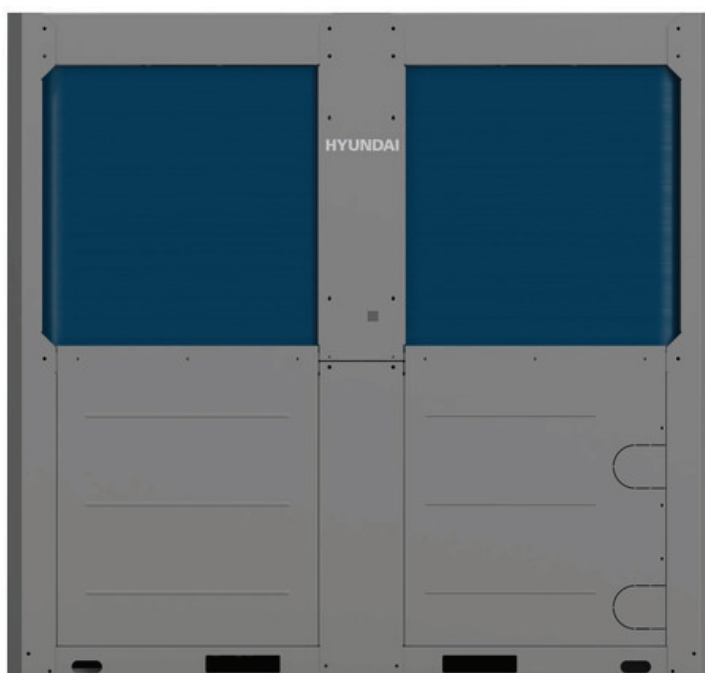


Engineering Data

EXTREME PRO L



All DC Inverter

HCMO-50-D2L3P0-D1G HCMO-50-D2L3P0(H)-D1G

HCMO-60-D2L3P0-D1G HCMO-60-D2L3P0(H)-D1G

HCMO-70-D2L3P0-D1G HCMO-70-D2L3P0(H)-D1G

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Part 1

General Information

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1. System Introduction

1.1 System schematic

EXTREME PRO L is an integrated air-to-water space heating and space cooling heat pump system. The outdoor heat pump system extracts heat from the outdoor air and transfers this heat through refrigerant piping to the plate heat exchanger in the hydronic system. The heated water in the hydronic system circulates to low temperature heat emitters (floor heating loops or low temperature radiators) to provide space heating. The 4-way valve in the outdoor unit can reverse the refrigerant cycle so that the hydronic system can provide chilled water for cooling using fan coil units.

The heating capacity of heat pumps decreases with the decrease of ambient temperature. EXTREME PRO L is reserved an auxiliary electric heater control port to provide additional heating capacity for use during extremely cold weather when the heat pump capacity is insufficient. The auxiliary electric heater also serves as a backup in case of heat pump malfunction and for anti-freeze protection of the outside water piping in winter.

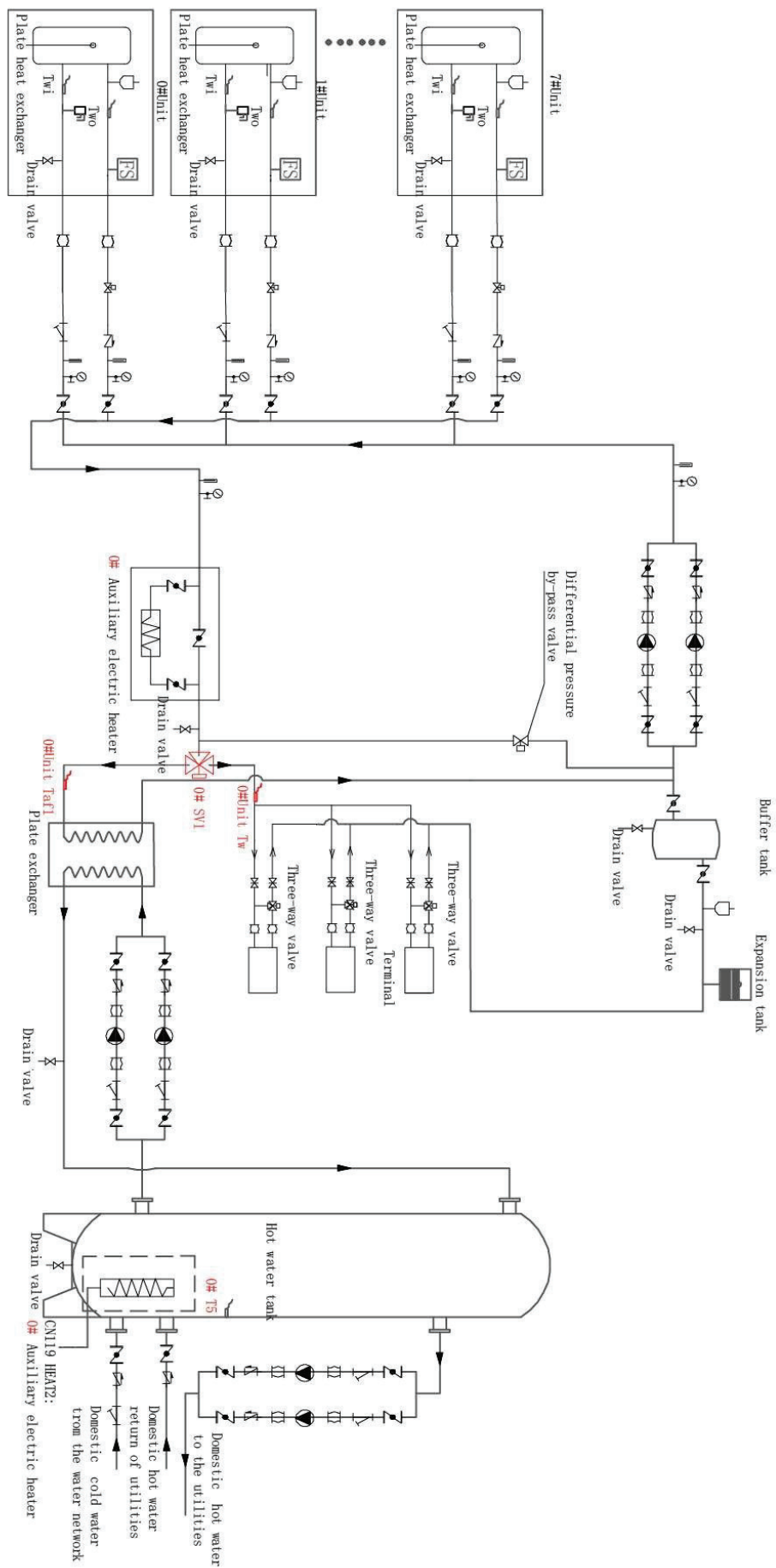
1.2 Typical applications

 Water flow switch	 Gate valve	 Safety valve	 Drain valve	 Auto vent valve
 Soft joint	 Water pump	 Shut off valve	 Temperature sensor	 Solenoid three-way valve
 Water pressure meter	 Check valve	 Thermometer	 Y-type strainer	 Expansion vessel

Note:

1. The 2- way valves amount on the terminal should not exceed the amount of 3-way valve, otherwise the water flow protection will be triggered while all terminals are turned off.
2. The main outlet water temperature sensor (Tw) head of the unit at address 0 needs to be placed on the main outlet pipe.
3. The hot water tank and the hot water exchange pump of the unit use the CN125 (220 V) port control switch on the slave board of the 0 # unit, pump output is controlled through CN108 (0-10 V).
4. To avoid back siphonage, it is required to install a non-return valve on the water inlet of the domestic hot water tank or water loop in accordance with the applicable legislation.

1.2.1 Air conditioning and hot water mode

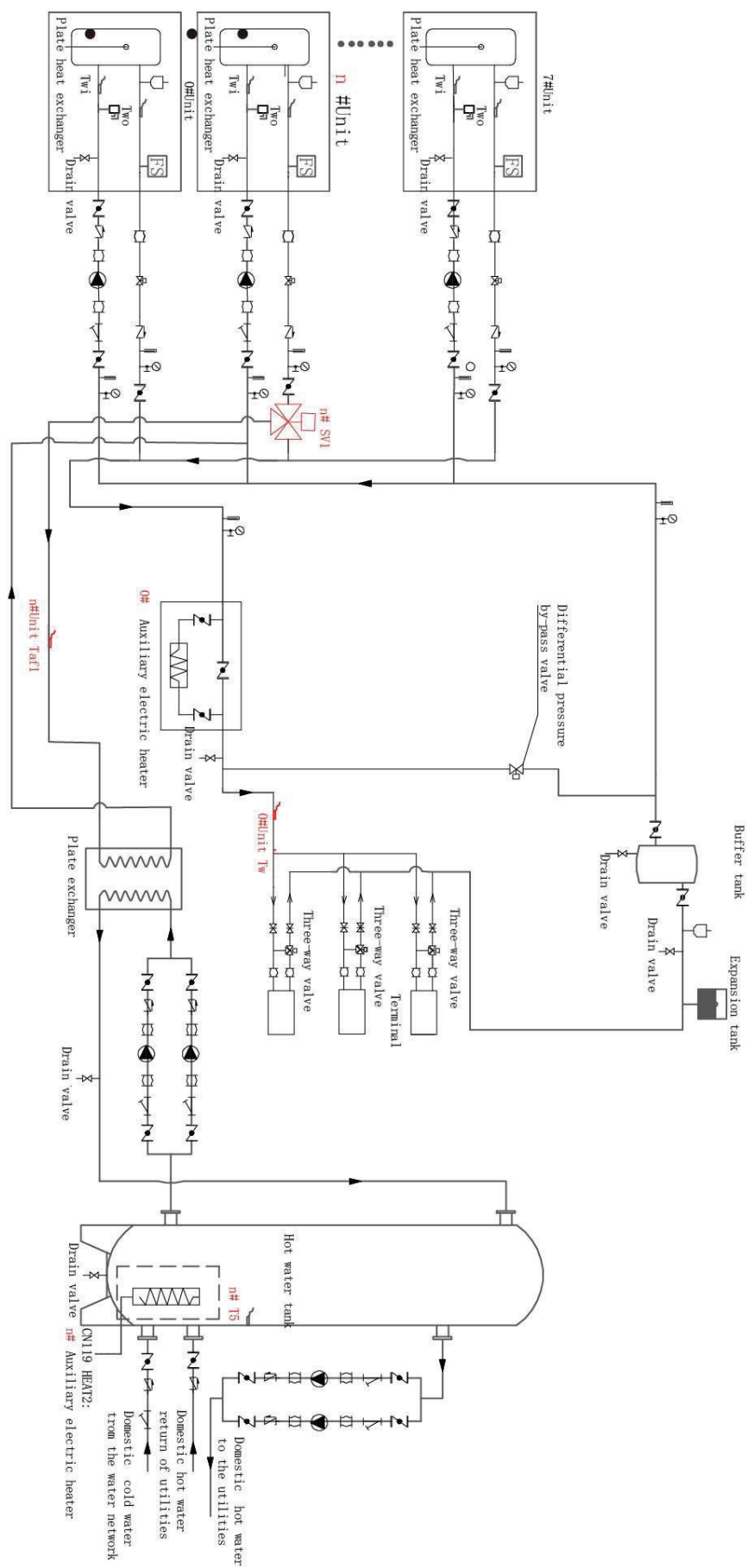


Primary pump system with buffer tank (S1-3 OFF)

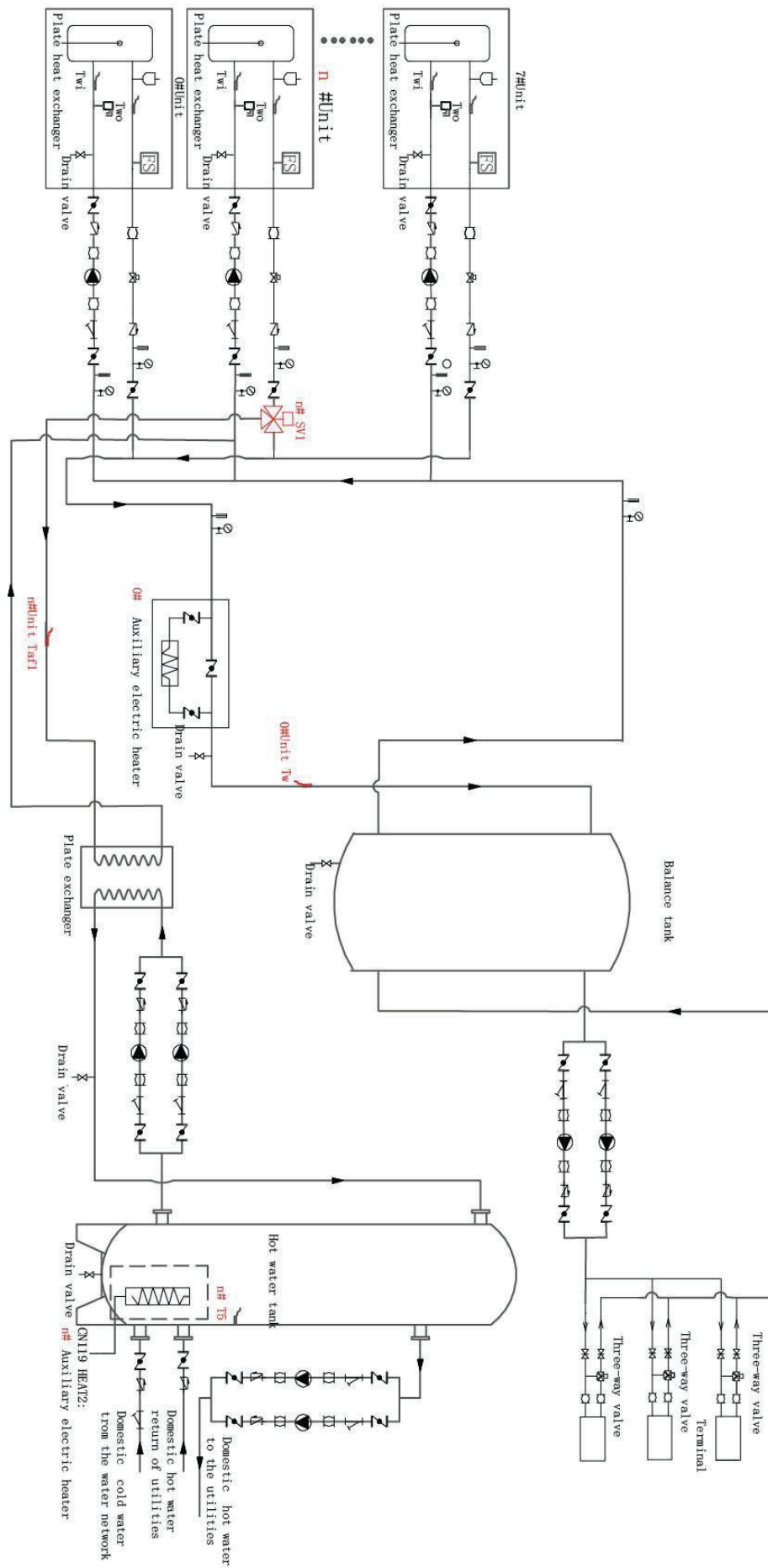
EXTREME PRO L

1.2.2 Cooling and hot water mode are operated simultaneously

Primary pump system with buffer tank (S1-3 ON)

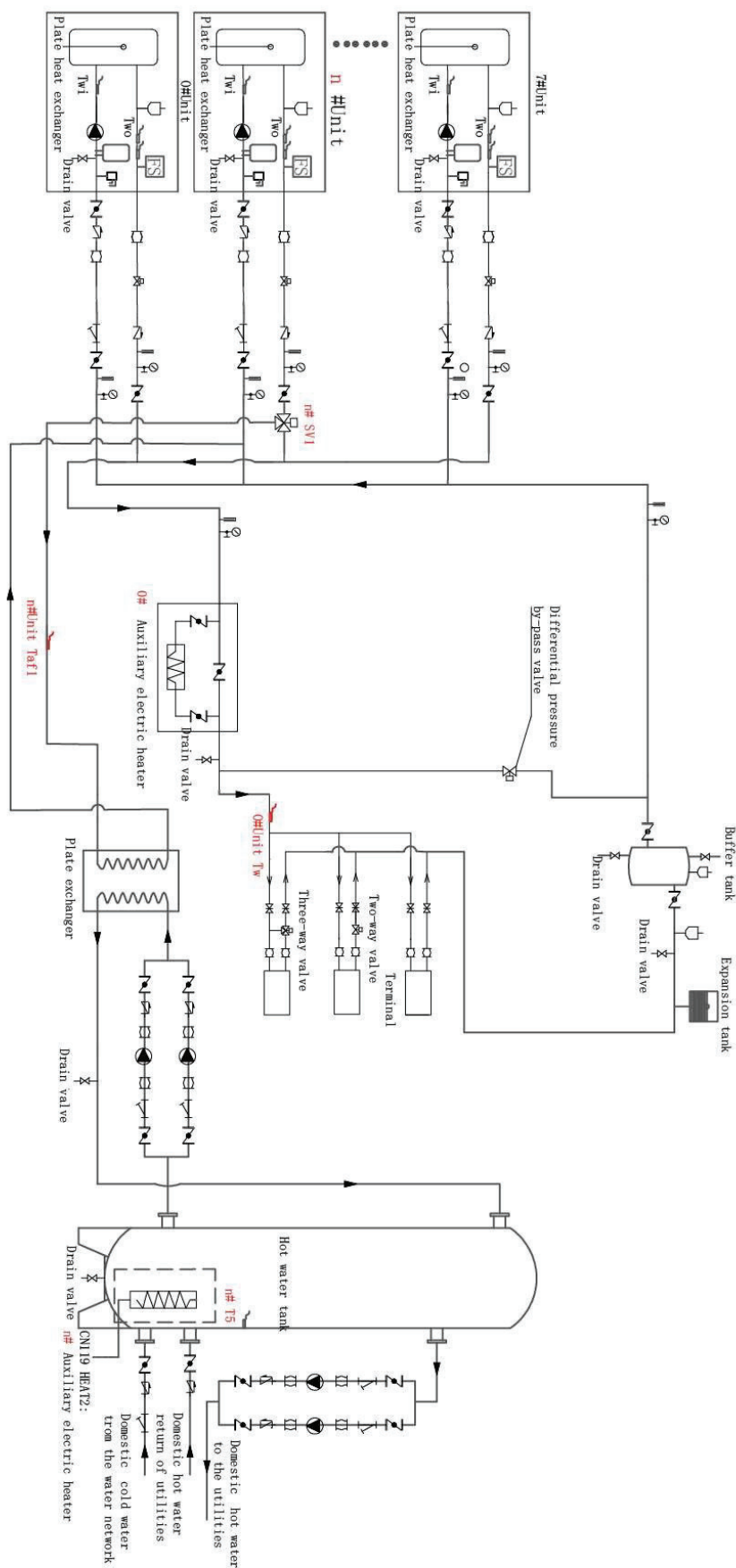


1.2.3 Cooling and hot water mode are operated simultaneously



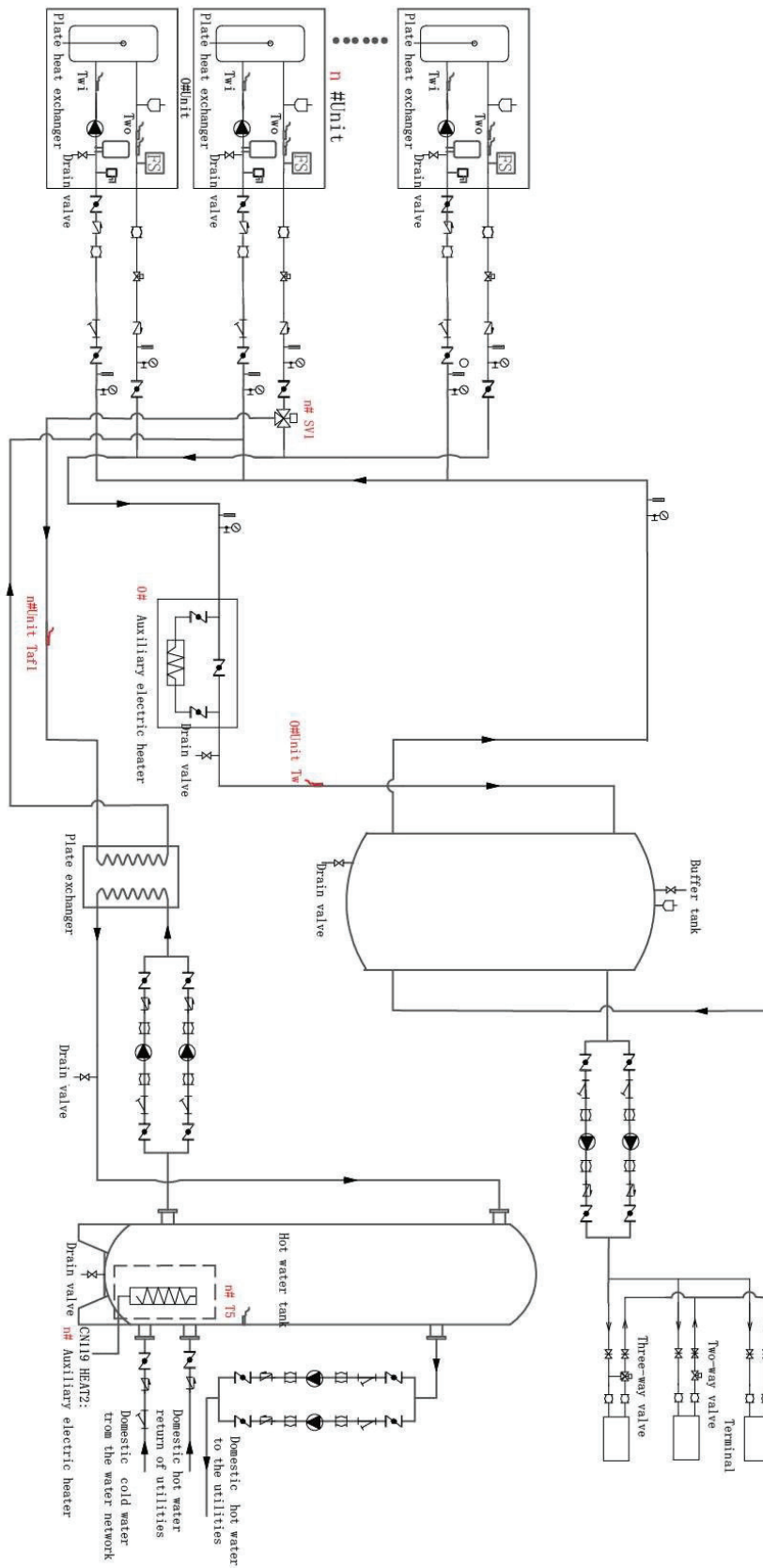
Secondary pump system with buffer tank (S1-3 ON)

1.2.4 Cooling and hot water mode are operated simultaneously (unit with inverter pump)



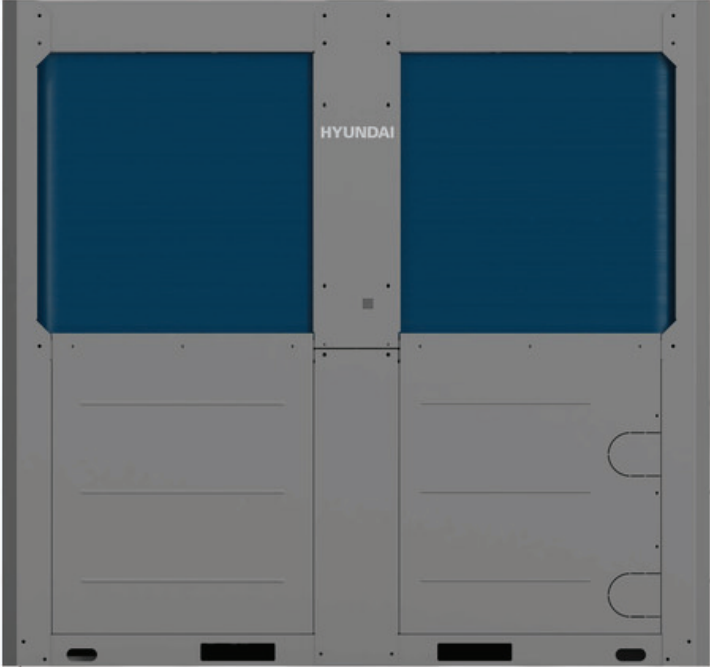
Primary pump system with buffer tank S1-3 ON

1.2.5 Cooling and hot water mode are operated simultaneously (unit with inverter pump)



Secondary pump system with buffer tank S1-3 ON

2. Product Lineup

Model	HCMO-50-D2L3P0-D1G HCMO-50-D2L3P0(H)-D1G	HCMO-60-D2L3P0-D1G HCMO-60-D2L3P0(H)-D1G	HCMO-70-D2L3P0-D1G HCMO-70-D2L3P0(H)-D1G
Power supply	380-415V/3N/50Hz		
Appearance			

3. System Design and Unit Selection

3.1 Selection Procedure

Step 1: Total heat load calculation

Calculate conditioned surface area
Select the heat emitters (type, quantity, water temperature and heat load)

Step 2: System configuration

Decide whether to enable or disable auxiliary electric heater

Step 3: Selection of outdoor units

Determine required total heat load on outdoor units
Set capacity safety factor

Provisionally select EXTREME PRO L unit capacity¹ based on nominal capacity

Correct capacity of the outdoor units for the following items:
Outdoor air temperature / Outdoor humidity / Water outlet temperature² /
Altitude / Anti-freeze type

Is corrected EXTREME PRO L capacity $\geq$ Required total heat load on outdoor units³

Yes

EXTREME PRO L system selection
is complete

No

Select a larger model or enable
auxiliary electric heater operation

Notes:

- Up to 8 units can be connected together, giving a system cooling/heating capacity range from 50kW to 560kW.
- If the required water temperatures of the heat emitters are not all the same, the outlet water temperature of EXTREME PRO L setting should be set at the highest of the heat emitter required water temperatures. If the water outlet design temperature falls between two temperatures listed in the outdoor unit's capacity table, calculate the corrected capacity by interpolation.
- Select EXTREME PRO L which satisfies both total heating and cooling load requirements.

3.2 Chiller leaving water temperature (LWT) selection

The recommended design LTW ranges for different types of heat emitter are:

- ☐ For floor heating: 35 to 45°C
- ☐ For fan coil units: 40 to 45°C
- ☐ For low temperature radiators: 40 to 50°C

*If you have specific temperature range requirements, please consult our technical support.

3.3 Optimizing system design

EXTREME PRO L

To get the most comfort with the lowest energy consumption with EXTREME PRO L, it is important to take account of the following considerations:

- ☐ Choose heat emitters that allow the heat pump system to operate at as low a hot water temperature as possible whilst still providing sufficient heating.
- ☐ Make sure the selected weather dependency curve matches the installation environment (building structure, climate) as well as end user's demands.

3.4 Design of the buffer tank in the system

3.4.1 Selection of buffer tank

The role of the buffer water tank:

In cooling mode, it prevents frequent opening and stopping of the equipment, thus protecting it.

The buffer water tank serves different purposes depending on whether the system is in cooling or heating mode. In heating mode, it ensures system stability during defrosting and reduces the need for frequent start-stop of the unit under small load conditions.

Design calculation method:

a) Calculation of defrosting time under heating conditions

The most significant factor affecting the air source heat pump heating system is the defrosting of the winter unit. To ensure thermal stability, the main engine's defrosting time should be limited to 4 minutes during winter operation. Additionally, the water temperature before and after defrosting should not decrease by more than 3°C. The buffer tank's volume should be calculated based on the above data.

Heating conditions, minimum effective water capacity calculation:

$$M_H = [Q_h \times H_{min} \times T_H / (C \times \Delta T_H)] / \rho$$

Where:

M_H : minimum water capacity of the system, m³;

Q_h : rated heat production of the main engine, kW;

H_{min} : coefficient of defrosting ability, %; generally, take: 50%;

ΔT_H : Water temperature drop before and after defrosting, °C; Conventional units generally take 3°C;

C : specific heat gain of water 4.18 kJ/(kg·°C);

ρ : Density of water, 1000 kg/m³;

T_H : defrosting time, S; generally, take 240 s

b) Cooling running time calculation method

During the cooling process, avoid frequently opening and stopping the equipment to protect it. Ensure that there is enough water to allow the equipment to run continuously for at least 5 minutes.

Refrigeration conditions, the minimum effective water capacity calculation:

$$M_C = [Q_C \times C_A \times C_{min} \times T_C / (C \times \Delta T_C)] / \rho$$

Where:

M_C : minimum system water capacity, m³;

Q_C : cooling rated capacity, kW;

C_A : Capacity coefficient of small load condition: generally: 1.6.

C_{min} : the minimum operating capacity ratio of the unit, %; Fixed frequency according to 100%; Inverter unit according to 30%;

ΔT_C : Control temperature range, °C; Factory default 4°C;

C: specific heat gain of water 4.18 kJ/(kg·°C);

ρ : Density of water, 1000 kg/m³;

T_c : cooling operation time, S, generally 300S;

C) Calculate the system capacity according to the cooling and heating conditions, and take the maximum value;

$M = \text{MAX}(M_H, M_C)$

Single cooling unit takes M_C , single heating unit takes M_H ;

d) The effective water capacity of a water system refers to its total capacity, including the main pipeline, water storage tank, and the normally open end of the two-way valve involved in circulation during operation.

$M_2 = V \times L$

Where: M_2 : effective water capacity of water system, m³;

L: Total length of system pipeline, m;

V: Water capacity m³/m per meter pipe length of each model system pipeline.

e) Buffer tank volume refers to the minimum water capacity required to meet the normal operation of the unit:

$V_{\min} = M - M_2$

$V_{\min}$ - Minimum volume of buffer tank, m³.

3.4.2 Empirical estimation method

For renovation projects where the system water capacity cannot be estimated, the volume of the buffer tank can be estimated empirically using the following formula:

$V_{\min} = Q \times K$. Here, $V_{\min}$ represents the minimum volume of the buffer tank in liters.

The comfort air conditioning requires 10 L/kW and the process air conditioning requires 15. The stability of the system water temperature increases with a higher K value.

The main mechanism for heat is measured in kW.

3.4.3 Precautions for buffer tank selection

a) The configuration of the buffer tank depends on the specific project instance. If the water system capacity is large or the end form is in the form of floor heating, the buffer tank should not be added. However, increasing the size of the buffer water tank has several advantages for the system's operation. It helps to avoid frequent opening and stopping of the main engine under small load conditions, prevents defrosting of the main engine, and ensures that there is enough water in the system to meet the unit defrosting requirements. This improves the comfort of the unit. Therefore, it is necessary to comprehensively consider various factors on the site from an investment perspective.

b) There are two methods to calculate the volume of the buffer tank. The results differ, with method 1 being more accurate as it is based on actual operation data analysis. Therefore, it is recommended to use method 1 for actual design and selection. Method 2 is an empirical estimate.

c) When using multiple units in parallel, it is recommended to base the calculation on the maximum capacity of the parallel unit.

Part 2

Engineering Data

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1 Specifications

Model			HCMO-70-D2L3P0-D1G	HCMO-60-D2L3P0-D1G	HCMO-50-D2L3P0-D1G
Power supply		V/Ph/Hz	380-415V/3N/50Hz		
Cooling (A35W7)	Capacity	kW	65	60	50
	Input	kW	23.21	20.00	15.15
	EER		2.80	3.00	3.30
Cooling (A35W18)	Capacity	kW	70	60	50
	Input	kW	16.87	13.33	10.42
	EER		4.15	4.5	4.8
Heating (A7W35)	Capacity	kW	70	60	50
	Input	kW	17.50	13.95	10.64
	COP		4.00	4.30	4.70
Heating (A7W45)	Capacity	kW	70	60	50
	Input	kW	20.90	17.05	13.16
	COP		3.35	3.52	3.80
Heating (A7W55)	Capacity	kW	70	60	50
	Input	kW	24.56	19.61	15.15
	COP		2.85	3.06	3.30
Heating (A7W65)	Capacity	kW	70	60	50
	Input	kW	27.45	22.22	17.86
	COP		2.55	2.70	2.80
Heating (A2W35) (Excluding defrosting cycle)	Capacity	kW	64	63	54
	Input	kW	22.07	21.00	15.88
	COP		2.90	3.00	3.40
Heating (A2W35) (Including defrosting cycle)	Capacity	kW	60	59	51
	Input	kW	21.43	20.35	15.46
	COP		2.80	2.90	3.30
Heating (A2W45) (Excluding defrosting cycle)	Capacity	kW	67	64	55
	Input	kW	26.80	24.15	18.97
	COP		2.50	2.65	2.90
Heating (A2W45) (Including defrosting cycle)	Capacity	kW	62	60	52
	Input	kW	25.83	24.00	19.26
	COP		2.40	2.50	2.70
Heating (A2W55) (Excluding defrosting cycle)	Capacity	kW	68	66	56
	Input	kW	30.91	28.09	21.96
	COP		2.20	2.35	2.55
Heating (A2W55) (Including defrosting cycle)	Capacity	kW	64	60	52
	Input	kW	30.48	26.67	21.22
	COP		2.10	2.25	2.45
Heating (A-7W35) (Excluding defrosting cycle)	Capacity	kW	62	60	54
	Input	kW	25.31	23.53	19.29
	COP		2.45	2.55	2.80
Heating (A-7W35) (Including defrosting cycle)	Capacity	kW	60	57	50
	Input	kW	25.00	22.80	18.87
	COP		2.40	2.50	2.65
Heating (A-7W45) (Excluding defrosting cycle)	Capacity	kW	63	61	54
	Input	kW	29.58	27.73	22.98
	COP		2.13	2.20	2.35
Heating (A-7W45) (Including defrosting cycle)	Capacity	kW	60	58	50
	Input	kW	29.27	27.62	22.22
	COP		2.05	2.10	2.25
Heating (A-7W55) (Excluding defrosting cycle)	Capacity	kW	66	63	56
	Input	kW	35.68	33.16	27.32

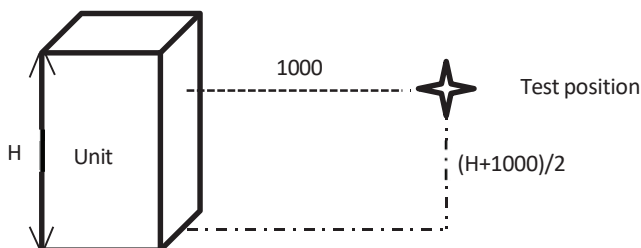
EXTREME PRO L

	COP		1.85	1.90	2.05
Heating (A-7W55) (Including defrosting cycle)	Capacity	kW	61	60	50
	Input	kW	33.89	32.79	25.64
	COP		1.80	1.83	1.95
SCOP	Warmer climate	35°C	6.15	6.29	6.27
		55°C	4.75	4.75	4.81
	Average climate	35°C	4.50	4.60	4.70
		55°C	3.76	3.86	3.90
	Colder climate	35°C	3.95	3.69	3.68
		55°C	3.52	3.29	3.28
TOCA (Total Over-Current Amps.)		A	70	70	70
MOP (Maximum Overcurrent Protector)		A	80	80	80
MCA (Minimum Circuit Amps)		A	64	62	60
MFA (Maximum Fuse Amps)		A	80	80	80
Compressor	Type		Scroll Type		
	Poles		4 Poles		
	Speed range	rps	14~130		
	Capacity (60rps)	kW	18.44		
	Input (60rps)	kW	5.590		
	Max. heating frequency	Hz	14~130Hz		
	Max. cooling frequency	Hz	14~130Hz		
	RLA	A	15.45		
Fan	Motor type		DC brushless motor		
	Number of fans		2		
	Air flow	m³/h	28670		
	Rated Motor input	kW	0.92		
	FLA(Full Load Amps)	A	4		
Air side heat exchanger	Number of rows		3		
	Number of circuits		19		
Refrigerant	Type (GWP)		R290 (0.02)		
	Charged volume	kg	2.8×2		
Throttle type			EEV		
sound power Level	Heating A7W35	dB(A)	86.4	84.4	80
	Heating max	dB(A)	86.7	84.7	80.7
	heating silence mode 1	dB(A)	75.9	75.9	75.9
	heating silence mode 2	dB(A)	72.6	72.6	72.6
	Cooling A35W7	dB(A)	84.8	82.7	80.1
	Cooling max	dB(A)	84.4	82.2	80.2
	Cooling silence mode1	dB(A)	75.1	75.1	75.1
	Cooling silence mode3	dB(A)	72	72	72
sound pressure Level	Heating A7W35	dB(A)	69.5	67.6	63.4
	Heating max	dB(A)	70.2	68.2	64.2
	heating silence mode 1	dB(A)	59.3	59.3	59.3
	heating silence mode 2	dB(A)	55.4	55.4	55.4
	Cooling A35W7	dB(A)	67.3	65.2	62.6
	Cooling max	dB(A)	67.5	65.2	63.2
	Cooling silence mode1	dB(A)	56.7	56.7	56.7
	Cooling silence mode2	dB(A)	53.8	53.8	53.8
Unit dimension (W×D×H)		mm	2000×960×1880		
Packing dimension (W×D×H)		mm	2085×1030×2050		

Net weight		kg	560		
Gross weight		kg	585		
Connection dimension	Water side	mm	DN50		
Connection method	Water side		Hoop connection		
Outdoor air temperature range	Cooling	°C	-15-48		
	Heating	°C	-25-43		
	DHW	°C	-25-43		
Water side heat exchanger	Type		Plate heat exchanger		
Safety valve		MPa	0.6		
Flow switch		m³/h	1.2		
Water flow range		m³/h	1.8-14.4	1.8-12.4	1.8-10.3
Water outlet temperature setting range	Cooling	°C	5~25 (-5~25) ¹		
	Heating	°C	25~70 (25~85) ²		
	DHW (tank)	°C	20~70 (20~80) ²		
Seasonal space heating energy efficiency class	Water outlet at 35°C	ηs	177.00%	181.00%	185.00%
		class	A+++	A+++	A+++
	Water outlet at 55°C	ηs	147.40%	151.00%	153.00%
		class	A++	A+++	A+++
SCOP	Water outlet at 35°C	/	4.50	4.60	4.70
	Water outlet at 55°C	/	3.76	3.85	3.9
Seasonal space cooling energy efficiency class	Water outlet at 7°C	ηs	185.00%	189.00%	191.00%
	Water outlet at 18°C	ηs	257.00%	261.00%	269.00%
SEER	Water outlet at 7°C	/	4.70	4.80	4.85
	Water outlet at 18°C	/	6.50	6.60	6.80

Note :

1. The above data test reference standard EN14511; EN14825; EN50564; EN 12102; (EU) No:811.
2. Sound pressure level is the test average measured in a semi-anechoic chamber. The test position is 1m right in front of the unit for four sides and $(1+H)/2$ m (where H is the height of the unit) above the floor. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.



