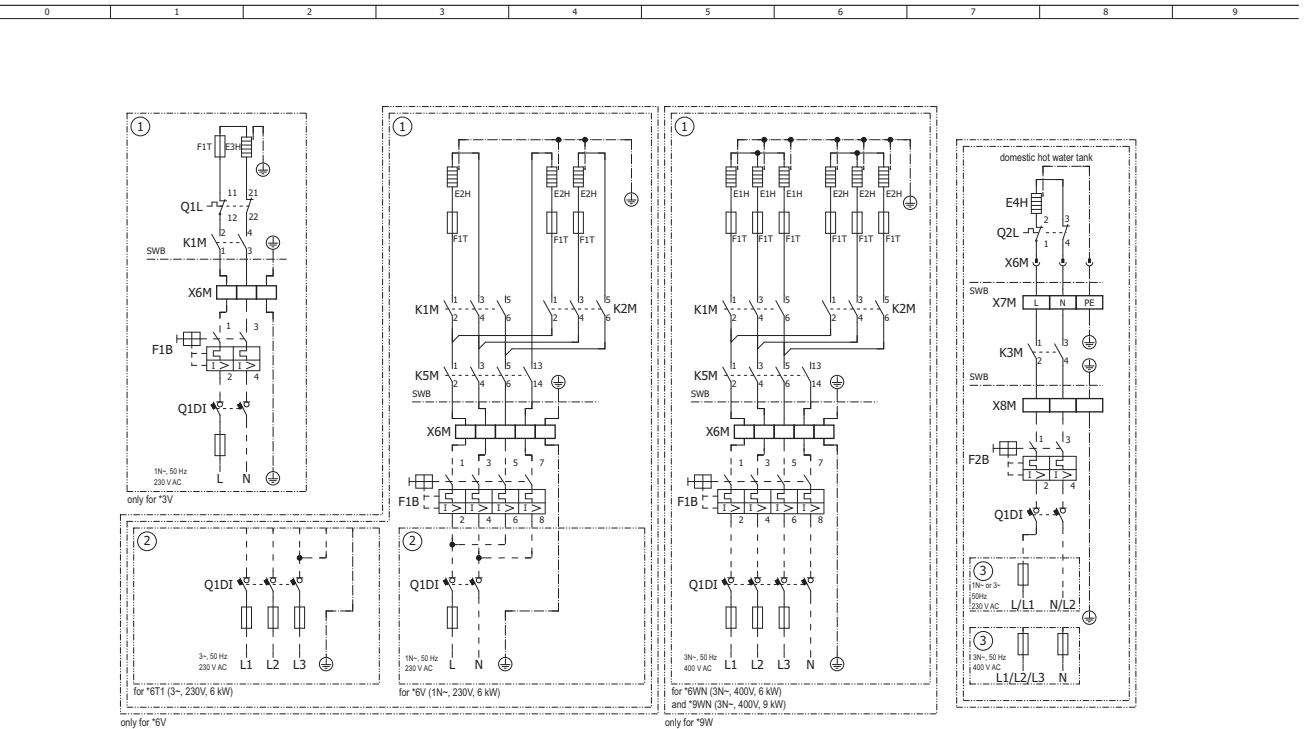
8

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-D9W



4D110707B

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-D9W



4D110707B

8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-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



: Wiring depending on model



: Not mounted in switch box



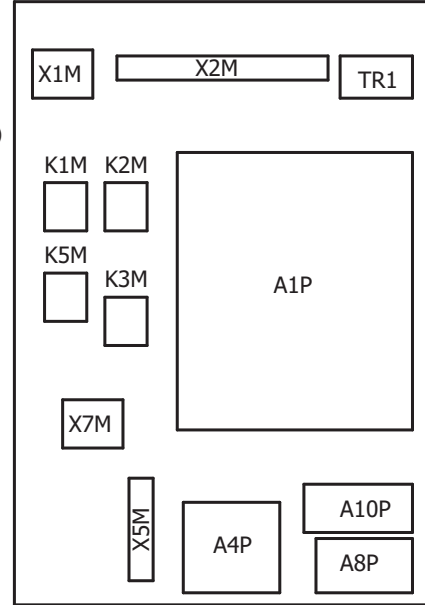
: PCB

NOTE 1: Connection point of the power supply for the BUH should be foreseen outside the unit.

