



Daikin Altherma low
temperature split

Technical Data
EHVH-UD6V



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EHVH-UD6V

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1 Features

1 - 1 EHVH-UD6V

- › A combined stainless steel domestic hot water tank of 180 or 230L and heat pump for easy installation
- › 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
- › Small installation footprint of 600x600mm
- › Integrated back-up heater choice of 3, 6, 9 kW as well as back-up heater less models are available

1



Online
controller

2 Specifications

1 - 1 EHVH-UD6V

Technical Specifications				EHVH04SU18D6V	EHVH04SU23D6V	EHVH08SU23D6V	EHVH08SU18D6V	
Heater capacity	Step 1		kW	2				
	Step 2		kW	2 or 4				
Power input	Nom.		kW	0.09				
Efficiency	Domestic hot water	Net calorific value	%	118	135		118	
Casing	Colour			White + Black				
	Material			Precoated sheet metal				
Dimensions	Unit	Height	mm	1,650	1,850		1,650	
		Width	mm	595				
		Depth	mm	625				
	Packed unit	Height	mm	1,820	2,020		1,820	
		Width	mm	720				
		Depth	mm	740				
Weight	Unit		kg	119	128		119	
	Packed unit		kg	135	144		135	
Packing	Material			Wood / Carton / PE wrapping foil / Metal				
	Weight			16				
PED	Category			Art4.3 / See note 9				
	Most critical part	Name		Plate heat exchanger				
		Ps*V	Bar*I	38				
Refrigerant side heat exchanger	Type			Plate heat exchanger				
	Quantity			1				
	Plates	Quantity		42				
Pump	Nr of speeds			PWM				
	Power input			52				
Water side Heat exchanger	Type			Plate heat exchanger				
	Quantity			1				
	Plates	Quantity		42				
	Water volume			0.95				
	Water flow rate	Min.	l/min	12.0 (1)				
Expansion vessel	Volume			10				
	Max. water pressure			3				
	Pre pressure			1				
Water filter	Diameter perforations			0.8				
	Material			Stainless steel / Plastic				
Tank	Name			Stainless steel domestic hot water tank 180 l	Stainless steel domestic hot water tank 230 L		Stainless steel domestic hot water tank 180 l	
	Water volume			180	230		180	
	Material			Stainless steel (EN 1.4521)				
	Maximum water temperature			70				
	Maximum water pressure			10				
	Insulation			Polyurethane foam				
		Material						
		Heat loss	kWh/24h	1.4 (2)	1.8 (2)		1.4 (2)	
	Corrosion protection			Pickling				
	Energy efficiency class			B	C		B	
	Standing heat loss			56	73		56	
	Storage volume			181	220		181	
General	Supplier/ Manufacturer details	Name or trademark Name and address		Daikin Europe N.V. Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium				
3-way valve	Coefficient of flow (kV)	Space heating	m³/h	8				
		Domestic hot water tank	m³/h	10				
Water circuit	Piping connections diameter			G 1" (female)				
	Piping material			Cu				
	Internal piping diameter			1"				
	Piping			1"				
	Safety valve			3				
	Manometer			Digital				
	Drain valve / fill valve			No				
	Shut off valve			Yes				
	Air purge valve			Yes				
	Total water volume			3.5 (3)				
	Minimum water volume in the system for cooling			0 (4)				
	Minimum water volume in the system for heating			0 (4)				
	Water circuit - Domestic hot water side	Piping material			Stainless steel			
		Piping connections	Cold water in / Hot water out	inch	G 3/4" FEMALE			
		Recirculation connection	inch	G 3/4" FEMALE				

3 Electrical data

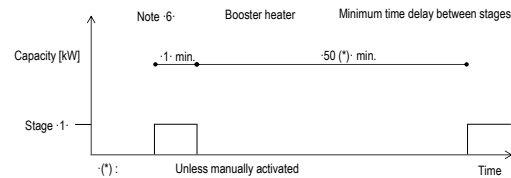
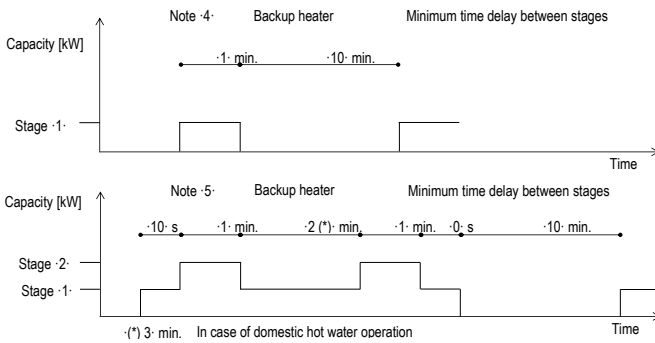
3 - 1 Electrical Data

EHVH-UD6V

Electrical specifications Not applicable for EHVH(04/08)D(A/J)V models.											
Backup heater	Type		3V			6V			9W		
	Capacity setting	kW	3	2.4	2.6	4.6	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	3	2	2	2	2	6	3	3	3
	Capacity stage -2	kW	-	4	6	4	4	6	-	6	9
	Minimum time delay between stages		Note -4			Note -5			Note -5		
	Power supply (1)	Phase	1~			3~			3~		
		Frequency	50			50			50		
	Voltage	V	230 ±10%			230 ±10%			400 ±10%		
		Nominal running current	A	13	17.4	26.1	26.1	17.4	26.1	15	8.7
Current	Zmax (backup heater) (2)	Ω	0.34	0.22	0.22	0.22	0.22	0.22	-	8.7	13
		Complex	-	-	-	-	-	-	-	-	-
	Minimum Ssc value		kVA			(3)			(3)		

Notes

- (1) The above-mentioned power supply of the hydrobox is for the backup heater only.
 (2) Booster heater 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 $Z_{sys} \leq Z_{max}$.
 (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.
 Z_{sys} System impedance



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3 Electrical data

3 - 1 Electrical Data

EHVH-UD6V

* Electrical meter specification

- Pulse meter type/voltage-free contact for 5 V DC detection by PCB.
- Possible number of pulses
 - 0.1· pulse/kWh ·100· pulse/kWh ·10· pulse/kWh
 - 1· 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
- Required number of electrical meters

