

Low temperature
hydrobox for VRV
Technical data book
HXY-A8



HXY080A8V1B
HXY125A8V1B

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1 Features

1 - 1 HXY-A8

For high efficiency space heating and cooling

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- › Air to water connection to VRV for applications such as underfloor, air handling units, low temperature radiators, ...
- › Leaving water temperature range from 5°C to 45°C without electric heater
- › Super wide operating range for hot/cold water production from -20 to +43°C ambient outdoor temperature
- › Saves time on system design as all water-side components are fully integrated with direct control over leaving water temperature
- › Space saving contemporary wall mounted design
- › No gas connection or oil tank needed
- › Connectable to VRV IV heat pump and heat recovery



2 Specifications

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Technical specifications					HXY080A8	HXY125A8
Cooling capacity	Nom.			kW	8.00 (1)	12.5 (1)
Heating capacity	Nom.			kW	9.00 (2)	14.0 (2)
Casing	Colour				White	
	Material				Precoated sheet metal	
Dimensions	Unit	Height		mm	890	
		Width		mm	480	
		Depth		mm	344	
	Packed unit	Height		mm	415	
		Width		mm	650	
		Depth		mm	1,016	
Weight	Unit			kg	44.0	
	Packed unit			kg	47.0	
Packing	Material				Carton / EPS / PP (Straps)	
	Weight			kg	2.8	
PED	Category				Art3§3 / Excluded from scope of PED due to article 1, item 3.6 of 97/23/EC	
Pump	Nr of speeds				Inverter controlled	
	Nominal	Heating		kPa	85.0 (2)	65.0 (2)
	ESP unit	Cooling		kPa	88.0 (1)	73.0 (1)
	Power input			W	110	135
Water side Heat exchanger	Type				Brazed plate	
	Quantity				1	
	Water flow rate	Min.		l/min	15.0 (3)	
		Heating	Nom.	l/min	25.8 (2)	40.1 (2)
		Cooling	Nom.	l/min	22.9 (1)	35.8 (1)
	Insulation material				Foamed synthetic elastomer	
Expansion vessel	Volume			l	10	
	Max. water pressure			bar	3	
	Pre pressure			bar	1	
Water filter	Diameter perforations			mm	1.0	
	Material				Copper - brass - stainless steel	
Water circuit	Piping connections diameter			inch	G1"1/4 (female)	
	Safety valve			bar	3	
	Manometer				Yes	
	Drain valve / fill valve				Yes	
	Shut off valve				Yes	
	flowswitch				Yes	
	Air purge valve				Yes	
Refrigerant	Type				R-410A	
	GWP				2,087.5	
Refrigerant circuit	Gas side diameter			mm	15.9	
	Liquid side diameter			mm	9.52	
Sound pressure level	Nom.			dBA	31 (4)	
Operation range	Heating	Ambient	Min.	°C	-20	
			Max.	°C	24	
		Water side	Min.	°C	25	
			Max.	°C	45	
	Cooling	Ambient	Min.	°CDB	10	
			Max.	°CDB	43	
		Water side	Min.	°C	5	
			Max.	°C	20	

Electrical specifications					HXY080A8	HXY125A8
Power supply	Phase				1~	
	Frequency			Hz	50	
	Voltage			V	220-240	
	Voltage range	Min.		%	-10	
		Max.		%	10	
Current	Recommended fuses			A	6~16	
Current - 50Hz	Nominal running current			A	2.5	
Wiring connections	For power supply	Quantity			3G	
	Type of wires				Wire type/size has to be selected according to applicable legislation	
	Communication cable	Quantity			2	
	Type of wires				0,75 ~1,25 mm ² (F1F2)	
	For connection with user interface	Quantity			2	
	Type of wires				0,75 ~1,25 mm ² (P1P2)	

(1) Tamb 35°C - LWE 18°C (DT=5°C) |

(2) DB/WB 7°C/6°C - LWC 35°C (DT=5°C) |

(3) Flow switch setting |

(4) The sound pressure level is measured via a microphone at a 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment. |