- Backup heater power supply
 - 3V (1N~, 230V, 3kW)
 - 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
- 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

* : optional
: field supply

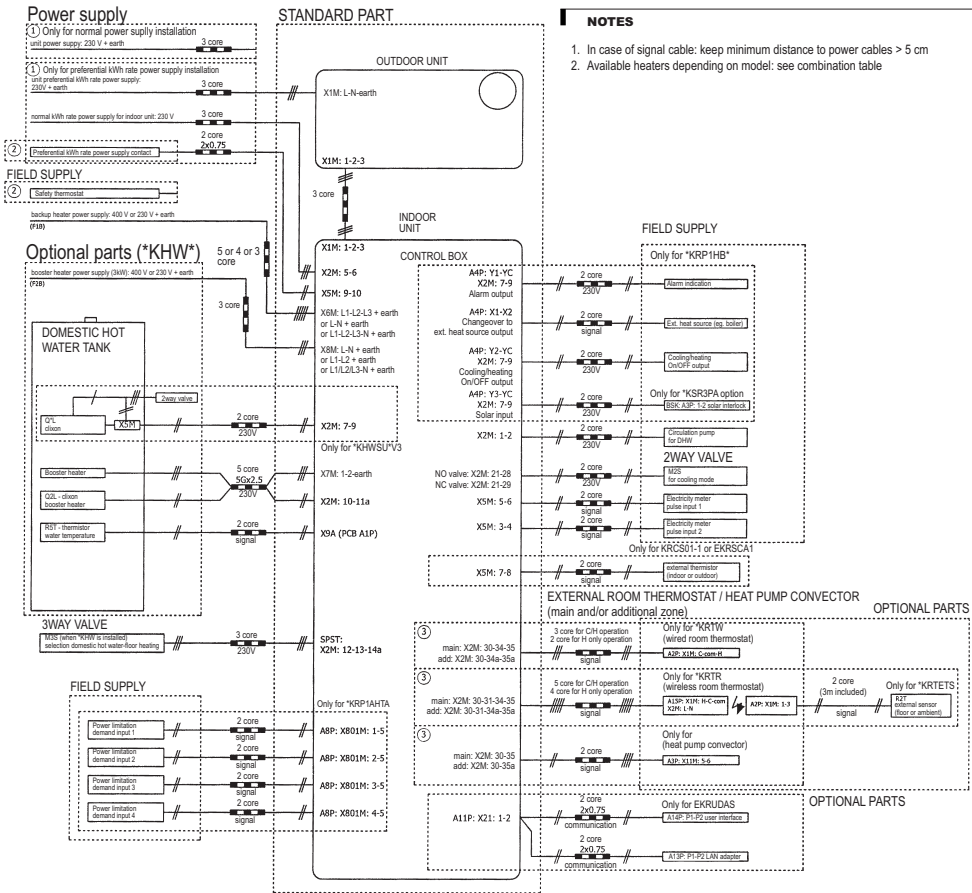
Part n°	Description	Part n°	Description
A1P	main PCB	M2P	# domestic hot water pump
A2P	* ON/OFF thermostat (PC = power circuit)	M2S	# 2 way valve for cooling mode
A3P	* heat pump convector	M3S	* 3 way valve for floorheating / domestic hot water
A4P	* digital I/O PCB	P1M	MMI display
A8P	* demand PCB	PC (A15P)	* power circuit
A9P	status indicator	PHC1 (A4P)	* optocoupler input circuit
A10P	MMI PSU PCB	Q1L	thermal protector backup heater
A11P	MMI main PCB	Q2L	* thermal protector booster heater
A12P	MMI display PCB	Q4L	# safety thermostat
A13P	* LAN adapter	Q*DI	# earth leakage circuit breaker
A14P	* user interface PCB	R1H (A2P)	* humidity sensor
A15P	* receiver PCB (wireless ON/OFF thermostat)	R1T (A1P)	outlet water heat exchanger thermistor
B1L	flow sensor	R1T (A2P)	* ambient sensor ON/OFF thermostat
B1PR	refrigerant pressure 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	R3T	refrigerant liquid side thermistor
DS1 (A8P)	* dipswitch	R4T	inlet water thermistor
E1H	backup heater element (1 kW)	R5T	domestic hot water thermistor
E2H	backup heater element (2 kW)	R6T	* external indoor or outdoor ambient thermistor
E3H	backup heater element (3 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 6.3 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*, X*A, J*X*Y*, Y*	connector
K*R (A1P, A4P)	relay on PCB	X*M	terminal strip
M1P	main supply pump		