Outdoor unit type		ERGA(04/06/08)(D/E)AV3						ERLA03DAV3	
Indoor unit type		*HB(H/X)(04/08)(D/E)A*			*HV(H/X)(04/08)(D/E)(A/J)*			EHF*03S18DJ3V	
	Backup heater type	6V		9W	3V	6V		9W	3V
	Backup heater power supply	1~230V	3~230V	3~400V	1~230V	1~230V	3~230V	3~400V	1~230V
	Backup heater configuration	2/4/6kW	6kW	3/6/9kW	3kW	2/4/6kW	6kW	3/6/9kW	3kW
Normal kWh rate power supply									
Electrical meter type	1~	1	-	-	1	1	-	-	1
	3~ balanced	-	-	-	-	-	-	-	-
	3~ unbalanced	-	1	1	-	-	1	1	-
Preferential kWh rate power supply									
Electrical meter type	1~	2	1	1	2	2	1	1	2
	3~ balanced	-	-	-	-	-	-	-	-
	3~ unbalanced	-	1	1	-	-	1	1	-

Immersion heater (no backup heater)

Outdoor unit type		ERGA(04/06/08)DAV3
Indoor unit type		*HV(H/X)(04/08)D(A/J)V
	Backup heater type	Booster heater (-2.4· kW)
	Immersion heater power supply	1~
		230V
		Normal kWh rate power supply
Electrical meter type	1~	1
	3~ balanced	-
	3~ unbalanced	-
		Unit preferential kWh rate power supply
Electrical meter type	1~	2
	3~ balanced	-
	3~ unbalanced	-

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4 Combination table

4 - 1 Combination Table

EHVH-UD6V

Factory-mounted equipment for ·EHV(H/X/Z)04S*D(A/J)*

Description	EHV(H/X/Z)04S*D(A/J)*				
Heating only model ·EHVH*		18 - 6V (8)	23 - V		23 - 6V (8)
Reversible model ·EHVX*	18 - 3V	18 - 6V (8)		23 - 3V	23 - 6V (8)
(Integrated Bizone)		18 - 6V (8)			
Backup heater ·3kW 1N~230 V·	o	-	-	o	-
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·	-	-	-	-	-
Immersion heater ·2.4kW 1N~230 V·	-	-	o	-	-
Domestic hot water tank ·180L·	o	o	-	-	-
Domestic hot water tank ·230L·	-	-	o	o	o

Factory-mounted equipment for ·EHV(H/X/Z)08S*D(A/J)*

Description	EHV(H/X/Z)08S*D(A/J)*				
Heating only model ·EHVH*	18 - 6V (8)	18 - 9W (8)	23 - V	23 - 6V (8)	23 - 9W (8)
Reversible model ·EHVX*	18 - 6V (8)	18 - 9W (8)		23 - 6V (8)	23 - 9W (8)
(Integrated Bizone)	18 - 6V (8)	18 - 9W (8)		23 - 6V (8)	23 - 9W (8)
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	-	-	o
Immersion heater ·2.4kW 1N~230 V·	-	-	o	-	-
Domestic hot water tank ·180L·	o	o	-	-	-
Domestic hot water tank ·230L·	-	-	o	o	o

Outdoor combination table for ·EHV(H/X/Z)(04/08)S(U)(18/23)D(A/J)*

		ERGA04DAV3	ERGA06DAV3	ERGA08DAV3	ERGA04DAV3A	ERGA06DAV3A	ERGA08DAV3A
EHVH04S(18/23)D(A/J)*	Heating only indoor unit	o	---	---	o	---	---
EHVX04S(18/23)D(A/J)*	Reversible indoor unit	o	---	---	o	---	---
EHVZ04S(18/23)D(A/J)*	(Integrated Bizone)	o	---	---	o	---	---
EHVH04SU(18/23)D(A/J)*	Heating only indoor unit for the UK	o	---	---	o	---	---
EHVH08S(18/23)D(A/J)*	Heating only indoor unit	---	o	o	---	o	o
EHVX08S(18/23)D(A/J)*	Reversible indoor unit	---	o	o	---	o	o
EHVZ08S(18/23)D(A/J)*	(Integrated Bizone)	---	o	o	---	o	o
EHVH08SU(18/23)D(A/J)*	Heating only indoor unit for the UK	---	o	o	---	o	o

Kit availability

Reference	Description	EHV*(04/08)S*D(A/J)*									
EHVH*	Heating only indoor unit	---	18 - 6V	18 - 9W	23 - V	---	23 - 6V	23 - 9W			
EHVX*	Reversible indoor unit	18 - 3V	18 - 6V	18 - 9W	---	23 - 3V	23 - 6V	23 - 9W			
EHVZ*	(Integrated Bizone)	---	18 - 6V	18 - 9W	---	---	23 - 6V	23 - 9W			
EHVH*U*	Heating only indoor unit for the UK	---	---	---	---	---	---	---	18 - 6V	23 - 6V	
EKRP1HBAA	Digital I/O PCB	*(1) (2)	o	o	o	o	o	o	o	o	
EKRP1AHTA	Demand PCB	*(3)	o	o	o	o	o	o	o	o	
EKRUDAS	Simplified user interface		o	o	o	o	o	o	o	o	
EKPCAB3	PC cable	*(4)	o	o	o	o	o	o	o	o	
KRCS01-1	Remote indoor sensor	*(5)	o	o	o	o	o	o	o	o	
EKRSCA1	Remote sensor for outdoor	*(5)	o	o	o	o	o	o	o	o	
BRP069A61	LAN adapter for smartphone control		o	o	o	o	o	o	o	o	
BRP069A62	LAN adapter for smartphone control		o	o	o	o	o	o	o	o	
EHVH*UNV => EKHVCONV2	Conversion kit: heating only to reversible.		o	o	o	-	o	o	o	o	
EKUHWG3D	G3- kit								o (9)	o (9)	
FWXV15AVEB	Heat pump convactor	*(6)	o	o	o	o	o	o	o	o	
FWXV20AVEB	Heat pump convactor	*(6)	o	o	o	o	o	o	o	o	
EKVKHPC	Heat pump convactor valve kit		o	o	o	o	o	o	o	o	
EKRTWA	Wired room thermostat		o	o	o	o	o	o	o	o	
EKRTR1	Wireless room thermostat		o	o	o	o	o	o	o	o	
EKRTETS	External sensor room thermostat	*(7)	o	o	o	o	o	o	o	o	