Contains fluorinated greenhouse gases

3 Options

3 - 1 Options

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Option	Option kit	HXY080A*V1B	HXY125A*V1B
Drain pan	EKHBPCA2	0	0
Demand PCB	EKRP1AHTA	0	0
Remote user interface	EKRUAHTB	0	0
Backup heater	EKBHAA6(W1/V3)	0	0
(1) Wired room thermostat	EKRTWA	0	0
(1) Wireless room thermostat	EKRTR1	0	0
(2) External sensor room thermostat	EKRTETS	0	0

Notes

- (1) Requires demand PCB · EKRP1AHTA ·
(2) Can only be used in combination with wireless room thermostat · EKRTR1 ·

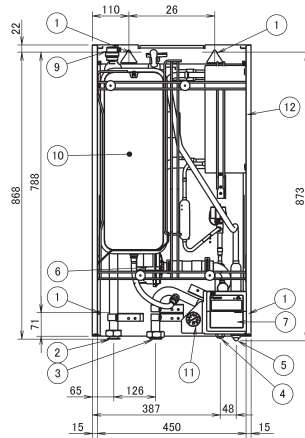
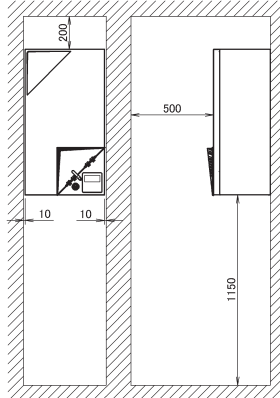
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4 Dimensional drawings

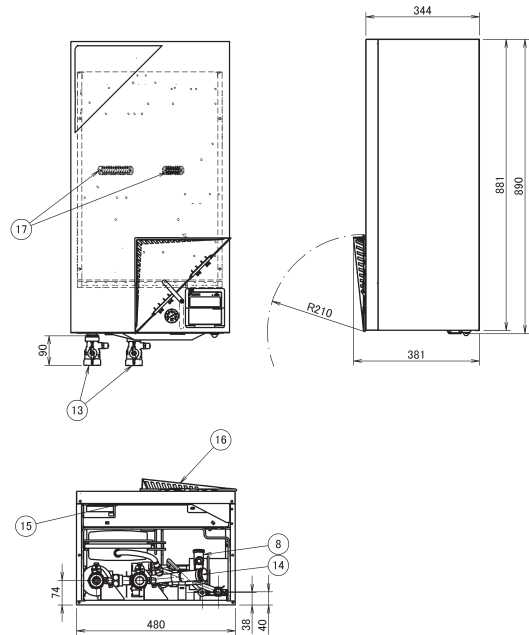
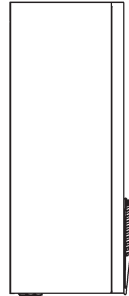
4 - 1 Dimensional Drawings

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Required space for service and ventilation



- ① Holes (Ø12) for fixation to the wall
- ② Water out connection (1-1/4" F BSP)
- ③ Water in connection (1-1/4" F BSP)
- ④ Refrigerant liquid connection Ø9.52 (flare)
- ⑤ Refrigerant suction connection Ø15.9 (flare)
- ⑥ Pump
- ⑦ User interface
- ⑧ Safety valve (pressure)
- ⑨ Air purge
- ⑩ Expansion vessel
- ⑪ Pressure gauge
- ⑫ Heat exchanger (refrigerant / water)
- ⑬ Shut off valve with drain / fill valve (1-1/4" F BSP) (included accessory)
- ⑭ Water filter
- ⑮ Power supply / Communication wire entrance
- ⑯ Service door
- ⑰ Switchbox terminals