3. If the unit is operating in the temperature range with Low temp mode, The antifreeze system must be used instead of the water system, and the antifreeze (especially the glycol solution) must meet the following two requirements at the same time:
 - Volume concentration $\geq 30\%$;
 - The freezing point temperature of antifreeze $<$ the coldest temperature at the using site - 5.5°C; The dial code S1-2 needs to be set to ON. The inverter water pump needs to be matched, and the minimum water flow of the water pump should be able to be as low as 1.8 m³/h.
4. If the unit is operating in the temperature range with High temp mode, the dial code S1-2 needs to be set to ON. The inverter water pump needs to be matched, and the minimum water flow of the water pump should be able to be as low as 1.8 m³/h.

*It is recommended to customize the centralized drainage module if operating under ambient temperature -15°C.

Model			HCMO-70-D2L3P0(H)-D1G	HCMO-60-D2L3P0(H)-D1G	HCMO-50-D2L3P0(H)-D1G
Power supply		V/Ph/Hz	380-415V/3Ph/50Hz		
Cooling (A35W7)	Capacity	kW	65	60	50
	Input	kW	23.21	20	15.15
	EER		2.8	3	3.3
Cooling (A35W18)	Capacity	kW	70	60	50
	Input	kW	16.87	13.33	10.42
	EER		4.15	4.5	4.8
Heating (A7W35)	Capacity	kW	70	60	50
	Input	kW	17.5	13.95	10.64
	COP		4	4.3	4.7
Heating (A7W45)	Capacity	kW	70	60	50
	Input	kW	20.9	17.05	13.16
	COP		3.35	3.52	3.8
Heating (A7W55)	Capacity	kW	70	60	50
	Input	kW	24.56	19.61	15.15
	COP		2.85	3.06	3.3
Heating (A7W65)	Capacity	kW	70	60	50
	Input	kW	27.45	22.22	17.86
	COP		2.55	2.7	2.8
Heating (A2W35) (Excluding defrosting cycle)	Capacity	kW	64	63	54
	Input	kW	22.07	21	15.88
	COP		2.9	3	3.4
Heating (A2W35) (Including defrosting cycle)	Capacity	kW	60	59	51
	Input	kW	21.43	20.35	15.46
	COP		2.8	2.9	3.3
Heating (A2W45) (Excluding defrosting cycle)	Capacity	kW	67	64	55
	Input	kW	26.8	24.15	18.97
	COP		2.5	2.65	2.9
Heating (A2W45) (Including defrosting cycle)	Capacity	kW	62	60	52
	Input	kW	25.83	24	19.26
	COP		2.4	2.5	2.7
Heating (A2W55) (Excluding defrosting cycle)	Capacity	kW	68	66	56
	Input	kW	30.91	28.09	21.96
	COP		2.2	2.35	2.55
Heating (A2W55) (Including defrosting cycle)	Capacity	kW	64	60	52
	Input	kW	30.48	26.67	21.22
	COP		2.1	2.25	2.45
Heating (A-7W35) (Excluding defrosting cycle)	Capacity	kW	62	60	54
	Input	kW	25.31	23.53	19.29
	COP		2.45	2.55	2.8
Heating (A-7W35) (Including defrosting cycle)	Capacity	kW	60	57	50
	Input	kW	25	22.8	18.87
	COP		2.4	2.5	2.65
Heating (A-7W45) (Excluding defrosting cycle)	Capacity	kW	63	61	54
	Input	kW	29.58	27.73	22.98
	COP		2.13	2.2	2.35
Heating (A-7W45) (Including defrosting cycle)	Capacity	kW	60	58	50
	Input	kW	29.27	27.62	22.22
	COP		2.05	2.1	2.25
Heating (A-7W55) (Excluding defrosting cycle)	Capacity	kW	66	63	56
	Input	kW	35.68	33.16	27.32
	COP		1.85	1.9	2.05

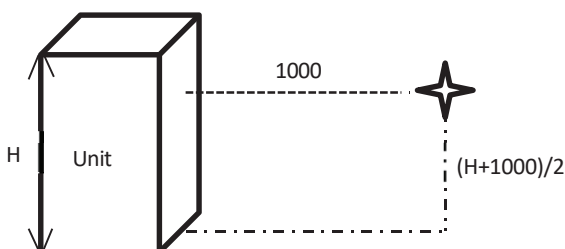
Heating (A-7W55) (Including defrosting cycle)	Capacity	kW	61	60	50
	Input	kW	33.89	32.79	25.64
	COP		1.8	1.83	1.95
SCOP	Warmer climate	35°C	6.15	6.29	6.27
		55°C	4.75	4.75	4.81
	Average climate	35°C	4.50	4.60	4.70
		55°C	3.76	3.86	3.90
	Colder climate	35°C	3.95	3.69	3.68
		55°C	3.52	3.29	3.28
TOCA (Total Over-Current Amps.)		A	75	75	75
MOP (Maximum Overcurrent Protector)		A	85	85	85
MCA (Minimum Circuit Amps)		A	69	67	65
MFA (Maximum Fuse Amps)		A	85	85	85
Compressor	Type		Scroll Type		
	Poles		4 Poles		
	Speed range	rps	14~130		
	Capacity (60rps)	kW	18.44		
	Input (60rps)	kW	5.59		
	Max. heating frequency	Hz	14~130		
	Max. cooling frequency	Hz	14~130		
	RLA	A	15.45		
Fan	Motor type		DC brushless motor		
	Number of fans		2		
	Air flow	m³/h	28670		
	Rated Motor input	kW	0.92		
	FLA(Full Load Amps)	A	4		
Air side heat exchanger	Number of rows		3		
	Number of circuits		19		
Refrigerant	Type (GWP)		R290 (0.02)		
	Charged volume	kg	2.8×2		
Throttle type			EEV		
sound power Level	Heating A7W35	dB(A)	86.4	84.4	80
	Heating max	dB(A)	86.7	84.7	80.7
	heating silence mode 1	dB(A)	75.9	75.9	75.9
	heating silence mode 2	dB(A)	72.6	72.6	72.6
	Cooling A35W7	dB(A)	84.8	82.7	80.1
	Cooling max	dB(A)	84.4	82.2	80.2
	Cooling silence mode1	dB(A)	75.1	75.1	75.1
	Cooling silence mode3	dB(A)	72	72	72
sound pressure Level	Heating A7W35	dB(A)	69.5	67.6	63.4
	Heating max	dB(A)	70.2	68.2	64.2
	heating silence mode 1	dB(A)	59.3	59.3	59.3
	heating silence mode 2	dB(A)	55.4	55.4	55.4
	Cooling A35W7	dB(A)	67.3	65.2	62.6
	Cooling max	dB(A)	67.5	65.2	63.2
	Cooling silence mode1	dB(A)	56.7	56.7	56.7
	Cooling silence mode2	dB(A)	53.8	53.8	53.8
Unit dimension (W×D×H)		mm	2000×960×1880		
Packing dimension (W×D×H)		mm	2085×1030×2050		
Net weight		kg	615		

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Gross weight		kg	640		
Connection dimension	Water side	mm	DN50		
Connection method	Water side		Hoop connection		
Outdoor air temperature range	Cooling	°C	-15-48		
	Heating	°C	-25-43		
	DHW	°C	-25-43		
Water side heat exchanger	Type		Plate heat exchanger		
Safety valve		MPa	0.6		
Flow switch		m³/h	1.2		
Water flow range		m³/h	1.8-14.4	1.8-12.4	1.8-10.3
Water outlet temperature setting range	Cooling	°C	5~25 (-5~25) ¹		
	Heating	°C	25~70 (25~85) ²		
	DHW (tank)	°C	20~70 (20~80) ²		
Seasonal space heating energy efficiency class	Water outlet at 35°C	ηs	177.00%	181.00%	185.00%
		class	A+++	A+++	A+++
	Water outlet at 55°C	ηs	147.40%	151.00%	153.00%
		class	A++	A+++	A+++
SCOP	Water outlet at 35°C	/	4.50	4.60	4.70
	Water outlet at 55°C	/	3.76	3.85	3.9
Seasonal space cooling energy efficiency class	Water outlet at 7°C	ηs	185.00%	189.00%	191.00%
	Water outlet at 18°C	ηs	257.00%	261.00%	269.00%
SEER	Water outlet at 7°C	/	4.70	4.80	4.85
	Water outlet at 18°C	/	6.50	6.60	6.80
Water pump	Pump model		MHIE802-1		
	Power supply	V/Ph/Hz	380-415V/3N/50Hz		
	Rated power	kW	1.5		
	Rated current	A	3.25		
	Max pump head	m	33.5		
	Rated speed	r/min	3460		

Note :

- The above data test reference standard EN14511; EN14825; EN50564; EN 12102; (EU) No:811.
- Sound pressure level is the test average measured in a semi-anechoic chamber. The test position is 1m right in front of the unit for four sides and (1+H)/2m (where H is the height of the unit) above the floor. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.



- If the unit is operating in the temperature range with Low temp mode, The antifreeze system must be used instead of the water system, and the antifreeze (especially the glycol solution) must meet the following two requirements at the same time:
 - Volume concentration $\geq 30\%$;
 - The freezing point temperature of antifreeze $<$ the coldest temperature at the using site - 5.5°C; The dial code S1-2 needs to be set to ON. The inverter water pump needs to be matched, and the minimum water flow of the water pump should be able to be as low as 1.8 m³/h.
- If the unit is operating in the temperature range with High temp mode, the dial code S1-2 needs to be set to ON. The inverter water pump needs to be matched, and the minimum water flow of the water pump should be able to be as low as 1.8 m³/h.

*It is recommended to customize the centralized drainage module if operating under ambient temperature -15°C.

2 Electrical Characteristics

1) Cable requirements

The cables connected to the circuit breaker must comply with the requirements for electrical clearance and creepage distance between live conductors and earthed parts as specified in Tables 1 and 2 of IEC 61439-1, and also conform to local national regulations. The cable connected to the main switch shall be tightened with a double wrench. Follow the uniform tightening torque value based on the quality of the washers, screws and nuts used.

The grounding conductor (yellow/green bicolor wire) must be connected to the PE grounding terminal. The cross-sectional area of the equipotential bonding conductor (grounding wire) shall comply with the provisions of Table 1 in Clause 5.2 of EN 60204-1 standard (as shown below). According to Clause 8.2.8 of this standard, the cross-sectional area of the equipotential bonding conductor (grounding wire) shall not be less than 10 mm² under any circumstances.

Table 2-1

Section of the copper phase conductors feeding the equipment S[mm ²]	Minimum cross-section of the external copper protection conductor Sp [mm ²]
S≤16	S
16<S≤35	16
S>35	S/2

2) Operating current and wire diameter

Please select the wire gauge (minimum value) for each unit based on Table 2-2 and Table 2-3 respectively. The rated current in Table 2-2 corresponds to the MCA (Minimum Circuit Ampacity) in Table 2-3.

The maximum allowable phase-to-phase voltage deviation is 2%, and the power line length is less than 20 m.

MFA (Maximum Fuse Ampere) is used to select current circuit breakers.

The electric control box is equipped with an overcurrent protector (fuse). If additional overcurrent protectors are needed, please refer to the TOCA (Total Overcurrent Protection Value) parameter in Table 2-3 for selection.

Table 2-2

Rated current (A)	Nominal cross-sectional area (mm)	
	Flexible cord	Cable for fixed wiring
≤ 3	0.5 and 0.75	1 and 2.5
>3 and ≤6	0.75 and 1	1 and 2.5
>6 and ≤10	1 and 1.5	1 and 2.5
>10 and ≤16	1.5 and 2.5	1.5 and 4
>16 and ≤25	2.5 and 4	2.5 and 6
>25 and ≤32	4 and 6	4 and 10
>32 and ≤50	6 and 10	6 and 16
>50 and ≤63	10 and 16	10 and 25
>63 and ≤95	16 and 25	25 and 35

Table 2-3

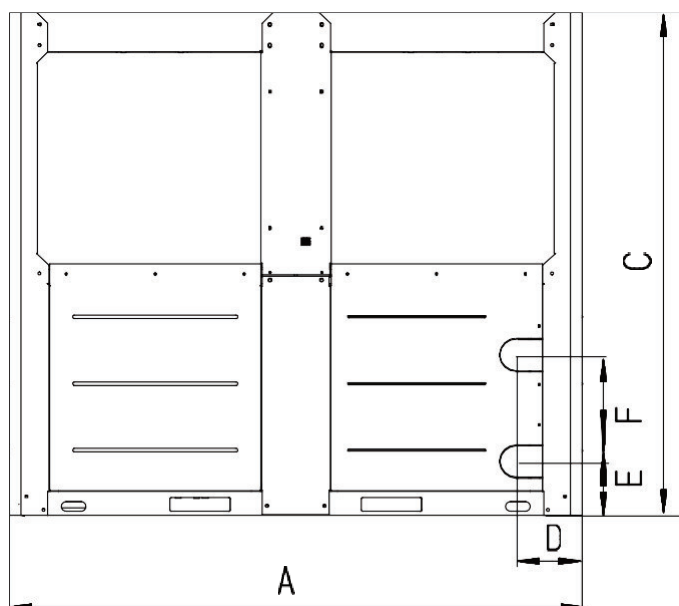
System	Outdoor unit				Power current		
	Voltage(V)	Hz	Min.(V)	Max.(V)	MCA(A)	TOCA(A)	MFA(A)
HCMO-50-D2L3P0-D1G	380-415	50	342	456	60	70	80
HCMO-60-D2L3P0-D1G	380-415	50	342	456	62	70	80
HCMO-70-D2L3P0-D1G	380-415	50	342	456	64	70	80
HCMO-50-D2L3P0(H)-D1G	380-415	50	342	456	65	75	85
HCMO-60-D2L3P0(H)-D1G	380-415	50	342	456	67	75	85
HCMO-70-D2L3P0(H)-D1G	380-415	50	342	456	69	75	85

MCA: min. circuit current. (A) TOCA: total over current (A) MFA: max. fuse current (A)

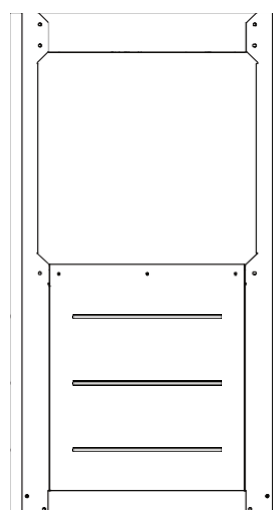
EXTREME PRO L

3 Dimensions and Center of Gravity

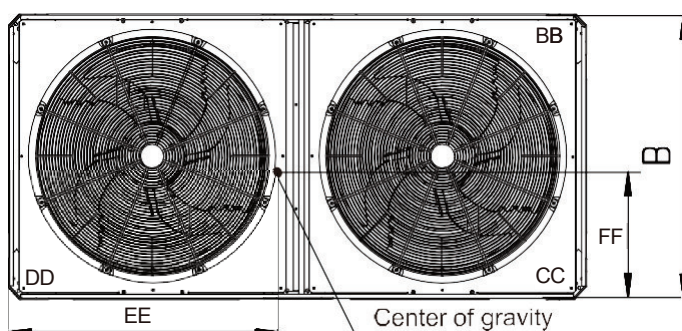
HCMO-50-D2L3P0-D1G / HCMO-60-D2L3P0-D1G / HCMO-70-D2L3P0-D1G



Front view



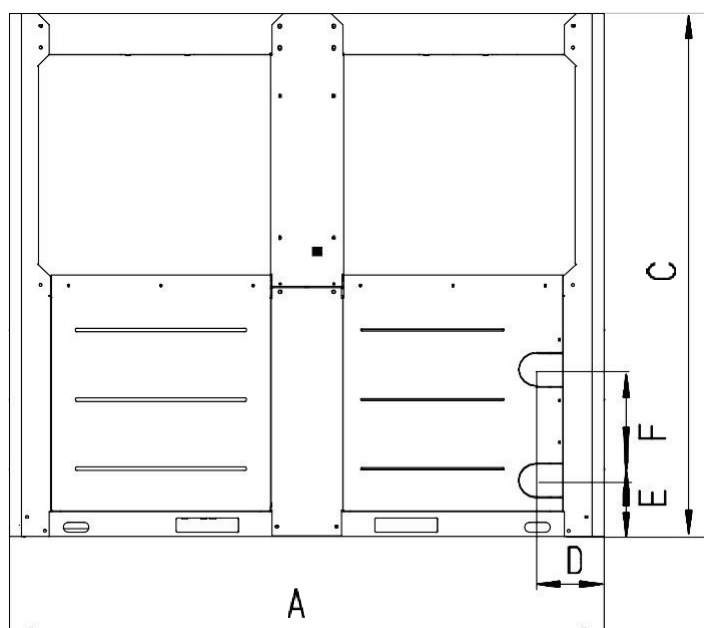
Left view



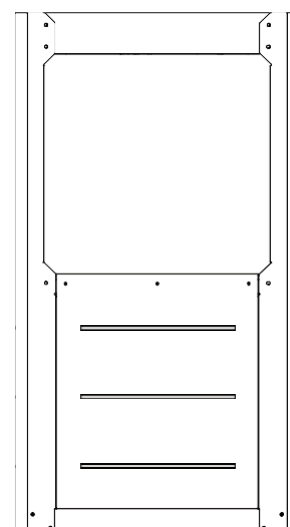
Top view

Model	50/60/70kW
A	2 000
B	960
C	1 870
D	226
E	200
F	397

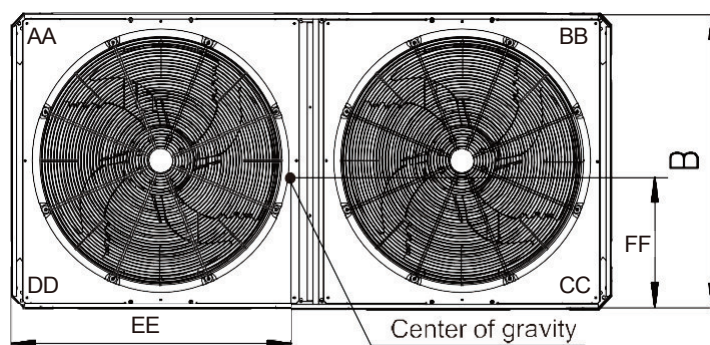
	Model	50/60/70kW
CORNER GRAVITY (mm)	EE	936
	FF	411
CORNER WEIGHTS (kg)	AA	118
	B8	122
	CC	140
	DD	180



Front view



Left view



Top view

Model	50/60/70kW
A	2 000
B	960
C	1 870
D	226
E	200
F	397

	Model	50/60/70kW
CORNER GRAVITY (mm)	EE	1018
	FF	454
CORNER WEIGHTS (kg)	AA	120
	B8	171
	CC	142
	DD	182

4 Capacity Tables

4.1 Heating Capacity Tables (Excluding Defrosting Cycle)

4.1.1 HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

100% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	34.60	20.34	1.70	40.12	20.48	1.96	49.12	17.75	2.77	53.31	18.32	2.91	54.65	16.78	3.26
	30	35.09	21.94	1.60	40.76	22.09	1.85	49.73	21.00	2.37	53.10	19.84	2.68	55.39	18.11	3.06
	35	35.87	23.02	1.56	41.14	22.67	1.81	50.99	23.57	2.16	53.24	21.13	2.52	55.47	19.56	2.84
	40	36.65	25.00	1.47	43.43	26.31	1.65	52.26	26.97	1.94	53.49	22.62	2.36	54.79	21.44	2.56
	45	37.89	28.00	1.35	44.90	30.21	1.49	52.84	29.80	1.77	53.88	23.97	2.25	55.01	22.84	2.41
	50	38.40	30.71	1.25	46.37	33.02	1.40	53.56	32.45	1.65	54.36	25.40	2.14	57.66	25.76	2.24
	55	38.43	31.98	1.20	46.07	33.64	1.37	53.51	34.34	1.56	55.90	28.12	1.99	55.96	26.96	2.08
	60	38.41	33.48	1.15	46.12	34.40	1.34	55.45	36.55	1.52	56.53	31.40	1.80	59.03	31.80	1.86
	65	29.38	25.59	1.15	34.19	26.47	1.29	44.51	31.01	1.44	50.75	32.13	1.58	52.73	31.46	1.68
	70	24.30	23.01	1.06	29.96	24.41	1.23	37.61	27.58	1.36	46.36	30.97	1.50	50.42	30.87	1.63
	75							35.42	31.41	1.13	40.56	30.91	1.31	42.13	31.13	1.35
	80													41.47	33.43	1.24
	85													38.50	37.55	1.03
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	54.42	14.45	3.77	54.34	13.15	4.13	50.80	9.91	5.12	51.06	8.18	6.24	53.54	7.70	6.95
	30	55.75	16.13	3.46	55.42	15.05	3.68	51.14	10.23	5.00	51.37	9.18	5.59	53.23	8.56	6.22
	35	55.02	17.84	3.08	53.94	15.12	3.57	50.85	10.42	4.88	51.65	9.62	5.37	53.54	9.21	5.82
	40	54.68	19.27	2.84	54.48	17.10	3.19	51.16	11.49	4.45	51.30	10.29	4.98	53.90	10.02	5.38
	45	55.52	21.00	2.64	55.19	18.33	3.01	53.76	13.60	3.95	54.32	12.32	4.41	54.91	11.10	4.95
	50	57.82	24.00	2.41	56.26	19.64	2.86	51.87	14.30	3.63	53.25	12.76	4.17	55.61	12.14	4.58
	55	56.71	25.23	2.25	56.13	21.59	2.60	52.05	15.32	3.40	52.27	13.90	3.76	53.77	13.04	4.12
	60	57.96	29.58	1.96	56.13	24.16	2.32	51.32	15.53	3.30	51.74	14.19	3.65	52.14	13.43	3.88
	65	55.82	31.59	1.77	55.25	26.61	2.08	51.21	16.92	3.03	51.28	15.39	3.33	50.83	14.55	3.49
	70	51.97	30.05	1.73	52.43	25.75	2.04	49.63	19.25	2.58	52.28	19.35	2.70	52.10	16.05	3.25
	75	44.87	31.72	1.41	50.69	33.60	1.51	50.58	23.50	2.15	50.25	21.93	2.29	51.90	18.79	2.76
	80	44.53	32.17	1.38	46.78	32.37	1.45	50.77	26.20	1.94	50.78	23.93	2.12			
	85	41.26	36.26	1.14	45.21	35.85	1.26	45.88	31.51	1.46	50.29	26.52	1.90			

100% Load Heating capacity (continued)

Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	54.61	7.44	7.34	53.12	6.32	8.41	52.91	5.44	9.72	52.48	5.28	9.94	52.29	5.15	10.16
	30	54.78	8.36	6.56	54.22	7.12	7.61	53.14	6.11	8.70	53.28	6.02	8.86	52.55	5.70	9.22
	35	54.66	8.76	6.24	53.96	7.73	6.98	53.35	6.54	8.15	52.86	6.35	8.32	52.02	5.98	8.69
	40	55.14	9.56	5.77	53.81	8.37	6.43	53.60	7.22	7.43	52.47	6.83	7.68	51.94	6.50	7.99
	45	56.00	10.82	5.18	53.62	9.13	5.88	53.20	8.23	6.47	52.74	7.73	6.83	52.03	7.31	7.12
	50	56.29	11.64	4.83	52.97	9.56	5.54	50.96	8.36	6.09	51.05	8.31	6.15			
	55	53.47	12.23	4.37	52.09	10.29	5.06	52.67	9.72	5.42						
	60	52.10	12.60	4.13	51.08	11.80	4.33	50.53	10.29	4.91						
	65	51.00	13.19	3.87												
	70	52.33	14.51	3.61												
	75	51.62	16.36	3.16												
	80															
	85															

Notes:

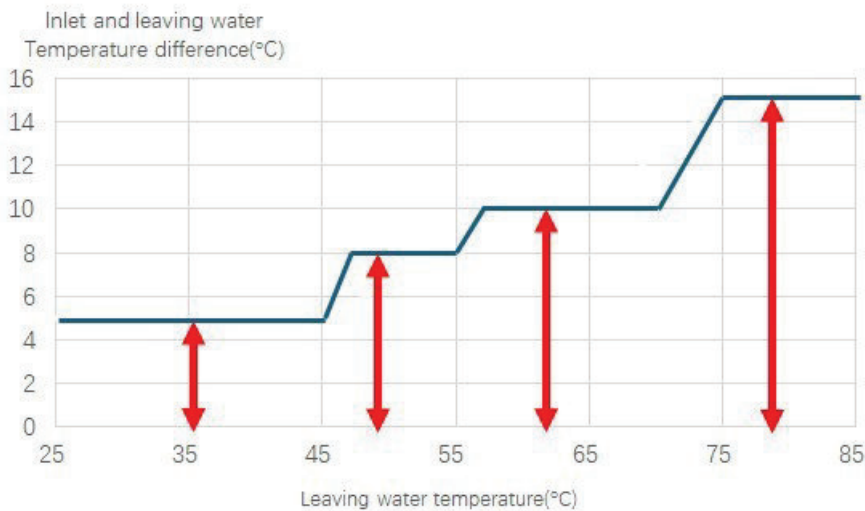
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

90% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	31.14	17.44	1.79	36.11	17.55	2.06	44.20	15.22	2.90	47.98	15.70	3.06	49.18	14.38	3.42
	30	31.58	18.81	1.68	36.68	18.93	1.94	44.75	18.00	2.49	47.79	17.01	2.81	49.85	15.52	3.21
	35	32.28	19.73	1.64	37.03	19.43	1.91	45.89	20.21	2.27	47.91	18.11	2.65	49.92	16.77	2.98
	40	32.98	21.43	1.54	39.09	22.55	1.73	47.03	23.12	2.03	48.14	19.39	2.48	49.31	18.37	2.68
	45	34.10	24.00	1.42	40.41	25.89	1.56	47.56	25.54	1.86	48.49	20.54	2.36	49.51	19.58	2.53
	50	34.56	26.32	1.31	41.73	28.30	1.47	48.20	27.81	1.73	48.92	21.78	2.25	51.89	22.08	2.35
	55	34.59	27.41	1.26	41.46	28.84	1.44	48.16	29.43	1.64	50.31	24.10	2.09	50.37	23.11	2.18
	60	34.57	28.70	1.20	41.51	29.49	1.41	49.90	31.33	1.59	50.87	26.91	1.89	53.13	27.26	1.95
	65	26.44	21.94	1.21	30.77	22.69	1.36	40.06	26.58	1.51	45.67	27.54	1.66	47.45	26.97	1.76
	70	21.87	19.72	1.11	26.97	20.93	1.29	33.85	23.64	1.43	41.72	26.55	1.57	45.37	26.46	1.71
	75							31.88	26.92	1.18	36.51	26.50	1.38	37.92	26.69	1.42
	80													37.32	28.65	1.30
	85													34.65	32.19	1.08
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	48.98	12.39	3.95	48.91	11.27	4.34	45.72	8.50	5.38	45.96	7.01	6.55	48.19	6.60	7.30
	30	50.17	13.83	3.63	49.88	12.90	3.87	46.02	8.77	5.25	46.23	7.87	5.87	47.90	7.33	6.53
	35	49.52	15.30	3.24	48.54	12.96	3.75	45.76	8.93	5.12	46.48	8.24	5.64	48.19	7.89	6.11
	40	49.21	16.52	2.98	49.03	14.66	3.34	46.05	9.85	4.67	46.17	8.82	5.23	48.51	8.59	5.65
	45	49.97	18.00	2.78	49.67	15.71	3.16	48.39	11.66	4.15	48.89	10.56	4.63	49.42	9.51	5.20
	50	52.03	20.57	2.53	50.64	16.84	3.01	46.68	12.26	3.81	47.92	10.94	4.38	50.05	10.40	4.81
	55	51.04	21.63	2.36	50.51	18.50	2.73	46.84	13.13	3.57	47.04	11.91	3.95	48.40	11.17	4.33
	60	52.17	25.36	2.06	50.51	20.71	2.44	46.19	13.31	3.47	46.56	12.16	3.83	46.93	11.51	4.08
	65	50.24	27.08	1.86	49.73	22.81	2.18	46.09	14.50	3.18	46.15	13.19	3.50	45.75	12.47	3.67
	70	46.77	25.76	1.82	47.19	22.07	2.14	44.67	16.50	2.71	47.05	16.59	2.84	46.89	13.76	3.41
	75	40.38	27.18	1.49	45.62	28.80	1.58	45.52	20.14	2.26	45.23	18.80	2.41	46.71	16.11	2.90
	80	40.07	27.58	1.45	42.11	27.74	1.52	45.69	22.46	2.03	45.70	20.51	2.23			
	85	37.13	31.08	1.19	40.69	30.73	1.32	41.29	27.01	1.53	45.26	22.73	1.99			

90% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	49.15	6.38	7.71	47.81	5.42	8.83	47.62	4.66	10.21	47.23	4.53	10.44	47.06	4.41	10.67
	30	49.30	7.16	6.88	48.80	6.11	7.99	47.82	5.23	9.14	47.96	5.16	9.30	47.29	4.89	9.68
	35	49.20	7.51	6.55	48.56	6.63	7.33	48.01	5.61	8.56	47.57	5.45	8.74	46.82	5.13	9.13
	40	49.62	8.19	6.06	48.43	7.17	6.75	48.24	6.18	7.80	47.23	5.86	8.07	46.75	5.57	8.39
	45	50.40	9.27	5.44	48.26	7.82	6.17	47.88	7.05	6.79	47.47	6.62	7.17	46.83	6.27	7.47
	50	50.66	9.98	5.08	47.67	8.20	5.82	45.87	7.17	6.40	45.95	7.12	6.45			
	55	48.13	10.49	4.59	46.88	8.82	5.32	47.40	8.33	5.69						
	60	46.89	10.80	4.34	45.97	10.11	4.55	45.48	8.82	5.16						
	65	45.90	11.31	4.06												
	70	47.09	12.44	3.79												
	75	46.46	14.02	3.31												
	80															
	85															

Notes:

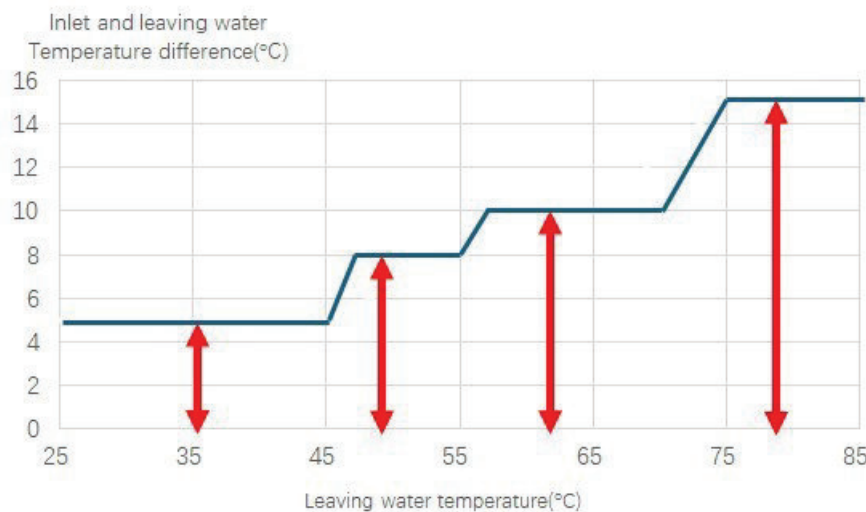
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

70% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	24.22	12.38	1.96	28.08	12.47	2.25	34.38	10.81	3.18	37.31	11.15	3.35	38.25	10.22	3.74
	30	24.56	13.36	1.84	28.53	13.44	2.12	34.81	12.78	2.72	37.17	12.08	3.08	38.77	11.02	3.52
	35	25.11	14.01	1.79	28.80	13.80	2.09	35.70	14.35	2.49	37.27	12.86	2.90	38.83	11.91	3.26
	40	25.65	15.22	1.69	30.40	16.02	1.90	36.58	16.42	2.23	37.45	13.77	2.72	38.35	13.05	2.94
	45	26.53	17.05	1.56	31.43	18.39	1.71	36.99	18.14	2.04	37.72	14.59	2.59	38.51	13.90	2.77
	50	26.88	18.69	1.44	32.46	20.10	1.62	37.49	19.75	1.90	38.05	15.46	2.46	40.36	15.68	2.57
	55	26.90	19.46	1.38	32.25	20.48	1.57	37.46	20.90	1.79	39.13	17.12	2.29	39.17	16.41	2.39
	60	26.89	20.38	1.32	32.29	20.94	1.54	38.81	22.25	1.74	39.57	19.11	2.07	41.32	19.36	2.13
	65	20.57	15.58	1.32	23.94	16.11	1.49	31.15	18.88	1.65	35.52	19.56	1.82	36.91	19.15	1.93
	70	17.01	14.01	1.21	20.97	14.86	1.41	26.32	16.79	1.57	32.45	18.85	1.72	35.29	18.79	1.88
	75							24.79	19.12	1.30	28.39	18.82	1.51	29.49	18.95	1.56
	80													29.03	20.35	1.43
	85													26.95	22.86	1.18
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	38.10	8.80	4.33	38.04	8.00	4.75	35.56	6.03	5.89	35.74	4.98	7.18	37.48	4.69	8.00
	30	39.02	9.82	3.97	38.79	9.16	4.24	35.80	6.22	5.75	35.96	5.59	6.43	37.26	5.21	7.15
	35	38.51	10.86	3.55	37.76	9.20	4.10	35.59	6.34	5.61	36.15	5.85	6.18	37.48	5.60	6.69
	40	38.27	11.73	3.26	38.14	10.41	3.66	35.81	7.00	5.12	35.91	6.26	5.73	37.73	6.10	6.19
	45	38.87	12.78	3.04	38.63	11.16	3.46	37.64	8.28	4.55	38.02	7.50	5.07	38.44	6.75	5.69
	50	40.47	14.61	2.77	39.38	11.96	3.29	36.31	8.71	4.17	37.27	7.77	4.80	38.92	7.39	5.27
	55	39.70	15.36	2.59	39.29	13.14	2.99	36.43	9.33	3.91	36.59	8.46	4.33	37.64	7.94	4.74
	60	40.57	18.01	2.25	39.29	14.70	2.67	35.92	9.45	3.80	36.22	8.64	4.19	36.50	8.17	4.47
	65	39.08	19.23	2.03	38.68	16.20	2.39	35.85	10.30	3.48	35.90	9.37	3.83	35.58	8.85	4.02
	70	36.38	18.29	1.99	36.70	15.67	2.34	34.74	11.71	2.97	36.59	11.78	3.11	36.47	9.77	3.73
	75	31.41	19.31	1.63	35.48	20.45	1.73	35.41	14.30	2.48	35.18	13.35	2.63	36.33	11.44	3.18
	80	31.17	19.58	1.59	32.75	19.70	1.66	35.54	15.95	2.23	35.55	14.57	2.44			
	85	28.88	22.07	1.31	31.65	21.82	1.45	32.11	19.18	1.67	35.20	16.14	2.18			

70% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	38.23	4.53	8.44	37.18	3.85	9.67	37.04	3.31	11.18	36.74	3.21	11.43	36.60	3.13	11.69
	30	38.35	5.09	7.54	37.96	4.34	8.75	37.20	3.72	10.01	37.30	3.66	10.19	36.78	3.47	10.60
	35	38.27	5.34	7.17	37.77	4.71	8.02	37.34	3.98	9.37	37.00	3.87	9.57	36.42	3.64	10.00
	40	38.60	5.82	6.63	37.67	5.09	7.39	37.52	4.39	8.54	36.73	4.16	8.83	36.36	3.96	9.19
	45	39.20	6.58	5.95	37.53	5.55	6.76	37.24	5.01	7.44	36.92	4.70	7.85	36.42	4.45	8.18
	50	39.40	7.09	5.56	37.08	5.82	6.37	35.67	5.09	7.01	35.74	5.06	7.07			
	55	37.43	7.45	5.03	36.47	6.26	5.82	36.87	5.92	6.23						
	60	36.47	7.67	4.75	35.76	7.18	4.98	35.37	6.26	5.65						
	65	35.70	8.03	4.45												
	70	36.63	8.83	4.15												
	75	36.14	9.96	3.63												
	80															
	85															

Notes:

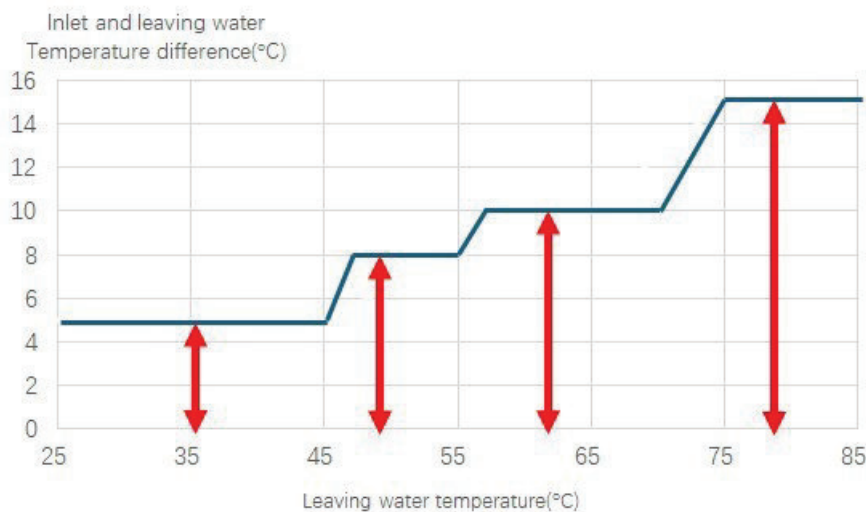
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

50% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	17.30	8.14	2.13	20.06	8.19	2.45	24.56	7.10	3.46	26.65	7.33	3.64	27.32	6.71	4.07
	30	17.55	8.78	2.00	20.38	8.84	2.31	24.86	8.40	2.96	26.55	7.94	3.34	27.69	7.24	3.82
	35	17.93	9.21	1.95	20.57	9.07	2.27	25.50	9.43	2.70	26.62	8.45	3.15	27.73	7.83	3.54
	40	18.32	10.00	1.83	21.71	10.52	2.06	26.13	10.79	2.42	26.75	9.05	2.96	27.39	8.57	3.19
	45	18.95	11.20	1.69	22.45	12.08	1.86	26.42	11.92	2.22	26.94	9.59	2.81	27.51	9.14	3.01
	50	19.20	12.28	1.56	23.19	13.21	1.76	26.78	12.98	2.06	27.18	10.16	2.67	28.83	10.30	2.80
	55	19.22	12.79	1.50	23.03	13.46	1.71	26.75	13.74	1.95	27.95	11.25	2.48	27.98	10.79	2.59
	60	19.21	13.39	1.43	23.06	13.76	1.68	27.72	14.62	1.90	28.26	12.56	2.25	29.52	12.72	2.32
	65	14.69	10.24	1.44	17.10	10.59	1.61	22.25	12.40	1.79	25.37	12.85	1.97	26.36	12.58	2.09
	70	12.15	9.20	1.32	14.98	9.77	1.53	18.80	11.03	1.70	23.18	12.39	1.87	25.21	12.35	2.04
	75							17.71	12.56	1.41	20.28	12.36	1.64	21.07	12.45	1.69
	80													20.73	13.37	1.55
	85													19.25	15.02	1.28
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	27.21	5.78	4.71	27.17	5.26	5.17	25.40	3.97	6.41	25.53	3.27	7.80	26.77	3.21	8.34
	30	27.87	6.45	4.32	27.71	6.02	4.60	25.57	4.09	6.25	25.68	3.67	6.99	26.61	3.56	7.47
	35	27.51	7.14	3.85	26.97	6.05	4.46	25.42	4.17	6.10	25.82	3.85	6.71	26.77	3.84	6.98
	40	27.34	7.71	3.55	27.24	6.84	3.98	25.58	4.60	5.57	25.65	4.12	6.23	26.95	4.17	6.46
	45	27.76	8.40	3.31	27.59	7.33	3.76	26.88	5.44	4.94	27.16	4.93	5.51	27.46	4.62	5.94
	50	28.91	9.60	3.01	28.13	7.86	3.58	25.94	5.72	4.53	26.62	5.11	5.21	27.80	5.06	5.50
	55	28.36	10.09	2.81	28.06	8.64	3.25	26.02	6.13	4.25	26.13	5.56	4.70	26.89	5.43	4.95
	60	28.98	11.83	2.45	28.06	9.66	2.90	25.66	6.21	4.13	25.87	5.68	4.56	26.07	5.59	4.66
	65	27.91	12.64	2.21	27.63	10.65	2.60	25.61	6.77	3.78	25.64	6.16	4.17	25.41	6.06	4.19
	70	25.98	12.02	2.16	26.22	10.30	2.55	24.82	7.70	3.22	26.14	7.74	3.38	26.05	6.69	3.89
	75	22.43	12.69	1.77	25.34	13.44	1.89	25.29	9.40	2.69	25.13	8.77	2.86	25.95	7.83	3.31
	80	22.26	12.87	1.73	23.39	12.95	1.81	25.38	10.48	2.42	25.39	9.57	2.65			
	85	20.63	14.50	1.42	22.61	14.34	1.58	22.94	12.61	1.82	25.14	10.61	2.37			

50% Load Heating capacity (continued)

Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	27.31	3.10	8.81	26.56	2.63	10.09	26.45	2.27	11.67	26.24	2.20	11.93	26.15	2.14	12.19
	30	27.39	3.48	7.87	27.11	2.97	9.13	26.57	2.54	10.44	26.64	2.51	10.63	26.27	2.38	11.06
	35	27.33	3.65	7.48	26.98	3.22	8.37	26.67	2.73	9.78	26.43	2.65	9.98	26.01	2.49	10.43
	40	27.57	3.98	6.92	26.91	3.49	7.72	26.80	3.01	8.91	26.24	2.85	9.22	25.97	2.71	9.59
	45	28.00	4.51	6.21	26.81	3.80	7.05	26.60	3.43	7.76	26.37	3.22	8.19	26.02	3.05	8.54
	50	28.14	4.85	5.80	26.48	3.98	6.65	25.48	3.48	7.31	25.53	3.46	7.37			
	55	26.74	5.10	5.24	26.05	4.29	6.07	26.33	4.05	6.50						
	60	26.05	5.25	4.96	25.54	4.92	5.20	25.27	4.29	5.89						
	65	25.50	5.50	4.64												
	70	26.16	6.05	4.33												
	75	25.81	6.82	3.79												
	80															
	85															

Notes:

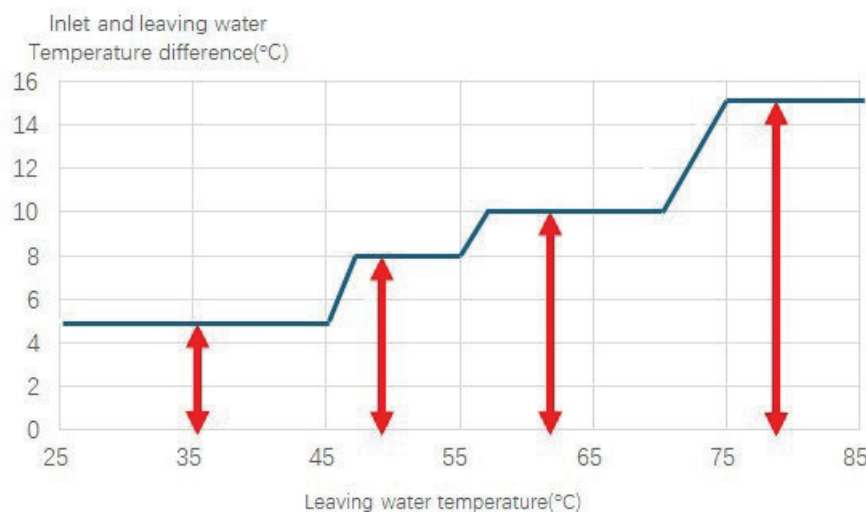
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

30% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	10.38	4.07	2.55	12.04	4.10	2.94	14.73	3.55	4.15	15.99	3.66	4.36	16.39	3.36	4.88
	30	10.53	4.39	2.40	12.23	4.42	2.77	14.92	4.20	3.55	15.93	3.97	4.01	16.62	3.62	4.59
	35	10.76	4.60	2.34	12.34	4.53	2.72	15.30	4.71	3.24	15.97	4.23	3.78	16.64	3.91	4.25
	40	10.99	5.00	2.20	13.03	5.26	2.48	15.68	5.39	2.91	16.05	4.52	3.55	16.44	4.29	3.83
	45	11.37	5.60	2.03	13.47	6.04	2.23	15.85	5.96	2.66	16.16	4.79	3.37	16.50	4.57	3.61
	50	11.52	6.14	1.88	13.91	6.60	2.11	16.07	6.49	2.48	16.31	5.08	3.21	17.30	5.15	3.36
	55	11.53	6.40	1.80	13.82	6.73	2.05	16.05	6.87	2.34	16.77	5.62	2.98	16.79	5.39	3.11
	60	11.52	6.70	1.72	13.84	6.88	2.01	16.63	7.31	2.28	16.96	6.28	2.70	17.71	6.36	2.78
	65	8.81	5.12	1.72	10.26	5.29	1.94	13.35	6.20	2.15	15.22	6.43	2.37	15.82	6.29	2.51
	70	7.29	4.60	1.58	8.99	4.88	1.84	11.28	5.52	2.05	13.91	6.19	2.25	15.12	6.17	2.45
	75							10.63	6.28	1.69	12.17	6.18	1.97	12.64	6.23	2.03
	80													12.44	6.69	1.86
	85													11.55	7.51	1.54
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	16.33	2.89	5.65	16.30	2.63	6.20	15.24	1.98	7.69	15.32	1.75	8.74	16.06	1.71	9.39
	30	16.72	3.23	5.18	16.63	3.01	5.52	15.34	2.05	7.50	15.41	1.97	7.83	15.97	1.90	8.40
	35	16.51	3.57	4.62	16.18	3.02	5.35	15.25	2.08	7.32	15.49	2.06	7.52	16.06	2.05	7.85
	40	16.40	3.85	4.26	16.34	3.42	4.78	15.35	2.30	6.68	15.39	2.21	6.98	16.17	2.23	7.27
	45	16.66	4.20	3.97	16.56	3.67	4.52	16.13	2.72	5.93	16.30	2.64	6.18	16.47	2.47	6.68
	50	17.34	4.80	3.61	16.88	3.93	4.30	15.56	2.86	5.44	15.97	2.74	5.84	16.68	2.70	6.18
	55	17.01	5.05	3.37	16.84	4.32	3.90	15.61	3.06	5.10	15.68	2.98	5.27	16.13	2.90	5.57
	60	17.39	5.92	2.94	16.84	4.83	3.49	15.40	3.11	4.96	15.52	3.04	5.10	15.64	3.10	5.05
	65	16.75	6.77	2.47	16.58	5.70	2.91	15.36	3.90	3.94	15.38	3.55	4.33	15.25	3.36	4.54
	70	15.59	6.44	2.42	15.73	5.52	2.85	14.89	4.44	3.35	15.68	4.47	3.51	15.63	3.70	4.22
	75	13.46	6.80	1.98	15.21	7.20	2.11	15.17	5.42	2.80	15.08	5.06	2.98	15.57	4.34	3.59
	80	13.36	6.89	1.94	14.04	6.94	2.02	15.23	6.05	2.52	15.23	5.52	2.76			
	85	12.38	7.77	1.59	13.56	7.68	1.77	13.76	7.27	1.89	15.09	6.12	2.47			

30% Load Heating capacity (continued)

Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	16.38	1.65	9.91	15.94	1.46	10.93	15.87	1.31	12.15	15.74	1.27	12.42	15.69	1.24	12.70
	30	16.43	1.86	8.85	16.27	1.64	9.89	15.94	1.47	10.88	15.99	1.44	11.07	15.76	1.37	11.52
	35	16.40	1.95	8.42	16.19	1.78	9.07	16.00	1.57	10.19	15.86	1.52	10.40	15.61	1.44	10.87
	40	16.54	2.12	7.79	16.14	1.93	8.36	16.08	1.73	9.29	15.74	1.64	9.60	15.58	1.56	9.99
	45	16.80	2.40	6.99	16.09	2.11	7.64	15.96	1.97	8.08	15.82	1.85	8.53	15.61	1.75	8.89
	50	16.89	2.59	6.53	15.89	2.21	7.20	15.29	2.01	7.62	15.32	1.99	7.68			
	55	16.04	2.72	5.90	15.63	2.37	6.58	15.80	2.33	6.77						
	60	15.63	2.91	5.37	15.32	2.72	5.63	15.16	2.37	6.38						
	65	15.30	3.04	5.03												
	70	15.70	3.35	4.69												
	75	15.49	3.78	4.10												
	80															
	85															

Notes:

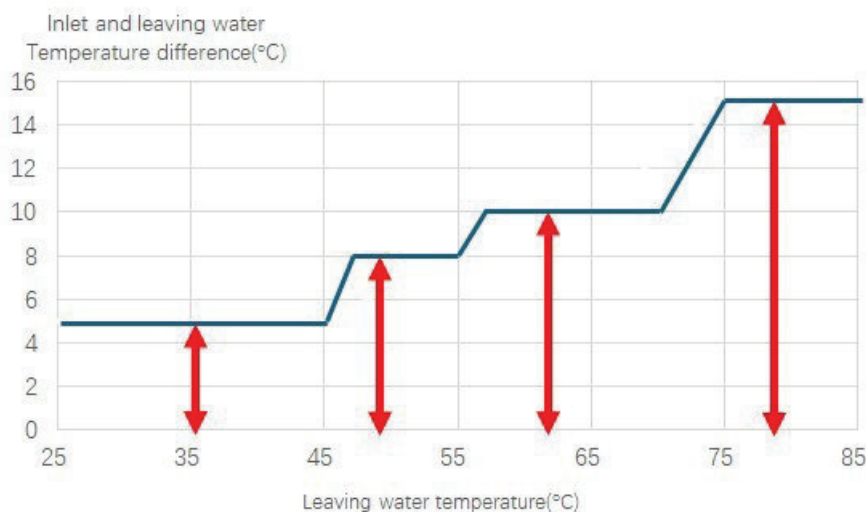
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

4.1.2 HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

100% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	35.67	21.29	1.68	41.36	21.43	1.93	50.64	18.58	2.73	55.53	19.46	2.85	58.13	18.39	3.16
	30	36.18	22.96	1.58	42.02	23.11	1.82	51.26	21.97	2.33	57.71	22.43	2.57	58.92	19.84	2.97
	35	36.98	24.09	1.54	42.42	23.73	1.79	52.57	24.67	2.13	59.15	24.65	2.40	61.63	22.83	2.70
	40	37.78	26.16	1.44	44.77	27.53	1.63	53.88	28.22	1.91	59.44	26.39	2.25	60.88	25.01	2.43
	45	39.07	29.30	1.33	46.29	31.61	1.46	54.48	31.18	1.75	59.87	27.96	2.14	62.51	27.51	2.27
	50	39.59	32.13	1.23	47.80	34.55	1.38	55.21	33.95	1.63	63.21	31.61	2.00	65.52	31.03	2.11
	55	39.62	33.46	1.18	47.49	35.21	1.35	55.16	35.93	1.54	63.52	33.87	1.88	65.07	33.55	1.94
	60	39.60	35.04	1.13	47.55	36.00	1.32	57.16	38.24	1.49	62.81	36.63	1.71	65.59	37.10	1.77
	65	30.29	26.78	1.13	35.25	27.70	1.27	45.88	32.45	1.41	53.99	35.20	1.53	58.58	36.71	1.60
	70	25.05	24.08	1.04	30.89	25.55	1.21	38.77	28.86	1.34	47.79	32.41	1.47	56.02	36.01	1.56
	75							36.51	32.87	1.11	41.82	32.35	1.29	43.43	32.58	1.33
	80													42.75	34.98	1.22
	85													39.69	39.30	1.01
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	61.84	17.41	3.55	61.75	15.84	3.90	63.50	13.63	4.66	65.47	11.65	5.62	68.65	10.96	6.26
	30	61.94	19.72	3.14	62.97	18.13	3.47	65.56	14.55	4.51	66.71	13.30	5.02	69.12	12.39	5.58
	35	62.52	21.49	2.91	64.21	19.44	3.30	66.91	15.36	4.36	67.96	14.17	4.79	70.45	13.57	5.19
	40	62.13	23.21	2.68	64.86	21.99	2.95	67.32	16.94	3.98	67.50	15.17	4.45	70.93	14.76	4.81
	45	63.09	25.29	2.49	65.70	23.57	2.79	67.21	18.70	3.59	67.90	16.93	4.01	72.25	16.35	4.42
	50	65.70	28.91	2.27	66.98	25.26	2.65	68.25	21.08	3.24	70.07	18.81	3.72	73.17	17.89	4.09
	55	65.94	31.39	2.10	66.82	27.76	2.41	63.47	20.37	3.12	63.74	18.47	3.45	65.58	17.33	3.78
	60	65.87	35.64	1.85	66.82	31.06	2.15	62.59	20.64	3.03	61.59	18.25	3.38	62.08	17.26	3.60
	65	63.44	38.05	1.67	65.78	34.22	1.92	62.45	22.49	2.78	61.05	19.79	3.09	60.51	18.70	3.24
	70	59.05	36.20	1.63	62.42	33.11	1.89	60.53	25.58	2.37	62.23	24.88	2.50	62.03	20.64	3.01
	75	46.26	33.19	1.39	53.93	36.82	1.46	56.20	27.41	2.05	57.10	26.42	2.16	58.98	22.63	2.61
	80	45.90	33.67	1.36	48.23	33.87	1.42	52.34	27.42	1.91	55.20	27.05	2.04			
	85	42.53	37.94	1.12	46.61	37.52	1.24	47.29	32.98	1.43	51.84	27.75	1.87			

100% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	70.01	10.59	6.61	68.10	8.99	7.57	67.83	7.74	8.76	67.29	7.51	8.95	67.04	7.32	9.15
	30	71.14	12.10	5.88	70.42	10.32	6.83	69.01	8.84	7.80	69.20	8.71	7.94	68.24	8.26	8.27
	35	71.93	12.92	5.57	71.00	11.40	6.23	70.19	9.64	7.28	69.55	9.36	7.43	68.45	8.82	7.76
	40	72.55	14.09	5.15	70.81	12.33	5.74	70.52	10.63	6.63	69.05	10.07	6.86	68.35	9.58	7.14
	45	73.68	15.94	4.62	70.55	13.45	5.25	70.01	12.13	5.77	69.40	11.39	6.10	68.46	10.78	6.35
	50	74.06	17.16	4.32	69.69	14.09	4.95	67.06	12.32	5.44	65.45	11.82	5.54			
	55	65.21	16.26	4.01	63.53	13.68	4.64	59.85	11.71	5.11						
	60	62.02	16.21	3.83	58.05	14.21	4.09	54.93	12.08	4.55						
	65	60.72	16.96	3.58												
	70	62.29	18.66	3.34												
	75	60.03	20.35	2.95												
	80															
	85															

Notes:

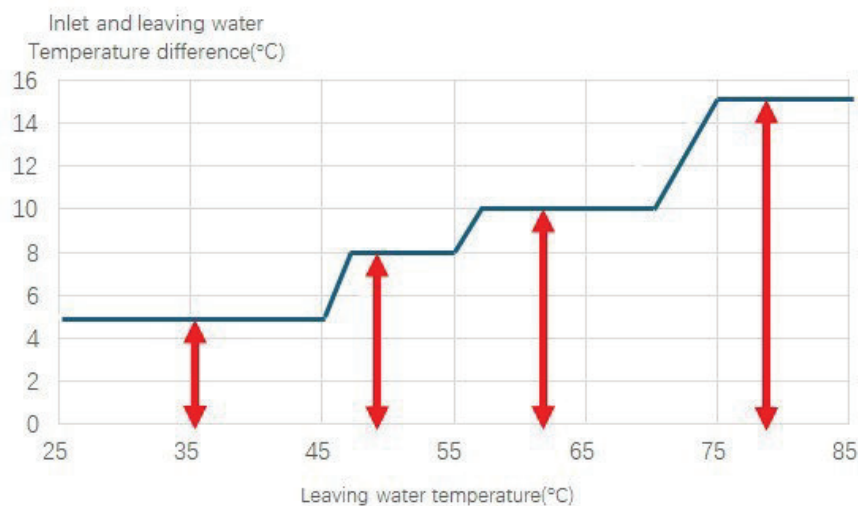
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

90% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	32.10	18.25	1.76	37.23	18.37	2.03	45.57	15.92	2.86	49.97	16.68	3.00	52.32	15.76	3.32
	30	32.56	19.68	1.65	37.82	19.81	1.91	46.14	18.83	2.45	51.94	19.23	2.70	53.03	17.01	3.12
	35	33.28	20.65	1.61	38.17	20.34	1.88	47.31	21.14	2.24	53.24	21.13	2.52	55.47	19.56	2.84
	40	34.00	22.42	1.52	40.29	23.60	1.71	48.49	24.19	2.00	53.49	22.62	2.36	54.79	21.44	2.56
	45	35.16	25.12	1.40	41.66	27.09	1.54	49.03	26.72	1.83	53.88	23.97	2.25	56.26	23.58	2.39
	50	35.63	27.54	1.29	43.02	29.61	1.45	49.69	29.10	1.71	56.89	27.09	2.10	58.97	26.60	2.22
	55	35.66	28.68	1.24	42.74	30.18	1.42	49.65	30.80	1.61	57.17	29.03	1.97	58.56	28.76	2.04
	60	35.64	30.03	1.19	42.79	30.86	1.39	51.45	32.78	1.57	56.53	31.40	1.80	59.03	31.80	1.86
	65	27.26	22.95	1.19	31.73	23.74	1.34	41.30	27.81	1.48	48.59	30.17	1.61	52.73	31.46	1.68
	70	22.54	20.64	1.09	27.80	21.90	1.27	34.89	24.74	1.41	43.02	27.78	1.55	50.42	30.87	1.63
	75							32.86	28.17	1.17	37.63	27.72	1.36	39.09	27.92	1.40
	80													38.47	29.98	1.28
	85													35.72	33.68	1.06
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	55.66	14.92	3.73	55.58	13.58	4.09	57.15	11.68	4.89	58.92	9.98	5.90	61.78	9.39	6.58
	30	55.75	16.90	3.30	56.68	15.54	3.65	59.00	12.47	4.73	60.04	11.40	5.27	62.21	10.62	5.86
	35	56.27	18.42	3.05	57.79	16.66	3.47	60.22	13.16	4.57	61.16	12.15	5.03	63.41	11.63	5.45
	40	55.92	19.90	2.81	58.37	18.85	3.10	60.59	14.52	4.17	60.75	13.00	4.67	63.83	12.65	5.05
	45	56.78	21.68	2.62	59.13	20.20	2.93	60.49	16.03	3.77	61.11	14.51	4.21	65.03	14.02	4.64
	50	59.13	24.78	2.39	60.28	21.65	2.78	61.43	18.07	3.40	63.06	16.12	3.91	65.85	15.33	4.29
	55	59.35	26.91	2.21	60.13	23.79	2.53	57.13	17.46	3.27	57.37	15.83	3.62	59.02	14.85	3.97
	60	59.28	30.55	1.94	60.13	26.62	2.26	56.33	17.70	3.18	55.43	15.64	3.54	55.87	14.80	3.78
	65	57.09	32.62	1.75	59.20	29.33	2.02	56.21	19.28	2.92	54.94	16.96	3.24	54.46	16.03	3.40
	70	53.15	31.03	1.71	56.18	28.38	1.98	54.47	21.93	2.48	56.01	21.33	2.63	55.83	17.69	3.16
	75	41.63	28.45	1.46	48.53	31.56	1.54	50.58	23.50	2.15	51.39	22.65	2.27	53.08	19.40	2.74
	80	41.31	28.86	1.43	43.41	29.03	1.50	47.11	23.50	2.00	49.68	23.19	2.14			
	85	38.28	32.52	1.18	41.95	32.16	1.30	42.57	28.27	1.51	46.66	23.78	1.96			

90% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	63.01	9.07	6.95	61.29	7.71	7.95	61.05	6.64	9.20	60.56	6.44	9.40	60.34	6.28	9.61
	30	64.03	10.37	6.17	63.38	8.84	7.17	62.11	7.58	8.19	62.28	7.47	8.34	61.42	7.08	8.68
	35	64.73	11.07	5.85	63.90	9.77	6.54	63.17	8.27	7.64	62.59	8.03	7.80	61.61	7.56	8.15
	40	65.29	12.08	5.41	63.72	10.57	6.03	63.47	9.11	6.96	62.14	8.63	7.20	61.51	8.21	7.49
	45	66.31	13.66	4.85	63.50	11.53	5.51	63.01	10.39	6.06	62.46	9.76	6.40	61.62	9.24	6.67
	50	66.65	14.71	4.53	62.72	12.08	5.19	60.35	10.56	5.71	58.91	10.13	5.81			
	55	58.69	13.94	4.21	57.18	11.73	4.88	53.86	10.04	5.37						
	60	55.82	13.89	4.02	52.24	12.18	4.29	49.43	10.35	4.77						
	65	54.64	14.54	3.76												
	70	56.06	15.99	3.51												
	75	54.02	17.45	3.10												
	80															
	85															

Notes:

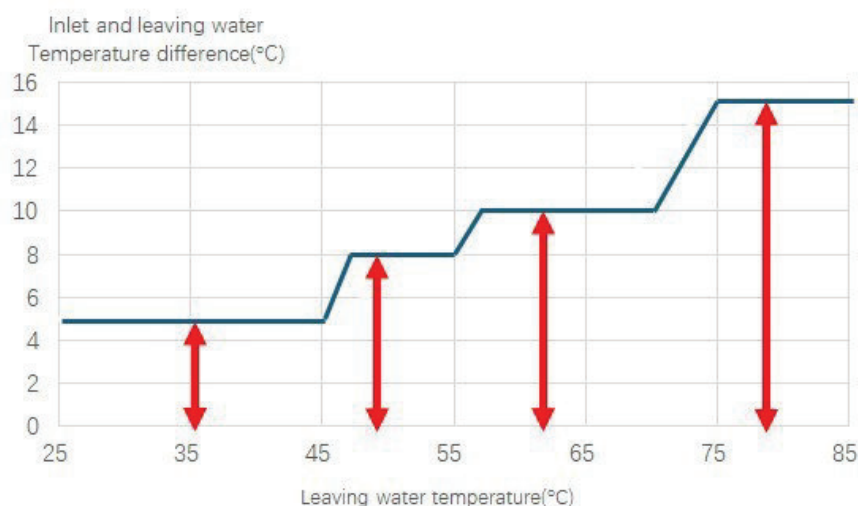
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

70% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	24.97	12.96	1.93	28.95	13.04	2.22	35.44	11.31	3.13	38.87	11.85	3.28	40.69	11.19	3.64
	30	25.32	13.98	1.81	29.41	14.07	2.09	35.88	13.37	2.68	40.40	13.66	2.96	41.25	12.08	3.41
	35	25.88	14.66	1.77	29.69	14.44	2.06	36.80	15.02	2.45	41.41	15.00	2.76	43.14	13.89	3.11
	40	26.45	15.92	1.66	31.34	16.76	1.87	37.71	17.18	2.20	41.61	16.06	2.59	42.61	15.22	2.80
	45	27.35	17.84	1.53	32.41	19.24	1.68	38.13	18.98	2.01	41.91	17.02	2.46	43.76	16.74	2.61
	50	27.71	19.56	1.42	33.46	21.03	1.59	38.65	20.67	1.87	44.25	19.24	2.30	45.87	18.89	2.43
	55	27.73	20.37	1.36	33.24	21.43	1.55	38.61	21.87	1.77	44.47	20.62	2.16	45.55	20.42	2.23
	60	27.72	21.33	1.30	33.28	21.91	1.52	40.01	23.28	1.72	43.97	22.30	1.97	45.91	22.58	2.03
	65	21.20	16.30	1.30	24.68	16.86	1.46	32.12	19.75	1.63	37.79	21.43	1.76	41.01	22.34	1.84
	70	17.53	14.66	1.20	21.62	15.55	1.39	27.14	17.57	1.54	33.46	19.73	1.70	39.21	21.92	1.79
	75							25.56	20.01	1.28	29.27	19.69	1.49	30.40	19.83	1.53
	80													29.92	21.29	1.41
	85													27.78	23.92	1.16
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	43.29	10.60	4.09	43.23	9.64	4.48	44.45	8.30	5.36	45.83	7.09	6.46	48.05	6.67	7.20
	30	43.36	12.00	3.61	44.08	11.03	4.00	45.89	8.86	5.18	46.70	8.09	5.77	48.39	7.54	6.42
	35	43.77	13.08	3.35	44.95	11.83	3.80	46.83	9.35	5.01	47.57	8.63	5.51	49.32	8.26	5.97
	40	43.49	14.13	3.08	45.40	13.39	3.39	47.12	10.31	4.57	47.25	9.23	5.12	49.65	8.98	5.53
	45	44.17	15.39	2.87	45.99	14.35	3.21	47.04	11.38	4.13	47.53	10.31	4.61	50.58	9.95	5.08
	50	45.99	17.60	2.61	46.89	15.37	3.05	47.78	12.83	3.72	49.05	11.45	4.28	51.22	10.89	4.70
	55	46.16	19.11	2.42	46.77	16.90	2.77	44.43	12.40	3.58	44.62	11.24	3.97	45.90	10.55	4.35
	60	46.11	21.69	2.13	46.77	18.91	2.47	43.81	12.57	3.49	43.11	11.11	3.88	43.45	10.51	4.14
	65	44.40	23.16	1.92	46.04	20.83	2.21	43.72	13.69	3.19	42.73	12.04	3.55	42.36	11.38	3.72
	70	41.34	22.03	1.88	43.69	20.15	2.17	42.37	15.57	2.72	43.56	15.15	2.88	43.42	12.56	3.46
	75	32.38	20.20	1.60	37.75	22.41	1.68	39.34	16.69	2.36	39.97	16.08	2.49	41.29	13.78	3.00
	80	32.13	20.49	1.57	33.76	20.62	1.64	36.64	16.69	2.20	38.64	16.47	2.35			
	85	29.77	23.09	1.29	32.63	22.84	1.43	33.11	20.07	1.65	36.29	16.89	2.15			

70% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	49.01	6.44	7.61	47.67	5.47	8.71	47.48	4.71	10.07	47.10	4.57	10.30	46.93	4.46	10.53
	30	49.80	7.36	6.76	49.30	6.28	7.85	48.31	5.38	8.98	48.44	5.30	9.14	47.77	5.02	9.51
	35	50.35	7.86	6.40	49.70	6.94	7.16	49.14	5.87	8.37	48.68	5.70	8.54	47.92	5.37	8.93
	40	50.78	8.58	5.92	49.56	7.51	6.60	49.37	6.47	7.63	48.33	6.13	7.89	47.84	5.83	8.21
	45	51.57	9.70	5.32	49.39	8.19	6.03	49.00	7.38	6.64	48.58	6.93	7.01	47.92	6.56	7.31
	50	51.84	10.44	4.96	48.78	8.58	5.69	46.94	7.50	6.26	45.82	7.20	6.37			
	55	45.65	9.90	4.61	44.47	8.33	5.34	41.89	7.13	5.88						
	60	43.41	9.86	4.40	40.63	8.65	4.70	38.45	7.35	5.23						
	65	42.50	10.32	4.12												
	70	43.61	11.36	3.84												
	75	42.02	12.39	3.39												
	80															
	85															

Notes:

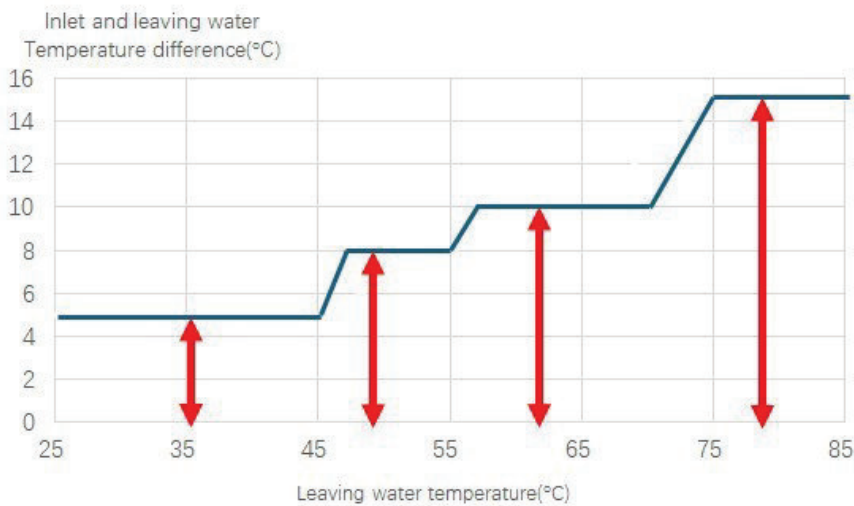
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

50% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	17.84	8.52	2.09	20.68	8.57	2.41	25.32	7.43	3.41	27.76	7.79	3.57	29.07	7.36	3.95
	30	18.09	9.18	1.97	21.01	9.25	2.27	25.63	8.79	2.92	28.86	8.97	3.22	29.46	7.94	3.71
	35	18.49	9.63	1.92	21.21	9.49	2.23	26.29	9.87	2.66	29.58	9.86	3.00	30.82	9.13	3.38
	40	18.89	10.46	1.81	22.39	11.01	2.03	26.94	11.29	2.39	29.72	10.56	2.82	30.44	10.00	3.04
	45	19.53	11.72	1.67	23.15	12.64	1.83	27.24	12.47	2.18	29.93	11.18	2.68	31.26	11.00	2.84
	50	19.80	12.85	1.54	23.90	13.82	1.73	27.61	13.58	2.03	31.61	12.64	2.50	32.76	12.41	2.64
	55	19.81	13.38	1.48	23.75	14.08	1.69	27.58	14.37	1.92	31.76	13.55	2.34	32.54	13.42	2.42
	60	19.80	14.01	1.41	23.77	14.40	1.65	28.58	15.30	1.87	31.40	14.65	2.14	32.80	14.84	2.21
	65	15.15	10.71	1.41	17.63	11.08	1.59	22.94	12.98	1.77	26.99	14.08	1.92	29.29	14.68	2.00
	70	12.52	9.63	1.30	15.44	10.22	1.51	19.38	11.54	1.68	23.90	12.96	1.84	28.01	14.40	1.94
	75							18.26	13.15	1.39	20.91	12.94	1.62	21.72	13.03	1.67
	80													21.37	13.99	1.53
	85													19.85	15.72	1.26
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	30.92	6.96	4.44	30.88	6.34	4.87	31.75	5.45	5.82	32.73	4.66	7.03	34.32	4.57	7.52
	30	30.97	7.89	3.93	31.49	7.25	4.34	32.78	5.82	5.63	33.36	5.32	6.27	34.56	5.16	6.70
	35	31.26	8.60	3.64	32.10	7.78	4.13	33.45	6.14	5.45	33.98	5.67	5.99	35.23	5.65	6.23
	40	31.07	9.29	3.35	32.43	8.80	3.69	33.66	6.77	4.97	33.75	6.07	5.56	35.46	6.15	5.77
	45	31.55	10.12	3.12	32.85	9.43	3.48	33.60	7.48	4.49	33.95	6.77	5.01	36.13	6.81	5.30
	50	32.85	11.56	2.84	33.49	10.10	3.32	34.13	8.43	4.05	35.03	7.52	4.66	36.58	7.45	4.91
	55	32.97	12.56	2.63	33.41	11.10	3.01	31.74	8.15	3.90	31.87	7.39	4.31	32.79	7.22	4.54
	60	32.93	14.25	2.31	33.41	12.42	2.69	31.29	8.26	3.79	30.80	7.30	4.22	31.04	7.19	4.32
	65	31.72	15.22	2.08	32.89	13.69	2.40	31.23	9.00	3.47	30.52	7.91	3.86	30.26	7.79	3.88
	70	29.53	14.48	2.04	31.21	13.24	2.36	30.26	10.23	2.96	31.12	9.95	3.13	31.01	8.60	3.61
	75	23.13	13.27	1.74	26.96	14.73	1.83	28.10	10.96	2.56	28.55	10.57	2.70	29.49	9.43	3.13
	80	22.95	13.47	1.70	24.12	13.55	1.78	26.17	10.97	2.39	27.60	10.82	2.55			
	85	21.27	15.18	1.40	23.30	15.01	1.55	23.65	13.19	1.79	25.92	11.10	2.34			

50% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	35.01	4.41	7.94	34.05	3.75	9.09	33.92	3.28	10.34	33.64	3.18	10.57	33.52	3.10	10.80
	30	35.57	5.04	7.06	35.21	4.30	8.19	34.50	3.75	9.21	34.60	3.69	9.37	34.12	3.50	9.75
	35	35.96	5.38	6.68	35.50	4.75	7.48	35.10	4.09	8.59	34.77	3.97	8.77	34.23	3.74	9.16
	40	36.27	5.87	6.18	35.40	5.14	6.89	35.26	4.51	7.83	34.52	4.27	8.09	34.17	4.06	8.42
	45	36.84	6.64	5.55	35.28	5.60	6.30	35.00	5.14	6.81	34.70	4.82	7.19	34.23	4.57	7.50
	50	37.03	7.15	5.18	34.85	5.87	5.93	33.53	5.22	6.42	32.73	5.01	6.53			
	55	32.61	6.78	4.81	31.76	5.70	5.57	29.92	4.96	6.03						
	60	31.01	6.75	4.59	29.02	5.92	4.90	27.46	5.12	5.37						
	65	30.36	7.07	4.30												
	70	31.15	7.77	4.01												
	75	30.01	8.48	3.54												
	80															
	85															

Notes:

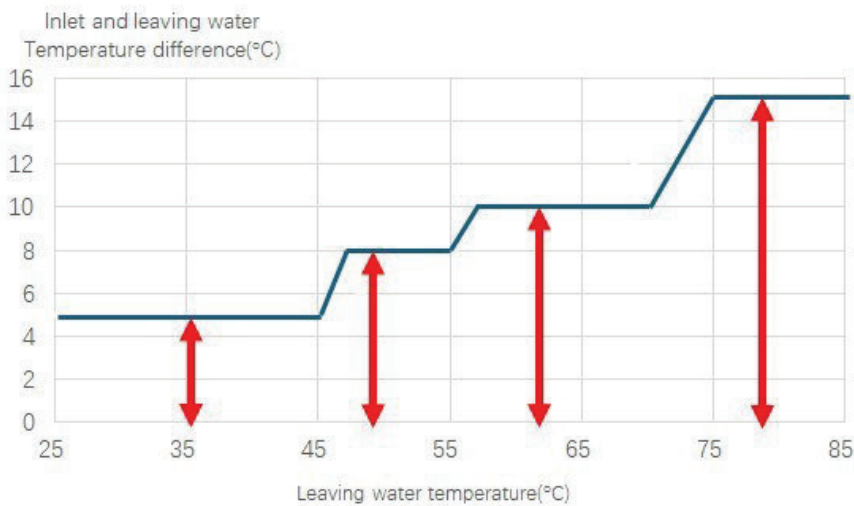
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

30% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	10.70	4.26	2.51	12.41	4.29	2.90	15.19	3.72	4.09	16.66	3.89	4.28	17.44	3.68	4.74
	30	10.85	4.59	2.36	12.61	4.62	2.73	15.38	4.39	3.50	17.31	4.49	3.86	17.68	3.97	4.45
	35	11.09	4.82	2.30	12.72	4.75	2.68	15.77	4.93	3.20	17.75	4.93	3.60	18.49	4.57	4.05
	40	11.33	5.23	2.17	13.43	5.51	2.44	16.16	5.64	2.86	17.83	5.28	3.38	18.26	5.00	3.65
	45	11.72	5.86	2.00	13.89	6.32	2.20	16.34	6.24	2.62	17.96	5.59	3.21	18.75	5.50	3.41
	50	11.88	6.43	1.85	14.34	6.91	2.08	16.56	6.79	2.44	18.96	6.32	3.00	19.66	6.21	3.17
	55	11.89	6.69	1.78	14.25	7.04	2.02	16.55	7.19	2.30	19.06	6.77	2.81	19.52	6.71	2.91
	60	11.88	7.01	1.70	14.26	7.20	1.98	17.15	7.65	2.24	18.84	7.33	2.57	19.68	7.42	2.65
	65	9.09	5.36	1.70	10.58	5.54	1.91	13.77	6.49	2.12	16.20	7.04	2.30	17.58	7.34	2.39
	70	7.51	4.82	1.56	9.27	5.11	1.81	11.63	5.77	2.01	14.34	6.48	2.21	16.81	7.20	2.33
	75							10.95	6.57	1.67	12.54	6.47	1.94	13.03	6.52	2.00
	80													12.82	7.00	1.83
	85													11.91	7.86	1.52
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	18.55	3.48	5.33	18.53	3.17	5.85	19.05	2.92	6.52	19.64	2.69	7.31	20.59	2.63	7.83
	30	18.58	3.94	4.71	18.89	3.63	5.21	19.67	3.12	6.31	20.01	3.07	6.52	20.74	2.97	6.97
	35	18.76	4.30	4.36	19.26	3.89	4.95	20.07	3.07	6.53	20.39	3.04	6.71	21.14	3.02	7.01
	40	18.64	4.64	4.01	19.46	4.40	4.42	20.20	3.39	5.96	20.25	3.25	6.23	21.28	3.28	6.49
	45	18.93	5.06	3.74	19.71	4.71	4.18	20.16	3.74	5.39	20.37	3.63	5.61	21.68	3.63	5.96
	50	19.71	5.78	3.41	20.09	5.05	3.98	20.48	4.22	4.86	21.02	4.03	5.21	21.95	3.97	5.52
	55	19.78	6.28	3.15	20.04	5.55	3.61	19.04	4.07	4.67	19.12	3.96	4.83	19.67	3.85	5.11
	60	19.76	7.13	2.77	20.04	6.21	3.23	18.78	4.13	4.55	18.48	3.91	4.73	18.62	3.98	4.67
	65	19.03	8.15	2.33	19.73	7.33	2.69	18.74	5.19	3.61	18.31	4.57	4.01	18.15	4.32	4.21
	70	17.72	7.76	2.28	18.73	7.09	2.64	18.16	5.90	3.08	18.67	5.74	3.25	18.61	4.76	3.91
	75	13.88	7.11	1.95	16.18	7.89	2.05	16.86	6.33	2.67	17.13	6.10	2.81	17.69	5.22	3.39
	80	13.77	7.21	1.91	14.47	7.26	1.99	15.70	6.33	2.48	16.56	6.24	2.65			
	85	12.76	8.13	1.57	13.98	8.04	1.74	14.19	7.61	1.86	15.55	6.40	2.43			

30% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	21.00	2.54	8.27	20.43	2.16	9.47	20.35	1.90	10.69	20.19	1.85	10.92	20.11	1.83	10.98
	30	21.34	2.90	7.35	21.13	2.48	8.53	20.70	2.17	9.52	20.76	2.14	9.69	20.47	2.06	9.92
	35	21.58	2.87	7.52	21.30	2.63	8.10	21.06	2.31	9.10	20.86	2.25	9.29	20.54	2.12	9.70
	40	21.76	3.13	6.95	21.24	2.85	7.46	21.16	2.55	8.29	20.71	2.42	8.57	20.50	2.30	8.92
	45	22.10	3.54	6.24	21.17	3.10	6.82	21.00	2.91	7.22	20.82	2.73	7.62	20.54	2.59	7.94
	50	22.22	3.81	5.83	20.91	3.25	6.43	20.12	2.96	6.80	19.64	2.84	6.92			
	55	19.56	3.61	5.41	19.06	3.16	6.04	17.95	2.81	6.39						
	60	18.61	3.74	4.98	17.41	3.28	5.31	16.48	2.79	5.91						
	65	18.21	3.91	4.65												
	70	18.69	4.31	4.34												
	75	18.01	4.70	3.83												
	80															
	85															

Notes:

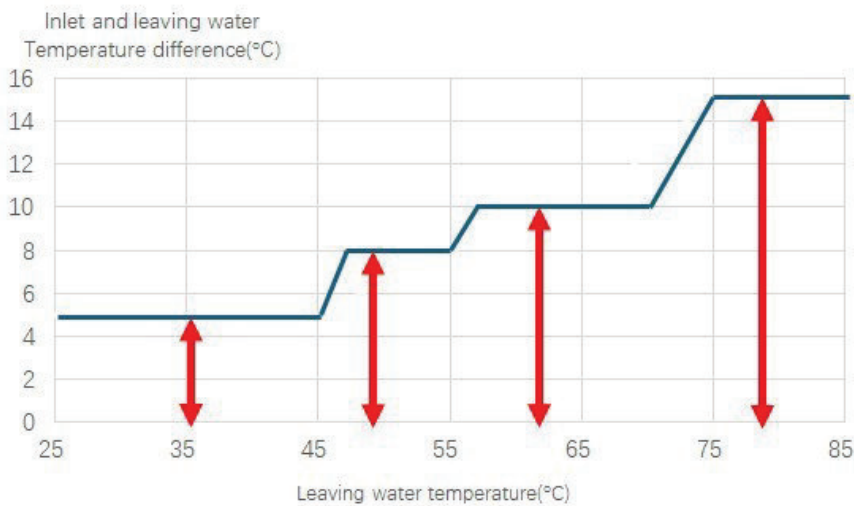
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

4.1.3 HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

100% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	36.40	21.94	1.66	42.21	22.09	1.91	51.67	19.15	2.70	56.66	20.06	2.82	59.32	18.95	3.13
	30	36.91	23.66	1.56	42.88	23.82	1.80	52.31	22.64	2.31	58.89	23.12	2.55	60.13	20.45	2.94
	35	37.73	24.82	1.52	43.28	24.45	1.77	53.64	25.42	2.11	60.36	25.36	2.38	62.89	23.52	2.67
	40	38.55	26.96	1.43	45.68	28.38	1.61	54.98	29.09	1.89	60.65	27.20	2.23	62.12	25.78	2.41
	45	39.86	30.20	1.32	47.24	32.58	1.45	55.59	32.13	1.73	61.09	28.82	2.12	63.79	28.35	2.25
	50	40.40	33.11	1.22	48.78	35.61	1.37	56.34	34.99	1.61	64.50	32.58	1.98	66.86	31.98	2.09
	55	40.43	34.48	1.17	48.46	36.28	1.34	56.29	37.03	1.52	64.82	34.91	1.86	66.40	34.57	1.92
	60	40.41	36.11	1.12	48.52	37.10	1.31	58.33	39.41	1.48	64.09	37.75	1.70	66.93	38.24	1.75
	65	30.91	27.60	1.12	35.97	28.55	1.26	46.82	33.44	1.40	55.09	36.28	1.52	59.78	37.83	1.58
	70	25.56	24.82	1.03	31.52	26.33	1.20	39.56	29.74	1.33	48.77	33.40	1.46	57.16	37.11	1.54
	75							37.26	33.87	1.10	42.67	33.34	1.28	44.32	33.58	1.32
	80													43.62	36.05	1.21
	85													40.50	40.50	1.00
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	63.11	17.94	3.52	64.32	16.83	3.82	70.55	15.90	4.44	77.02	14.73	5.23	80.76	13.86	5.83
	30	63.20	20.32	3.11	64.26	18.68	3.44	74.50	17.53	4.25	78.49	16.82	4.67	81.32	15.67	5.19
	35	63.80	22.15	2.88	65.52	20.04	3.27	76.03	18.50	4.11	79.95	17.93	4.46	82.88	17.16	4.83
	40	63.40	23.92	2.65	66.18	22.66	2.92	76.50	20.40	3.75	79.41	19.18	4.14	83.44	18.67	4.47
	45	64.38	26.06	2.47	67.04	24.29	2.76	76.37	22.53	3.39	79.88	21.42	3.73	85.00	20.68	4.11
	50	67.04	29.80	2.25	69.77	26.83	2.60	77.56	25.39	3.06	82.43	23.79	3.47	86.08	22.62	3.81
	55	67.29	32.35	2.08	69.60	29.49	2.36	72.13	24.53	2.94	74.99	23.36	3.21	77.15	21.92	3.52
	60	67.21	36.73	1.83	68.18	32.01	2.13	71.12	24.87	2.86	72.46	23.08	3.14	73.03	21.83	3.35
	65	64.73	39.22	1.65	67.12	35.26	1.90	70.97	27.09	2.62	71.82	25.02	2.87	71.19	23.65	3.01
	70	60.26	37.31	1.62	63.70	34.12	1.87	65.79	28.92	2.28	67.65	28.13	2.41	70.49	24.86	2.84
	75	47.20	34.20	1.38	55.03	37.95	1.45	57.35	28.25	2.03	58.27	27.23	2.14	60.18	23.33	2.58
	80	46.84	34.70	1.35	49.22	34.90	1.41	53.41	28.26	1.89	56.32	27.88	2.02			
	85	43.40	39.10	1.11	47.56	38.67	1.23	48.26	33.99	1.42	52.90	28.59	1.85			

100% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	82.37	13.39	6.15	80.12	11.37	7.05	79.80	9.79	8.15	79.16	9.50	8.33	78.87	9.26	8.52
	30	83.70	15.30	5.47	82.85	13.05	6.35	81.19	11.18	7.26	81.41	11.02	7.39	80.29	10.44	7.69
	35	84.62	16.34	5.18	83.53	14.41	5.80	82.58	12.20	6.77	81.82	11.84	6.91	80.53	11.15	7.22
	40	85.35	17.82	4.79	83.30	15.60	5.34	82.97	13.45	6.17	81.23	12.73	6.38	80.41	12.11	6.64
	45	86.68	20.16	4.30	83.00	17.01	4.88	82.36	15.34	5.37	81.64	14.40	5.67	80.54	13.63	5.91
	50	87.13	21.70	4.02	81.99	17.82	4.60	78.89	15.59	5.06	77.00	14.95	5.15			
	55	76.72	20.57	3.73	74.74	17.30	4.32	70.41	14.81	4.75						
	60	72.96	20.50	3.56	68.29	17.97	3.80	64.62	15.28	4.23						
	65	71.43	21.45	3.33												
	70	70.79	22.47	3.15												
	75	61.25	20.98	2.92												
	80															
	85															

Notes:

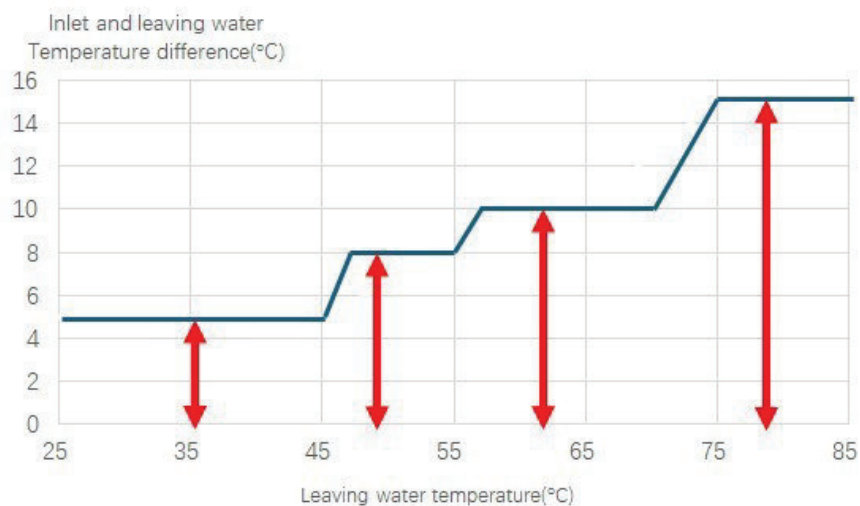
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

90% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	32.76	18.81	1.74	37.99	18.93	2.01	46.50	16.41	2.83	50.99	17.19	2.97	53.39	16.24	3.29
	30	33.22	20.28	1.64	38.59	20.42	1.89	47.08	19.41	2.43	53.00	19.82	2.67	54.11	17.53	3.09
	35	33.96	21.28	1.60	38.95	20.96	1.86	48.28	21.79	2.22	54.32	21.74	2.50	56.60	20.16	2.81
	40	34.70	23.11	1.50	41.12	24.32	1.69	49.48	24.93	1.98	54.59	23.31	2.34	55.91	22.09	2.53
	45	35.88	25.88	1.39	42.51	27.92	1.52	50.03	27.54	1.82	54.98	24.70	2.23	57.41	24.30	2.36
	50	36.36	28.38	1.28	43.90	30.52	1.44	50.71	29.99	1.69	58.05	27.92	2.08	60.17	27.41	2.20
	55	36.39	29.56	1.23	43.61	31.10	1.40	50.66	31.74	1.60	58.34	29.92	1.95	59.76	29.64	2.02
	60	36.37	30.95	1.18	43.67	31.80	1.37	52.50	33.78	1.55	57.68	32.36	1.78	60.24	32.78	1.84
	65	27.82	23.66	1.18	32.37	24.47	1.32	42.14	28.67	1.47	49.58	31.10	1.59	53.80	32.43	1.66
	70	23.00	21.27	1.08	28.37	22.57	1.26	35.60	25.50	1.40	43.89	28.63	1.53	51.44	31.81	1.62
	75							33.53	29.03	1.16	38.40	28.57	1.34	39.89	28.78	1.39
	80													39.26	30.90	1.27
	85													36.45	34.71	1.05
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	56.80	15.38	3.69	57.89	14.43	4.01	63.50	13.63	4.66	69.32	12.63	5.49	72.68	11.88	6.12
	30	56.88	17.42	3.27	57.83	16.01	3.61	67.05	15.03	4.46	70.64	14.41	4.90	73.19	13.43	5.45
	35	57.42	18.99	3.02	58.97	17.17	3.43	68.43	15.86	4.32	71.96	15.37	4.68	74.59	14.71	5.07
	40	57.06	20.51	2.78	59.56	19.43	3.07	68.85	17.49	3.94	71.47	16.44	4.35	75.10	16.00	4.69
	45	57.94	22.34	2.59	60.34	20.82	2.90	68.73	19.31	3.56	71.89	18.36	3.92	76.50	17.73	4.32
	50	60.34	25.54	2.36	62.79	23.00	2.73	69.80	21.76	3.21	74.19	20.39	3.64	77.47	19.39	4.00
	55	60.56	27.73	2.18	62.64	25.28	2.48	64.92	21.03	3.09	67.49	20.02	3.37	69.44	18.79	3.70
	60	60.49	31.48	1.92	61.36	27.44	2.24	64.01	21.31	3.00	65.21	19.78	3.30	65.73	18.71	3.51
	65	58.26	33.61	1.73	60.41	30.23	2.00	63.87	23.22	2.75	64.64	21.45	3.01	64.07	20.27	3.16
	70	54.23	31.98	1.70	57.33	29.25	1.96	59.21	24.79	2.39	60.88	24.11	2.53	63.44	21.31	2.98
	75	42.48	29.32	1.45	49.52	32.53	1.52	51.61	24.21	2.13	52.44	23.34	2.25	54.17	19.99	2.71
	80	42.16	29.74	1.42	44.29	29.92	1.48	48.07	24.22	1.98	50.69	23.90	2.12			
	85	39.06	33.51	1.17	42.80	33.14	1.29	43.43	29.13	1.49	47.61	24.51	1.94			

90% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	74.13	11.47	6.46	72.11	9.75	7.40	71.82	8.39	8.56	71.24	8.15	8.75	70.98	7.94	8.94
	30	75.33	13.12	5.74	74.56	11.18	6.67	73.07	9.59	7.62	73.27	9.44	7.76	72.26	8.95	8.07
	35	76.16	14.00	5.44	75.18	12.35	6.08	74.32	10.46	7.11	73.64	10.15	7.26	72.48	9.56	7.58
	40	76.81	15.27	5.03	74.97	13.37	5.61	74.67	11.53	6.48	73.11	10.91	6.70	72.37	10.38	6.97
	45	78.01	17.28	4.52	74.70	14.58	5.12	74.12	13.15	5.64	73.48	12.34	5.95	72.49	11.68	6.21
	50	78.42	18.60	4.22	73.79	15.28	4.83	71.00	13.36	5.31	69.30	12.82	5.41			
	55	69.05	17.63	3.92	67.27	14.83	4.54	63.37	12.70	4.99						
	60	65.67	17.57	3.74	61.46	15.40	3.99	58.16	13.09	4.44						
	65	64.29	18.39	3.50												
	70	63.71	19.26	3.31												
	75	55.13	17.98	3.07												
	80															
	85															

Notes:

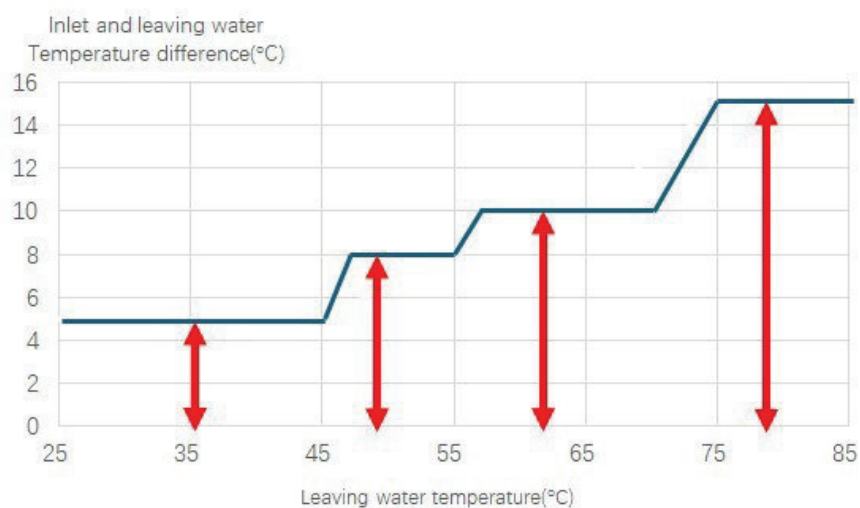
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

70% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	25.48	13.35	1.91	29.54	13.44	2.20	36.17	11.65	3.10	39.66	12.21	3.25	41.52	11.54	3.60
	30	25.84	14.40	1.79	30.01	14.50	2.07	36.62	13.78	2.66	41.22	14.07	2.93	42.09	12.45	3.38
	35	26.41	15.11	1.75	30.30	14.88	2.04	37.55	15.48	2.43	42.25	15.44	2.74	44.02	14.32	3.07
	40	26.99	16.41	1.64	31.98	17.27	1.85	38.48	17.71	2.17	42.46	16.55	2.56	43.48	15.69	2.77
	45	27.90	18.38	1.52	33.07	19.83	1.67	38.91	19.56	1.99	42.76	17.54	2.44	44.65	17.26	2.59
	50	28.28	20.16	1.40	34.15	21.67	1.58	39.44	21.30	1.85	45.15	19.83	2.28	46.80	19.47	2.40
	55	28.30	20.99	1.35	33.92	22.09	1.54	39.40	22.54	1.75	45.37	21.25	2.14	46.48	21.05	2.21
	60	28.29	21.98	1.29	33.96	22.58	1.50	40.83	23.99	1.70	44.86	22.98	1.95	46.85	23.28	2.01
	65	21.64	16.80	1.29	25.18	17.38	1.45	32.77	20.36	1.61	38.56	22.08	1.75	41.85	23.03	1.82
	70	17.89	15.11	1.18	22.06	16.03	1.38	27.69	18.11	1.53	34.14	20.33	1.68	40.01	22.59	1.77
	75							26.08	20.62	1.27	29.87	20.29	1.47	31.02	20.44	1.52
	80													30.53	21.94	1.39
	85													28.35	24.65	1.15
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	44.17	10.92	4.05	45.03	10.24	4.40	49.39	9.68	5.10	53.91	8.97	6.01	56.53	8.44	6.70
	30	44.24	12.37	3.58	44.98	11.37	3.96	52.15	10.67	4.89	54.94	10.24	5.37	56.93	9.54	5.97
	35	44.66	13.48	3.31	45.86	12.20	3.76	53.22	11.26	4.73	55.97	10.91	5.13	58.02	10.45	5.55
	40	44.38	14.56	3.05	46.33	13.80	3.36	53.55	12.42	4.31	55.59	11.68	4.76	58.41	11.36	5.14
	45	45.07	15.87	2.84	46.93	14.79	3.17	53.46	13.71	3.90	55.92	13.04	4.29	59.50	12.59	4.73
	50	46.93	18.14	2.59	48.84	16.33	2.99	54.29	15.45	3.51	57.70	14.48	3.98	60.25	13.77	4.38
	55	47.10	19.69	2.39	48.72	17.95	2.71	50.49	14.93	3.38	52.49	14.22	3.69	54.01	13.34	4.05
	60	47.05	22.36	2.10	47.73	19.48	2.45	49.78	15.14	3.29	50.72	14.05	3.61	51.12	13.29	3.85
	65	45.31	23.87	1.90	46.98	21.47	2.19	49.68	16.49	3.01	50.27	15.23	3.30	49.83	14.40	3.46
	70	42.18	22.71	1.86	44.59	20.77	2.15	46.05	17.60	2.62	47.35	17.12	2.77	49.34	15.13	3.26
	75	33.04	20.82	1.59	38.52	23.10	1.67	40.14	17.20	2.33	40.79	16.57	2.46	42.13	14.20	2.97
	80	32.79	21.12	1.55	34.45	21.25	1.62	37.38	17.20	2.17	39.43	16.97	2.32			
	85	30.38	23.80	1.28	33.29	23.54	1.41	33.78	20.69	1.63	37.03	17.41	2.13			

70% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	57.66	8.15	7.08	56.08	6.92	8.10	55.86	5.96	9.37	55.41	5.78	9.58	55.21	5.64	9.79
	30	58.59	9.31	6.29	57.99	7.94	7.30	56.83	6.81	8.35	56.99	6.71	8.50	56.20	6.36	8.84
	35	59.23	9.94	5.96	58.47	8.77	6.66	57.81	7.42	7.79	57.27	7.21	7.95	56.37	6.79	8.30
	40	59.74	10.85	5.51	58.31	9.50	6.14	58.08	8.19	7.10	56.86	7.75	7.34	56.29	7.37	7.64
	45	60.68	12.27	4.95	58.10	10.35	5.61	57.65	9.34	6.18	57.15	8.76	6.52	56.38	8.30	6.80
	50	60.99	13.21	4.62	57.39	10.85	5.29	55.22	9.49	5.82	53.90	9.10	5.92			
	55	53.70	12.52	4.29	52.32	10.53	4.97	49.29	9.02	5.47						
	60	51.07	12.48	4.09	47.80	10.94	4.37	45.23	9.30	4.86						
	65	50.00	13.06	3.83												
	70	49.55	13.68	3.62												
	75	42.88	12.77	3.36												
	80															
	85															

Notes:

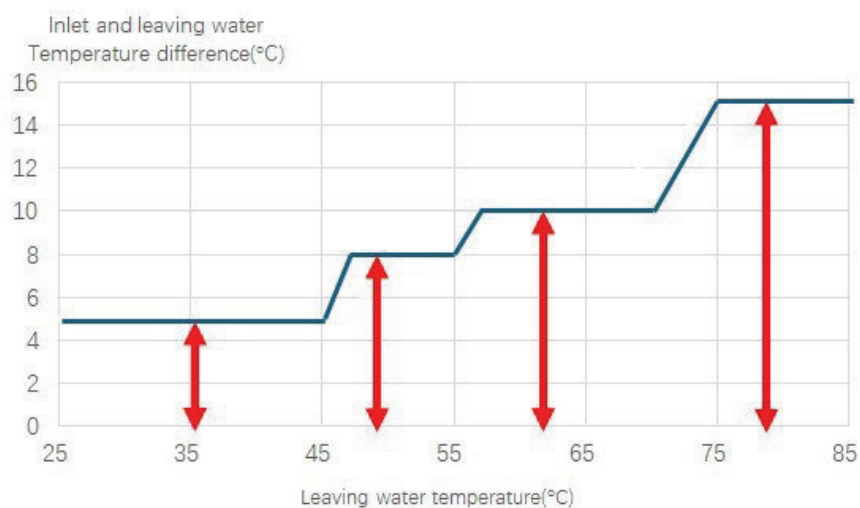
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

50% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	18.20	8.78	2.07	21.10	8.83	2.39	25.83	7.66	3.37	28.33	8.02	3.53	29.66	7.58	3.91
	30	18.46	9.47	1.95	21.44	9.53	2.25	26.15	9.06	2.89	29.45	9.25	3.18	30.06	8.18	3.67
	35	18.87	9.93	1.90	21.64	9.78	2.21	26.82	10.17	2.64	30.18	10.14	2.98	31.45	9.41	3.34
	40	19.28	10.78	1.79	22.84	11.35	2.01	27.49	11.64	2.36	30.33	10.88	2.79	31.06	10.31	3.01
	45	19.93	12.08	1.65	23.62	13.03	1.81	27.79	12.85	2.16	30.55	11.53	2.65	31.90	11.34	2.81
	50	20.20	13.25	1.53	24.39	14.24	1.71	28.17	14.00	2.01	32.25	13.03	2.48	33.43	12.79	2.61
	55	20.22	13.79	1.47	24.23	14.51	1.67	28.15	14.81	1.90	32.41	13.96	2.32	33.20	13.83	2.40
	60	20.21	14.44	1.40	24.26	14.84	1.63	29.17	15.76	1.85	32.05	15.10	2.12	33.47	15.30	2.19
	65	15.46	11.04	1.40	17.99	11.42	1.58	23.41	13.38	1.75	27.55	14.51	1.90	29.89	15.13	1.98
	70	12.78	9.93	1.29	15.76	10.53	1.50	19.78	11.90	1.66	24.39	13.36	1.83	28.58	14.85	1.93
	75							18.63	13.55	1.38	21.34	13.33	1.60	22.16	13.43	1.65
	80													21.81	14.42	1.51
	85													20.25	16.20	1.25
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	31.55	7.18	4.40	32.16	6.73	4.78	35.28	6.36	5.55	38.51	5.89	6.54	40.38	5.77	6.99
	30	31.60	8.13	3.89	32.13	7.47	4.30	37.25	7.01	5.31	39.24	6.73	5.83	40.66	6.53	6.23
	35	31.90	8.86	3.60	32.76	8.01	4.09	38.02	7.40	5.14	39.98	7.17	5.58	41.44	7.15	5.80
	40	31.70	9.57	3.31	33.09	9.07	3.65	38.25	8.16	4.69	39.71	7.67	5.18	41.72	7.78	5.36
	45	32.19	10.43	3.09	33.52	9.72	3.45	38.19	9.01	4.24	39.94	8.57	4.66	42.50	8.62	4.93
	50	33.52	11.92	2.81	34.89	10.73	3.25	38.78	10.16	3.82	41.22	9.52	4.33	43.04	9.43	4.57
	55	33.65	12.94	2.60	34.80	11.80	2.95	36.07	9.81	3.68	37.50	9.34	4.01	38.58	9.13	4.22
	60	33.61	14.69	2.29	34.09	12.80	2.66	35.56	9.95	3.58	36.23	9.23	3.93	36.52	9.10	4.01
	65	32.37	15.69	2.06	33.56	14.11	2.38	35.49	10.84	3.28	35.91	10.01	3.59	35.60	9.85	3.61
	70	30.13	14.92	2.02	31.85	13.65	2.33	32.90	11.57	2.84	33.82	11.25	3.01	35.24	10.36	3.40
	75	23.60	13.68	1.73	27.51	15.18	1.81	28.67	11.30	2.54	29.14	10.89	2.68	30.09	9.72	3.10
	80	23.42	13.88	1.69	24.61	13.96	1.76	26.70	11.30	2.36	28.16	11.15	2.53			
	85	21.70	15.64	1.39	23.78	15.47	1.54	24.13	13.59	1.78	26.45	11.44	2.31			

50% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	41.19	5.58	7.38	40.06	4.74	8.45	39.90	4.08	9.78	39.58	3.96	10.00	39.44	3.86	10.22
	30	41.85	6.38	6.56	41.42	5.44	7.62	40.59	4.66	8.71	40.71	4.59	8.87	40.14	4.35	9.23
	35	42.31	6.81	6.22	41.77	6.01	6.95	41.29	5.08	8.12	40.91	4.93	8.29	40.27	4.65	8.66
	40	42.67	7.42	5.75	41.65	6.50	6.41	41.49	5.60	7.40	40.62	5.30	7.66	40.21	5.05	7.97
	45	43.34	8.40	5.16	41.50	7.09	5.86	41.18	6.39	6.44	40.82	6.00	6.80	40.27	5.68	7.09
	50	43.57	9.04	4.82	41.00	7.43	5.52	39.45	6.49	6.07	38.50	6.23	6.18			
	55	38.36	8.57	4.48	37.37	7.21	5.18	35.21	6.17	5.70						
	60	36.48	8.54	4.27	34.15	7.49	4.56	32.31	6.37	5.08						
	65	35.72	8.94	4.00												
	70	35.39	9.36	3.78												
	75	30.63	8.74	3.50												
	80															
	85															

Notes:

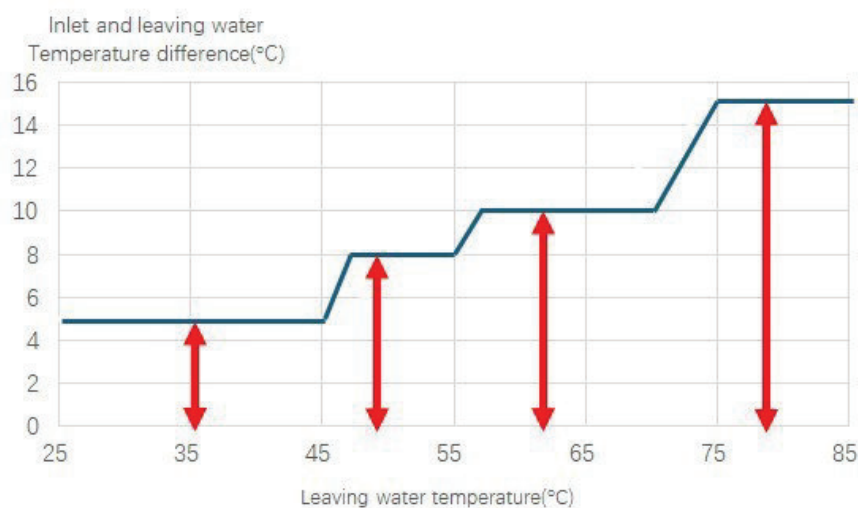
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

30% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-5		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	10.92	4.39	2.49	12.66	4.42	2.87	15.50	3.83	4.05	17.00	4.01	4.24	17.80	3.79	4.70
	30	11.07	4.73	2.34	12.86	4.76	2.70	15.69	4.53	3.47	17.67	4.62	3.82	18.04	4.09	4.41
	35	11.32	4.96	2.28	12.98	4.89	2.66	16.09	5.08	3.17	18.11	5.07	3.57	18.87	4.70	4.01
	40	11.57	5.39	2.15	13.71	5.68	2.42	16.49	5.82	2.84	18.20	5.44	3.35	18.64	5.16	3.62
	45	11.96	6.04	1.98	14.17	6.52	2.18	16.68	6.43	2.60	18.33	5.76	3.18	19.14	5.67	3.38
	50	12.12	6.62	1.83	14.63	7.12	2.06	16.90	7.00	2.42	19.35	6.52	2.97	20.06	6.40	3.14
	55	12.13	6.90	1.76	14.54	7.26	2.00	16.89	7.41	2.28	19.45	6.98	2.79	19.92	6.91	2.88
	60	12.12	7.22	1.68	14.56	7.42	1.96	17.50	7.88	2.22	19.23	7.55	2.55	20.08	7.65	2.63
	65	9.27	5.52	1.68	10.79	5.71	1.89	14.05	6.69	2.10	16.53	7.26	2.28	17.93	7.57	2.37
	70	7.67	4.96	1.55	9.46	5.27	1.80	11.87	5.95	2.00	14.63	6.68	2.19	17.15	7.42	2.31
	75							11.18	6.77	1.65	12.80	6.67	1.92	13.30	6.72	1.98
	80													13.09	7.21	1.82
	85													12.15	8.10	1.50
	LWT	DB														
		0			5			10			15			20		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	18.93	3.59	5.28	19.30	3.37	5.73	21.17	3.18	6.65	23.11	3.16	7.32	24.23	3.08	7.87
	30	18.96	4.06	4.67	19.28	3.74	5.16	22.35	3.51	6.38	23.55	3.60	6.53	24.40	3.48	7.01
	35	19.14	4.43	4.32	19.66	4.01	4.91	22.81	3.70	6.17	23.99	3.84	6.24	24.86	3.81	6.52
	40	19.02	4.78	3.98	19.85	4.53	4.38	22.95	4.08	5.63	23.82	4.11	5.80	25.03	4.15	6.03
	45	19.31	5.21	3.71	20.11	4.86	4.14	22.91	4.51	5.09	23.96	4.59	5.22	25.50	4.60	5.55
	50	20.11	5.96	3.38	20.93	5.37	3.90	23.27	5.08	4.58	24.73	5.10	4.85	25.82	5.03	5.14
	55	20.19	6.47	3.12	20.88	5.90	3.54	21.64	4.91	4.41	22.50	5.01	4.49	23.15	4.87	4.75
	60	20.16	7.35	2.75	20.45	6.40	3.20	21.34	4.97	4.29	21.74	4.94	4.40	21.91	5.04	4.35
	65	19.42	8.40	2.31	20.14	7.56	2.66	21.29	6.25	3.41	21.55	5.77	3.73	21.36	5.46	3.91
	70	18.08	7.99	2.26	19.11	7.31	2.61	19.74	6.67	2.96	20.29	6.49	3.13	21.15	5.74	3.69
	75	14.16	7.33	1.93	16.51	8.13	2.03	17.20	6.52	2.64	17.48	6.28	2.78	18.06	5.38	3.35
	80	14.05	7.43	1.89	14.76	7.48	1.97	16.02	6.52	2.46	16.90	6.43	2.63			
	85	13.02	8.38	1.55	14.27	8.29	1.72	14.48	7.84	1.85	15.87	6.60	2.41			

30% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		25			30			35			40			43		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	24.71	2.97	8.31	24.04	2.62	9.16	23.94	2.35	10.19	23.75	2.28	10.41	23.66	2.22	10.64
	30	25.11	3.40	7.38	24.85	3.01	8.26	24.36	2.68	9.08	24.42	2.64	9.24	24.09	2.51	9.61
	35	25.39	3.63	6.99	25.06	3.33	7.53	24.77	2.93	8.46	24.55	2.84	8.64	24.16	2.68	9.03
	40	25.60	3.96	6.47	24.99	3.60	6.94	24.89	3.23	7.71	24.37	3.06	7.98	24.12	2.91	8.30
	45	26.00	4.48	5.81	24.90	3.92	6.34	24.71	3.68	6.71	24.49	3.46	7.09	24.16	3.27	7.39
	50	26.14	4.82	5.42	24.60	4.11	5.98	23.67	3.74	6.33	23.10	3.59	6.44			
	55	23.02	4.57	5.04	22.42	3.99	5.62	21.12	3.55	5.94						
	60	21.89	4.73	4.63	20.49	4.15	4.94	19.39	3.53	5.50						
	65	21.43	4.95	4.33												
	70	21.24	5.19	4.10												
	75	18.38	4.84	3.80												
	80															
	85															

Notes:

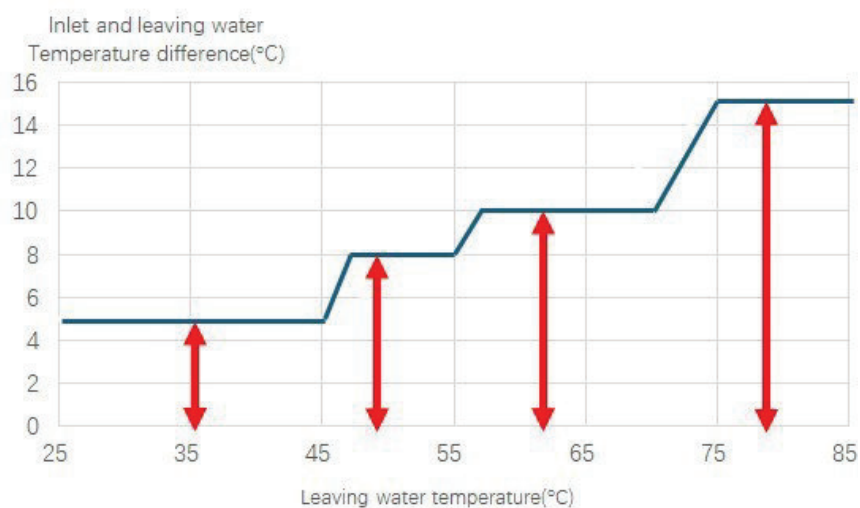
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

4.2 Heating Capacity Tables (Including Defrosting Cycle)

4.2.1 HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

100% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	34.60	20.34	1.70	40.12	20.48	1.96	49.12	17.75	2.77	53.31	18.32	2.91	51.49	17.33	2.97
	30	35.09	21.94	1.60	40.76	22.09	1.85	49.73	21.00	2.37	53.10	19.84	2.68	51.81	18.80	2.76
	35	35.87	23.02	1.56	41.14	22.67	1.81	50.99	23.57	2.16	53.24	21.13	2.52	50.00	18.87	2.65
	40	36.65	25.00	1.47	43.43	26.31	1.65	52.26	26.97	1.94	53.49	22.62	2.36	51.97	21.74	2.39
	45	37.89	28.00	1.35	44.90	30.21	1.49	52.84	29.80	1.77	53.88	23.97	2.25	50.00	22.22	2.25
	50	38.40	30.71	1.25	46.37	33.02	1.40	53.56	32.45	1.65	53.36	24.94	2.14	53.86	25.13	2.14
	55	38.43	31.98	1.20	46.07	33.64	1.37	53.51	34.34	1.56	53.90	27.11	1.99	50.00	25.64	1.95
	60	38.41	33.48	1.15	46.12	34.40	1.34	55.45	36.55	1.52	56.53	31.40	1.80	56.26	31.38	1.79
	65	29.38	25.59	1.15	34.19	26.47	1.29	44.51	31.01	1.44	50.75	32.13	1.58	50.35	31.32	1.61
	70	24.30	23.01	1.06	29.96	24.41	1.23	37.61	27.58	1.36	46.36	30.97	1.50	48.79	31.81	1.53
	75							35.42	31.41	1.13	40.56	30.91	1.31	41.50	31.24	1.33
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	50.27	16.43	3.06	50.07	14.14	3.54	50.04	13.61	3.68	49.99	12.87	3.88	50.31	9.90	5.08
	30	50.96	17.73	2.87	51.29	15.79	3.25	51.17	15.09	3.39	50.98	14.73	3.46	50.00	10.16	4.92
	35	51.59	19.15	2.69	51.17	17.47	2.93	51.00	15.45	3.30	50.16	14.80	3.39	50.00	10.64	4.70
	40	50.95	20.99	2.43	50.85	18.87	2.70	51.00	17.41	2.93	50.67	16.74	3.03	51.16	11.49	4.45
	45	51.16	22.36	2.29	51.64	20.55	2.51	52.00	19.26	2.70	51.32	17.95	2.86	50.00	13.16	3.80
	50	54.20	25.23	2.15	54.35	23.50	2.31	52.00	20.00	2.60	52.89	19.23	2.75	50.00	14.12	3.54
	55	52.60	26.40	1.99	53.31	24.70	2.16	52.00	21.22	2.45	52.76	21.14	2.50	50.00	15.15	3.30
	60	56.08	31.47	1.78	55.06	29.28	1.88	54.37	26.90	2.02	53.32	23.91	2.23	50.00	16.18	3.09
	65	50.09	30.36	1.65	53.03	31.26	1.70	52.82	27.65	1.91	52.49	25.48	2.06	50.00	17.86	2.80
	70	50.42	31.71	1.59	51.97	31.50	1.65	52.15	29.14	1.79	52.43	27.31	1.92	51.31	23.50	2.18
	75	42.13	31.13	1.35	44.87	31.72	1.41	47.20	32.50	1.45	50.69	33.60	1.51	50.65	28.68	1.77
	80	41.47	33.43	1.24	44.53	32.17	1.38	45.43	32.25	1.41	46.78	32.37	1.45	48.38	29.46	1.64
	85	38.50	37.55	1.03	41.26	36.26	1.14	42.84	36.09	1.19	45.21	35.85	1.26	45.48	33.97	1.34