Reference	Description		
	Only applicable for ·EHVH* & EHVX*· models	EHVH*	EHVX*
BZKA7V3	Bizone kit	o	o

Reference	Description	EHVH(04/08)S23D(A/J)V	
	Heating only model ·EHVH*S23D(A/J)V·	04 - V	08 - V
EKLBHHC6W1	Backup heater kit	o	o

Notes

- (1) PCB that provides additional output connections:
 - Control external heat source (bivalent operation).
 - Output remote ON/OFF signal space heating/cooling OR bottom plate heater ·KBPTH16*· control.
 - 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 ·EHV(H/X/Z)(04/08)D(A/J)*·.
- (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 convactor is installed on a reversible model (not mandatory for heating only models).
- (7) ·EKRTETS· can only be used in combination with ·EKTRTR1·.
- (8) The backup heater capacity depends on a user interface setting.
- (9) This kit is mandatory for the UK models.

Remark

Other combinations than mentioned in this combination table are prohibited.

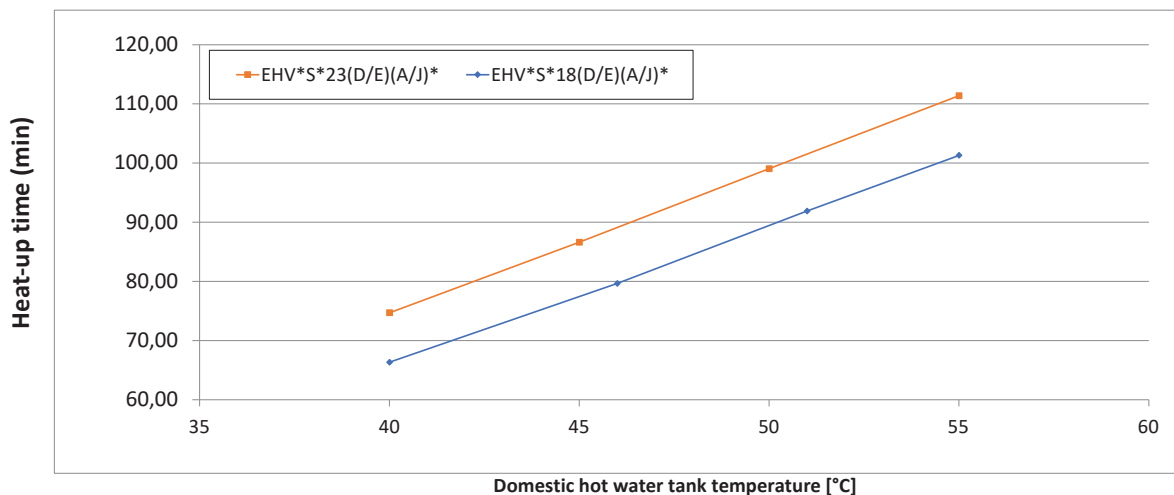
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5 Capacity tables

5 - 1 Domestic Hot Water performance

EHVH-UD6V

Heat-up times



Heat-up time domestic hot water tank until 45°C	
EHV*04S*18(D/E)(A/J)*	·79· min.
EHV*08S*23(D/E)(A/J)*	·87· min.

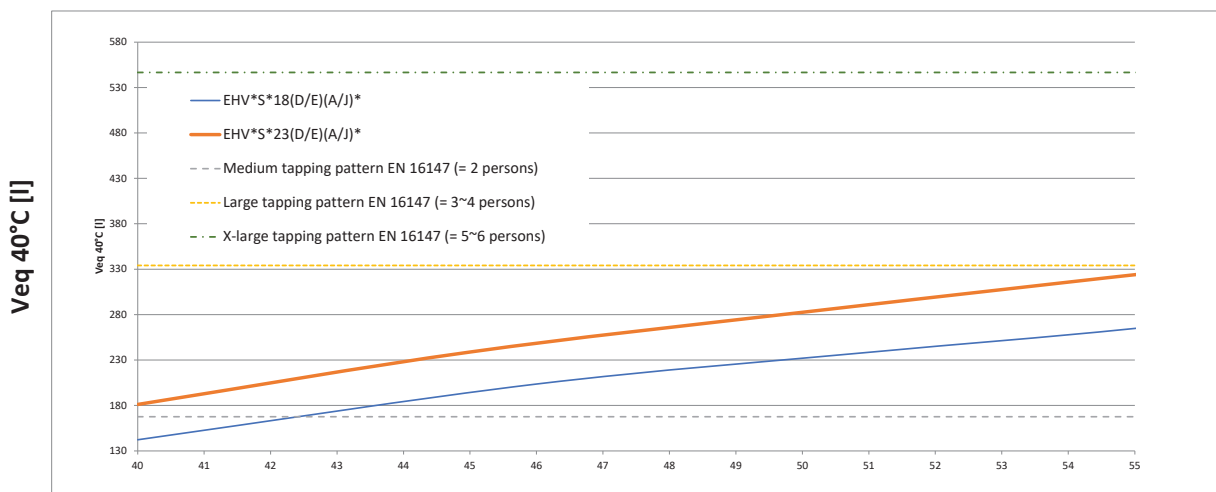
Notes

1. Time the indoor unit (**heat pump only operation**) requires to heat up the domestic hot water tank from 10°C to the indicated temperature.

See the operation range for maximum domestic hot water tank temperature during heat pump only operation.

Selection guide for the domestic hot water tank volume (1)

Ve_q 40°C = the amount of water with a temperature of 40°C that can be tapped when the domestic hot water tank is heated to a certain temperature, and the temperature of the cold inlet water is 10°C.



If a higher daily Ve_q 40°C is required, then additional heat-up cycles are required within 24 hours.

See the operation manual for more information.