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5 Piping diagrams

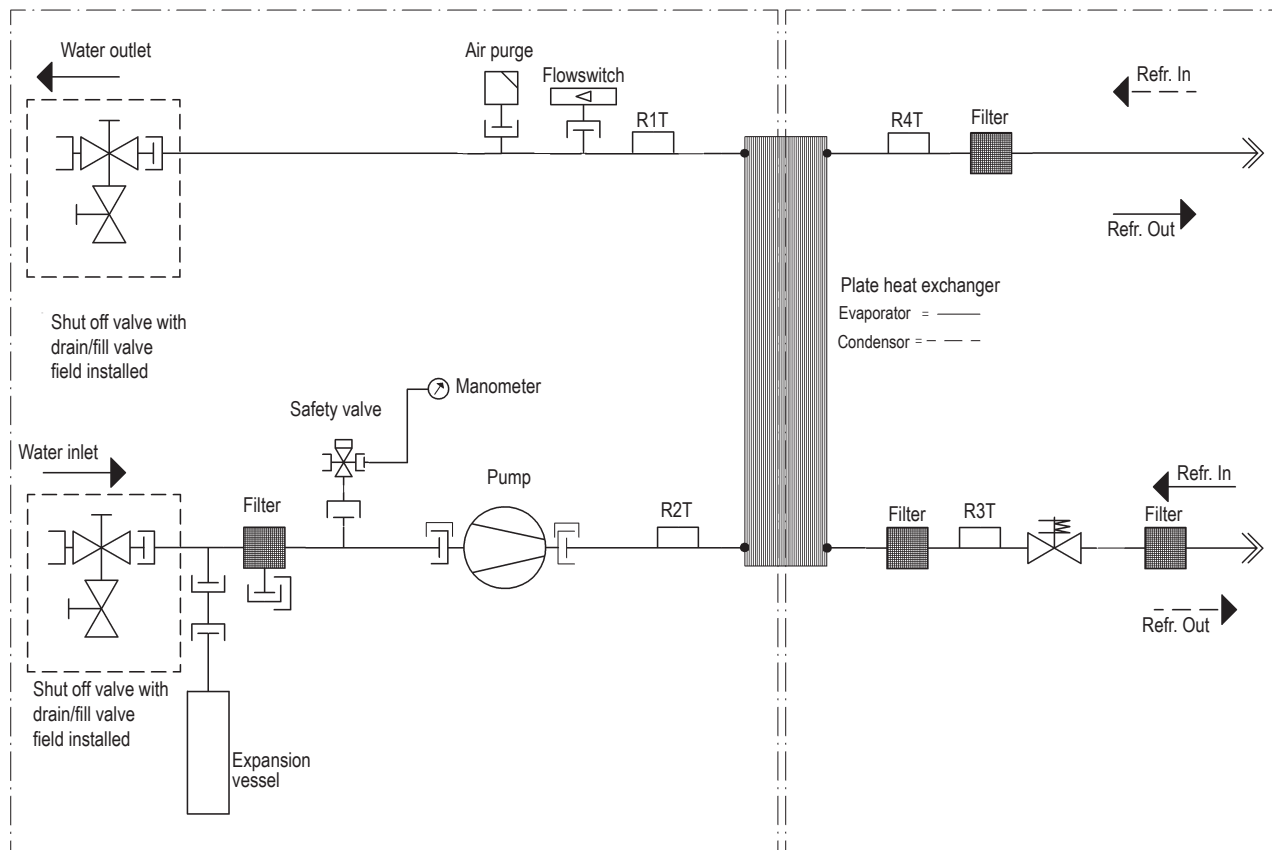
5 - 1 Piping Diagrams

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Water side

Refrigerant side



Thermistor	Description
R1T	Outlet water heat exchanger thermistor
R2T	Inlet water exchanger thermistor
R3T	Refrigerant liquid side thermistor
R4T	Refrigerant gas side thermistor

—	Flare conn.	—	Check valve	—	Brazed conn.	—	Quick coupling
—	Screw conn.	—	Flange conn.	×	Pinched pipe	→	Spinned pipe

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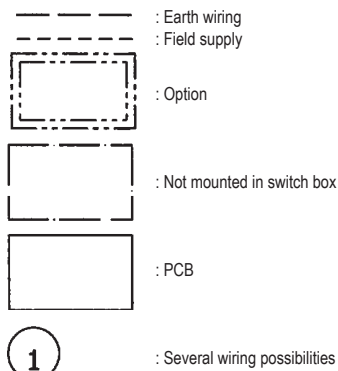
6 Wiring diagrams

6 - 1 Notes & Legend

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NOTES TO GO THROUGH BEFORE STARTING THE UNIT:

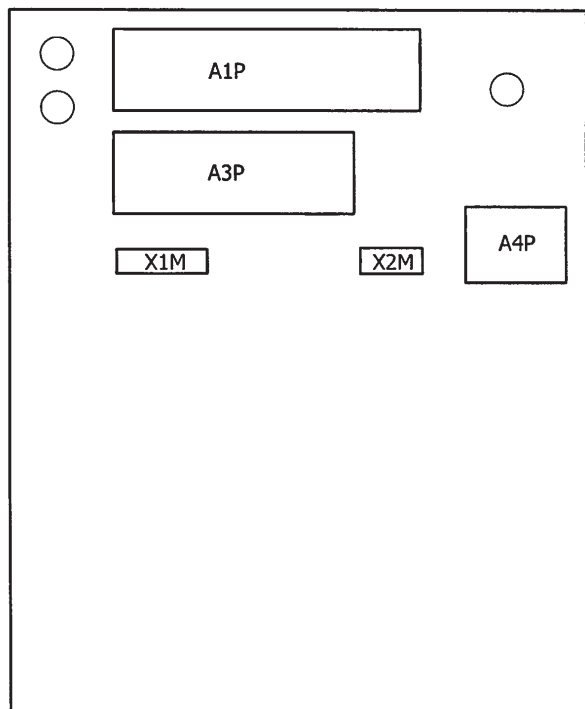
X1M: Field wiring terminal for high voltage
X2M: Field wiring terminal for low voltage



User installed options:

- ☐ EKRUHT* = Remote user interface
- ☐ EKRP1AHT* = Demand PCB
- ☐ EKBUH* = External back-up heater
- ☐ EKRTW* = Room thermostat (wired)
- ☐ EKRTTR* = Room thermostat (wireless)
- ☐ EKRTETS = External temperature sensor for EKRTTR*

SWITCHBOX LAYOUT:



LEGEND:

*: Field installed option
#: Field supplied

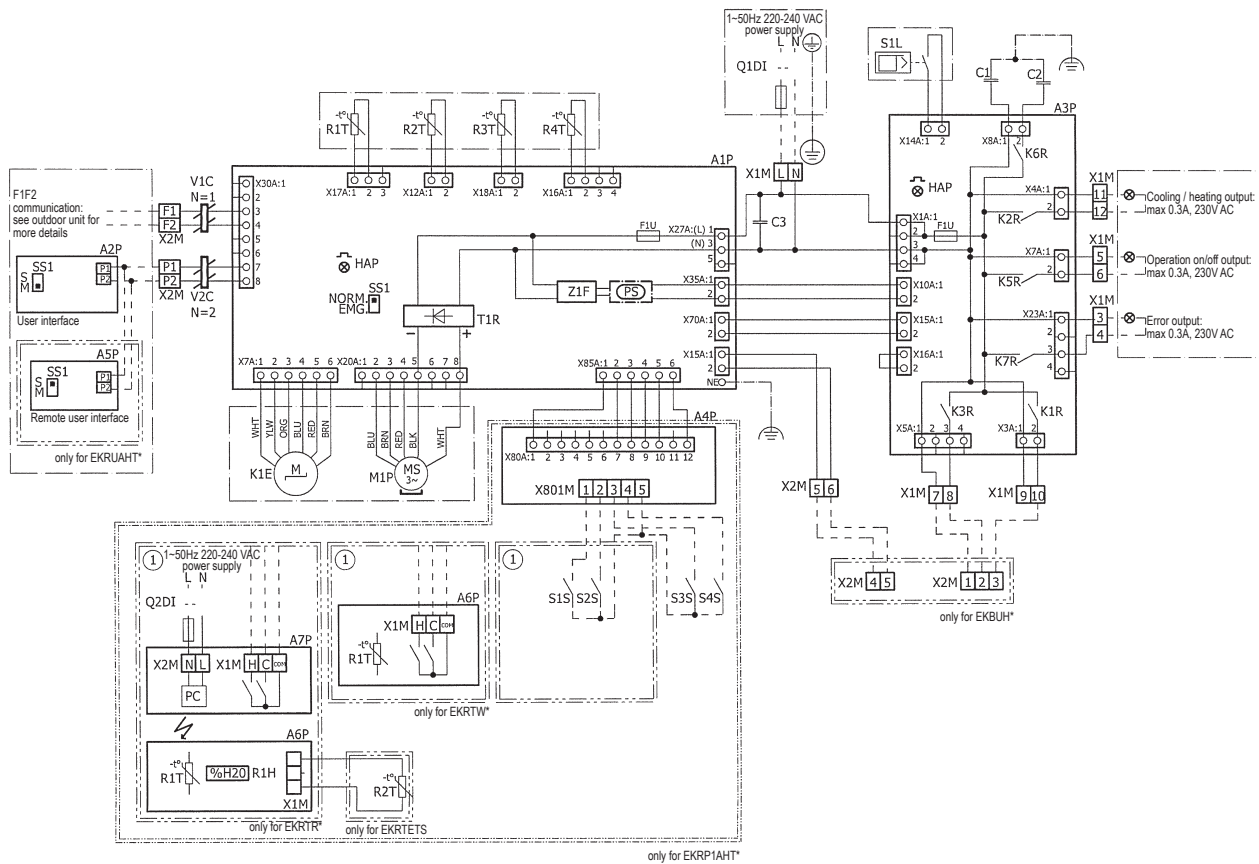
Part number	Description
A1P	Main PCB (master)
A2P	User interface PCB
A3P	Control PCB
A4P	* Demand PCB
A5P	* Remote user interface PCB
A6P	* Thermostat PCB
A7P	* Receiver PCB
C1-C3	Filter capacitor
F1U (A*P)	Fuse (T, 3.15A, 250V)
HAP (A*P)	PCB LED
K1E	Electronic expansion valve
K*R (A3P)	PCB relay
M1P	Pump
PC (A7P)	* Power circuit
PS (A1P)	Switching power supply
Q*DI	# Earth leakage circuit breaker
R1H (A6P)	* Humidity sensor
R1T	Leaving water thermistor
R1T (A6P)	* Ambient sensor
R2T	Returning water thermistor
R2T	* External sensor (floor or ambient)
R3T	Refrigerant liquid thermistor
R4T	Refrigerant gas thermistor
S1L	Flow switch
S1S	# Thermostat input 1
S2S	# Thermostat input 2
S3S	# Operation ON input
S4S	# Operation OFF input
SS1 (A1P)	Selector switch (emergency)
SS1 (A2P)	Selector switch (main/sub)
SS1 (A5P)	* Selector switch (main/sub)
T1R	Diode bridge
V1C - V2C	Ferrite core noise filter
X1M - X2M	Terminal strip
X*A (A*P)	PCB corrector
X*M (A*P)	* PCB terminal strip
Z1F (A1P)	Noise filter