100% Load Heating capacity (continued)

Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	50.80	9.91	5.12	51.06	8.18	6.24	53.54	7.70	6.95	54.61	7.44	7.34	53.12	6.32	8.41
	30	51.14	10.23	5.00	51.37	9.18	5.59	53.23	8.56	6.22	54.78	8.36	6.56	54.22	7.12	7.61
	35	50.85	10.42	4.88	51.65	9.62	5.37	53.54	9.21	5.82	54.66	8.76	6.24	53.96	7.73	6.98
	40	51.22	10.98	4.67	51.30	10.29	4.98	53.90	10.02	5.38	55.14	9.56	5.77	53.81	8.37	6.43
	45	53.76	13.60	3.95	54.32	12.32	4.41	54.91	11.10	4.95	56.00	10.82	5.18	53.62	9.13	5.88
	50	51.87	14.30	3.63	53.25	12.76	4.17	55.61	12.14	4.58	56.29	11.64	4.83	52.97	9.56	5.54
	55	52.05	15.32	3.40	52.27	13.90	3.76	53.77	13.04	4.12	53.47	12.23	4.37	52.09	10.29	5.06
	60	51.32	15.53	3.30	51.74	14.19	3.65	52.14	13.43	3.88	52.10	12.60	4.13	51.08	11.80	4.33
	65	51.21	16.92	3.03	51.28	15.39	3.33	50.83	14.55	3.49	51.00	13.19	3.87			
	70	49.63	19.25	2.58	52.28	19.35	2.70	52.10	16.05	3.25	52.33	14.51	3.61			
	75	50.58	23.50	2.15	50.25	21.93	2.29	51.90	18.79	2.76	51.62	16.36	3.16			
	80	50.77	26.20	1.94	50.78	23.93	2.12									
	85	45.88	31.51	1.46	50.29	26.52	1.90									
	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
100	25	52.91	5.44	9.72	52.48	5.28	9.94	52.29	5.15	10.16						
	30	53.14	6.11	8.70	53.28	6.02	8.86	52.55	5.70	9.22						
	35	53.35	6.54	8.15	52.86	6.35	8.32	52.02	5.98	8.69						
	40	53.60	7.22	7.43	52.47	6.83	7.68	51.94	6.50	7.99						
	45	53.20	8.23	6.47	52.74	7.73	6.83	52.03	7.31	7.12						
	50	50.96	8.36	6.09	51.05	8.31	6.15									
	55	52.67	9.72	5.42												
	60	50.53	10.29	4.91												
	65															

Notes:

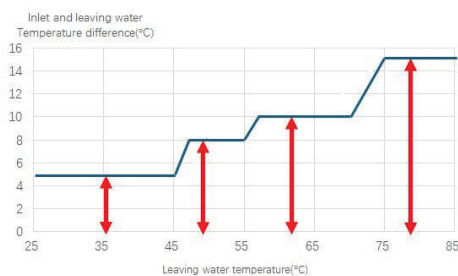
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

90% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	31.14	17.44	1.79	36.11	17.55	2.06	44.20	15.22	2.90	47.98	15.70	3.06	46.34	14.86	3.12
	30	31.58	18.81	1.68	36.68	18.93	1.94	44.75	18.00	2.49	47.79	17.01	2.81	46.63	16.12	2.89
	35	32.28	19.73	1.64	37.03	19.43	1.91	45.89	20.21	2.27	47.91	18.11	2.65	45.00	16.17	2.78
	40	32.98	21.43	1.54	39.09	22.55	1.73	47.03	23.12	2.03	48.14	19.39	2.48	46.77	18.64	2.51
	45	34.10	24.00	1.42	40.41	25.89	1.56	47.56	25.54	1.86	48.49	20.54	2.36	45.00	19.05	2.36
	50	34.56	26.32	1.31	41.73	28.30	1.47	48.20	27.81	1.73	48.02	21.37	2.25	48.48	21.54	2.25
	55	34.59	27.41	1.26	41.46	28.84	1.44	48.16	29.43	1.64	48.51	23.24	2.09	45.00	21.98	2.05
	60	34.57	28.70	1.20	41.51	29.49	1.41	49.90	31.33	1.59	50.87	26.91	1.89	50.63	26.89	1.88
	65	26.44	21.94	1.21	30.77	22.69	1.36	40.06	26.58	1.51	45.67	27.54	1.66	45.32	26.84	1.69
	70	21.87	19.72	1.11	26.97	20.93	1.29	33.85	23.64	1.43	41.72	26.55	1.57	43.91	27.26	1.61
	75							31.88	26.92	1.18	36.51	26.50	1.38	37.35	26.78	1.40
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	45.25	14.08	3.21	45.06	12.12	3.72	45.04	11.66	3.86	44.99	11.03	4.08	45.28	8.49	5.33
	30	45.86	15.19	3.02	46.16	13.53	3.41	46.05	12.94	3.56	45.89	12.62	3.63	45.00	8.71	5.17
	35	46.43	16.42	2.83	46.05	14.97	3.08	45.90	13.25	3.47	45.14	12.69	3.56	45.00	9.12	4.94
	40	45.86	17.99	2.55	45.76	16.17	2.83	45.90	14.92	3.08	45.60	14.35	3.18	46.05	9.85	4.67
	45	46.05	19.16	2.40	46.47	17.62	2.64	46.80	16.51	2.84	46.19	15.38	3.00	45.00	11.28	3.99
	50	48.78	21.62	2.26	48.91	20.14	2.43	46.80	17.14	2.73	47.60	16.49	2.89	45.00	12.11	3.72
	55	47.34	22.63	2.09	47.98	21.17	2.27	46.80	18.19	2.57	47.48	18.12	2.62	45.00	12.99	3.47
	60	50.47	26.97	1.87	49.56	25.09	1.97	48.93	23.06	2.12	47.99	20.49	2.34	45.00	13.87	3.24
	65	45.08	26.02	1.73	47.73	26.79	1.78	47.53	23.70	2.01	47.24	21.84	2.16	45.00	15.31	2.94
	70	45.37	27.18	1.67	46.77	27.00	1.73	46.94	24.97	1.88	47.19	23.41	2.02	46.18	20.14	2.29
	75	37.92	26.69	1.42	40.38	27.18	1.49	42.48	27.86	1.52	45.62	28.80	1.58	45.58	24.58	1.85
	80	37.32	28.65	1.30	40.07	27.58	1.45	40.89	27.65	1.48	42.11	27.74	1.52	43.54	25.25	1.72
	85	34.65	32.19	1.08	37.13	31.08	1.19	38.55	30.93	1.25	40.69	30.73	1.32	40.93	29.11	1.41

90% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	45.72	8.50	5.38	45.96	7.01	6.55	48.19	6.60	7.30	49.15	6.38	7.71	47.81	5.42	8.83
	30	46.02	8.77	5.25	46.23	7.87	5.87	47.90	7.33	6.53	49.30	7.16	6.88	48.80	6.11	7.99
	35	45.76	8.93	5.12	46.48	8.24	5.64	48.19	7.89	6.11	49.20	7.51	6.55	48.56	6.63	7.33
	40	46.10	9.41	4.90	46.17	8.82	5.23	48.51	8.59	5.65	49.62	8.19	6.06	48.43	7.17	6.75
	45	48.39	11.66	4.15	48.89	10.56	4.63	49.42	9.51	5.20	50.40	9.27	5.44	48.26	7.82	6.17
	50	46.68	12.26	3.81	47.92	10.94	4.38	50.05	10.40	4.81	50.66	9.98	5.08	47.67	8.20	5.82
	55	46.84	13.13	3.57	47.04	11.91	3.95	48.40	11.17	4.33	48.13	10.49	4.59	46.88	8.82	5.32
	60	46.19	13.31	3.47	46.56	12.16	3.83	46.93	11.51	4.08	46.89	10.80	4.34	45.97	10.11	4.55
	65	46.09	14.50	3.18	46.15	13.19	3.50	45.75	12.47	3.67	45.90	11.31	4.06			
	70	44.67	16.50	2.71	47.05	16.59	2.84	46.89	13.76	3.41	47.09	12.44	3.79			
	75	45.52	20.14	2.26	45.23	18.80	2.41	46.71	16.11	2.90	46.46	14.02	3.31			
	80	45.69	22.46	2.03	45.70	20.51	2.23									
	85	41.29	27.01	1.53	45.26	22.73	1.99									
	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
90	25	47.62	4.66	10.21	47.23	4.53	10.44	47.06	4.41	10.67						
	30	47.82	5.23	9.14	47.96	5.16	9.30	47.29	4.89	9.68						
	35	48.01	5.61	8.56	47.57	5.45	8.74	46.82	5.13	9.13						
	40	48.24	6.18	7.80	47.23	5.86	8.07	46.75	5.57	8.39						
	45	47.88	7.05	6.79	47.47	6.62	7.17	46.83	6.27	7.47						
	50	45.87	7.17	6.40	45.95	7.12	6.45									
	55	47.40	8.33	5.69												
	60	45.48	8.82	5.16												
	65															

Notes:

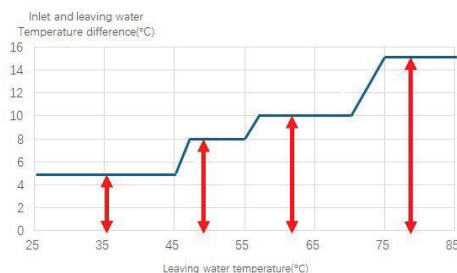
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

70% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	24.22	12.38	1.96	28.08	12.47	2.25	34.38	10.81	3.18	37.31	11.15	3.35	36.04	10.55	3.42
	30	24.56	13.36	1.84	28.53	13.44	2.12	34.81	12.78	2.72	37.17	12.08	3.08	36.27	11.45	3.17
	35	25.11	14.01	1.79	28.80	13.80	2.09	35.70	14.35	2.49	37.27	12.86	2.90	35.00	11.48	3.05
	40	25.65	15.22	1.69	30.40	16.02	1.90	36.58	16.42	2.23	37.45	13.77	2.72	36.38	13.24	2.75
	45	26.53	17.05	1.56	31.43	18.39	1.71	36.99	18.14	2.04	37.72	14.59	2.59	35.00	13.53	2.59
	50	26.88	18.69	1.44	32.46	20.10	1.62	37.49	19.75	1.90	37.35	15.18	2.46	37.70	15.30	2.46
	55	26.90	19.46	1.38	32.25	20.48	1.57	37.46	20.90	1.79	37.73	16.50	2.29	35.00	15.61	2.24
	60	26.89	20.38	1.32	32.29	20.94	1.54	38.81	22.25	1.74	39.57	19.11	2.07	39.38	19.10	2.06
	65	20.57	15.58	1.32	23.94	16.11	1.49	31.15	18.88	1.65	35.52	19.56	1.82	35.25	19.06	1.85
	70	17.01	14.01	1.21	20.97	14.86	1.41	26.32	16.79	1.57	32.45	18.85	1.72	34.16	19.36	1.76
	75							24.79	19.12	1.30	28.39	18.82	1.51	29.05	19.01	1.53
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	35.19	10.00	3.52	35.05	8.61	4.07	35.03	8.28	4.23	35.00	7.83	4.47	35.22	6.03	5.84
	30	35.67	10.79	3.31	35.90	9.61	3.74	35.82	9.19	3.90	35.69	8.96	3.98	35.00	6.19	5.66
	35	36.11	11.66	3.10	35.82	10.63	3.37	35.70	9.41	3.80	35.11	9.01	3.90	35.00	6.48	5.41
	40	35.67	12.77	2.79	35.59	11.48	3.10	35.70	10.60	3.37	35.47	10.19	3.48	35.81	7.00	5.12
	45	35.81	13.61	2.63	36.14	12.51	2.89	36.40	11.72	3.11	35.93	10.92	3.29	35.00	8.01	4.37
	50	37.94	15.35	2.47	38.04	14.31	2.66	36.40	12.17	2.99	37.02	11.71	3.16	35.00	8.60	4.07
	55	36.82	16.07	2.29	37.32	15.04	2.48	36.40	12.92	2.82	36.93	12.87	2.87	35.00	9.22	3.80
	60	39.26	19.16	2.05	38.54	17.82	2.16	38.06	16.38	2.32	37.32	14.55	2.57	35.00	9.85	3.55
	65	35.06	18.48	1.90	37.12	19.03	1.95	36.97	16.83	2.20	36.74	15.51	2.37	35.00	10.87	3.22
	70	35.29	19.30	1.83	36.38	19.17	1.90	36.51	17.74	2.06	36.70	16.62	2.21	35.92	14.30	2.51
	75	29.49	18.95	1.56	31.41	19.31	1.63	33.04	19.78	1.67	35.48	20.45	1.73	35.45	17.45	2.03
	80	29.03	20.35	1.43	31.17	19.58	1.59	31.80	19.63	1.62	32.75	19.70	1.66	33.86	17.93	1.89
	85	26.95	22.86	1.18	28.88	22.07	1.31	29.99	21.97	1.37	31.65	21.82	1.45	31.83	20.68	1.54

70% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	35.56	6.03	5.89	35.74	4.98	7.18	37.48	4.69	8.00	38.23	4.53	8.44	37.18	3.85	9.67
	30	35.80	6.22	5.75	35.96	5.59	6.43	37.26	5.21	7.15	38.35	5.09	7.54	37.96	4.34	8.75
	35	35.59	6.34	5.61	36.15	5.85	6.18	37.48	5.60	6.69	38.27	5.34	7.17	37.77	4.71	8.02
	40	35.85	6.68	5.36	35.91	6.26	5.73	37.73	6.10	6.19	38.60	5.82	6.63	37.67	5.09	7.39
	45	37.64	8.28	4.55	38.02	7.50	5.07	38.44	6.75	5.69	39.20	6.58	5.95	37.53	5.55	6.76
	50	36.31	8.71	4.17	37.27	7.77	4.80	38.92	7.39	5.27	39.40	7.09	5.56	37.08	5.82	6.37
	55	36.43	9.33	3.91	36.59	8.46	4.33	37.64	7.94	4.74	37.43	7.45	5.03	36.47	6.26	5.82
	60	35.92	9.45	3.80	36.22	8.64	4.19	36.50	8.17	4.47	36.47	7.67	4.75	35.76	7.18	4.98
	65	35.85	10.30	3.48	35.90	9.37	3.83	35.58	8.85	4.02	35.70	8.03	4.45			
	70	34.74	11.71	2.97	36.59	11.78	3.11	36.47	9.77	3.73	36.63	8.83	4.15			
	75	35.41	14.30	2.48	35.18	13.35	2.63	36.33	11.44	3.18	36.14	9.96	3.63			
	80	35.54	15.95	2.23	35.55	14.57	2.44									
	85	32.11	19.18	1.67	35.20	16.14	2.18									
70	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
	25	37.04	3.31	11.18	36.74	3.21	11.43	36.60	3.13	11.69						
	30	37.20	3.72	10.01	37.30	3.66	10.19	36.78	3.47	10.60						
	35	37.34	3.98	9.37	37.00	3.87	9.57	36.42	3.64	10.00						
	40	37.52	4.39	8.54	36.73	4.16	8.83	36.36	3.96	9.19						
	45	37.24	5.01	7.44	36.92	4.70	7.85	36.42	4.45	8.18						
	50	35.67	5.09	7.01	35.74	5.06	7.07									
	55	36.87	5.92	6.23												
	60	35.37	6.26	5.65												
	65															

Notes:

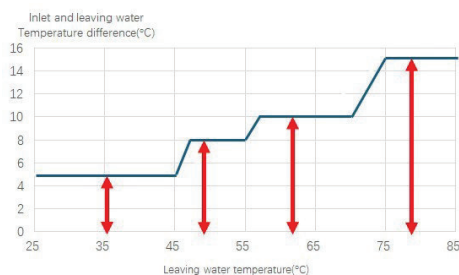
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

50% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	17.30	8.14	2.13	20.06	8.19	2.45	24.56	7.10	3.46	26.65	7.33	3.64	25.74	6.93	3.71
	30	17.55	8.78	2.00	20.38	8.84	2.31	24.86	8.40	2.96	26.55	7.94	3.34	25.91	7.52	3.44
	35	17.93	9.21	1.95	20.57	9.07	2.27	25.50	9.43	2.70	26.62	8.45	3.15	25.00	7.55	3.31
	40	18.32	10.00	1.83	21.71	10.52	2.06	26.13	10.79	2.42	26.75	9.05	2.96	25.99	8.70	2.99
	45	18.95	11.20	1.69	22.45	12.08	1.86	26.42	11.92	2.22	26.94	9.59	2.81	25.00	8.89	2.81
	50	19.20	12.28	1.56	23.19	13.21	1.76	26.78	12.98	2.06	26.68	9.97	2.67	26.93	10.05	2.68
	55	19.22	12.79	1.50	23.03	13.46	1.71	26.75	13.74	1.95	26.95	10.85	2.48	25.00	10.26	2.44
	60	19.21	13.39	1.43	23.06	13.76	1.68	27.72	14.62	1.90	28.26	12.56	2.25	28.13	12.55	2.24
	65	14.69	10.24	1.44	17.10	10.59	1.61	22.25	12.40	1.79	25.37	12.85	1.97	25.18	12.53	2.01
	70	12.15	9.20	1.32	14.98	9.77	1.53	18.80	11.03	1.70	23.18	12.39	1.87	24.40	12.72	1.92
	75							17.71	12.56	1.41	20.28	12.36	1.64	20.75	12.50	1.66
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	25.14	6.57	3.83	25.03	5.66	4.42	25.02	5.44	4.60	25.00	5.15	4.86	25.16	3.96	6.35
	30	25.48	7.09	3.59	25.64	6.32	4.06	25.58	6.04	4.24	25.49	5.89	4.33	25.00	4.07	6.15
	35	25.79	7.66	3.37	25.58	6.99	3.66	25.50	6.18	4.13	25.08	5.92	4.24	25.00	4.26	5.88
	40	25.48	8.39	3.04	25.42	7.55	3.37	25.50	6.96	3.66	25.33	6.70	3.78	25.58	4.60	5.57
	45	25.58	8.94	2.86	25.82	8.22	3.14	26.00	7.70	3.38	25.66	7.18	3.58	25.00	5.26	4.75
	50	27.10	10.09	2.69	27.17	9.40	2.89	26.00	8.00	3.25	26.44	7.69	3.44	25.00	5.65	4.43
	55	26.30	10.56	2.49	26.65	9.88	2.70	26.00	8.49	3.06	26.38	8.46	3.12	25.00	6.06	4.13
	60	28.04	12.59	2.23	27.53	11.71	2.35	27.18	10.76	2.53	26.66	9.56	2.79	25.00	6.47	3.86
	65	25.04	12.14	2.06	26.52	12.50	2.12	26.41	11.06	2.39	26.25	10.19	2.58	25.00	7.14	3.50
	70	25.21	12.68	1.99	25.98	12.60	2.06	26.08	11.65	2.24	26.22	10.92	2.40	25.66	9.40	2.73
	75	21.07	12.45	1.69	22.43	12.69	1.77	23.60	13.00	1.82	25.34	13.44	1.89	25.32	11.47	2.21
	80	20.73	13.37	1.55	22.26	12.87	1.73	22.71	12.90	1.76	23.39	12.95	1.81	24.19	11.78	2.05
	85	19.25	15.02	1.28	20.63	14.50	1.42	21.42	14.43	1.48	22.61	14.34	1.58	22.74	13.59	1.67

50% Load Heating capacity (continued)

Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	25.40	3.97	6.41	25.53	3.27	7.80	26.77	3.21	8.34	27.31	3.10	8.81	26.56	2.63	10.09
	30	25.57	4.09	6.25	25.68	3.67	6.99	26.61	3.56	7.47	27.39	3.48	7.87	27.11	2.97	9.13
	35	25.42	4.17	6.10	25.82	3.85	6.71	26.77	3.84	6.98	27.33	3.65	7.48	26.98	3.22	8.37
	40	25.61	4.39	5.83	25.65	4.12	6.23	26.95	4.17	6.46	27.57	3.98	6.92	26.91	3.49	7.72
	45	26.88	5.44	4.94	27.16	4.93	5.51	27.46	4.62	5.94	28.00	4.51	6.21	26.81	3.80	7.05
	50	25.94	5.72	4.53	26.62	5.11	5.21	27.80	5.06	5.50	28.14	4.85	5.80	26.48	3.98	6.65
	55	26.02	6.13	4.25	26.13	5.56	4.70	26.89	5.43	4.95	26.74	5.10	5.24	26.05	4.29	6.07
	60	25.66	6.21	4.13	25.87	5.68	4.56	26.07	5.59	4.66	26.05	5.25	4.96	25.54	4.92	5.20
	65	25.61	6.77	3.78	25.64	6.16	4.17	25.41	6.06	4.19	25.50	5.50	4.64			
	70	24.82	7.70	3.22	26.14	7.74	3.38	26.05	6.69	3.89	26.16	6.05	4.33			
	75	25.29	9.40	2.69	25.13	8.77	2.86	25.95	7.83	3.31	25.81	6.82	3.79			
	80	25.38	10.48	2.42	25.39	9.57	2.65									
	85	22.94	12.61	1.82	25.14	10.61	2.37									
	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
50	25	26.45	2.27	11.67	26.24	2.20	11.93	26.15	2.14	12.19						
	30	26.57	2.54	10.44	26.64	2.51	10.63	26.27	2.38	11.06						
	35	26.67	2.73	9.78	26.43	2.65	9.98	26.01	2.49	10.43						
	40	26.80	3.01	8.91	26.24	2.85	9.22	25.97	2.71	9.59						
	45	26.60	3.43	7.76	26.37	3.22	8.19	26.02	3.05	8.54						
	50	25.48	3.48	7.31	25.53	3.46	7.37									
	55	26.33	4.05	6.50												
	60	25.27	4.29	5.89												
	65															

Notes:

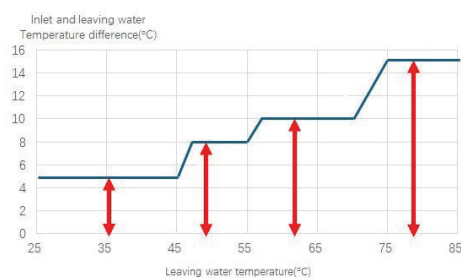
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

30% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	10.38	4.07	2.55	12.04	4.10	2.94	14.73	3.55	4.15	15.99	3.66	4.36	15.45	3.47	4.46
	30	10.53	4.39	2.40	12.23	4.42	2.77	14.92	4.20	3.55	15.93	3.97	4.01	15.54	3.76	4.13
	35	10.76	4.60	2.34	12.34	4.53	2.72	15.30	4.71	3.24	15.97	4.23	3.78	15.00	3.77	3.98
	40	10.99	5.00	2.20	13.03	5.26	2.48	15.68	5.39	2.91	16.05	4.52	3.55	15.59	4.35	3.59
	45	11.37	5.60	2.03	13.47	6.04	2.23	15.85	5.96	2.66	16.16	4.79	3.37	15.00	4.44	3.38
	50	11.52	6.14	1.88	13.91	6.60	2.11	16.07	6.49	2.48	16.01	4.99	3.21	16.16	5.03	3.21
	55	11.53	6.40	1.80	13.82	6.73	2.05	16.05	6.87	2.34	16.17	5.42	2.98	15.00	5.13	2.93
	60	11.52	6.70	1.72	13.84	6.88	2.01	16.63	7.31	2.28	16.96	6.28	2.70	16.88	6.28	2.69
	65	8.81	5.12	1.72	10.26	5.29	1.94	13.35	6.20	2.15	15.22	6.43	2.37	15.11	6.26	2.41
	70	7.29	4.60	1.58	8.99	4.88	1.84	11.28	5.52	2.05	13.91	6.19	2.25	14.64	6.36	2.30
	75							10.63	6.28	1.69	12.17	6.18	1.97	12.45	6.25	1.99
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	15.08	3.29	4.59	15.02	2.83	5.31	15.01	2.72	5.52	15.00	2.57	5.83	15.09	1.98	7.62
	30	15.29	3.55	4.31	15.39	3.16	4.87	15.35	3.02	5.09	15.30	2.95	5.19	15.00	2.03	7.38
	35	15.48	3.83	4.04	15.35	3.49	4.39	15.30	3.09	4.95	15.05	2.96	5.08	15.00	2.13	7.05
	40	15.29	4.20	3.64	15.25	3.77	4.04	15.30	3.48	4.40	15.20	3.35	4.54	15.35	2.30	6.68
	45	15.35	4.47	3.43	15.49	4.11	3.77	15.60	3.85	4.05	15.40	3.59	4.29	15.00	2.63	5.70
	50	16.26	5.05	3.22	16.30	4.70	3.47	15.60	4.00	3.90	15.87	3.85	4.12	15.00	2.82	5.31
	55	15.78	5.28	2.99	15.99	4.94	3.24	15.60	4.24	3.68	15.83	4.23	3.74	15.00	3.03	4.95
	60	16.82	6.29	2.67	16.52	5.86	2.82	16.31	5.38	3.03	16.00	4.78	3.35	15.00	3.24	4.64
	65	15.03	6.07	2.48	15.91	6.70	2.38	15.84	5.53	2.87	15.75	5.46	2.88	15.00	3.97	3.78
	70	15.12	6.34	2.39	15.59	6.75	2.31	15.65	5.83	2.69	15.73	5.85	2.69	15.39	5.22	2.95
	75	12.64	6.23	2.03	13.46	6.80	1.98	14.16	6.50	2.18	15.21	7.20	2.11	15.19	6.37	2.38
	80	12.44	6.69	1.86	13.36	6.89	1.94	13.63	6.45	2.11	14.04	6.94	2.02	14.51	6.55	2.22
	85	11.55	7.51	1.54	12.38	7.77	1.59	12.85	7.22	1.78	13.56	7.68	1.77	13.64	7.55	1.81

30% Load Heating capacity (continued)

Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	15.24	1.98	7.69	15.32	1.75	8.74	16.06	1.71	9.39	16.38	1.65	9.91	15.94	1.46	10.93
	30	15.34	2.05	7.50	15.41	1.97	7.83	15.97	1.90	8.40	16.43	1.86	8.85	16.27	1.64	9.89
	35	15.25	2.08	7.32	15.49	2.06	7.52	16.06	2.05	7.85	16.40	1.95	8.42	16.19	1.78	9.07
	40	15.37	2.20	7.00	15.39	2.21	6.98	16.17	2.23	7.27	16.54	2.12	7.79	16.14	1.93	8.36
	45	16.13	2.72	5.93	16.30	2.64	6.18	16.47	2.47	6.68	16.80	2.40	6.99	16.09	2.11	7.64
	50	15.56	2.86	5.44	15.97	2.74	5.84	16.68	2.70	6.18	16.89	2.59	6.53	15.89	2.21	7.20
	55	15.61	3.06	5.10	15.68	2.98	5.27	16.13	2.90	5.57	16.04	2.72	5.90	15.63	2.37	6.58
	60	15.40	3.11	4.96	15.52	3.04	5.10	15.64	3.10	5.05	15.63	2.91	5.37	15.32	2.72	5.63
	65	15.36	3.90	3.94	15.38	3.55	4.33	15.25	3.36	4.54	15.30	3.04	5.03			
	70	14.89	4.44	3.35	15.68	4.47	3.51	15.63	3.70	4.22	15.70	3.35	4.69			
	75	15.17	5.42	2.80	15.08	5.06	2.98	15.57	4.34	3.59	15.49	3.78	4.10			
	80	15.23	6.05	2.52	15.23	5.52	2.76									
	85	13.76	7.27	1.89	15.09	6.12	2.47									
30	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
	25	15.87	1.31	12.15	15.74	1.27	12.42	15.69	1.24	12.70						
	30	15.94	1.47	10.88	15.99	1.44	11.07	15.76	1.37	11.52						
	35	16.00	1.57	10.19	15.86	1.52	10.40	15.61	1.44	10.87						
	40	16.08	1.73	9.29	15.74	1.64	9.60	15.58	1.56	9.99						
	45	15.96	1.97	8.08	15.82	1.85	8.53	15.61	1.75	8.89						
	50	15.29	2.01	7.62	15.32	1.99	7.68									
	55	15.80	2.33	6.77												
	60	15.16	2.37	6.38												
	65															

Notes:

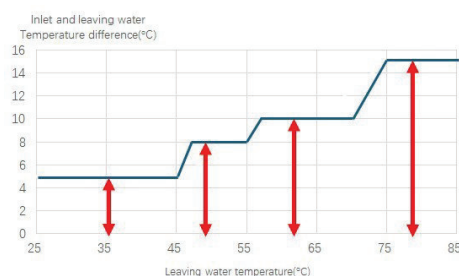
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

4.2.2 HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

100% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	35.67	21.29	1.68	41.36	21.43	1.93	50.64	18.58	2.73	55.53	19.46	2.85	54.30	18.72	2.90
	30	36.18	22.96	1.58	42.02	23.11	1.82	51.26	21.97	2.33	57.71	22.43	2.57	55.61	20.91	2.66
	35	36.98	24.09	1.54	42.42	23.73	1.79	52.57	24.67	2.13	59.15	24.65	2.40	57.00	22.80	2.50
	40	37.78	26.16	1.44	44.77	27.53	1.63	53.88	28.22	1.91	59.44	26.39	2.25	57.74	25.37	2.28
	45	39.07	29.30	1.33	46.29	31.61	1.46	54.48	31.18	1.75	59.87	27.96	2.14	58.00	27.62	2.10
	50	39.59	32.13	1.23	47.80	34.55	1.38	55.21	33.95	1.63	63.21	31.61	2.00	62.24	30.95	2.01
	55	39.62	33.46	1.18	47.49	35.21	1.35	55.16	35.93	1.54	63.52	33.87	1.88	60.00	32.79	1.83
	60	39.60	35.04	1.13	47.55	36.00	1.32	57.16	38.24	1.49	62.81	36.63	1.71	62.51	36.61	1.71
	65	30.29	26.78	1.13	35.25	27.70	1.27	45.88	32.45	1.41	53.99	35.20	1.53	54.99	35.43	1.55
	70	25.05	24.08	1.04	30.89	25.55	1.21	38.77	28.86	1.34	47.79	32.41	1.47	52.73	35.23	1.50
	75							36.51	32.87	1.11	41.82	32.35	1.29	42.79	32.69	1.31
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	53.48	18.00	2.97	56.90	17.04	3.34	56.86	16.39	3.47	56.81	15.50	3.66	59.48	13.22	4.50
	30	54.21	19.42	2.79	56.98	19.30	2.95	57.37	18.64	3.08	57.94	17.74	3.27	59.89	13.58	4.41
	35	57.32	22.34	2.57	58.15	21.04	2.76	59.00	20.34	2.90	59.71	19.03	3.14	60.00	13.95	4.30
	40	56.62	24.48	2.31	57.78	22.73	2.54	58.80	22.22	2.65	60.32	21.53	2.80	60.00	15.50	3.87
	45	58.14	26.93	2.16	58.68	24.76	2.37	60.00	24.00	2.50	61.10	23.07	2.65	60.00	17.05	3.52
	50	61.59	30.39	2.03	61.76	28.31	2.18	62.24	26.74	2.33	62.96	24.73	2.55	60.00	18.07	3.32
	55	61.17	32.85	1.86	61.99	30.74	2.02	60.00	26.67	2.25	62.81	27.18	2.31	60.00	19.61	3.06
	60	62.31	36.72	1.70	62.57	35.26	1.77	62.93	33.29	1.89	63.48	30.74	2.07	60.00	20.34	2.95
	65	55.66	35.22	1.58	60.26	36.75	1.64	61.15	34.59	1.77	62.49	31.88	1.96	60.00	22.22	2.70
	70	56.02	36.61	1.53	59.05	37.14	1.59	60.40	36.39	1.66	62.42	34.49	1.81	60.66	29.85	2.03
	75	43.43	32.58	1.33	46.26	33.19	1.39	49.32	34.68	1.42	53.93	36.82	1.46	54.84	32.28	1.70
	80	42.75	34.98	1.22	45.90	33.67	1.36	46.83	33.75	1.39	48.23	33.87	1.42	49.87	30.82	1.62
	85	39.69	39.30	1.01	42.53	37.94	1.12	44.16	37.76	1.17	46.61	37.52	1.24	46.88	35.54	1.32

100% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	63.50	13.63	4.66	65.47	11.65	5.62	68.65	10.96	6.26	70.01	10.59	6.61	68.10	8.99	7.57
	30	65.56	14.55	4.51	66.71	13.30	5.02	69.12	12.39	5.58	71.14	12.10	5.88	70.42	10.32	6.83
	35	66.91	15.36	4.36	67.96	14.17	4.79	70.45	13.57	5.19	71.93	12.92	5.57	71.00	11.40	6.23
	40	67.32	16.94	3.98	67.50	15.17	4.45	70.93	14.76	4.81	72.55	14.09	5.15	70.81	12.33	5.74
	45	67.21	18.70	3.59	67.90	16.93	4.01	72.25	16.35	4.42	73.68	15.94	4.62	70.55	13.45	5.25
	50	68.25	20.02	3.41	70.07	18.81	3.72	73.17	17.89	4.09	74.06	17.16	4.32	69.69	14.09	4.95
	55	63.47	20.37	3.12	63.74	18.47	3.45	65.58	17.33	3.78	65.21	16.26	4.01	63.53	13.68	4.64
	60	62.59	20.64	3.03	61.59	18.25	3.38	62.08	17.26	3.60	62.02	16.21	3.83	58.05	14.21	4.09
	65	62.45	22.49	2.78	61.05	19.79	3.09	60.51	18.70	3.24	60.72	16.96	3.58			
	70	60.53	25.58	2.37	62.23	24.88	2.50	62.03	20.64	3.01	62.29	18.66	3.34			
	75	56.20	27.41	2.05	57.10	26.42	2.16	58.98	22.63	2.61	60.03	20.35	2.95			
	80	52.34	27.42	1.91	55.20	27.05	2.04									
	85	47.29	32.98	1.43	51.84	27.75	1.87									
100	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
	25	67.83	7.74	8.76	67.29	7.51	8.95	67.04	7.32	9.15						
	30	69.01	8.84	7.80	69.20	8.71	7.94	68.24	8.26	8.27						
	35	70.19	9.64	7.28	69.55	9.36	7.43	68.45	8.82	7.76						
	40	70.52	10.63	6.63	69.05	10.07	6.86	68.35	9.58	7.14						
	45	70.01	12.13	5.77	69.40	11.39	6.10	68.46	10.78	6.35						
	50	67.06	12.32	5.44	65.45	11.82	5.54									
	55	59.85	11.71	5.11												
	60	54.93	12.08	4.55												
	65															

Notes:

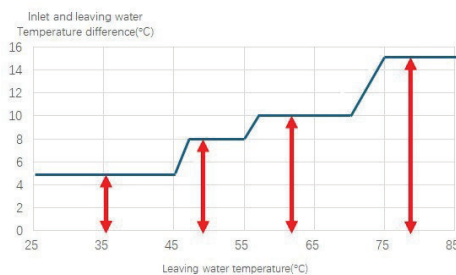
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

90% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	32.10	18.25	1.76	37.23	18.37	2.03	45.57	15.92	2.86	49.97	16.68	3.00	48.87	16.05	3.05
	30	32.56	19.68	1.65	37.82	19.81	1.91	46.14	18.83	2.45	51.94	19.23	2.70	50.05	17.92	2.79
	35	33.28	20.65	1.61	38.17	20.34	1.88	47.31	21.14	2.24	53.24	21.13	2.52	51.30	19.54	2.63
	40	34.00	22.42	1.52	40.29	23.60	1.71	48.49	24.19	2.00	53.49	22.62	2.36	51.97	21.74	2.39
	45	35.16	25.12	1.40	41.66	27.09	1.54	49.03	26.72	1.83	53.88	23.97	2.25	52.20	23.67	2.21
	50	35.63	27.54	1.29	43.02	29.61	1.45	49.69	29.10	1.71	56.89	27.09	2.10	56.01	26.53	2.11
	55	35.66	28.68	1.24	42.74	30.18	1.42	49.65	30.80	1.61	57.17	29.03	1.97	54.00	28.10	1.92
	60	35.64	30.03	1.19	42.79	30.86	1.39	51.45	32.78	1.57	56.53	31.40	1.80	56.26	31.38	1.79
	65	27.26	22.95	1.19	31.73	23.74	1.34	41.30	27.81	1.48	48.59	30.17	1.61	49.49	30.37	1.63
	70	22.54	20.64	1.09	27.80	21.90	1.27	34.89	24.74	1.41	43.02	27.78	1.55	47.46	30.20	1.57
	75							32.86	28.17	1.17	37.63	27.72	1.36	38.51	28.02	1.37
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	48.13	15.43	3.12	51.21	14.60	3.51	51.18	14.05	3.64	51.13	13.29	3.85	53.54	11.33	4.73
	30	48.79	16.65	2.93	51.29	16.54	3.10	51.63	15.97	3.23	52.14	15.21	3.43	53.90	11.64	4.63
	35	51.59	19.15	2.69	52.33	18.04	2.90	53.10	17.44	3.05	53.74	16.31	3.29	54.00	11.96	4.52
	40	50.95	20.99	2.43	52.00	19.48	2.67	52.92	19.04	2.78	54.28	18.45	2.94	54.00	13.29	4.06
	45	52.32	23.08	2.27	52.81	21.22	2.49	54.00	20.57	2.63	54.99	19.78	2.78	54.00	14.61	3.70
	50	55.43	26.04	2.13	55.58	24.26	2.29	56.01	22.92	2.44	56.66	21.20	2.67	54.00	15.49	3.49
	55	55.05	28.16	1.96	55.79	26.35	2.12	54.00	22.86	2.36	56.53	23.30	2.43	54.00	16.81	3.21
	60	56.08	31.47	1.78	56.32	30.23	1.86	56.64	28.53	1.99	57.13	26.34	2.17	54.00	17.43	3.10
	65	50.09	30.19	1.66	54.24	31.50	1.72	55.04	29.65	1.86	56.24	27.33	2.06	54.00	19.05	2.84
	70	50.42	31.38	1.61	53.15	31.84	1.67	54.36	31.19	1.74	56.18	29.56	1.90	54.59	25.58	2.13
	75	39.09	27.92	1.40	41.63	28.45	1.46	44.39	29.73	1.49	48.53	31.56	1.54	49.35	27.67	1.78
	80	38.47	29.98	1.28	41.31	28.86	1.43	42.15	28.93	1.46	43.41	29.03	1.50	44.89	26.42	1.70
	85	35.72	33.68	1.06	38.28	32.52	1.18	39.75	32.37	1.23	41.95	32.16	1.30	42.19	30.47	1.39

90% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	57.15	11.68	4.89	58.92	9.98	5.90	61.78	9.39	6.58	63.01	9.07	6.95	61.29	7.71	7.95
	30	59.00	12.47	4.73	60.04	11.40	5.27	62.21	10.62	5.86	64.03	10.37	6.17	63.38	8.84	7.17
	35	60.22	13.16	4.57	61.16	12.15	5.03	63.41	11.63	5.45	64.73	11.07	5.85	63.90	9.77	6.54
	40	60.59	14.52	4.17	60.75	13.00	4.67	63.83	12.65	5.05	65.29	12.08	5.41	63.72	10.57	6.03
	45	60.49	16.03	3.77	61.11	14.51	4.21	65.03	14.02	4.64	66.31	13.66	4.85	63.50	11.53	5.51
	50	61.43	17.16	3.58	63.06	16.12	3.91	65.85	15.33	4.29	66.65	14.71	4.53	62.72	12.08	5.19
	55	57.13	17.46	3.27	57.37	15.83	3.62	59.02	14.85	3.97	58.69	13.94	4.21	57.18	11.73	4.88
	60	56.33	17.70	3.18	55.43	15.64	3.54	55.87	14.80	3.78	55.82	13.89	4.02	52.24	12.18	4.29
	65	56.21	19.28	2.92	54.94	16.96	3.24	54.46	16.03	3.40	54.64	14.54	3.76			
	70	54.47	21.93	2.48	56.01	21.33	2.63	55.83	17.69	3.16	56.06	15.99	3.51			
	75	50.58	23.50	2.15	51.39	22.65	2.27	53.08	19.40	2.74	54.02	17.45	3.10			
	80	47.11	23.50	2.00	49.68	23.19	2.14									
	85	42.57	28.27	1.51	46.66	23.78	1.96									
90	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
	25	61.05	6.64	9.20	60.56	6.44	9.40	60.34	6.28	9.61						
	30	62.11	7.58	8.19	62.28	7.47	8.34	61.42	7.08	8.68						
	35	63.17	8.27	7.64	62.59	8.03	7.80	61.61	7.56	8.15						
	40	63.47	9.11	6.96	62.14	8.63	7.20	61.51	8.21	7.49						
	45	63.01	10.39	6.06	62.46	9.76	6.40	61.62	9.24	6.67						
	50	60.35	10.56	5.71	58.91	10.13	5.81									
	55	53.86	10.04	5.37												
	60	49.43	10.35	4.77												
	65															

Notes:

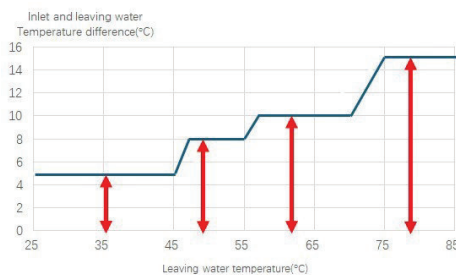
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

70% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC
70	25	24.97	12.96	1.93	28.95	13.04	2.22	35.44	11.31	3.13	38.87	11.85	3.28	38.01	11.40	3.34
	30	25.32	13.98	1.81	29.41	14.07	2.09	35.88	13.37	2.68	40.40	13.66	2.96	38.93	12.73	3.06
	35	25.88	14.66	1.77	29.69	14.44	2.06	36.80	15.02	2.45	41.41	15.00	2.76	39.90	13.88	2.88
	40	26.45	15.92	1.66	31.34	16.76	1.87	37.71	17.18	2.20	41.61	16.06	2.59	40.42	15.44	2.62
	45	27.35	17.84	1.53	32.41	19.24	1.68	38.13	18.98	2.01	41.91	17.02	2.46	40.60	16.81	2.42
	50	27.71	19.56	1.42	33.46	21.03	1.59	38.65	20.67	1.87	44.25	19.24	2.30	43.57	18.84	2.31
	55	27.73	20.37	1.36	33.24	21.43	1.55	38.61	21.87	1.77	44.47	20.62	2.16	42.00	19.96	2.10
	60	27.72	21.33	1.30	33.28	21.91	1.52	40.01	23.28	1.72	43.97	22.30	1.97	43.76	22.28	1.96
	65	21.20	16.30	1.30	24.68	16.86	1.46	32.12	19.75	1.63	37.79	21.43	1.76	38.49	21.56	1.79
	70	17.53	14.66	1.20	21.62	15.55	1.39	27.14	17.57	1.54	33.46	19.73	1.70	36.91	21.44	1.72
	75							25.56	20.01	1.28	29.27	19.69	1.49	29.95	19.90	1.51
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	37.44	10.96	3.42	39.83	10.37	3.84	39.80	9.98	3.99	39.77	9.44	4.21	41.64	8.05	5.18
	30	37.95	11.82	3.21	39.89	11.75	3.40	40.16	11.34	3.54	40.56	10.80	3.76	41.92	8.27	5.07
	35	40.12	13.60	2.95	40.70	12.81	3.18	41.30	12.38	3.34	41.80	11.58	3.61	42.00	8.49	4.95
	40	39.63	14.90	2.66	40.45	13.83	2.92	41.16	13.52	3.04	42.22	13.10	3.22	42.00	9.44	4.45
	45	40.70	16.39	2.48	41.07	15.07	2.73	42.00	14.61	2.88	42.77	14.04	3.05	42.00	10.38	4.05
	50	43.11	18.50	2.33	43.23	17.23	2.51	43.57	16.28	2.68	44.07	15.05	2.93	42.00	11.00	3.82
	55	42.82	20.00	2.14	43.39	18.71	2.32	42.00	16.23	2.59	43.96	16.54	2.66	42.00	11.94	3.52
	60	43.62	22.35	1.95	43.80	21.47	2.04	44.05	20.26	2.17	44.43	18.71	2.38	42.00	12.38	3.39
	65	38.96	21.44	1.82	42.18	22.37	1.89	42.81	21.05	2.03	43.74	19.41	2.25	42.00	13.53	3.11
	70	39.21	22.29	1.76	41.34	22.61	1.83	42.28	22.15	1.91	43.69	20.99	2.08	42.46	18.17	2.34
	75	30.40	19.83	1.53	32.38	20.20	1.60	34.53	21.11	1.64	37.75	22.41	1.68	38.39	19.65	1.95
	80	29.92	21.29	1.41	32.13	20.49	1.57	32.78	20.54	1.60	33.76	20.62	1.64	34.91	18.76	1.86
	85	27.78	23.92	1.16	29.77	23.09	1.29	30.91	22.98	1.35	32.63	22.84	1.43	32.82	21.63	1.52

70% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	44.45	8.30	5.36	45.83	7.09	6.46	48.05	6.67	7.20	49.01	6.44	7.61	47.67	5.47	8.71
	30	45.89	8.86	5.18	46.70	8.09	5.77	48.39	7.54	6.42	49.80	7.36	6.76	49.30	6.28	7.85
	35	46.83	9.35	5.01	47.57	8.63	5.51	49.32	8.26	5.97	50.35	7.86	6.40	49.70	6.94	7.16
	40	47.12	10.31	4.57	47.25	9.23	5.12	49.65	8.98	5.53	50.78	8.58	5.92	49.56	7.51	6.60
	45	47.04	11.38	4.13	47.53	10.31	4.61	50.58	9.95	5.08	51.57	9.70	5.32	49.39	8.19	6.03
	50	47.78	12.18	3.92	49.05	11.45	4.28	51.22	10.89	4.70	51.84	10.44	4.96	48.78	8.58	5.69
	55	44.43	12.40	3.58	44.62	11.24	3.97	45.90	10.55	4.35	45.65	9.90	4.61	44.47	8.33	5.34
	60	43.81	12.57	3.49	43.11	11.11	3.88	43.45	10.51	4.14	43.41	9.86	4.40	40.63	8.65	4.70
	65	43.72	13.69	3.19	42.73	12.04	3.55	42.36	11.38	3.72	42.50	10.32	4.12			
	70	42.37	15.57	2.72	43.56	15.15	2.88	43.42	12.56	3.46	43.61	11.36	3.84			
	75	39.34	16.69	2.36	39.97	16.08	2.49	41.29	13.78	3.00	42.02	12.39	3.39			
	80	36.64	16.69	2.20	38.64	16.47	2.35									
	85	33.11	20.07	1.65	36.29	16.89	2.15									
	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
70	25	47.48	4.71	10.07	47.10	4.57	10.30	46.93	4.46	10.53						
	30	48.31	5.38	8.98	48.44	5.30	9.14	47.77	5.02	9.51						
	35	49.14	5.87	8.37	48.68	5.70	8.54	47.92	5.37	8.93						
	40	49.37	6.47	7.63	48.33	6.13	7.89	47.84	5.83	8.21						
	45	49.00	7.38	6.64	48.58	6.93	7.01	47.92	6.56	7.31						
	50	46.94	7.50	6.26	45.82	7.20	6.37									
	55	41.89	7.13	5.88												
	60	38.45	7.35	5.23												
	65															

Notes:

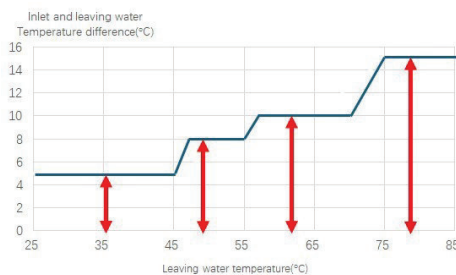
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

50% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	17.84	8.52	2.09	20.68	8.57	2.41	25.32	7.43	3.41	27.76	7.79	3.57	27.15	7.49	3.63
	30	18.09	9.18	1.97	21.01	9.25	2.27	25.63	8.79	2.92	28.86	8.97	3.22	27.81	8.36	3.33
	35	18.49	9.63	1.92	21.21	9.49	2.23	26.29	9.87	2.66	29.58	9.86	3.00	28.50	9.12	3.13
	40	18.89	10.46	1.81	22.39	11.01	2.03	26.94	11.29	2.39	29.72	10.56	2.82	28.87	10.15	2.85
	45	19.53	11.72	1.67	23.15	12.64	1.83	27.24	12.47	2.18	29.93	11.18	2.68	29.00	11.05	2.63
	50	19.80	12.85	1.54	23.90	13.82	1.73	27.61	13.58	2.03	31.61	12.64	2.50	31.12	12.38	2.51
	55	19.81	13.38	1.48	23.75	14.08	1.69	27.58	14.37	1.92	31.76	13.55	2.34	30.00	13.11	2.29
	60	19.80	14.01	1.41	23.77	14.40	1.65	28.58	15.30	1.87	31.40	14.65	2.14	31.26	14.64	2.13
	65	15.15	10.71	1.41	17.63	11.08	1.59	22.94	12.98	1.77	26.99	14.08	1.92	27.49	14.17	1.94
	70	12.52	9.63	1.30	15.44	10.22	1.51	19.38	11.54	1.68	23.90	12.96	1.84	26.36	14.09	1.87
	75							18.26	13.15	1.39	20.91	12.94	1.62	21.39	13.08	1.64
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	26.74	7.20	3.71	28.45	6.82	4.17	28.43	6.56	4.34	28.41	6.20	4.58	29.74	5.29	5.63
	30	27.10	7.77	3.49	28.49	7.72	3.69	28.68	7.45	3.85	28.97	7.10	4.08	29.95	5.43	5.51
	35	28.66	8.94	3.21	29.07	8.42	3.45	29.50	8.14	3.63	29.86	7.61	3.92	30.00	5.58	5.38
	40	28.31	9.79	2.89	28.89	9.09	3.18	29.40	8.89	3.31	30.16	8.61	3.50	30.00	6.20	4.84
	45	29.07	10.77	2.70	29.34	9.90	2.96	30.00	9.60	3.13	30.55	9.23	3.31	30.00	6.82	4.40
	50	30.80	12.15	2.53	30.88	11.32	2.73	31.12	10.70	2.91	31.48	9.89	3.18	30.00	7.23	4.15
	55	30.58	13.14	2.33	30.99	12.29	2.52	30.00	10.67	2.81	31.40	10.87	2.89	30.00	7.84	3.83
	60	31.16	14.69	2.12	31.29	14.11	2.22	31.47	13.31	2.36	31.74	12.29	2.58	30.00	8.14	3.69
	65	27.83	14.09	1.98	30.13	14.70	2.05	30.58	13.84	2.21	31.24	12.75	2.45	30.00	8.89	3.38
	70	28.01	14.64	1.91	29.53	14.86	1.99	30.20	14.55	2.08	31.21	13.79	2.26	30.33	11.94	2.54
	75	21.72	13.03	1.67	23.13	13.27	1.74	24.66	13.87	1.78	26.96	14.73	1.83	27.42	12.91	2.12
	80	21.37	13.99	1.53	22.95	13.47	1.70	23.42	13.50	1.73	24.12	13.55	1.78	24.94	12.33	2.02
	85	19.85	15.72	1.26	21.27	15.18	1.40	22.08	15.10	1.46	23.30	15.01	1.55	23.44	14.22	1.65

50% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	31.75	5.45	5.82	32.73	4.66	7.03	34.32	4.57	7.52	35.01	4.41	7.94	34.05	3.75	9.09
	30	32.78	5.82	5.63	33.36	5.32	6.27	34.56	5.16	6.70	35.57	5.04	7.06	35.21	4.30	8.19
	35	33.45	6.14	5.45	33.98	5.67	5.99	35.23	5.65	6.23	35.96	5.38	6.68	35.50	4.75	7.48
	40	33.66	6.77	4.97	33.75	6.07	5.56	35.46	6.15	5.77	36.27	5.87	6.18	35.40	5.14	6.89
	45	33.60	7.48	4.49	33.95	6.77	5.01	36.13	6.81	5.30	36.84	6.64	5.55	35.28	5.60	6.30
	50	34.13	8.01	4.26	35.03	7.52	4.66	36.58	7.45	4.91	37.03	7.15	5.18	34.85	5.87	5.93
	55	31.74	8.15	3.90	31.87	7.39	4.31	32.79	7.22	4.54	32.61	6.78	4.81	31.76	5.70	5.57
	60	31.29	8.26	3.79	30.80	7.30	4.22	31.04	7.19	4.32	31.01	6.75	4.59	29.02	5.92	4.90
	65	31.23	9.00	3.47	30.52	7.91	3.86	30.26	7.79	3.88	30.36	7.07	4.30			
	70	30.26	10.23	2.96	31.12	9.95	3.13	31.01	8.60	3.61	31.15	7.77	4.01			
	75	28.10	10.96	2.56	28.55	10.57	2.70	29.49	9.43	3.13	30.01	8.48	3.54			
	80	26.17	10.97	2.39	27.60	10.82	2.55									
	85	23.65	13.19	1.79	25.92	11.10	2.34									
50	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
	25	33.92	3.23	10.51	33.64	3.13	10.75	33.52	3.05	10.98						
	30	34.50	3.68	9.37	34.60	3.63	9.53	34.12	3.44	9.92						
	35	35.10	4.02	8.73	34.77	3.90	8.91	34.23	3.67	9.31						
	40	35.26	4.43	7.96	34.52	4.19	8.23	34.17	3.99	8.57						
	45	35.00	5.05	6.93	34.70	4.74	7.31	34.23	4.49	7.62						
	50	33.53	5.13	6.53	32.73	4.93	6.64									
	55	29.92	4.88	6.13												
	60	27.46	5.03	5.46												
	65															

Notes:

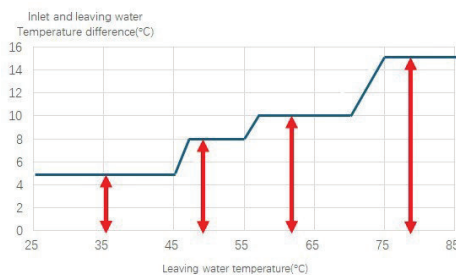
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

30% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	10.70	4.26	2.51	12.41	4.29	2.90	15.19	3.72	4.09	16.66	3.89	4.28	16.29	3.74	4.35
	30	10.85	4.59	2.36	12.61	4.62	2.73	15.38	4.39	3.50	17.31	4.49	3.86	16.68	4.18	3.99
	35	11.09	4.82	2.30	12.72	4.75	2.68	15.77	4.93	3.20	17.75	4.93	3.60	17.10	4.56	3.75
	40	11.33	5.23	2.17	13.43	5.51	2.44	16.16	5.64	2.86	17.83	5.28	3.38	17.32	5.07	3.41
	45	11.72	5.86	2.00	13.89	6.32	2.20	16.34	6.24	2.62	17.96	5.59	3.21	17.40	5.52	3.15
	50	11.88	6.43	1.85	14.34	6.91	2.08	16.56	6.79	2.44	18.96	6.32	3.00	18.67	6.19	3.02
	55	11.89	6.69	1.78	14.25	7.04	2.02	16.55	7.19	2.30	19.06	6.77	2.81	18.00	6.56	2.75
	60	11.88	7.01	1.70	14.26	7.20	1.98	17.15	7.65	2.24	18.84	7.33	2.57	18.75	7.32	2.56
	65	9.09	5.36	1.70	10.58	5.54	1.91	13.77	6.49	2.12	16.20	7.04	2.30	16.50	7.09	2.33
	70	7.51	4.82	1.56	9.27	5.11	1.81	11.63	5.77	2.01	14.34	6.48	2.21	15.82	7.05	2.25
	75							10.95	6.57	1.67	12.54	6.47	1.94	12.84	6.54	1.96
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	16.04	3.60	4.46	17.07	3.41	5.01	17.06	3.28	5.20	17.04	3.10	5.50	17.85	2.64	6.75
	30	16.26	3.88	4.19	17.10	3.86	4.43	17.21	3.73	4.62	17.38	3.55	4.90	17.97	2.72	6.62
	35	17.20	4.47	3.85	17.44	4.21	4.15	17.70	4.07	4.35	17.91	3.81	4.71	18.00	2.79	6.45
	40	16.98	4.90	3.47	17.33	4.55	3.81	17.64	4.44	3.97	18.09	4.31	4.20	18.00	3.10	5.81
	45	17.44	5.39	3.24	17.60	4.95	3.55	18.00	4.80	3.75	18.33	4.61	3.97	18.00	3.41	5.28
	50	18.48	6.08	3.04	18.53	5.66	3.27	18.67	5.35	3.49	18.89	4.95	3.82	18.00	3.61	4.98
	55	18.35	6.57	2.79	18.60	6.15	3.03	18.00	5.33	3.38	18.84	5.44	3.47	18.00	3.92	4.59
	60	18.69	7.34	2.55	18.77	7.05	2.66	18.88	6.66	2.84	19.04	6.15	3.10	18.00	4.07	4.43
	65	16.70	7.04	2.37	18.08	7.87	2.30	18.35	6.92	2.65	18.75	6.83	2.74	18.00	4.44	4.05
	70	16.81	7.32	2.30	17.72	7.96	2.23	18.12	7.28	2.49	18.73	7.39	2.53	18.20	5.97	3.05
	75	13.03	6.52	2.00	13.88	7.11	1.95	14.80	6.94	2.13	16.18	7.89	2.05	16.45	6.46	2.55
	80	12.82	7.00	1.83	13.77	7.21	1.91	14.05	6.75	2.08	14.47	7.26	1.99	14.96	6.16	2.43
	85	11.91	7.86	1.52	12.76	8.13	1.57	13.25	7.55	1.75	13.98	8.04	1.74	14.06	7.90	1.78

30% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	19.05	2.73	6.99	19.64	2.50	7.87	20.59	2.44	8.46	21.00	2.35	8.93	20.43	2.07	9.85
	30	19.67	2.91	6.76	20.01	2.85	7.02	20.74	2.75	7.53	21.34	2.69	7.94	21.13	2.38	8.87
	35	20.07	3.07	6.53	20.39	3.04	6.71	21.14	3.02	7.01	21.58	2.87	7.52	21.30	2.63	8.10
	40	20.20	3.39	5.96	20.25	3.25	6.23	21.28	3.28	6.49	21.76	3.13	6.95	21.24	2.85	7.46
	45	20.16	3.74	5.39	20.37	3.63	5.61	21.68	3.63	5.96	22.10	3.54	6.24	21.17	3.10	6.82
	50	20.48	4.00	5.12	21.02	4.03	5.21	21.95	3.97	5.52	22.22	3.81	5.83	20.91	3.25	6.43
	55	19.04	4.07	4.67	19.12	3.96	4.83	19.67	3.85	5.11	19.56	3.61	5.41	19.06	3.16	6.04
	60	18.78	4.13	4.55	18.48	3.91	4.73	18.62	3.98	4.67	18.61	3.74	4.98	17.41	3.28	5.31
	65	18.74	5.19	3.61	18.31	4.57	4.01	18.15	4.32	4.21	18.21	3.91	4.65			
	70	18.16	5.90	3.08	18.67	5.74	3.25	18.61	4.76	3.91	18.69	4.31	4.34			
	75	16.86	6.33	2.67	17.13	6.10	2.81	17.69	5.22	3.39	18.01	4.70	3.83			
	80	15.70	6.33	2.48	16.56	6.24	2.65									
	85	14.19	7.61	1.86	15.55	6.40	2.43									
30	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
	25	20.35	1.86	10.95	20.19	1.80	11.19	20.11	1.76	11.44						
	30	20.70	2.12	9.76	20.76	2.09	9.93	20.47	1.98	10.33						
	35	21.06	2.31	9.10	20.86	2.25	9.29	20.54	2.12	9.70						
	40	21.16	2.55	8.29	20.71	2.42	8.57	20.50	2.30	8.92						
	45	21.00	2.91	7.22	20.82	2.73	7.62	20.54	2.59	7.94						
	50	20.12	2.96	6.80	19.64	2.84	6.92									
	55	17.95	2.81	6.39												
	60	16.48	2.79	5.91												
	65															

Notes:

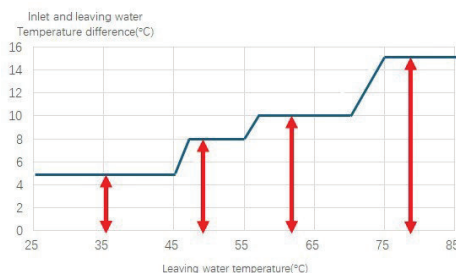
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

4.2.3 HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

100% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	36.40	21.94	1.66	42.21	22.09	1.91	51.67	19.15	2.70	56.66	20.06	2.82	55.41	19.30	2.87
	30	36.91	23.66	1.56	42.88	23.82	1.80	52.31	22.64	2.31	58.89	23.12	2.55	56.75	21.55	2.63
	35	37.73	24.82	1.52	43.28	24.45	1.77	53.64	25.42	2.11	60.36	25.36	2.38	60.00	25.00	2.40
	40	38.55	26.96	1.43	45.68	28.38	1.61	54.98	29.09	1.89	60.65	27.20	2.23	58.92	26.14	2.25
	45	39.86	30.20	1.32	47.24	32.58	1.45	55.59	32.13	1.73	61.09	28.82	2.12	60.00	29.27	2.05
	50	40.40	33.11	1.22	48.78	35.61	1.37	56.34	34.99	1.61	64.50	32.58	1.98	63.51	31.90	1.99
	55	40.43	34.48	1.17	48.46	36.28	1.34	56.29	37.03	1.52	64.82	34.91	1.86	61.00	33.89	1.80
	60	40.41	36.11	1.12	48.52	37.10	1.31	58.33	39.41	1.48	64.09	40.56	1.58	63.79	39.37	1.62
	65	30.91	28.10	1.10	35.97	28.55	1.26	46.82	33.44	1.40	55.09	36.28	1.52	56.11	36.58	1.53
	70	25.56	24.82	1.03	31.52	26.33	1.20	39.56	29.74	1.33	48.77	33.40	1.46	53.80	36.25	1.48
	75							37.26	33.87	1.10	42.67	33.34	1.28	43.66	33.69	1.30
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	54.57	18.55	2.94	58.06	17.56	3.31	58.51	17.10	3.42	59.18	16.47	3.59	63.73	14.92	4.27
	30	55.32	20.02	2.76	58.15	19.89	2.92	58.54	19.21	3.05	59.12	18.28	3.23	65.27	15.77	4.14
	35	58.49	23.03	2.54	59.33	21.69	2.74	60.00	21.43	2.80	60.93	19.61	3.11	70.00	17.50	4.00
	40	58.92	26.14	2.25	58.96	23.42	2.52	60.00	22.90	2.62	61.55	22.19	2.77	70.00	19.66	3.56
	45	59.32	27.75	2.14	59.87	25.52	2.35	62.00	25.83	2.40	62.35	23.78	2.62	70.00	24.56	2.85
	50	62.85	31.32	2.01	63.02	29.17	2.16	64.04	27.91	2.29	65.58	26.28	2.50	70.00	23.97	2.92
	55	62.42	33.85	1.84	63.25	31.68	2.00	64.00	30.41	2.10	65.42	28.88	2.27	70.00	25.93	2.70
	60	63.58	37.84	1.68	63.85	36.34	1.76	64.22	34.30	1.87	64.77	31.68	2.04	70.00	26.72	2.62
	65	56.79	36.47	1.56	61.49	37.62	1.63	62.40	35.52	1.76	63.76	32.87	1.94	70.00	27.45	2.55
	70	57.16	37.60	1.52	60.26	37.31	1.62	61.63	36.69	1.68	63.70	34.12	1.87	64.53	30.30	2.13
	75	44.32	33.58	1.32	47.20	34.20	1.38	50.33	35.75	1.41	55.03	37.95	1.45	55.96	31.44	1.78
	80	43.62	36.05	1.21	46.84	34.70	1.35	47.79	34.78	1.37	49.22	34.90	1.41	50.89	31.77	1.60
	85	40.50	40.50	1.00	43.40	39.10	1.11	45.06	38.92	1.16	47.56	38.67	1.23	47.84	36.63	1.31

100% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
100	25	70.55	15.90	4.44	77.02	14.73	5.23	80.76	13.86	5.83	82.37	13.39	6.15	80.12	11.37	7.05
	30	74.50	17.53	4.25	78.49	16.82	4.67	81.32	15.67	5.19	83.70	15.30	5.47	82.85	13.05	6.35
	35	76.03	18.50	4.11	79.95	17.93	4.46	82.88	17.16	4.83	84.62	16.34	5.18	83.53	14.41	5.80
	40	76.50	20.40	3.75	79.41	19.18	4.14	83.44	18.67	4.47	85.35	17.82	4.79	83.30	15.60	5.34
	45	76.37	22.53	3.39	79.88	21.42	3.73	85.00	20.68	4.11	86.68	20.16	4.30	83.00	17.01	4.88
	50	77.56	25.39	3.06	82.43	23.79	3.47	86.08	22.62	3.81	87.13	21.70	4.02	81.99	17.82	4.60
	55	72.13	24.53	2.94	74.99	23.36	3.21	77.15	21.92	3.52	76.72	20.57	3.73	74.74	17.30	4.32
	60	71.12	24.87	2.86	72.46	23.08	3.14	73.03	21.83	3.35	72.96	20.50	3.56	68.29	17.97	3.80
	65	70.97	27.09	2.62	71.82	25.02	2.87	71.19	23.65	3.01	71.43	21.45	3.33			
	70	65.79	28.92	2.28	67.65	28.13	2.41	70.49	24.86	2.84	70.79	22.47	3.15			
	75	57.35	28.25	2.03	58.27	27.23	2.14	60.18	23.33	2.58	61.25	20.98	2.92			
	80	53.41	28.26	1.89	56.32	27.88	2.02									
	85	48.26	33.99	1.42	52.90	28.59	1.85									
	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
100	25	79.80	9.79	8.15	79.16	9.50	8.33	78.87	9.26	8.52						
	30	81.19	11.18	7.26	81.41	11.02	7.39	80.29	10.44	7.69						
	35	82.58	12.20	6.77	81.82	11.84	6.91	80.53	11.15	7.22						
	40	82.97	13.45	6.17	81.23	12.73	6.38	80.41	12.11	6.64						
	45	82.36	15.34	5.37	81.64	14.40	5.67	80.54	13.63	5.91						
	50	78.89	15.59	5.06	77.00	14.95	5.15									
	55	70.41	14.81	4.75												
	60	64.62	15.28	4.23												
	65															

Notes:

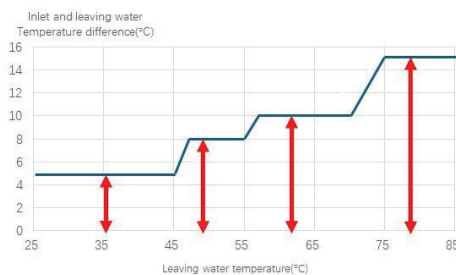
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

90% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	32.76	18.81	1.74	37.99	18.93	2.01	46.50	16.41	2.83	50.99	17.19	2.97	49.87	16.54	3.02
	30	33.22	20.28	1.64	38.59	20.42	1.89	47.08	19.41	2.43	53.00	19.82	2.67	51.07	18.47	2.77
	35	33.96	21.28	1.60	38.95	20.96	1.86	48.28	21.79	2.22	54.32	21.74	2.50	54.00	21.43	2.52
	40	34.70	23.11	1.50	41.12	24.32	1.69	49.48	24.93	1.98	54.59	23.31	2.34	53.03	22.41	2.37
	45	35.88	25.88	1.39	42.51	27.92	1.52	42.51	27.92	1.52	54.98	24.70	2.23	54.00	25.09	2.15
	50	36.36	28.38	1.28	43.90	30.52	1.44	50.71	29.99	1.69	58.05	27.92	2.08	57.16	27.34	2.09
	55	36.39	29.56	1.23	43.61	31.10	1.40	50.66	31.74	1.60	58.34	29.92	1.95	54.90	29.05	1.89
	60	36.37	30.95	1.18	36.37	30.95	1.18	52.50	33.78	1.55	57.68	34.77	1.66	57.41	33.75	1.70
	65	27.82	24.09	1.16	32.37	24.47	1.32	42.14	28.67	1.47	49.58	31.10	1.59	50.50	31.36	1.61
	70	23.00	21.27	1.08	28.37	22.57	1.26	35.60	25.50	1.40	43.89	28.63	1.53	48.42	31.08	1.56
	75							33.53	29.03	1.16	38.40	28.57	1.34	39.29	28.88	1.36
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	49.12	15.90	3.09	52.25	15.05	3.47	52.66	14.66	3.59	53.26	14.12	3.77	57.35	12.79	4.48
	30	49.78	17.16	2.90	52.33	17.05	3.07	52.68	16.46	3.20	53.21	15.67	3.40	58.74	13.51	4.35
	35	52.64	19.74	2.67	53.40	18.59	2.87	54.00	18.37	2.94	54.84	16.81	3.26	63.00	15.00	4.20
	40	51.99	21.63	2.40	53.07	20.08	2.64	54.00	19.63	2.75	55.39	19.02	2.91	63.00	16.85	3.74
	45	53.39	23.79	2.24	53.89	21.87	2.46	55.80	22.14	2.52	56.11	20.38	2.75	63.00	21.05	2.99
	50	56.56	26.84	2.11	56.72	25.01	2.27	57.64	23.93	2.41	59.03	22.52	2.62	63.00	20.55	3.07
	55	56.17	29.02	1.94	56.93	27.15	2.10	57.60	26.07	2.21	58.88	24.75	2.38	63.00	22.22	2.84
	60	57.23	32.43	1.76	57.46	31.15	1.84	57.80	29.40	1.97	58.29	27.15	2.15	63.00	22.90	2.75
	65	51.11	31.26	1.63	55.34	32.25	1.72	56.16	30.45	1.84	57.39	28.17	2.04	63.00	23.53	2.68
	70	51.44	32.23	1.60	54.23	31.98	1.70	55.47	31.45	1.76	57.33	29.25	1.96	58.08	25.97	2.24
	75	39.89	28.78	1.39	42.48	29.32	1.45	45.30	30.64	1.48	49.52	32.53	1.52	50.36	26.94	1.87
	80	39.26	30.90	1.27	42.16	29.74	1.42	43.01	29.81	1.44	44.29	29.92	1.48	45.80	27.23	1.68
	85	36.45	34.71	1.05	39.06	33.51	1.17	40.56	33.36	1.22	42.80	33.14	1.29	43.06	31.40	1.37

90% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
90	25	63.50	13.63	4.66	69.32	12.63	5.49	72.68	11.88	6.12	74.13	11.47	6.46	72.11	9.75	7.40
	30	67.05	15.03	4.46	67.05	15.03	4.46	73.19	13.43	5.45	75.33	13.12	5.74	74.56	11.18	6.67
	35	68.43	15.86	4.32	71.96	15.37	4.68	74.59	14.71	5.07	76.16	14.00	5.44	75.18	12.35	6.08
	40	68.85	17.49	3.94	71.47	16.44	4.35	75.10	16.00	4.69	76.81	15.27	5.03	74.97	13.37	5.61
	45	68.73	19.31	3.56	71.89	18.36	3.92	76.50	17.73	4.32	78.01	17.28	4.52	74.70	14.58	5.12
	50	69.80	21.76	3.21	74.19	20.39	3.64	77.47	19.39	4.00	78.42	18.60	4.22	73.79	15.28	4.83
	55	64.92	21.03	3.09	67.49	20.02	3.37	69.44	18.79	3.70	69.05	17.63	3.92	67.27	14.83	4.54
	60	64.01	21.31	3.00	65.21	19.78	3.30	65.73	18.71	3.51	65.67	17.57	3.74	61.46	15.40	3.99
	65	63.87	23.22	2.75	64.64	21.45	3.01	64.07	20.27	3.16	64.29	18.39	3.50			
	70	59.21	24.79	2.39	60.88	24.11	2.53	63.44	21.31	2.98	63.71	19.26	3.31			
	75	51.61	24.21	2.13	52.44	23.34	2.25	54.17	19.99	2.71	55.13	17.98	3.07			
	80	48.07	24.22	1.98	50.69	23.90	2.12									
	85	43.43	29.13	1.49	47.61	24.51	1.94									
90	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
	25	71.82	8.39	8.56	71.24	8.15	8.75	70.98	7.94	8.94						
	30	73.07	9.59	7.62	73.27	9.44	7.76	73.27	9.44	7.76						
	35	74.32	10.46	7.11	73.64	10.15	7.26	72.48	9.56	7.58						
	40	74.67	11.53	6.48	73.11	10.91	6.70	72.37	10.38	6.97						
	45	74.12	13.15	5.64	73.48	12.34	5.95	72.49	11.68	6.21						
	50	71.00	13.36	5.31	69.30	12.82	5.41									
	55	63.37	12.70	4.99												
	60	58.16	13.09	4.44												
	65															

Notes:

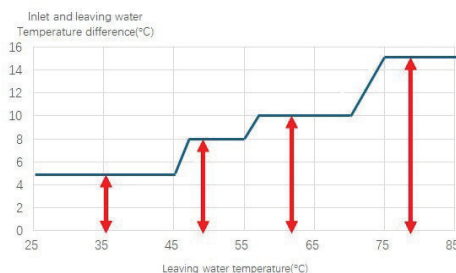
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

70% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	25.48	13.35	1.91	29.54	13.44	2.20	36.17	11.65	3.10	39.66	12.21	3.25	38.79	11.75	3.30
	30	25.84	14.40	1.79	30.01	14.50	2.07	36.62	13.78	2.66	41.22	14.07	2.93	39.72	13.12	3.03
	35	26.41	15.11	1.75	30.30	14.88	2.04	37.55	15.48	2.43	42.25	15.44	2.74	42.00	15.22	2.76
	40	26.99	16.41	1.64	31.98	17.27	1.85	38.48	17.71	2.17	42.46	16.55	2.56	41.25	15.91	2.59
	45	27.90	18.38	1.52	33.07	19.83	1.67	38.91	19.56	1.99	42.76	17.54	2.44	42.00	17.82	2.36
	50	28.28	20.16	1.40	34.15	21.67	1.58	39.44	21.30	1.85	45.15	19.83	2.28	44.46	19.42	2.29
	55	28.30	20.99	1.35	33.92	22.09	1.54	39.40	22.54	1.75	45.37	21.25	2.14	42.70	20.63	2.07
	60	28.29	21.98	1.29	33.96	22.58	1.50	40.83	23.99	1.70	44.86	24.69	1.82	44.65	23.96	1.86
	65	21.64	17.10	1.27	25.18	17.38	1.45	32.77	20.36	1.61	38.56	22.08	1.75	39.28	22.27	1.76
	70	17.89	15.11	1.18	22.06	16.03	1.38	27.69	18.11	1.53	34.14	20.33	1.68	37.66	22.07	1.71
	75							26.08	20.62	1.27	29.87	20.29	1.47	30.56	20.51	1.49
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	38.20	11.29	3.38	40.64	10.69	3.80	40.95	10.41	3.93	41.42	10.03	4.13	44.61	9.08	4.91
	30	38.72	12.18	3.18	40.70	12.11	3.36	40.98	11.69	3.50	41.38	11.13	3.72	45.69	9.60	4.76
	35	40.94	14.02	2.92	41.53	13.20	3.15	42.00	13.04	3.22	42.65	11.94	3.57	49.00	10.65	4.60
	40	40.44	15.36	2.63	41.27	14.26	2.90	42.00	13.94	3.01	43.08	13.51	3.19	49.00	11.97	4.09
	45	41.53	16.89	2.46	41.91	15.53	2.70	43.40	15.72	2.76	43.64	14.47	3.02	49.00	14.95	3.28
	50	43.99	19.06	2.31	44.11	17.76	2.48	44.83	16.99	2.64	45.91	15.99	2.87	49.00	14.59	3.36
	55	43.69	20.61	2.12	44.28	19.28	2.30	44.80	18.51	2.42	45.80	17.58	2.61	49.00	15.78	3.11
	60	44.51	23.03	1.93	44.69	22.12	2.02	44.95	20.88	2.15	45.34	19.28	2.35	49.00	16.26	3.01
	65	39.75	22.20	1.79	43.05	22.90	1.88	43.68	21.62	2.02	44.63	20.01	2.23	49.00	16.71	2.93
	70	40.01	22.89	1.75	42.18	22.71	1.86	43.14	22.33	1.93	44.59	20.77	2.15	45.17	18.44	2.45
	75	31.02	20.44	1.52	33.04	20.82	1.59	35.23	21.76	1.62	38.52	23.10	1.67	39.17	19.13	2.05
	80	30.53	21.94	1.39	32.79	21.12	1.55	33.45	21.17	1.58	34.45	21.25	1.62	35.62	19.34	1.84
	85	28.35	24.65	1.15	30.38	23.80	1.28	31.54	23.69	1.33	33.29	23.54	1.41	33.49	22.30	1.50

70% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
70	25	49.39	9.68	5.10	53.91	8.97	6.01	56.53	8.44	6.70	56.53	8.44	6.70	56.08	6.92	8.10
	30	52.15	10.67	4.89	54.94	10.24	5.37	56.93	9.54	5.97	58.59	9.31	6.29	57.99	7.94	7.30
	35	53.22	11.26	4.73	55.97	10.91	5.13	58.02	10.45	5.55	59.23	9.94	5.96	58.47	8.77	6.66
	40	53.55	12.42	4.31	55.59	11.68	4.76	58.41	11.36	5.14	59.74	10.85	5.51	58.31	9.50	6.14
	45	53.46	13.71	3.90	55.92	13.04	4.29	59.50	12.59	4.73	60.68	12.27	4.95	58.10	10.35	5.61
	50	54.29	15.45	3.51	57.70	14.48	3.98	60.25	13.77	4.38	60.99	13.21	4.62	57.39	10.85	5.29
	55	50.49	14.93	3.38	52.49	14.22	3.69	54.01	13.34	4.05	53.70	12.52	4.29	52.32	10.53	4.97
	60	49.78	15.14	3.29	50.72	14.05	3.61	51.12	13.29	3.85	51.07	12.48	4.09	47.80	10.94	4.37
	65	49.68	16.49	3.01	50.27	15.23	3.30	49.83	14.40	3.46	49.83	14.40	3.46			
	70	46.05	17.60	2.62	47.35	17.12	2.77	49.34	15.13	3.26	49.55	13.68	3.62			
	75	40.14	17.20	2.33	40.79	16.57	2.46	42.13	14.20	2.97	42.88	12.77	3.36			
	80	37.38	17.20	2.17	39.43	16.97	2.32									
	85	33.78	20.69	1.63	37.03	17.41	2.13									
	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
70	25	55.86	5.96	9.37	55.41	5.78	9.58	55.21	5.64	9.79						
	30	56.83	6.81	8.35	56.99	6.71	8.50	56.20	6.36	8.84						
	35	57.81	7.42	7.79	57.27	7.21	7.95	56.37	6.79	8.30						
	40	58.08	8.19	7.10	56.86	7.75	7.34	56.29	7.37	7.64						
	45	57.65	9.34	6.18	57.15	8.76	6.52	56.38	8.30	6.80						
	50	55.22	9.49	5.82	53.90	9.10	5.92									
	55	49.29	9.02	5.47												
	60	45.23	9.30	4.86												
	65															

Notes:

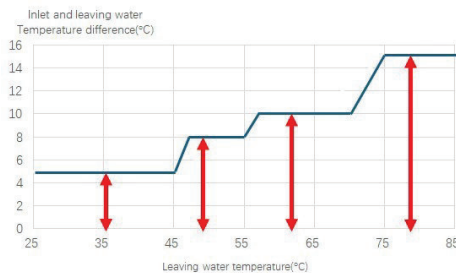
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

50% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	18.20	8.78	2.07	21.10	8.83	2.39	25.83	7.66	3.37	28.33	8.02	3.53	27.70	7.72	3.59
	30	18.46	9.47	1.95	21.44	9.53	2.25	26.15	9.06	2.89	29.45	9.25	3.18	28.37	8.62	3.29
	35	18.87	9.93	1.90	21.64	9.78	2.21	26.82	10.17	2.64	30.18	10.14	2.98	30.00	10.00	3.00
	40	19.28	10.78	1.79	22.84	11.35	2.01	27.49	11.64	2.36	30.33	10.88	2.79	29.46	10.46	2.82
	45	19.93	12.08	1.65	23.62	13.03	1.81	27.79	12.85	2.16	30.55	11.53	2.65	30.00	11.71	2.56
	50	20.20	13.25	1.53	24.39	14.24	1.71	28.17	14.00	2.01	32.25	13.03	2.48	31.75	12.76	2.49
	55	20.22	13.79	1.47	24.23	14.51	1.67	28.15	14.81	1.90	32.41	13.96	2.32	30.50	13.56	2.25
	60	20.21	14.44	1.40	24.26	14.84	1.63	29.17	15.76	1.85	32.05	16.23	1.98	31.89	15.75	2.03
	65	15.46	11.24	1.38	17.99	11.42	1.58	23.41	13.38	1.75	27.55	14.51	1.90	28.06	14.63	1.92
	70	12.78	9.93	1.29	15.76	10.53	1.50	19.78	11.90	1.66	24.39	13.36	1.83	26.90	14.50	1.86
	75							18.63	13.55	1.38	21.34	13.33	1.60	21.83	13.48	1.62
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	27.29	7.42	3.68	29.03	7.02	4.13	29.25	6.84	4.28	29.59	6.59	4.49	31.86	5.97	5.34
	30	27.66	8.01	3.45	29.07	7.96	3.65	29.27	7.68	3.81	29.56	7.31	4.04	32.64	6.31	5.18
	35	29.24	9.21	3.17	29.67	8.67	3.42	30.00	8.57	3.50	30.47	7.85	3.88	35.00	7.00	5.00
	40	28.89	10.09	2.86	29.48	9.37	3.15	30.00	9.16	3.28	30.77	8.87	3.47	35.00	7.87	4.45
	45	29.66	11.10	2.67	29.94	10.21	2.93	31.00	10.33	3.00	31.17	9.51	3.28	35.00	9.82	3.56
	50	31.42	12.53	2.51	31.51	11.67	2.70	32.02	11.17	2.87	32.79	10.51	3.12	35.00	9.59	3.65
	55	31.21	13.54	2.30	31.63	12.67	2.50	32.00	12.17	2.63	32.71	11.55	2.83	35.00	10.37	3.38
	60	31.79	15.14	2.10	31.92	14.54	2.20	32.11	13.72	2.34	32.39	12.67	2.56	35.00	10.69	3.28
	65	28.40	14.59	1.95	30.75	15.05	2.04	31.20	14.21	2.20	31.88	13.15	2.43	35.00	10.98	3.19
	70	28.58	15.04	1.90	30.13	14.92	2.02	30.82	14.67	2.10	31.85	13.65	2.33	32.27	12.12	2.66
	75	22.16	13.43	1.65	23.60	13.68	1.73	25.17	14.30	1.76	27.51	15.18	1.81	27.98	12.57	2.23
	80	21.81	14.42	1.51	23.42	13.88	1.69	23.90	13.91	1.72	24.61	13.96	1.76	25.45	12.71	2.00
	85	20.25	16.20	1.25	21.70	15.64	1.39	22.53	15.57	1.45	23.78	15.47	1.54	23.92	14.65	1.63

50% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
50	25	35.28	6.36	5.55	38.51	5.89	6.54	40.38	5.77	6.99	41.19	5.58	7.38	40.06	4.74	8.45
	30	37.25	7.01	5.31	39.24	6.73	5.83	40.66	6.53	6.23	41.85	6.38	6.56	41.42	5.44	7.62
	35	38.02	7.40	5.14	39.98	7.17	5.58	41.44	7.15	5.80	42.31	6.81	6.22	41.77	6.01	6.95
	40	38.25	8.16	4.69	39.71	7.67	5.18	41.72	7.78	5.36	42.67	7.42	5.75	41.65	6.50	6.41
	45	38.19	9.01	4.24	39.94	8.57	4.66	42.50	8.62	4.93	43.34	8.40	5.16	41.50	7.09	5.86
	50	38.78	10.16	3.82	41.22	9.52	4.33	43.04	9.43	4.57	43.57	9.04	4.82	41.00	7.43	5.52
	55	36.07	9.81	3.68	37.50	9.34	4.01	38.58	9.13	4.22	38.36	8.57	4.48	37.37	7.21	5.18
	60	35.56	9.95	3.58	36.23	9.23	3.93	36.52	9.10	4.01	36.48	8.54	4.27	34.15	7.49	4.56
	65	35.49	10.84	3.28	35.91	10.01	3.59	35.60	9.85	3.61	35.72	8.94	4.00			
	70	32.90	11.57	2.84	33.82	11.25	3.01	35.24	10.36	3.40	35.39	9.36	3.78			
	75	28.67	11.30	2.54	29.14	10.89	2.68	30.09	9.72	3.10	30.63	8.74	3.50			
	80	26.70	11.30	2.36	28.16	11.15	2.53									
	85	24.13	13.59	1.78	26.45	11.44	2.31									
50	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
	25	39.90	4.08	9.78	39.58	3.96	10.00	39.44	3.86	10.22						
	30	40.59	4.66	8.71	40.71	4.59	8.87	40.14	4.35	9.23						
	35	41.29	5.08	8.12	40.91	4.93	8.29	40.27	4.65	8.66						
	40	41.49	5.60	7.40	40.62	5.30	7.66	40.21	5.05	7.97						
	45	41.18	6.39	6.44	40.82	6.00	6.80	40.27	5.68	7.09						
	50	39.45	6.49	6.07	38.50	6.23	6.18									
	55	35.21	6.17	5.70												
	60	32.31	6.37	5.08												
	65															

Notes:

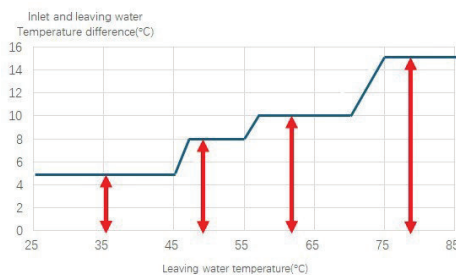
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

30% Load Heating capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-25			-20			-15			-10			-7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	10.92	4.39	2.49	12.66	4.42	2.87	15.50	3.83	4.05	17.00	4.01	4.24	16.62	3.86	4.31
	30	11.07	4.73	2.34	12.86	4.76	2.70	15.69	4.53	3.47	17.67	4.62	3.82	17.02	4.31	3.95
	35	11.32	4.96	2.28	12.98	4.89	2.66	16.09	5.08	3.17	18.11	5.07	3.57	18.00	5.00	3.60
	40	11.57	5.39	2.15	13.71	5.68	2.42	16.49	5.82	2.84	18.20	5.44	3.35	17.68	5.23	3.38
	45	11.96	6.04	1.98	14.17	6.52	2.18	16.68	6.43	2.60	18.33	5.76	3.18	18.00	5.85	3.08
	50	12.12	6.62	1.83	14.63	7.12	2.06	16.90	7.00	2.42	19.35	6.52	2.97	19.05	6.38	2.99
	55	12.13	6.90	1.76	14.54	7.26	2.00	16.89	7.41	2.28	16.89	7.41	2.28	18.30	6.78	2.70
	60	12.12	7.22	1.68	14.56	7.42	1.96	17.50	7.88	2.22	19.23	8.11	2.37	19.14	7.87	2.43
	65	9.27	5.62	1.65	10.79	5.71	1.89	14.05	6.69	2.10	16.53	7.26	2.28	16.83	7.32	2.30
	70	7.67	4.96	1.55	9.46	5.27	1.80	11.87	5.95	2.00	14.63	6.68	2.19	16.14	7.25	2.23
	75							11.18	6.77	1.65	12.80	6.67	1.92	13.10	6.74	1.94
	80															
	85															
	LWT	DB														
		-5			0			2			5			7		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	16.37	3.71	4.41	17.42	3.51	4.96	17.55	3.42	5.13	17.75	3.29	5.39	19.12	2.98	6.41
	30	16.59	4.00	4.15	17.44	3.98	4.39	17.56	3.84	4.57	17.74	3.66	4.85	19.58	3.15	6.21
	35	17.55	4.61	3.81	17.80	4.34	4.10	18.00	4.29	4.20	18.28	3.92	4.66	21.00	3.50	6.00
	40	17.33	5.05	3.43	17.69	4.68	3.78	18.00	4.58	3.93	18.46	4.44	4.16	21.00	3.93	5.34
	45	17.80	5.55	3.21	17.96	5.10	3.52	18.60	5.17	3.60	18.70	4.76	3.93	21.00	4.91	4.28
	50	18.85	6.26	3.01	18.91	5.83	3.24	19.21	5.58	3.44	19.68	5.26	3.74	21.00	4.79	4.38
	55	18.72	6.77	2.77	18.98	6.34	3.00	19.20	6.08	3.16	19.63	5.78	3.40	21.00	5.19	4.05
	60	19.08	7.57	2.52	19.15	7.27	2.64	19.27	6.86	2.81	19.43	6.34	3.07	21.00	5.34	3.93
	65	17.04	7.29	2.34	18.45	8.06	2.29	18.72	7.10	2.64	19.13	7.04	2.72	21.00	5.49	3.83
	70	17.15	7.52	2.28	18.08	7.99	2.26	18.49	7.34	2.52	19.11	7.31	2.61	19.36	6.06	3.20
	75	13.30	6.72	1.98	14.16	7.33	1.93	15.10	7.15	2.11	16.51	8.13	2.03	16.79	6.29	2.67
	80	13.09	7.21	1.82	14.05	7.43	1.89	14.34	6.96	2.06	14.76	7.48	1.97	15.27	6.35	2.40
	85	12.15	8.10	1.50	13.02	8.38	1.55	13.52	7.78	1.74	14.27	8.29	1.72	14.35	7.33	1.96

30% Load Heating capacity (continued)																
Load (%)/ Frequency (Hz)	LWT	DB														
		10			15			20			25			30		
		HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
30	25	21.17	3.18	6.65	23.11	3.16	7.32	24.23	3.08	7.87	24.71	2.97	8.31	24.04	2.62	9.16
	30	22.35	3.51	6.38	23.55	3.60	6.53	24.40	3.48	7.01	25.11	3.40	7.38	24.85	3.01	8.26
	35	22.81	3.70	6.17	23.99	3.84	6.24	24.86	3.81	6.52	25.39	3.63	6.99	25.06	3.33	7.53
	40	22.95	4.08	5.63	23.82	4.11	5.80	25.03	4.15	6.03	25.60	3.96	6.47	24.99	3.60	6.94
	45	22.91	4.51	5.09	23.96	4.59	5.22	25.50	4.60	5.55	26.00	4.48	5.81	24.90	3.92	6.34
	50	23.27	5.08	4.58	24.73	5.10	4.85	25.82	5.03	5.14	26.14	4.82	5.42	24.60	4.11	5.98
	55	21.64	4.91	4.41	22.50	5.01	4.49	23.15	4.87	4.75	23.02	4.57	5.04	22.42	3.99	5.62
	60	21.34	4.97	4.29	21.74	4.94	4.40	21.91	5.04	4.35	21.89	4.73	4.63	20.49	4.15	4.94
	65	21.29	6.25	3.41	21.55	5.77	3.73	21.36	5.46	3.91	21.43	4.95	4.33			
	70	19.74	6.67	2.96	20.29	6.49	3.13	21.15	5.74	3.69	21.24	5.19	4.10			
	75	17.20	6.52	2.64	17.48	6.28	2.78	18.06	5.38	3.35	18.38	4.84	3.80			
	80	16.02	6.52	2.46	16.90	6.43	2.63									
	85	14.48	7.84	1.85	15.87	6.60	2.41									
30	LWT	DB														
		35			40			43								
		HC	PI	COP	HC	PI	COP	HC	PI	COP						
	25	23.94	2.35	10.19	23.75	2.28	10.41	23.66	2.22	10.64						
	30	24.36	2.68	9.08	24.42	2.64	9.24	24.09	2.51	9.61						
	35	24.77	2.93	8.46	24.55	2.84	8.64	24.16	2.68	9.03						
	40	24.89	3.23	7.71	24.37	3.06	7.98	24.12	2.91	8.30						
	45	24.71	3.68	6.71	24.49	3.46	7.09	24.16	3.27	7.39						
	50	23.67	3.74	6.33	23.10	3.59	6.44									
	55	21.12	3.55	5.94												
	60	19.39	3.53	5.50												
	65															

Notes:

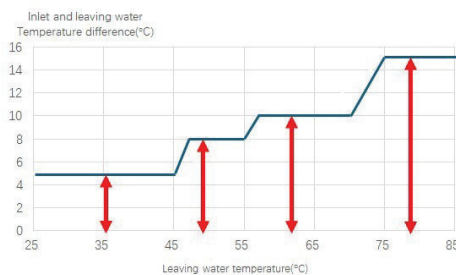
HC: Total heating capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the heating mode, the temperature difference between the inlet and leaving water of the unit is shown in the figure below:



EXTREME PRO L

4.3 Cooling Capacity Tables

4.3.1 HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

100% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
100	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	33.46	6.44	3.84	33.96	7.05	3.56	35.74	8.22	3.21	36.18	8.76	3.05	37.35	10.19	2.71
	5	37.18	5.72	4.80	37.74	6.26	4.45	39.71	7.31	4.02	40.20	7.79	3.82	41.50	9.05	3.39
	10	46.26	6.57	5.21	46.96	7.19	4.83	49.41	8.39	4.35	50.03	8.94	4.14	51.64	10.39	4.03
	15	53.04	7.29	5.72	53.84	7.98	5.30	56.65	9.31	4.78	57.36	9.92	4.54	59.20	11.54	4.27
	20	58.34	9.27	6.29	59.22	9.97	5.94	62.31	10.76	5.79	63.09	11.34	5.56	65.12	12.11	5.38
	25	61.26	7.09	6.80	62.18	7.76	6.30	65.43	9.05	6.00	66.25	9.65	5.82	68.38	11.22	5.63
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
100	-5	37.73	11.68	2.39	38.84	12.36	2.32	38.11	12.70	2.22	37.45	13.00	2.13	36.85	13.20	2.06
	0	44.39	12.37	2.65	45.70	13.09	2.58	44.83	13.45	2.46	44.06	13.76	2.37	43.35	13.98	2.29
	5	48.52	10.75	3.34	58.04	17.54	2.96	55.27	17.21	2.87	52.64	16.58	2.84	50.14	15.97	2.81
	10	60.37	12.34	3.90	65.38	15.85	3.78	60.70	16.06	3.63	58.75	15.77	3.58	57.24	15.83	3.47
	15	63.20	13.70	4.13	66.78	14.63	4.08	66.12	15.21	3.89	64.85	15.17	3.82	64.35	15.72	3.66
	20	69.52	13.16	5.28	74.06	14.38	5.15	73.60	14.78	4.98	72.79	14.98	4.86	70.62	14.66	4.82
	25	72.99	13.32	5.55	81.34	14.90	5.31	81.07	14.99	5.16	80.72	15.12	4.99	76.89	14.64	4.91
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
100	-5	35.78	12.97	2.04	27.30	10.19	1.56	14.93	8.24	1.34	8.83	5.46	1.12			
	0	42.09	13.73	2.27	35.01	10.79	1.82	17.57	8.72	1.49	10.39	5.78	1.25			
	5	49.83	15.69	2.72	36.48	7.81	2.44	21.60	7.11	2.24	12.88	5.87	1.62			
	10	51.51	16.13	3.35	39.05	9.98	2.89	27.84	8.07	2.55	17.03	5.95	2.12			
	15	51.68	14.50	3.56	51.29	11.69	3.24	34.09	8.82	2.86	21.19	6.00	2.61			
	20	55.09	11.62	4.74	52.00	10.57	3.64	38.93	8.79	3.27	24.23	6.04	2.96			
	25	63.99	13.59	4.84	57.52	9.67	4.03	43.78	8.76	3.69	27.27	6.08	3.32			

Notes:

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

90% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
90	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	25.09	5.52	4.55	25.47	6.04	4.22	26.80	7.05	3.80	27.14	7.51	3.61	28.01	8.73	3.21
	5	27.88	4.90	5.69	28.30	5.37	5.27	29.78	6.26	4.75	30.15	6.68	4.52	31.12	7.76	4.01
	10	34.70	5.63	6.16	35.22	6.16	5.71	37.06	7.19	5.15	37.52	7.66	4.90	38.73	8.91	4.35
	15	41.51	6.25	6.64	42.13	6.84	6.16	44.33	7.98	5.55	44.89	8.51	5.28	46.33	9.89	4.69
	20	45.66	6.25	7.31	46.35	6.84	6.77	48.77	7.98	6.11	49.38	8.51	5.80	50.97	9.89	5.15
	25	47.94	6.08	7.89	48.67	6.65	7.32	51.21	7.76	6.60	51.84	8.27	6.27	53.51	9.61	5.57
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
90	-5	28.30	10.01	2.83	29.13	10.60	2.75	28.58	10.89	2.62	28.09	11.14	2.52	27.64	11.32	2.44
	0	33.29	10.60	3.14	34.27	11.22	3.05	33.62	11.53	2.92	33.05	11.80	2.80	32.52	11.98	2.71
	5	36.39	9.22	3.95	49.75	15.04	3.31	47.38	14.75	3.21	45.12	14.21	3.18	42.97	13.69	3.14
	10	45.28	10.58	4.28	53.49	13.59	3.94	52.03	13.77	3.78	50.35	13.52	3.73	49.07	13.57	3.62
	15	54.17	11.74	4.61	57.24	12.54	4.56	56.68	13.04	4.35	55.58	13.00	4.27	55.16	13.48	4.09
	20	59.59	11.74	5.07	63.48	12.67	5.01	63.08	12.93	4.88	62.39	12.98	4.81	60.53	12.95	4.67
	25	62.57	11.42	5.48	69.72	12.77	5.46	69.49	12.85	5.41	69.19	12.96	5.34	65.91	12.55	5.25
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
90	-5	26.83	11.11	2.41	15.06	8.74	1.72	11.20	7.06	1.59	6.36	4.68	1.36			
	0	31.57	11.77	2.68	17.71	9.25	1.91	13.18	7.47	1.76	7.48	4.96	1.51			
	5	41.72	13.44	3.10	20.12	6.69	3.01	16.20	6.10	2.66	9.66	5.03	1.92			
	10	48.16	13.83	3.48	29.29	8.56	3.42	20.88	6.92	3.02	12.78	5.10	2.51			
	15	54.60	14.13	3.86	38.46	10.02	3.84	25.57	7.56	3.38	15.89	5.14	3.09			
	20	60.11	13.26	4.53	39.00	9.06	4.30	29.20	7.53	3.88	18.17	5.18	3.51			
	25	60.62	11.65	5.20	39.54	8.29	4.77	32.83	7.51	4.37	20.46	5.21	3.92			

Notes:

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

EXTREME PRO L

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

70% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
70	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	19.52	3.92	4.98	19.81	4.29	4.62	20.85	5.00	4.17	21.11	5.33	3.96	21.79	6.20	3.51
	5	21.69	3.48	6.23	22.01	3.81	5.77	23.16	4.45	5.21	23.45	4.74	4.95	24.21	5.51	4.39
	10	26.99	4.00	6.75	27.39	4.38	6.26	28.82	5.11	5.65	29.18	5.44	5.36	30.12	6.33	4.76
	15	32.28	4.44	7.27	32.77	4.86	6.74	34.48	5.67	6.08	34.91	6.04	5.78	36.04	7.02	5.13
	20	35.51	4.44	8.00	36.05	4.86	7.42	37.93	5.67	6.69	38.40	6.04	6.36	39.64	7.02	5.64
	25	37.29	4.32	8.64	37.85	4.72	8.01	39.83	5.51	7.23	40.32	5.87	6.87	41.62	6.83	6.10
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
70	-5	22.01	7.11	3.09	22.66	7.52	3.01	22.23	7.73	2.87	21.85	7.91	2.76	21.50	8.04	2.68
	0	25.89	7.53	3.44	26.66	7.97	3.35	26.15	8.19	3.19	25.70	8.38	3.07	25.29	8.51	2.97
	5	28.30	6.54	4.32	38.69	10.68	3.62	36.85	10.48	3.52	35.10	10.09	3.48	33.42	9.72	3.44
	10	35.22	7.51	4.69	41.61	9.65	4.31	40.47	9.78	4.14	39.16	9.60	4.08	38.16	9.63	3.96
	15	42.13	8.34	5.05	44.52	8.91	5.00	44.08	9.26	4.76	43.23	9.23	4.68	42.90	9.57	4.48
	20	46.35	8.34	5.56	49.37	9.00	5.49	49.06	9.18	5.34	48.52	9.22	5.26	47.08	9.20	5.12
	25	48.66	8.11	6.00	54.22	9.07	5.98	54.05	9.12	5.92	53.82	9.21	5.85	51.26	8.91	5.75
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
70	-5	20.87	7.89	2.64	11.71	6.21	1.89	8.71	5.01	1.74	4.94	3.33	1.49			
	0	24.55	8.36	2.94	13.78	6.57	2.10	10.25	5.31	1.93	5.82	3.52	1.65			
	5	32.45	9.55	3.40	15.65	4.75	3.29	12.60	4.33	2.91	7.51	3.57	2.10			
	10	37.46	9.82	3.82	22.78	6.08	3.75	16.24	4.91	3.31	9.94	3.62	2.74			
	15	42.47	10.04	4.23	29.92	7.11	4.21	19.89	5.37	3.70	12.36	3.65	3.39			
	20	46.75	9.41	4.97	30.34	6.43	4.71	22.71	5.35	4.25	14.13	3.68	3.84			
	25	47.15	8.27	5.70	30.76	5.89	5.22	25.54	5.33	4.79	15.91	3.70	4.30			

Notes :

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

50% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
50	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	13.94	2.57	5.41	14.15	2.82	5.02	14.89	3.29	4.53	15.08	3.50	4.30	15.56	4.07	3.82
	5	15.49	2.29	6.77	15.72	2.51	6.28	16.55	2.92	5.66	16.75	3.12	5.38	17.29	3.62	4.77
	10	19.28	2.63	7.34	19.57	2.88	6.80	20.59	3.35	6.14	20.84	3.58	5.83	21.52	4.16	5.18
	15	23.06	2.92	7.91	23.41	3.19	7.33	24.63	3.72	6.61	24.94	3.97	6.28	25.74	4.61	5.58
	20	25.37	2.92	8.70	25.75	3.19	8.06	27.09	3.72	7.27	27.43	3.97	6.91	28.31	4.61	6.14
	25	26.63	2.84	9.39	27.04	3.10	8.71	28.45	3.62	7.86	28.80	3.86	7.46	29.73	4.49	6.63
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
50	-5	15.72	4.67	3.36	16.18	4.94	3.27	15.88	5.08	3.12	15.61	5.20	3.00	15.35	5.28	2.91
	0	18.50	4.95	3.74	19.04	5.24	3.64	18.68	5.38	3.47	18.36	5.51	3.34	18.06	5.59	3.23
	5	20.22	4.30	4.70	27.64	7.02	3.94	26.32	6.88	3.82	25.07	6.63	3.78	23.87	6.39	3.74
	10	25.16	4.94	5.10	29.72	6.34	4.69	28.90	6.42	4.50	27.97	6.31	4.43	27.26	6.33	4.31
	15	30.09	5.48	5.49	31.80	5.85	5.43	31.49	6.08	5.18	30.88	6.07	5.09	30.64	6.29	4.87
	20	33.10	5.48	6.04	35.27	5.91	5.97	35.05	6.03	5.81	34.66	6.06	5.72	33.63	6.05	5.56
	25	34.76	5.33	6.52	38.73	5.96	6.50	38.60	5.99	6.44	38.44	6.05	6.35	36.62	5.86	6.25
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
50	-5	14.91	5.19	2.87	8.36	4.08	2.05	6.22	3.29	1.89	3.53	2.19	1.62			
	0	17.54	5.49	3.19	9.84	4.32	2.28	7.32	3.49	2.10	4.15	2.31	1.80			
	5	23.18	6.27	3.69	11.18	3.12	3.58	9.00	2.85	3.16	5.37	2.35	2.29			
	10	26.76	6.45	4.15	16.27	3.99	4.08	11.60	3.23	3.59	7.10	2.38	2.98			
	15	30.34	6.59	4.60	21.37	4.67	4.57	14.20	3.53	4.03	8.83	2.40	3.68			
	20	33.40	6.19	5.40	21.67	4.23	5.12	16.22	3.52	4.61	10.10	2.42	4.18			
	25	33.68	5.44	6.20	21.97	3.87	5.68	18.24	3.51	5.20	11.36	2.43	4.67			

Notes:

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

EXTREME PRO L

HCMO-50-D2L3P0-D1G (HCMO-50-D2L3P0(H)-D1G)

30% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
30	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	8.36	1.14	7.36	8.49	1.24	6.83	8.93	1.45	6.16	9.05	1.55	5.85	9.34	1.80	5.19
	5	9.29	1.01	9.20	9.43	1.11	8.53	9.93	1.29	7.70	10.05	1.37	7.31	10.37	1.60	6.49
	10	11.57	1.16	9.98	11.74	1.27	9.25	12.35	1.48	8.35	12.51	1.58	7.93	12.91	1.83	7.04
	15	13.84	1.29	10.75	14.04	1.41	9.97	14.78	1.64	8.99	14.96	1.75	8.54	15.44	2.04	7.59
	20	15.22	1.29	11.83	15.45	1.41	10.97	16.26	1.64	9.89	16.46	1.75	9.40	16.99	2.04	8.34
	25	15.98	1.25	12.77	16.22	1.37	11.84	17.07	1.60	10.68	17.28	1.70	10.15	17.84	1.98	9.01
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
30	-5	9.43	2.06	4.57	9.71	2.18	4.45	9.53	2.24	4.25	9.36	2.29	4.08	9.21	2.33	3.95
	0	11.10	2.18	5.08	11.42	2.31	4.95	11.21	2.37	4.72	11.02	2.43	4.54	10.84	2.47	4.39
	5	12.13	1.90	6.39	16.58	3.10	5.36	15.79	3.04	5.20	15.04	2.93	5.14	14.32	2.82	5.08
	10	15.09	2.18	6.93	17.83	2.80	6.37	17.34	2.83	6.12	16.78	2.78	6.03	16.36	2.79	5.86
	15	18.06	2.42	7.47	19.08	2.58	7.39	18.89	2.68	7.04	18.53	2.68	6.92	18.39	2.77	6.63
	20	19.86	2.42	8.21	21.16	2.61	8.11	21.03	2.66	7.90	20.80	2.67	7.78	20.18	2.67	7.57
	25	20.86	2.35	8.87	23.24	2.63	8.84	23.16	2.64	8.76	23.06	2.67	8.64	21.97	2.58	8.50
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
30	-5	8.94	2.29	3.91	5.02	1.80	2.79	3.73	1.45	2.57	2.12	0.96	2.20			
	0	10.52	2.42	4.34	5.90	1.90	3.10	4.39	1.54	2.85	2.49	1.02	2.44			
	5	13.91	2.77	5.02	6.71	1.38	4.87	5.40	1.26	4.30	3.22	1.04	3.11			
	10	16.05	2.85	5.64	9.76	1.76	5.54	6.96	1.42	4.89	4.26	1.05	4.06			
	15	18.20	2.91	6.26	12.82	2.06	6.22	8.52	1.56	5.47	5.30	1.06	5.00			
	20	20.04	2.73	7.34	13.00	1.87	6.97	9.73	1.55	6.28	6.06	1.07	5.68			
	25	20.21	2.40	8.43	13.18	1.71	7.72	10.94	1.55	7.08	6.82	1.07	6.35			

Notes:

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

4.3.2 HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

100% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
100	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	34.16	9.02	3.79	34.67	9.88	3.51	36.48	11.52	3.17	36.94	12.28	3.01	38.13	14.28	2.67
	5	37.95	8.02	4.73	38.52	8.78	4.39	40.54	10.24	3.96	41.04	10.92	3.76	42.36	12.69	3.34
	10	47.22	9.21	5.13	47.94	10.08	4.76	50.44	11.76	4.29	51.07	12.53	4.08	51.64	14.06	3.67
	15	56.50	10.22	5.53	57.35	11.19	5.13	60.34	13.05	4.62	61.10	13.91	4.39	61.78	15.16	4.07
	20	62.15	10.22	6.08	63.08	10.99	5.74	66.38	11.86	5.60	67.21	12.50	5.38	67.95	12.89	5.27
	25	65.25	9.94	6.57	66.24	10.88	6.09	69.70	12.03	5.79	70.57	12.56	5.62	71.35	12.80	5.57
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
100	-5	38.52	16.38	2.35	39.65	17.33	2.29	38.90	17.81	2.18	38.23	18.22	2.10	37.62	18.51	2.03
	0	45.31	17.34	2.61	46.65	18.35	2.54	45.77	18.86	2.43	44.98	19.29	2.33	44.26	19.59	2.26
	5	49.53	15.07	3.29	60.80	20.93	2.90	59.22	21.20	2.79	58.91	21.75	2.71	57.30	21.61	2.65
	10	60.37	16.70	3.62	68.35	19.78	3.46	67.92	20.47	3.32	65.74	20.10	3.27	64.06	20.18	3.17
	15	66.21	16.35	4.05	69.96	17.46	4.01	69.27	18.15	3.82	67.94	18.10	3.75	67.42	18.76	3.59
	20	72.83	14.05	5.18	77.59	15.34	5.06	77.10	15.78	4.89	76.25	15.99	4.77	73.99	15.65	4.73
	25	76.47	14.04	5.45	85.21	16.34	5.22	84.93	16.76	5.07	84.57	17.27	4.90	80.55	16.70	4.82
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
100	-5	36.52	18.18	2.01	27.87	18.13	1.54	15.24	11.54	1.32	8.83	7.85	1.12			
	0	42.97	19.25	2.23	35.74	19.98	1.79	17.93	12.22	1.47	10.39	8.32	1.25			
	5	56.79	21.88	2.60	37.24	15.50	2.40	22.05	9.97	2.21	13.15	8.23	1.60			
	10	60.20	19.69	3.06	39.87	13.99	2.85	28.42	11.31	2.51	17.39	8.34	2.09			
	15	60.52	17.30	3.50	52.35	16.38	3.20	34.80	12.37	2.81	21.63	8.41	2.57			
	20	63.79	13.71	4.65	53.09	14.82	3.58	39.74	12.32	3.23	24.74	8.47	2.92			
	25	74.09	15.60	4.75	58.72	14.79	3.97	44.69	12.28	3.64	27.84	8.52	3.27			

Notes:

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

EXTREME PRO L

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

90% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
90	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	30.74	7.73	3.97	31.21	8.47	3.69	32.83	9.88	3.32	33.24	10.53	3.16	34.31	12.24	2.80
	5	34.16	6.88	4.97	34.67	7.53	4.61	36.48	8.78	4.16	36.94	9.36	3.95	38.13	10.88	3.50
	10	42.50	7.89	5.39	43.14	8.64	4.99	45.40	10.08	4.50	45.96	10.74	4.28	46.47	12.05	3.86
	15	50.85	8.76	5.80	51.61	9.59	5.38	54.31	11.19	4.85	54.99	11.92	4.61	55.60	13.00	4.28
	20	55.93	8.76	6.38	56.78	9.42	6.03	59.74	10.16	5.88	60.49	10.71	5.65	61.16	11.05	5.54
	25	58.73	8.52	6.90	59.61	9.32	6.39	62.73	10.31	6.08	63.51	10.76	5.90	64.22	10.97	5.85
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
90	-5	34.66	14.04	2.47	35.69	14.85	2.40	35.01	15.26	2.29	34.41	15.62	2.20	33.86	15.86	2.13
	0	40.78	14.86	2.74	41.98	15.73	2.67	41.19	16.16	2.55	40.48	16.54	2.45	39.83	16.79	2.37
	5	44.58	12.92	3.45	54.72	17.94	3.05	53.30	18.17	2.93	53.02	18.64	2.84	51.57	18.52	2.78
	10	54.34	14.31	3.80	61.52	16.95	3.63	61.13	17.55	3.48	59.16	17.23	3.43	57.65	17.30	3.33
	15	59.59	14.01	4.25	62.96	14.97	4.21	62.34	15.56	4.01	61.14	15.52	3.94	60.68	16.08	3.77
	20	65.55	12.04	5.44	69.83	13.15	5.31	69.39	13.52	5.13	68.63	13.70	5.01	66.59	13.41	4.96
	25	68.82	12.03	5.72	76.69	14.00	5.48	76.44	14.37	5.32	76.11	14.80	5.14	72.50	14.32	5.06
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
90	-5	32.87	15.58	2.11	25.08	15.54	1.61	13.72	9.89	1.39	8.83	7.85	1.12			
	0	38.67	16.50	2.34	32.17	17.12	1.88	16.14	10.48	1.54	10.39	8.32	1.25			
	5	51.11	18.75	2.73	33.52	13.29	2.52	19.85	8.55	2.32	11.83	7.05	1.68			
	10	54.18	16.87	3.21	35.88	11.99	2.99	25.58	9.70	2.64	15.65	7.15	2.19			
	15	54.47	14.83	3.67	47.12	14.04	3.36	31.32	10.60	2.95	19.47	7.21	2.70			
	20	57.41	11.75	4.89	47.78	12.70	3.76	35.77	10.56	3.39	22.26	7.26	3.07			
	25	66.68	13.37	4.99	52.85	12.68	4.17	40.22	10.53	3.82	25.06	7.31	3.43			

Notes :

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

70% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
70	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	23.91	5.49	4.35	24.27	6.01	4.04	25.54	7.01	3.64	25.86	7.48	3.46	26.69	8.69	3.07
	5	26.57	4.88	5.44	26.97	5.34	5.05	28.38	6.23	4.55	28.73	6.64	4.32	29.65	7.73	3.84
	10	33.06	5.60	5.90	33.56	6.13	5.47	35.31	7.16	4.93	35.75	7.63	4.69	36.15	8.56	4.22
	15	39.55	6.22	6.36	40.14	6.81	5.89	42.24	7.95	5.32	42.77	8.47	5.05	43.24	9.23	4.69
	20	43.50	6.22	6.99	44.16	6.69	6.60	46.46	7.22	6.44	47.04	7.61	6.18	47.57	7.84	6.06
	25	45.68	6.05	7.55	46.37	6.62	7.00	48.79	7.32	6.66	49.40	7.64	6.46	49.95	7.79	6.41
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
70	-5	26.96	9.97	2.70	27.76	10.55	2.63	27.23	10.84	2.51	26.76	11.09	2.41	26.33	11.26	2.34
	0	31.72	10.56	3.00	32.65	11.17	2.92	32.04	11.48	2.79	31.49	11.74	2.68	30.98	11.93	2.60
	5	34.67	9.17	3.78	42.56	12.74	3.34	41.46	12.91	3.21	41.24	13.24	3.12	40.11	13.15	3.05
	10	42.26	10.16	4.16	47.85	12.04	3.97	47.55	12.46	3.82	46.02	12.24	3.76	44.84	12.28	3.65
	15	46.35	9.95	4.66	48.97	10.63	4.61	48.49	11.05	4.39	47.56	11.02	4.32	47.19	11.42	4.13
	20	50.98	8.55	5.96	54.31	9.34	5.81	53.97	9.60	5.62	53.38	9.73	5.49	51.79	9.53	5.44
	25	53.53	8.55	6.26	59.65	9.95	6.00	59.45	10.20	5.83	59.20	10.51	5.63	56.39	10.17	5.55
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
70	-5	25.57	11.06	2.31	19.51	11.03	1.77	10.89	7.21	1.51	8.83	7.85	1.12			
	0	30.08	11.71	2.57	25.02	12.16	2.06	12.55	7.44	1.69	10.39	8.32	1.25			
	5	39.75	13.32	2.99	26.07	9.44	2.76	15.44	6.07	2.54	9.20	5.01	1.84			
	10	42.14	11.98	3.52	27.91	8.52	3.28	19.90	6.89	2.89	12.17	5.08	2.40			
	15	42.36	10.53	4.02	36.65	9.97	3.68	24.36	7.53	3.24	15.14	5.12	2.96			
	20	44.65	8.34	5.35	37.16	9.02	4.12	27.82	7.50	3.71	17.31	5.16	3.36			
	25	51.86	9.50	5.46	41.11	9.00	4.57	31.28	7.48	4.18	19.49	5.19	3.76			