Notes

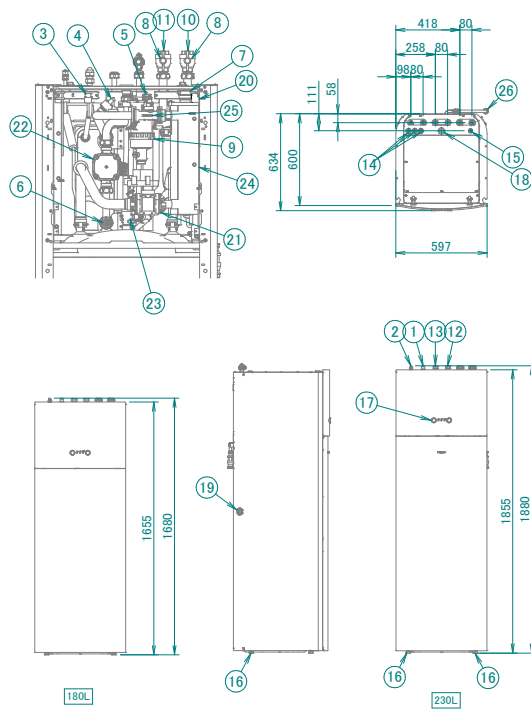
- (1) According to EN16147.

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6 Dimensional drawings

6 - 1 Dimensional Drawings

EHVH-UD6V



The typical field installation has to be done according to the applicable legislation.
For examples, refer to the installer reference guide.

- ① Gas pipe connection ·Ø 15.90mm· flare
- ② Liquid pipe connection ·Ø 6.35mm· flare
- ③ Refrigerant pressure sensor
- ④ Space heating water pressure sensor
- ⑤ Safety valve
- ⑥ Drain valve water circuit
- ⑦ Air purge
- ⑧ Shut-off valve
- ⑨ Magnetic filter / dirt separator
- ⑩ Water in connection ·1" F BSP·
- ⑪ Water out connection ·1" F BSP·
- ⑫ Domestic hot water: cold water in ·3/4" F BSP·
- ⑬ Domestic hot water: hot water out ·3/4" F BSP·
- ⑭ High voltage wiring intake ·Ø 24mm·
- ⑮ Low voltage wiring intake ·Ø 15mm·
- ⑯ Levelling feet
- ⑰ User interface
- ⑱ Recirculation connection ·G 3/4"· (female)
- ⑲ Drain outlet (unit + safety valve)
- ⑳ Expansion vessel
- ㉑ 3-way valve
- ㉒ Pump
- ㉓ Pressure and temperature relief valve
- ㉔ Backup heater
- ㉕ Flow sensor
- ㉖ Tundish

Screws used in this unit:

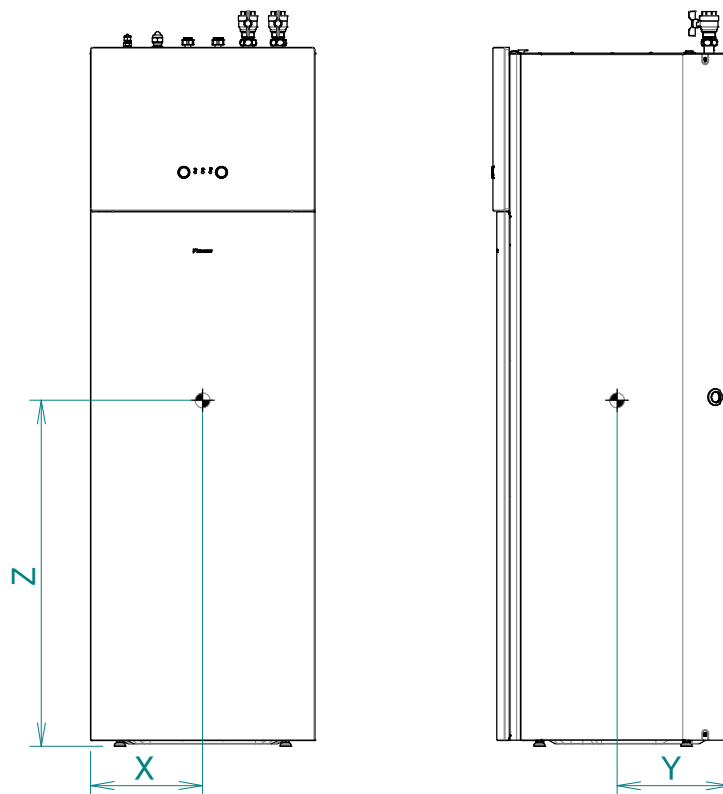


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7 Centre of gravity

7 - 1 Centre of Gravity

EHVH-UD6V



MODEL	X	Y	Z
180L	297.5	299	718
230L	297.5	299	858

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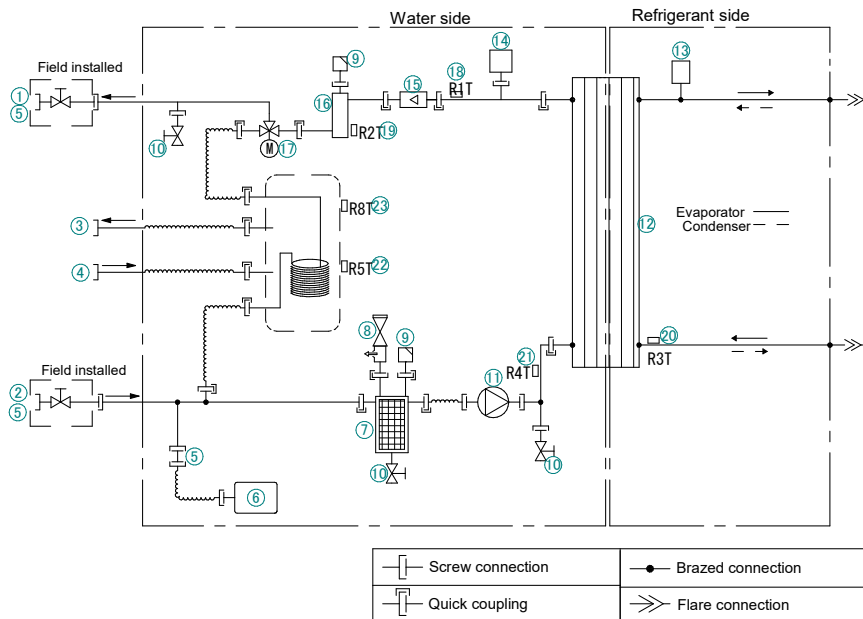
8 Piping diagrams