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6 Wiring diagrams

6 - 2 Wiring Diagrams - Single Phase

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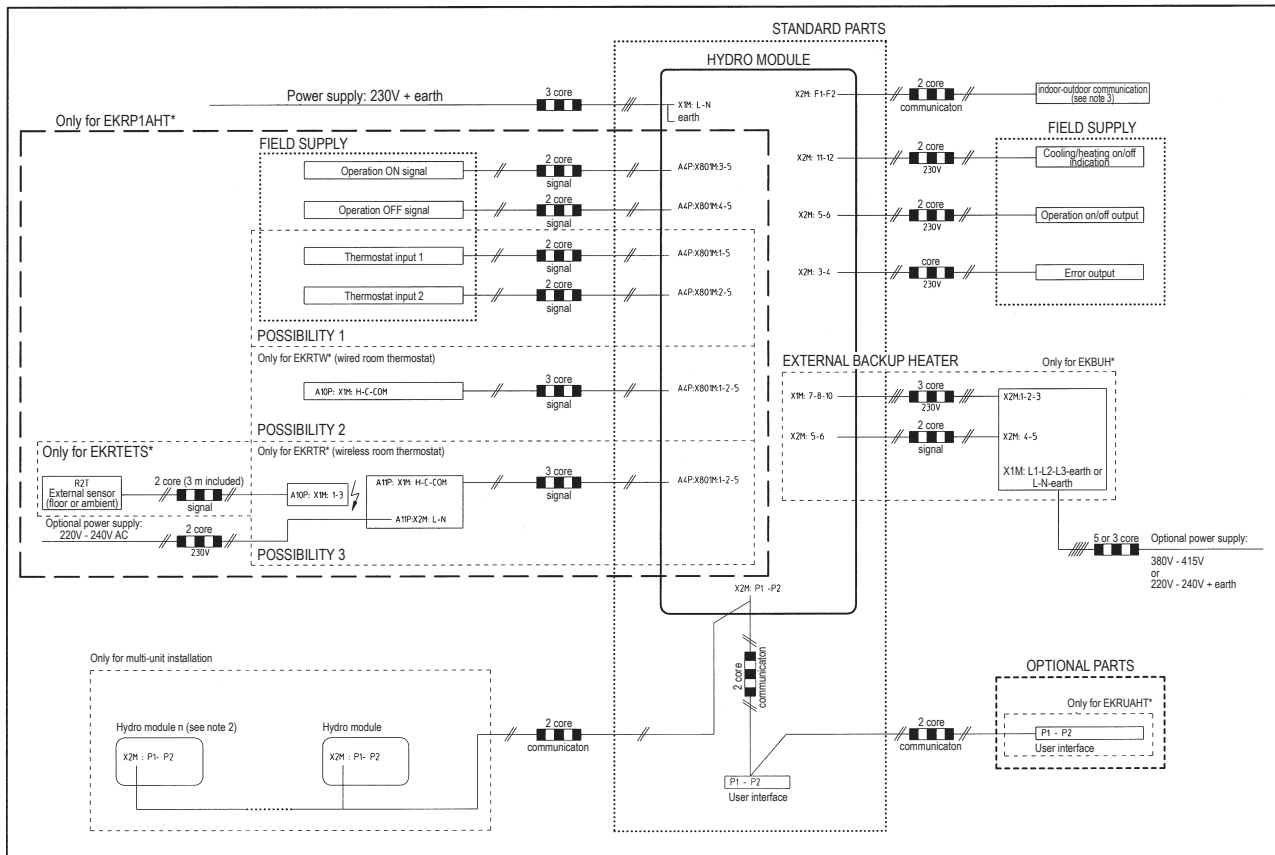
7 External connection diagrams

7 - 1 External Connection Diagrams

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Electrical connection diagram

For more details please check unit wiring diagram



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NOTES

1. In case of signal cable keep minimum distance to power cables > 5 cm.
2. Max. of 16 hydromodules can be connected.
3. For indoor-outdoor communication: refer to information of the outdoor unit for details.

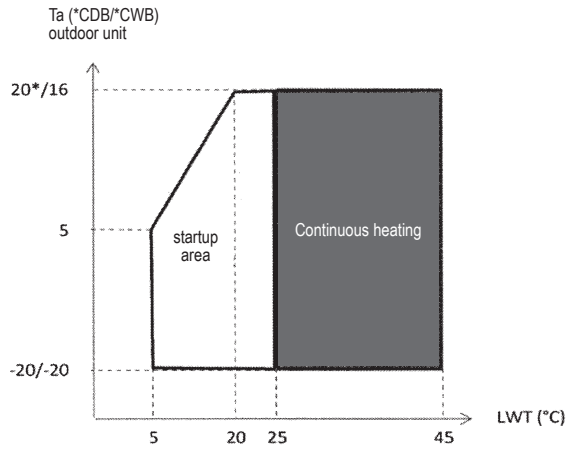
8 Operation range

8 - 1 Operation Range

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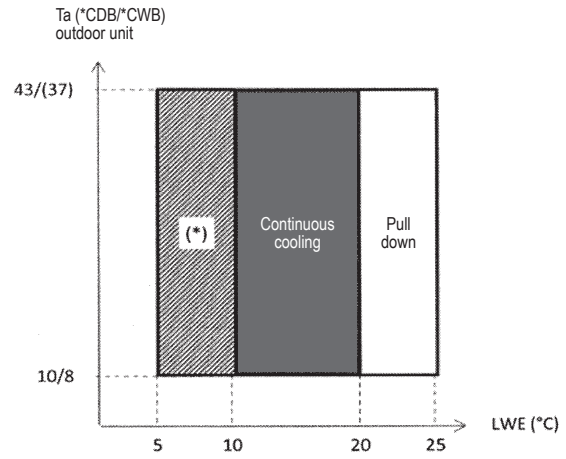
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Heating mode - LT hydrobox