4D110707B

9 External connection diagrams

9 - 1 External Connection Diagrams

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-D9W

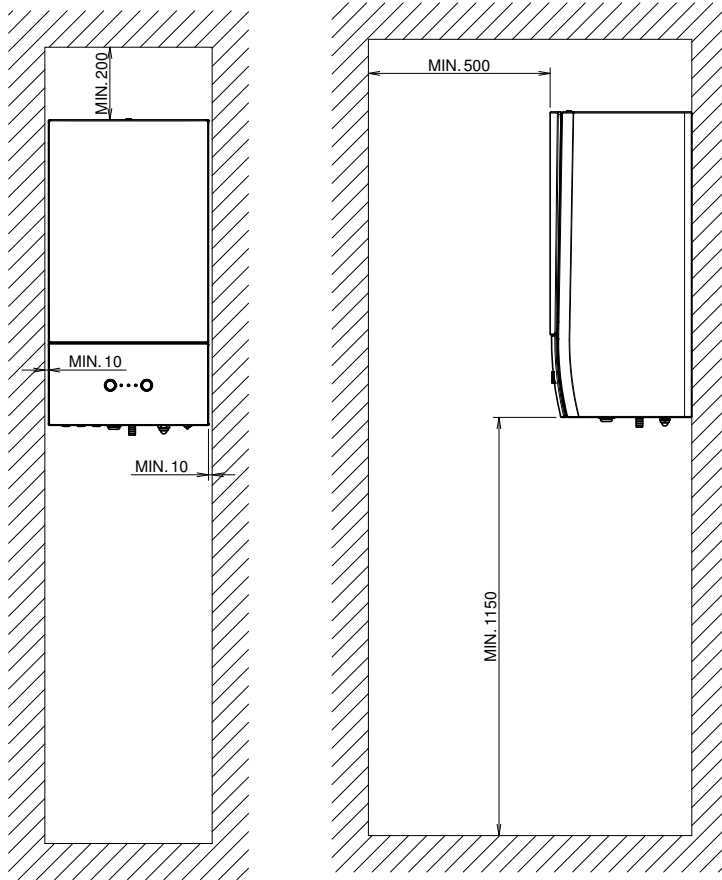


- NOTES**
- In case of signal cable: keep minimum distance to power cables > 5 cm
 - Available heaters depending on model; see combination table

10 Installation

10 - 1 Installation Method

EHBH-D6V
EHBH-D9W
EHBX-D6V
EHBX-D9W



3D112533

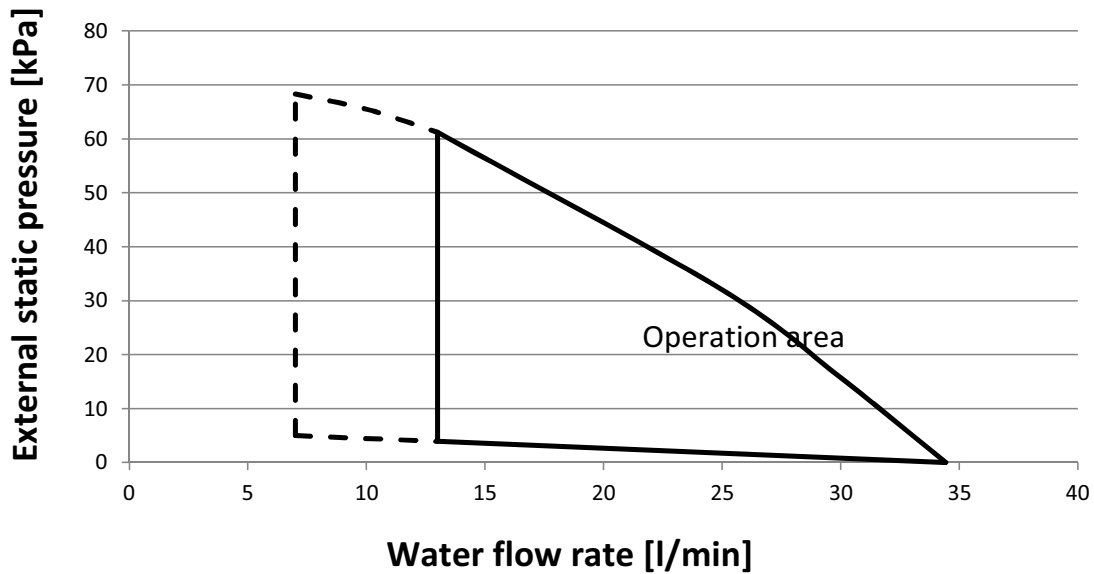
11 Hydraulic performance

11 - 1 Static Pressure Drop Unit

11

EHBH-D6V
 EHBH-D9W
 EHBX-D6V
 EHBX-D9W

EHB(H/X)(04/08)DA*



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.

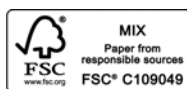
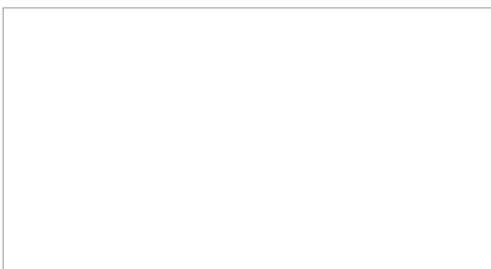
See also the minimum and maximum allowed water flow range in the technical specifications.

2. Water quality must be according to EU directive 98/83 EC.

4D112014



Daikin Europe N.V. Naamloze Vennootschap - Zandvoordestraat 300, B-8400 Oostende - Belgium - www.daikin.eu - BE 0412 120 336 - RPR Oostende



EEDEN18 01/18



The present leaflet is drawn up by way of information only and does not constitute an offer binding upon Daikin Europe N.V.. Daikin Europe N.V. has compiled the content of this leaflet to the best of its knowledge. No express or implied warranty is given for the completeness, accuracy, reliability or fitness for particular purpose of its content and the products and services presented therein. Specifications are subject to change without prior notice. Daikin Europe N.V. explicitly rejects any liability for any direct or indirect damage, in the broadest sense, arising from or related to the use and/or interpretation of this leaflet. All content is copyrighted by Daikin Europe N.V.