8 - 1 Piping Diagrams

EHVH-UD6V

- ① Space heating - water OUT
- ② Space heating - water IN
- ③ Domestic hot water: hot water out
- ④ Domestic hot water: cold water in
- ⑤ Connection
- ⑥ Expansion vessel
- ⑦ Magnetic filter / dirt separator
- ⑧ Safety valve
- ⑨ Air purge
- ⑩ Drain Valve
- ⑪ Pump
- ⑫ Plate heat exchanger
- ⑬ Refrigerant pressure sensor
- ⑭ Space heating water pressure sensor
- ⑮ Flow sensor
- ⑯ Backup heater
- ⑰ 3-way valve (space heating/domestic hot water)

- ⑱ R1T - Outlet water heat exchanger thermistor
- ⑲ R2T - Outlet water backup heater thermistor
- ⑳ R3T - Thermistor (heat exchanger, liquid pipe)
- ㉑ R4T - Inlet water thermistor
- ㉒ R5T - Tank thermistor
- ㉓ R6T - Tank thermistor



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9 Wiring diagrams

9 - 1 Notes & Legend

EHVH-UD6V

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

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

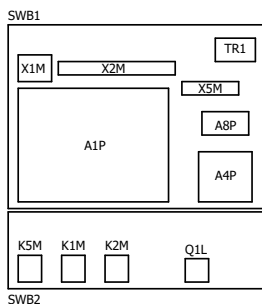
- Option : Not mounted in switch box
Wiring depending on model : PCB

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

- Backup heater power supply
User installed options:

- ☐ 3V (1N~, 230V, 3kW)
☐ 6T1 (3~, 230V, 6kW)
☐ 6V3 (1N~, 230V, 6kW)
☐ 6WN/9WN (3N~, 400V, 6/9kW)
☐ LAN adapter
☐ Remote user interface
☐ Ext. indoor thermistor
☐ Ext. outdoor thermistor
☐ Digital I/O PCB
☐ Demand PCB
☐ Safety thermostat
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



Translation can be found in the installation manual.

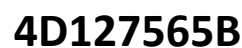
* : optional
: field supply

Part n°	Description	M2S	#	
A1P	main PCB	M3S	#	2 way valve for cooling mode
A2P	* On/OFF thermostat (PC=power circuit)			3 way valve for spaceheating /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
A11P	MMI main 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
B2L	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
CN* (A4P)	* connector	R2T (A2P)	*	external sensor (floor or ambient)
DS1 (A8P)	* dipswitch	R3T		refrigerant liquid side thermistor
E1H	backup heater element (1 kW)	R4T		inlet water thermistor
E2H	backup heater element (2 kW)	R5T, R8T		domestic hot water thermistor
E*P (A9P)	indication LED	R6T	*	external indoor or outdoor ambient thermistor
F1B	# overcurrent fuse backup heater	S1S	#	preferential kWh rate PS contact
F1T	thermal fuse backup heater	S2S	#	electrical meter pulse input 1
F1U, F2U (A4P)	* fuse 5 A 250 V for digital I/O PCB	S3S	#	electrical meter pulse input 2
FU1 (A1P)	fuse T 5 A 250 V for PCB	S6S-S9S	*	digital power limitation inputs
K1M, K2M	contactor backup heater	SS1 (A4P)	*	selector switch
K5M	safety contactor BUH	SW1~2 (A12P)		turn buttons
K*R (A1P-A4P)	relay on PCB	SW3~5 (A12P)		push button
M1P	main supply pump	TR1		power supply transformer
M2P	# domestic hot water pump	X6M	#	BUH power supply terminal strip
		X*, X*A, X*H*, X*Y		connector
		X*M		terminal strip

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9 - 2 Control Circuit

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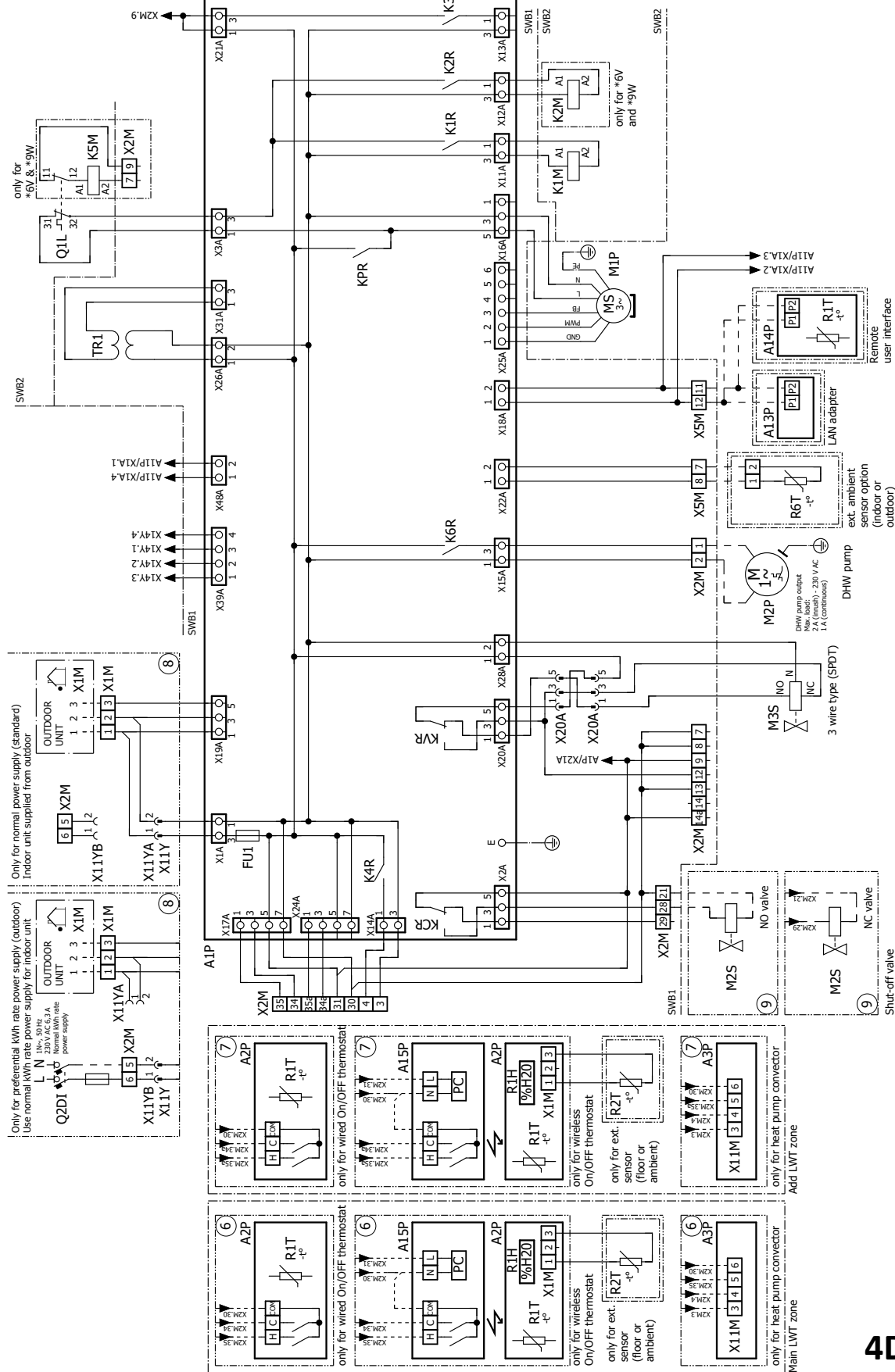