*: Maximum 24 °CDB

Cooling mode



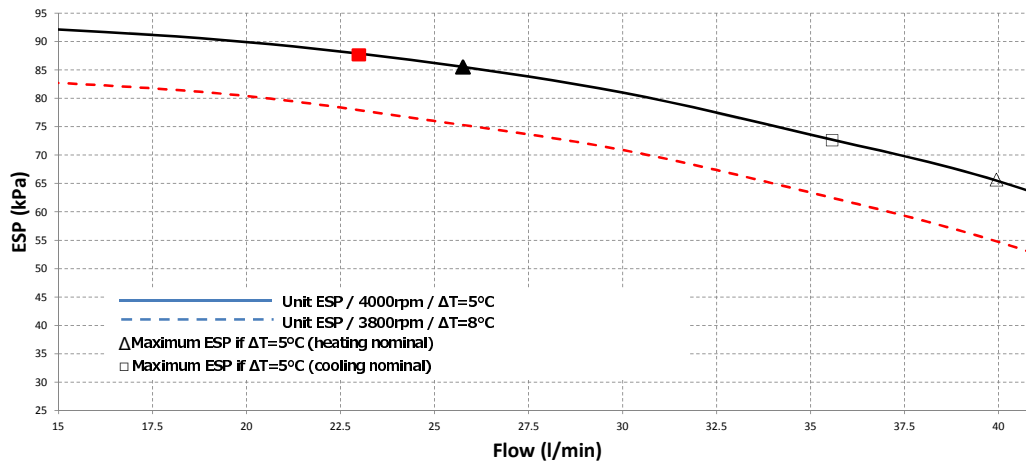
*: depending on operation conditions and only possible after field setting activation.
(influence on DX cooling (cold draft) and total efficiency)

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9 Hydraulic performance

9 - 1 Static Pressure Drop Unit

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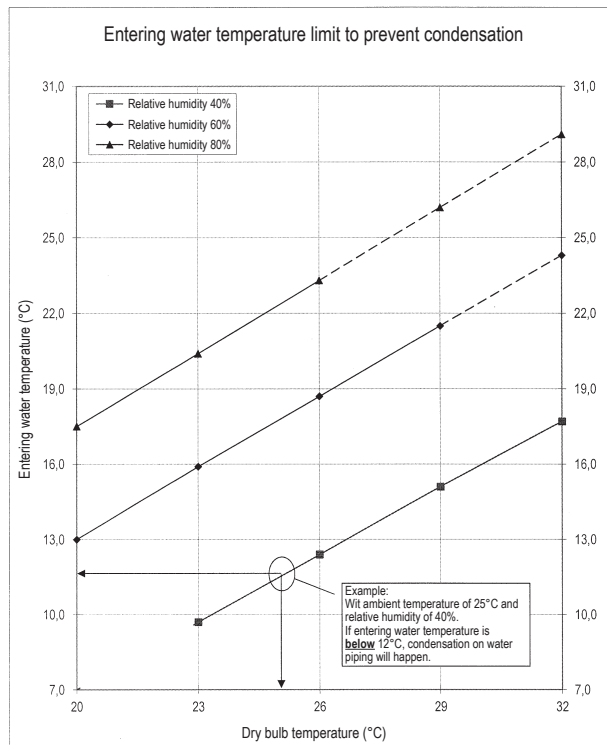
ESP: External Static Pressure
Flow: Water flow through the unit

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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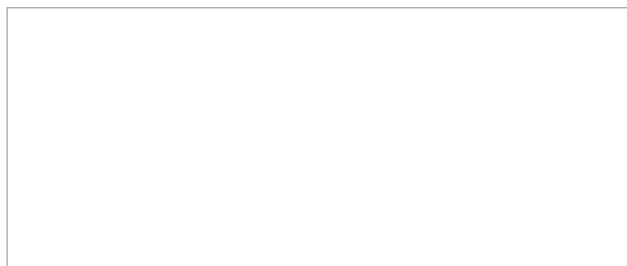
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NOTES

1. Refer to psychrometric chart for more information.
2. If condensation is expected, installation of EKHBPCA2 - drainpan kit must be considered.

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