9 Wiring diagrams

9 - 2 Control Circuit

9

EHVH-UD6V

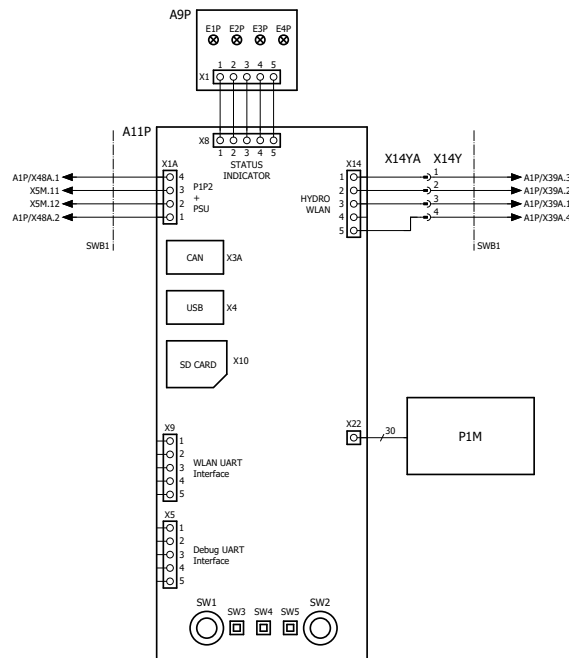


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9 Wiring diagrams

9 - 2 Control Circuit

EHVH-UD6V

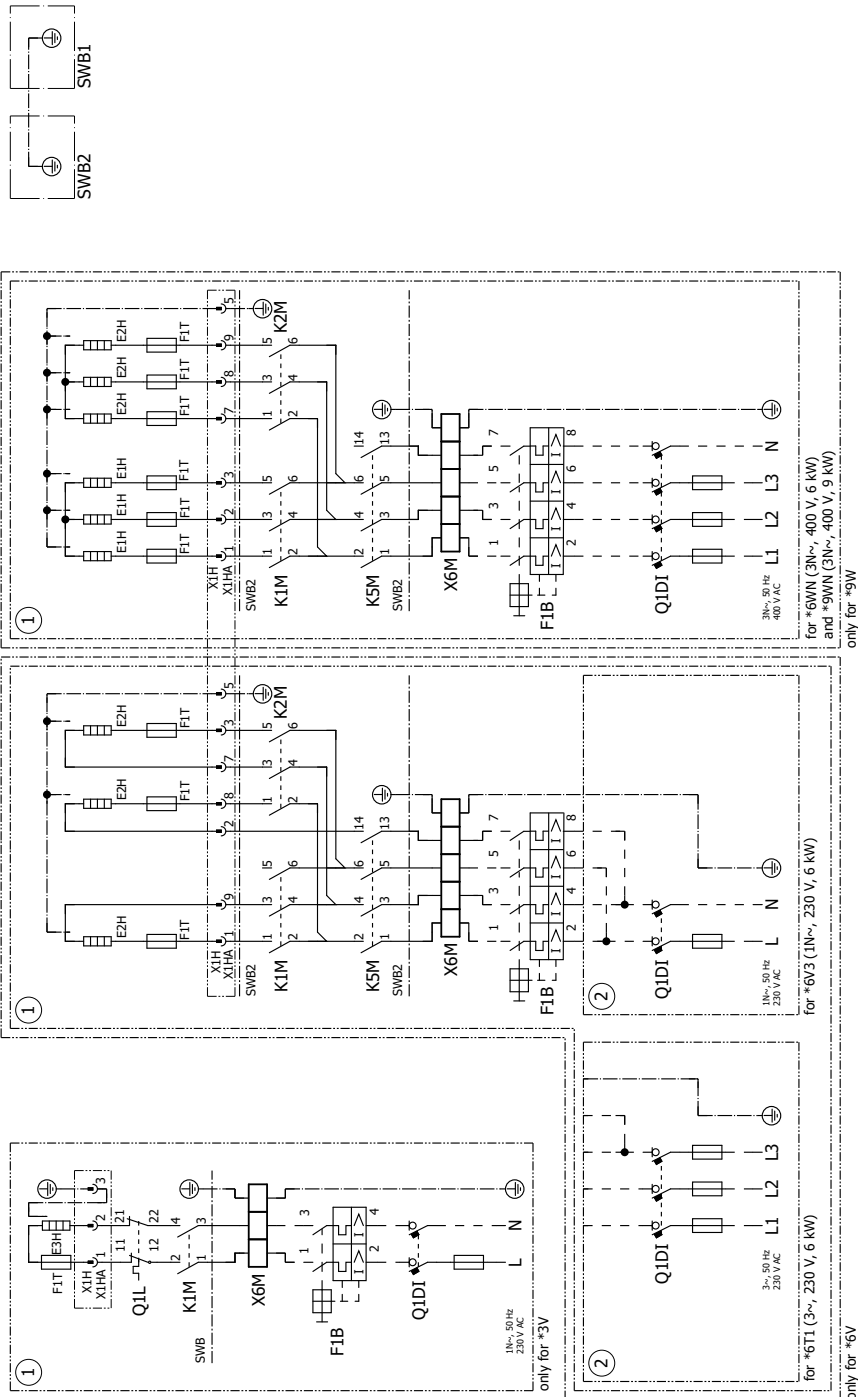


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9 Wiring diagrams

9 - 3 Power Supply, Back-up Heater

EHVH-UD6V



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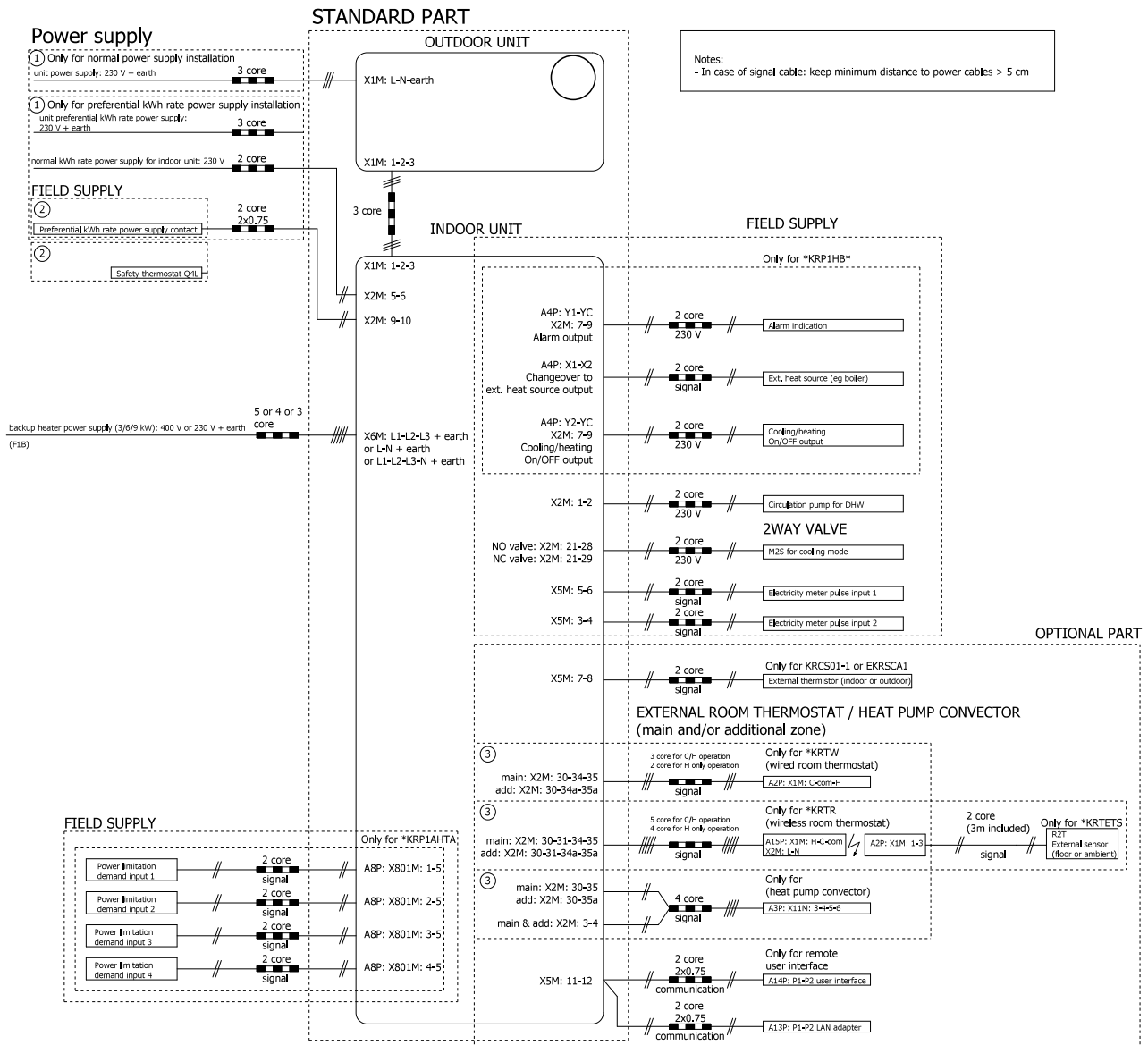
10 External connection diagrams

10 - 1 External Connection Diagrams

EHVH-UD6V

Electrical connection diagram Altherma BML Floorstanding

For more details
please check unit wiring



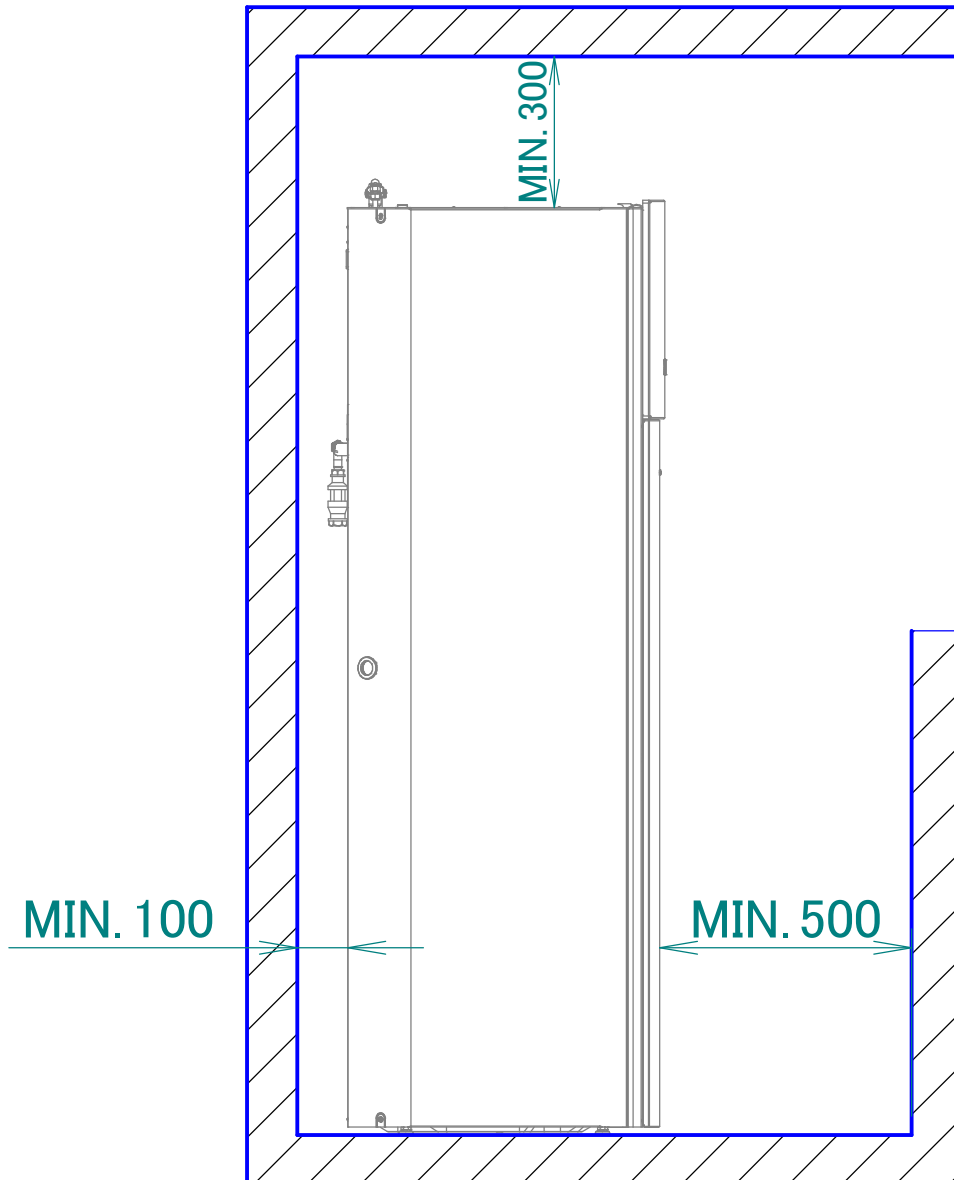
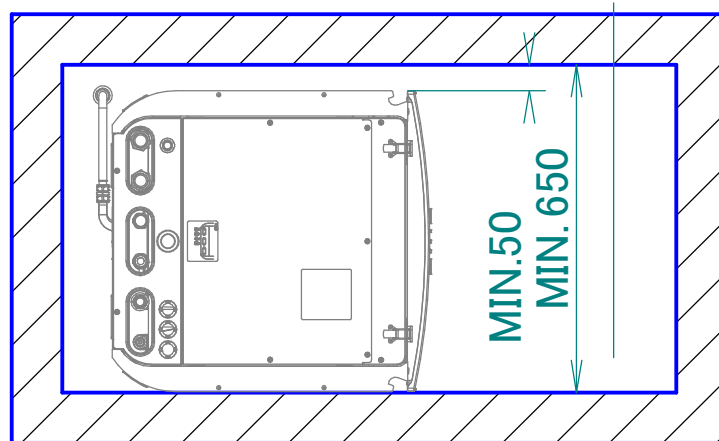
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11 Installation

11 - 1 Installation Method

11

EHVH-UD6V



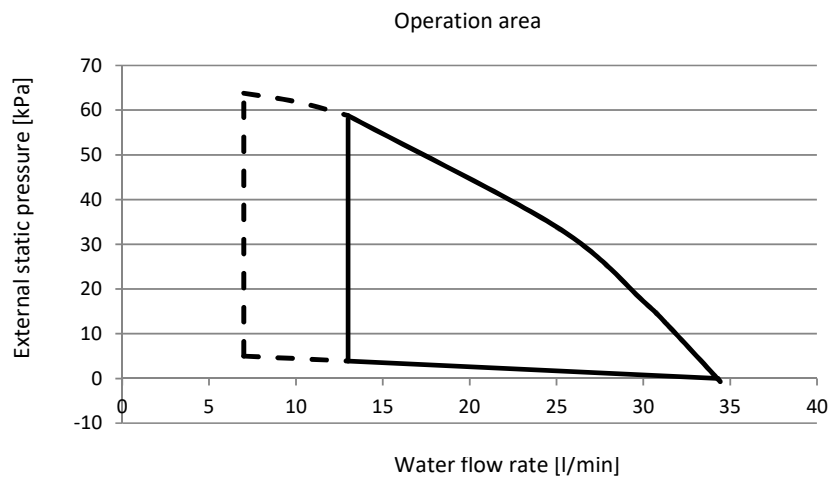
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12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EHVH-UD6V

EHV(H/X)(04/08)*D(A/J)*



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

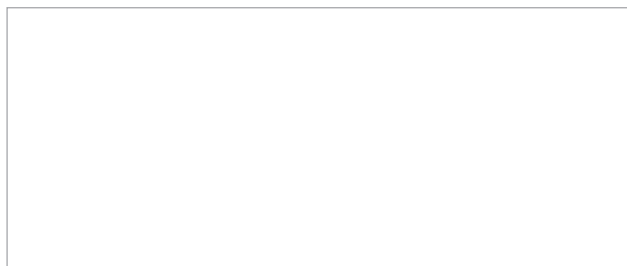
Notes

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.

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06/2020