Notes :

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

EXTREME PRO L

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

50% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
50	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	17.08	3.61	4.73	17.34	3.95	4.39	18.24	4.61	3.96	18.47	4.91	3.76	19.06	5.71	3.34
	5	18.98	3.21	5.91	19.26	3.51	5.48	20.27	4.10	4.95	20.52	4.37	4.70	21.18	5.08	4.17
	10	23.61	3.68	6.41	23.97	4.03	5.95	25.22	4.70	5.36	25.53	5.01	5.09	25.82	5.62	4.59
	15	28.25	4.09	6.91	28.67	4.48	6.41	30.17	5.22	5.78	30.55	5.56	5.49	30.89	6.07	5.09
	20	31.07	4.09	7.60	31.54	4.40	7.17	33.19	4.74	7.00	33.60	5.00	6.72	33.98	5.15	6.59
	25	32.63	3.97	8.21	33.12	4.35	7.61	34.85	4.81	7.24	35.28	5.02	7.02	35.68	5.12	6.97
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
50	-5	19.26	6.55	2.94	19.83	6.93	2.86	19.45	7.12	2.73	19.12	7.29	2.62	18.81	7.40	2.54
	0	22.66	6.94	3.27	23.32	7.34	3.18	22.88	7.54	3.03	22.49	7.72	2.91	22.13	7.84	2.82
	5	24.76	6.03	4.11	30.40	8.37	3.63	29.61	8.48	3.49	29.45	8.70	3.39	28.65	8.64	3.32
	10	30.19	6.68	4.52	34.18	7.91	4.32	33.96	8.19	4.15	32.87	8.04	4.09	32.03	8.07	3.97
	15	33.10	6.54	5.06	34.98	6.98	5.01	34.64	7.26	4.77	33.97	7.24	4.69	33.71	7.50	4.49
	20	36.41	5.62	6.48	38.79	6.14	6.32	38.55	6.31	6.11	38.13	6.39	5.96	36.99	6.26	5.91
	25	38.23	5.62	6.81	42.61	6.54	6.52	42.46	6.70	6.33	42.28	6.91	6.12	40.28	6.68	6.03
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
50	-5	18.26	7.27	2.51	13.94	7.25	1.92	10.89	7.21	1.51	8.83	7.85	1.12			
	0	21.48	7.70	2.79	17.87	7.99	2.24	9.15	5.01	1.83	10.39	8.32	1.25			
	5	28.39	8.75	3.24	18.62	6.20	3.00	11.03	3.99	2.76	9.20	5.01	1.84			
	10	30.10	7.87	3.82	19.93	5.60	3.56	14.21	4.53	3.14	9.56	3.60	2.66			
	15	30.26	6.92	4.37	26.18	6.55	3.99	17.40	4.95	3.52	10.81	3.36	3.22			
	20	31.90	5.48	5.82	26.54	5.93	4.48	19.87	4.93	4.03	12.37	3.39	3.65			
	25	37.04	6.24	5.94	29.36	5.92	4.96	22.34	4.91	4.55	13.92	3.41	4.08			

Notes :

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

HCMO-60-D2L3P0-D1G (HCMO-60-D2L3P0(H)-D1G)

30% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
30	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	10.25	2.04	5.02	10.40	2.24	4.65	10.94	2.61	4.19	11.08	2.78	3.99	11.44	3.23	3.54
	5	11.39	1.82	6.27	11.56	1.99	5.81	12.16	2.32	5.24	12.31	2.47	4.98	12.71	2.87	4.42
	10	14.17	2.08	6.80	14.38	2.28	6.30	15.13	2.66	5.68	15.32	2.84	5.40	15.49	3.18	4.87
	15	16.95	2.31	7.32	17.20	2.53	6.79	18.10	2.96	6.13	18.33	3.15	5.82	18.53	3.43	5.40
	20	18.64	2.31	8.06	18.93	2.49	7.60	19.91	2.68	7.42	20.16	2.83	7.12	20.39	2.92	6.99
	25	19.58	2.25	8.70	19.87	2.46	8.07	20.91	2.72	7.68	21.17	2.84	7.45	21.41	2.90	7.39
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
30	-5	11.55	3.71	3.12	11.90	3.92	3.03	11.67	4.03	2.89	11.47	4.13	2.78	11.29	4.19	2.69
	0	13.59	3.93	3.46	13.99	4.15	3.37	13.73	4.27	3.22	13.49	4.37	3.09	13.28	4.44	2.99
	5	14.86	3.41	4.35	18.24	4.74	3.85	17.77	4.80	3.70	17.67	4.92	3.59	17.19	4.89	3.51
	10	18.11	3.78	4.79	20.51	4.48	4.58	20.38	4.64	4.40	19.72	4.55	4.33	19.22	4.57	4.21
	15	19.86	3.70	5.37	20.99	3.95	5.31	20.78	4.11	5.06	20.38	4.10	4.97	20.23	4.25	4.76
	20	21.85	3.18	6.87	23.28	3.47	6.70	23.13	3.57	6.47	22.88	3.62	6.32	22.20	3.54	6.26
	25	22.94	3.18	7.22	25.56	3.70	6.91	25.48	3.80	6.71	25.37	3.91	6.49	24.17	3.78	6.39
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
30	-5	10.96	4.12	2.66	8.36	4.10	2.04	10.89	6.22	1.75	8.83	5.93	1.49			
	0	12.89	4.36	2.96	10.72	4.52	2.37	9.15	5.01	1.83	10.39	8.32	1.25			
	5	17.04	4.95	3.44	11.17	3.51	3.18	11.03	3.99	2.76	9.20	5.01	1.84			
	10	18.06	4.46	4.05	11.96	3.17	3.78	11.37	3.42	3.33	9.56	3.60	2.66			
	15	18.16	3.92	4.63	15.71	3.71	4.23	10.44	2.80	3.73	10.81	3.36	3.22			
	20	19.14	3.10	6.17	15.93	3.35	4.75	11.92	2.79	4.27	9.89	2.56	3.87			
	25	22.23	3.53	6.29	17.62	3.35	5.26	13.41	2.78	4.82	11.14	2.57	4.33			

Notes :

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

EXTREME PRO L

4.3.3 HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

100% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
100	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	34.85	9.25	3.77	35.38	10.13	3.49	37.23	11.82	3.15	37.69	12.59	2.99	38.90	14.64	2.66
	5	38.73	8.23	4.71	39.31	9.00	4.37	41.36	10.50	3.94	41.88	11.20	3.74	43.23	13.01	3.32
	10	48.19	9.44	5.10	48.92	10.34	4.73	51.47	12.06	4.27	52.11	12.85	4.06	53.79	14.94	3.60
	15	57.65	10.48	5.50	58.52	11.47	5.10	61.58	13.39	4.60	62.34	14.27	4.37	64.35	16.59	3.88
	20	63.42	10.48	6.05	64.37	11.27	5.71	67.73	12.16	5.57	68.58	12.82	5.35	70.79	13.69	5.17
	25	66.59	10.19	6.53	67.59	11.16	6.06	71.12	12.34	5.76	72.01	12.88	5.59	74.32	14.00	5.31
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
100	-5	39.30	16.80	2.34	40.46	17.77	2.28	39.69	18.26	2.17	39.02	18.69	2.09	38.39	18.98	2.02
	0	46.24	17.78	2.60	47.60	18.81	2.53	46.70	19.34	2.42	45.90	19.78	2.32	45.16	20.09	2.25
	5	50.54	15.46	3.27	69.09	25.22	2.74	65.80	24.74	2.66	62.67	23.83	2.63	59.69	22.96	2.60
	10	62.89	17.74	3.55	74.30	22.79	3.26	72.26	23.09	3.13	69.93	22.67	3.09	68.15	22.75	3.00
	15	75.24	19.70	3.82	79.50	21.03	3.78	78.72	21.87	3.60	77.20	21.81	3.54	76.61	22.60	3.39
	20	82.76	16.92	4.89	88.17	18.48	4.77	87.61	19.01	4.61	86.65	19.26	4.50	84.08	18.85	4.46
	25	86.90	16.91	5.14	96.83	19.68	4.92	96.51	20.19	4.78	96.10	20.80	4.62	91.54	20.12	4.55
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
100	-5	37.27	18.64	2.00	28.44	18.59	1.53	15.56	11.84	1.31	8.83	7.85	1.12			
	0	43.85	19.74	2.22	36.47	20.49	1.78	18.30	12.53	1.46	10.39	8.32	1.25			
	5	57.95	22.55	2.57	38.00	15.90	2.39	22.50	10.23	2.20	13.42	8.44	1.59			
	10	66.89	23.19	2.89	40.68	14.35	2.84	29.01	11.60	2.50	17.74	8.55	2.08			
	15	68.00	20.61	3.30	53.42	16.80	3.18	35.51	12.68	2.80	22.07	8.62	2.56			
	20	72.49	16.51	4.39	54.17	15.20	3.57	40.56	12.63	3.21	25.24	8.69	2.91			
	25	84.19	18.79	4.48	59.92	15.17	3.95	45.60	12.60	3.62	28.41	8.74	3.25			

Notes:

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

90% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
90	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	31.37	7.93	3.95	31.84	8.68	3.67	33.50	10.13	3.31	33.92	10.80	3.14	35.01	12.55	2.79
	5	34.85	7.05	4.94	35.38	7.72	4.58	37.23	9.00	4.13	37.69	9.60	3.93	38.90	11.16	3.49
	10	43.37	8.09	5.36	44.02	8.86	4.97	46.32	10.33	4.48	46.90	11.01	4.26	48.41	12.80	3.78
	15	51.89	8.98	5.78	52.67	9.84	5.36	55.42	11.47	4.83	56.11	12.23	4.59	57.92	14.22	4.07
	20	57.07	8.98	6.35	57.93	9.66	6.00	60.96	10.42	5.85	61.72	10.99	5.62	63.71	11.74	5.43
	25	59.93	8.73	6.86	60.83	9.56	6.36	64.01	10.57	6.05	64.81	11.04	5.87	66.89	12.00	5.57
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
90	-5	35.37	14.40	2.46	36.41	15.23	2.39	35.73	15.65	2.28	35.11	16.02	2.19	34.55	16.27	2.12
	0	41.61	15.24	2.73	42.84	16.13	2.66	42.03	16.57	2.54	41.31	16.96	2.44	40.64	17.22	2.36
	5	45.49	13.25	3.43	62.18	21.61	2.88	59.22	21.20	2.79	56.40	20.42	2.76	53.72	19.68	2.73
	10	56.60	15.21	3.72	66.87	19.53	3.42	65.03	19.79	3.29	62.94	19.43	3.24	61.33	19.50	3.14
	15	67.71	16.88	4.01	71.55	18.03	3.97	70.85	18.74	3.78	69.48	18.69	3.72	68.95	19.37	3.56
	20	74.48	14.51	5.13	79.35	15.84	5.01	78.85	16.29	4.84	77.99	16.50	4.73	75.67	16.16	4.68
	25	78.21	14.50	5.40	87.15	16.87	5.17	86.86	17.31	5.02	86.49	17.83	4.85	82.39	17.24	4.78
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
90	-5	33.54	15.98	2.10	25.60	15.93	1.61	14.00	10.15	1.38	8.83	7.85	1.12			
	0	39.46	16.92	2.33	32.82	17.56	1.87	16.47	10.74	1.53	9.35	7.13	1.31			
	5	52.15	19.33	2.70	34.20	13.63	2.51	20.25	8.77	2.31	12.08	7.23	1.67			
	10	60.20	19.87	3.03	36.61	12.30	2.98	26.10	9.94	2.63	15.97	7.33	2.18			
	15	61.20	17.66	3.47	48.08	14.40	3.34	31.96	10.87	2.94	19.86	7.39	2.69			
	20	65.24	14.15	4.61	48.75	13.02	3.74	36.50	10.83	3.37	22.72	7.45	3.05			
	25	75.77	16.11	4.70	53.93	13.00	4.15	41.04	10.80	3.80	25.57	7.49	3.41			

Notes:

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

EXTREME PRO L

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

70% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
70	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	24.40	5.63	4.33	24.77	6.17	4.02	26.06	7.19	3.62	26.38	7.67	3.44	27.23	8.91	3.06
	5	27.11	5.01	5.41	27.52	5.48	5.02	28.95	6.39	4.53	29.32	6.81	4.30	30.26	7.92	3.82
	10	33.73	5.75	5.87	34.24	6.29	5.44	36.03	7.34	4.91	36.48	7.82	4.66	37.65	9.09	4.14
	15	40.36	6.38	6.33	40.96	6.98	5.87	43.10	8.15	5.29	43.64	8.68	5.03	45.05	10.10	4.46
	20	44.39	6.38	6.96	45.06	6.86	6.57	47.41	7.40	6.41	48.00	7.80	6.15	49.55	8.33	5.95
	25	46.61	6.20	7.51	47.31	6.79	6.97	49.78	7.51	6.63	50.40	7.84	6.43	52.03	8.52	6.11
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
70	-5	27.51	10.22	2.69	28.32	10.82	2.62	27.79	11.12	2.50	27.31	11.37	2.40	26.87	11.55	2.33
	0	32.37	10.82	2.99	33.32	11.45	2.91	32.69	11.77	2.78	32.13	12.04	2.67	31.61	12.23	2.58
	5	35.38	9.41	3.76	48.37	15.35	3.15	46.06	15.06	3.06	43.87	14.50	3.02	41.78	13.97	2.99
	10	44.02	10.80	4.08	52.01	13.87	3.75	50.58	14.05	3.60	48.95	13.80	3.55	47.70	13.85	3.44
	15	52.67	11.99	4.39	55.65	12.80	4.35	55.10	13.31	4.14	54.04	13.27	4.07	53.63	13.76	3.90
	20	57.93	10.30	5.62	61.72	11.25	5.49	61.33	11.57	5.30	60.66	11.72	5.18	58.85	11.47	5.13
	25	60.83	10.29	5.91	67.78	11.98	5.66	67.56	12.29	5.50	67.27	12.66	5.31	64.08	12.25	5.23
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
70	-5	26.09	11.35	2.30	19.91	11.31	1.76	10.89	7.21	1.51	8.83	7.85	1.12			
	0	30.69	12.01	2.55	25.53	12.47	2.05	12.81	7.63	1.68	9.35	7.13	1.31			
	5	40.56	13.72	2.96	26.60	9.68	2.75	15.75	6.23	2.53	9.39	5.14	1.83			
	10	46.83	14.11	3.32	28.48	8.73	3.26	20.30	7.06	2.88	12.42	5.21	2.39			
	15	47.60	12.54	3.80	37.40	10.23	3.66	24.86	7.72	3.22	15.45	5.25	2.94			
	20	50.74	10.05	5.05	37.92	9.25	4.10	28.39	7.69	3.69	17.67	5.29	3.34			
	25	58.93	11.44	5.15	41.94	9.23	4.54	31.92	7.67	4.16	19.89	5.32	3.74			

Notes :

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

50% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
50	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	17.43	3.70	4.71	17.69	4.05	4.37	18.61	4.73	3.94	18.85	5.04	3.74	19.45	5.86	3.32
	5	19.36	3.29	5.89	19.66	3.60	5.46	20.68	4.20	4.92	20.94	4.48	4.68	21.61	5.21	4.15
	10	24.09	3.78	6.38	24.46	4.13	5.92	25.73	4.82	5.34	26.06	5.14	5.07	26.89	5.98	4.50
	15	28.83	4.19	6.88	29.26	4.59	6.38	30.79	5.35	5.75	31.17	5.71	5.46	32.18	6.63	4.85
	20	31.71	4.19	7.56	32.19	4.51	7.14	33.87	4.86	6.96	34.29	5.13	6.69	35.39	5.48	6.46
	25	33.29	4.08	8.17	33.80	4.46	7.57	35.56	4.93	7.21	36.00	5.15	6.99	37.16	5.60	6.64
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
50	-5	19.65	6.72	2.93	20.23	7.11	2.85	19.85	7.31	2.72	19.51	7.47	2.61	19.19	7.59	2.53
	0	23.12	7.11	3.25	23.80	7.53	3.16	23.35	7.73	3.02	22.95	7.91	2.90	22.58	8.04	2.81
	5	25.27	6.18	4.09	34.55	10.09	3.43	32.90	9.90	3.33	31.33	9.53	3.29	29.84	9.18	3.25
	10	31.44	7.10	4.43	37.15	9.12	4.08	36.13	9.23	3.91	34.97	9.07	3.86	34.07	9.10	3.74
	15	37.62	7.88	4.78	39.75	8.41	4.73	39.36	8.75	4.50	38.60	8.72	4.43	38.31	9.04	4.24
	20	41.38	6.77	6.11	44.08	7.39	5.96	43.81	7.60	5.76	43.33	7.70	5.63	42.04	7.54	5.58
	25	43.45	6.76	6.42	48.42	7.87	6.15	48.26	8.08	5.98	48.05	8.32	5.78	45.77	8.05	5.69
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
50	-5	18.63	7.46	2.50	14.22	7.44	1.91	10.89	7.21	1.51	8.83	7.85	1.12			
	0	21.92	7.89	2.78	18.24	8.20	2.23	9.15	5.01	1.83	9.35	7.13	1.31			
	5	28.97	9.02	3.21	19.00	6.36	2.99	11.25	4.09	2.75	9.39	5.14	1.83			
	10	33.45	9.27	3.61	20.34	5.74	3.54	14.50	4.64	3.13	8.87	3.42	2.59			
	15	34.00	8.24	4.13	26.71	6.72	3.98	17.76	5.07	3.50	11.04	3.45	3.20			
	20	36.25	6.61	5.49	27.09	6.08	4.46	20.28	5.05	4.01	12.62	3.48	3.63			
	25	42.10	7.52	5.60	29.96	6.07	4.94	22.80	5.04	4.53	14.21	3.50	4.06			

Notes :

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

EXTREME PRO L

HCMO-70-D2L3P0-D1G (HCMO-70-D2L3P0(H)-D1G)

30% Load Cooling capacity																
Load (%)/ Frequency (Hz)	LWT	DB														
		-15			-10			-5			0			5		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
30	-5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	0	10.46	2.06	5.08	10.61	2.25	4.71	11.17	2.63	4.25	11.31	2.80	4.04	11.67	3.25	3.59
	5	11.62	1.83	6.36	11.79	2.00	5.89	12.41	2.33	5.32	12.56	2.49	5.05	12.97	2.89	4.48
	10	14.46	2.10	6.89	14.67	2.30	6.39	15.44	2.68	5.76	15.63	2.86	5.47	16.14	3.32	4.86
	15	17.30	2.33	7.43	17.56	2.55	6.89	18.47	2.97	6.21	18.70	3.17	5.90	19.31	3.69	5.24
	20	19.02	2.33	8.17	19.31	2.51	7.71	20.32	2.70	7.52	20.57	2.85	7.22	21.24	3.04	6.98
	25	19.98	2.26	8.82	20.28	2.48	8.18	21.34	2.74	7.78	21.60	2.86	7.55	22.30	3.11	7.17
	LWT	DB														
		10			15			20			25			30		
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
30	-5	11.79	3.73	3.16	12.14	3.95	3.07	11.91	4.06	2.93	11.70	4.15	2.82	11.52	4.22	2.73
	0	13.87	3.95	3.51	14.28	4.18	3.42	14.01	4.30	3.26	13.77	4.40	3.13	13.55	4.47	3.03
	5	15.16	3.43	4.41	20.73	5.60	3.70	19.74	5.50	3.59	18.80	5.30	3.55	17.91	5.10	3.51
	10	18.87	3.94	4.79	22.29	5.06	4.40	21.68	5.13	4.23	20.98	5.04	4.16	20.44	5.06	4.04
	15	22.57	4.38	5.16	23.85	4.67	5.10	23.62	4.86	4.86	23.16	4.85	4.78	22.98	5.02	4.58
	20	24.83	3.76	6.60	26.45	4.11	6.44	26.28	4.22	6.22	26.00	4.28	6.08	25.22	4.19	6.02
	25	26.07	3.76	6.94	29.05	4.37	6.64	28.95	4.49	6.45	28.83	4.62	6.24	27.46	4.47	6.14
	LWT	DB														
		35			40			45			48					
		CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER			
30	-5	11.18	4.14	2.70	8.53	4.13	2.07	10.89	7.21	1.51	8.83	7.85	1.12			
	0	13.15	4.39	3.00	10.94	4.55	2.40	9.15	5.01	1.83	9.35	7.13	1.31			
	5	17.38	5.01	3.47	11.40	3.53	3.23	11.25	4.09	2.75	9.39	5.14	1.83			
	10	20.07	5.15	3.89	12.20	3.19	3.83	11.60	3.44	3.38	8.87	3.42	2.59			
	15	20.40	4.58	4.46	16.03	3.73	4.29	10.65	2.82	3.78	11.04	3.45	3.20			
	20	21.75	3.67	5.93	16.25	3.38	4.81	12.17	2.81	4.33	10.10	2.67	3.78			
	25	25.26	4.18	6.05	17.98	3.37	5.33	13.68	2.80	4.89	11.36	2.69	4.23			

Notes :

CC: Total cooling capacity (kW)

PI: Power input (kW)

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for outdoor air temperature (°C)

In the cooling mode, the temperature difference between inlet and leaving water of the unit is 5 °C.

5 Performance Adjustment Factors

5.1 Ethylene and Propylene Glycol factors

The antifreeze must be required according to anyone condition as following:

- The ambient temperature is below 0 °C,
- The outlet water temperature is lower than 5 °C,
- Don't start up the unit for a long time,
- The power supply was cut off and needn't change the water in system.

Tsafe is set to -5 °C in the low water output control in service menu of the wired controller, allowing the unit to enter the cooling low water output mode control to obtain water output below 5 °C.

When switching from the antifreeze system to the water system, the Tsafe must be changed to 5 °C to avoid freezing of the water side pipes and heat exchanger!

A glycol solution is required when the unit with condition as mentioned. The use of glycol will reduce the performance of the unit depending on concentration.

Concentration of ethylene glycol (%)	Modification coefficient				Freezing point (°C)
	Cooling capacity	Power input	Water resistance	Water flow	
0	1.000	1.000	1.000	1.000	0
10	0.993	0.997	1.013	1.034	-3
20	0.984	0.994	1.149	1.051	-8
30	0.975	0.989	1.343	1.075	-14.1
40	0.969	0.984	1.623	1.110	-23.3
50	0.961	0.978	2.026	1.150	-33.8

Concentration of propylene glycol (%)	Modification coefficient				Freezing point (°C)
	Cooling capacity	Power input	Water resistance	Water flow	
0	1.000	1.000	1.000	1.000	0
10	0.987	0.992	1.071	1.007	-3
20	0.975	0.985	1.215	1.010	-7
30	0.962	0.978	1.420	1.021	-13
40	0.946	0.971	1.716	1.036	-21
50	0.929	0.965	2.228	1.061	-33

5.2 Evaporator temperature drop factors

Performance tables are based on a 5°C temperature drop through the evaporator. Temperature drops outside this range can affect the control system's capability to maintain acceptable control and are not recommended.

EXTREME PRO L

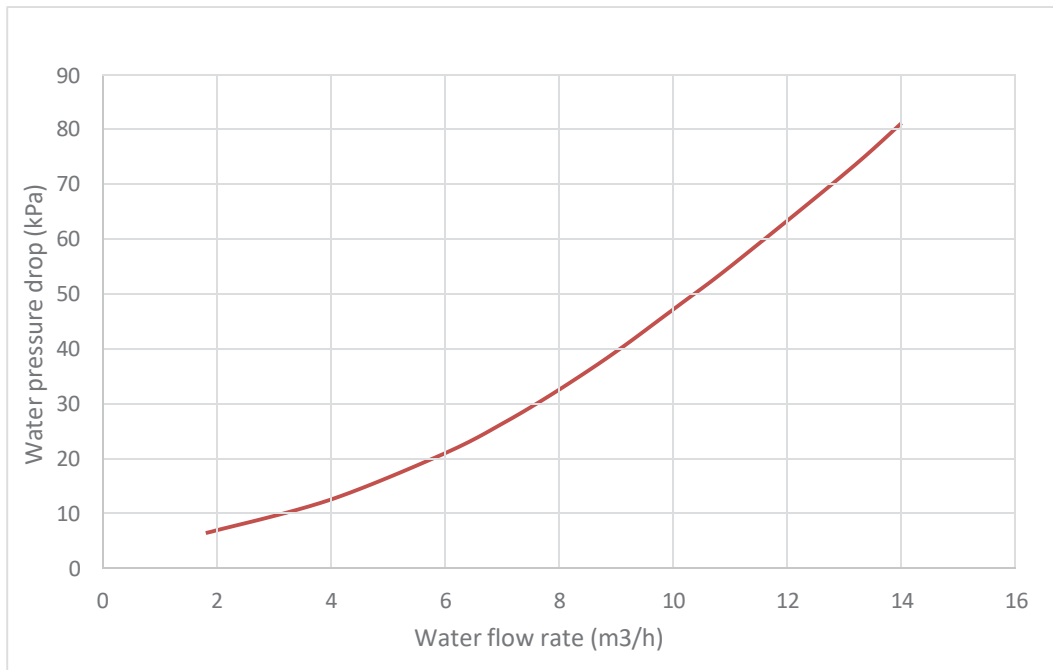
5.3 Altitude correction factors

Performance tables are based at sea level. Elevations other than sea level affect the performance of the unit. The decreased air density will reduce condenser capacity and reduce the unit's performance.

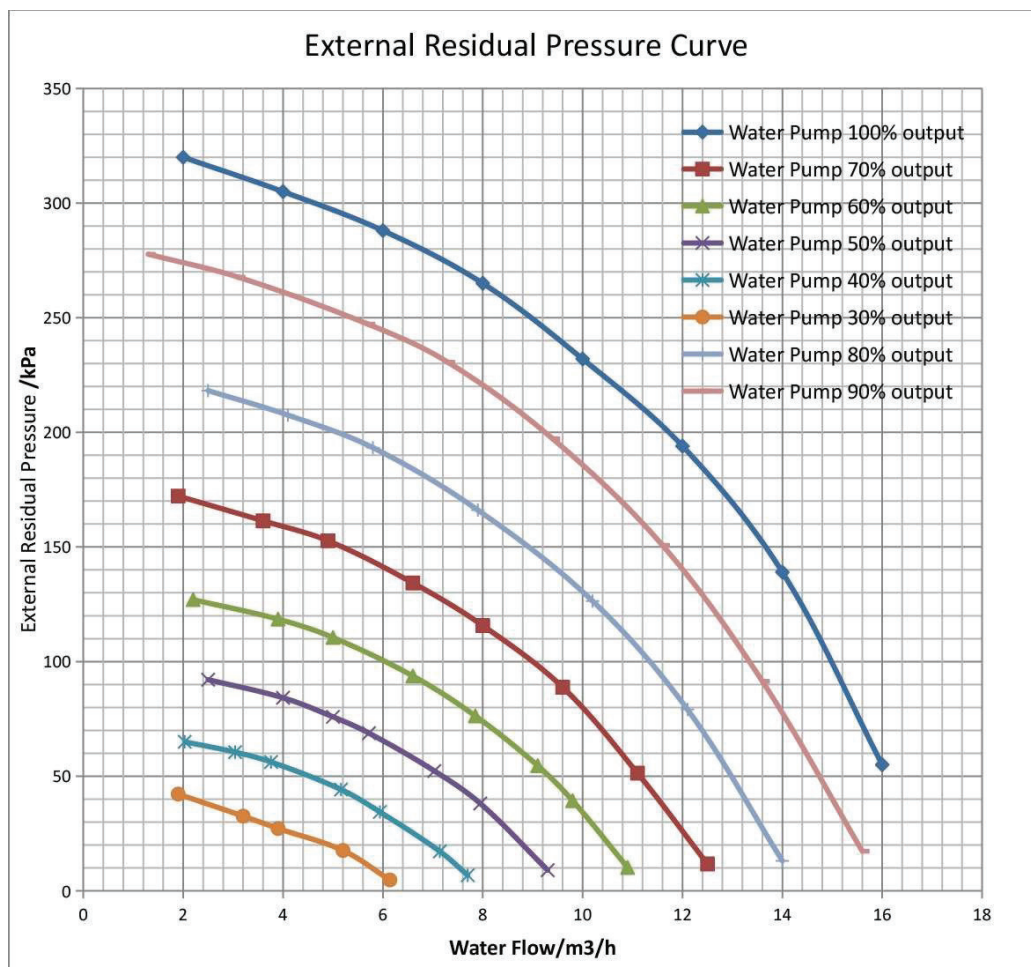
Altitude correction factors		
Altitude (m)	Capacity Correction Factor	Efficiency Correction Factor
0	1.000	1.000
500	0.993	0.984
1000	0.986	0.969
1500	0.978	0.953
2000	0.972	0.940
2500	0.968	0.932
3000	0.966	0.928

6 Hydronic Performance

HCMO-50-D2L3P0-D1G / HCMO-60-D2L3P0-D1G / HCMO-70-D2L3P0-D1G

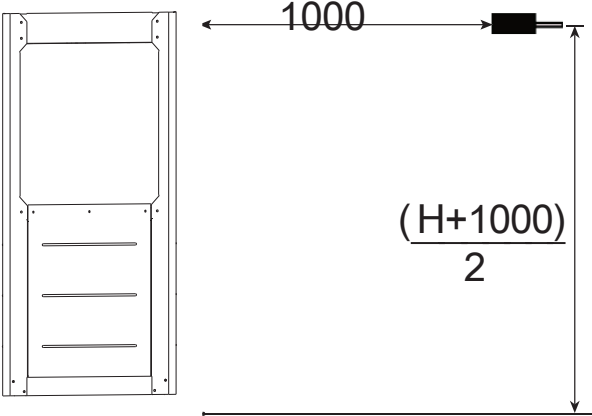
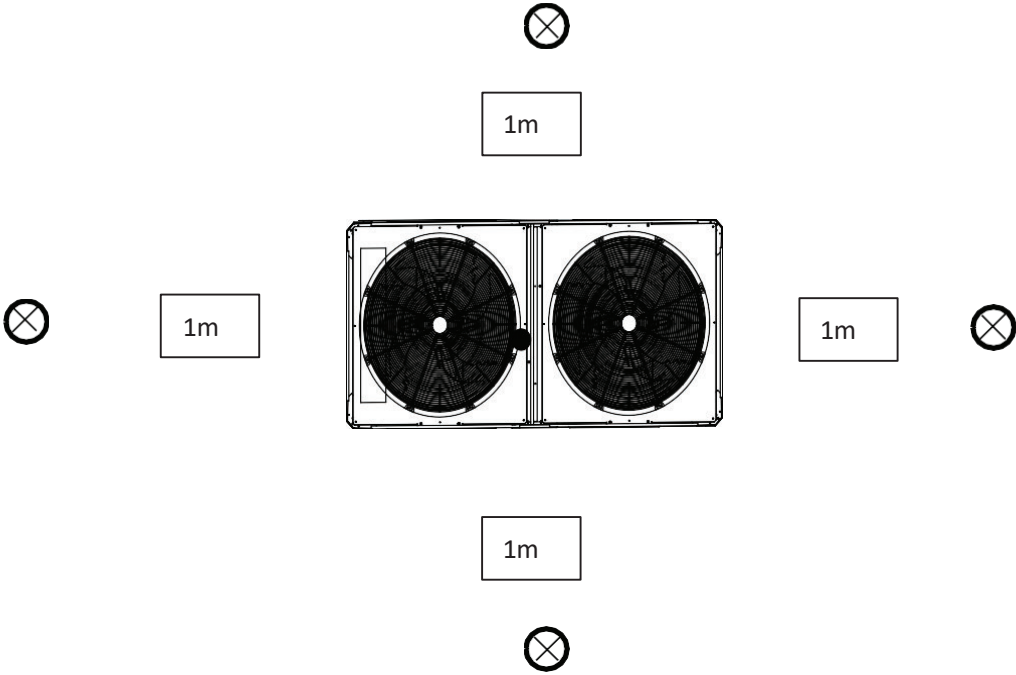


HCMO-50-D2L3P0(H)-D1G / HCMO-60-D2L3P0(H)-D1G / HCMO-70-D2L3P0(H)-D1G



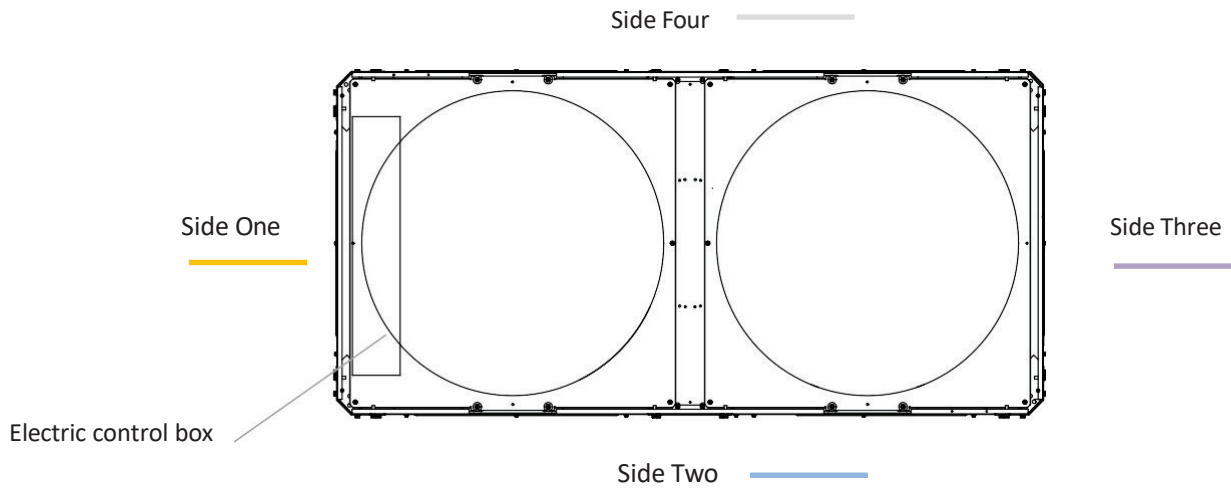
7 Noise Levels

7.1 Overall

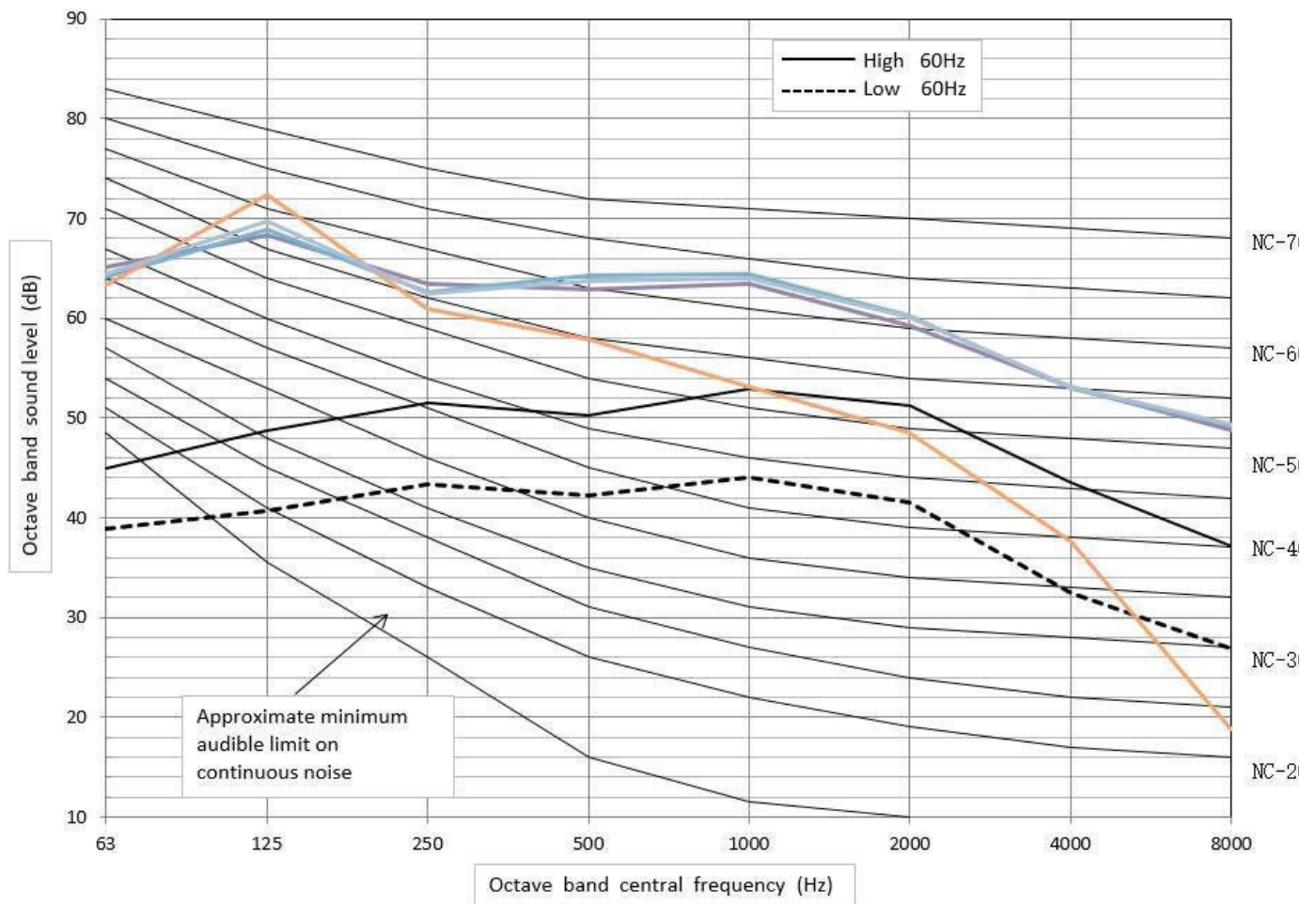
Front 	Notes: 1. Sound pressure level is measured at a position 1m in front of the unit and (1+H)/2m (where H is the height of the unit) above the floor in a semi-anechoic chamber. During on-site operation, sound pressure levels may be higher as a result of ambient noise.
Sound pressure level measurement (unit: mm)	
	

7.2 Octave Band Levels

NC

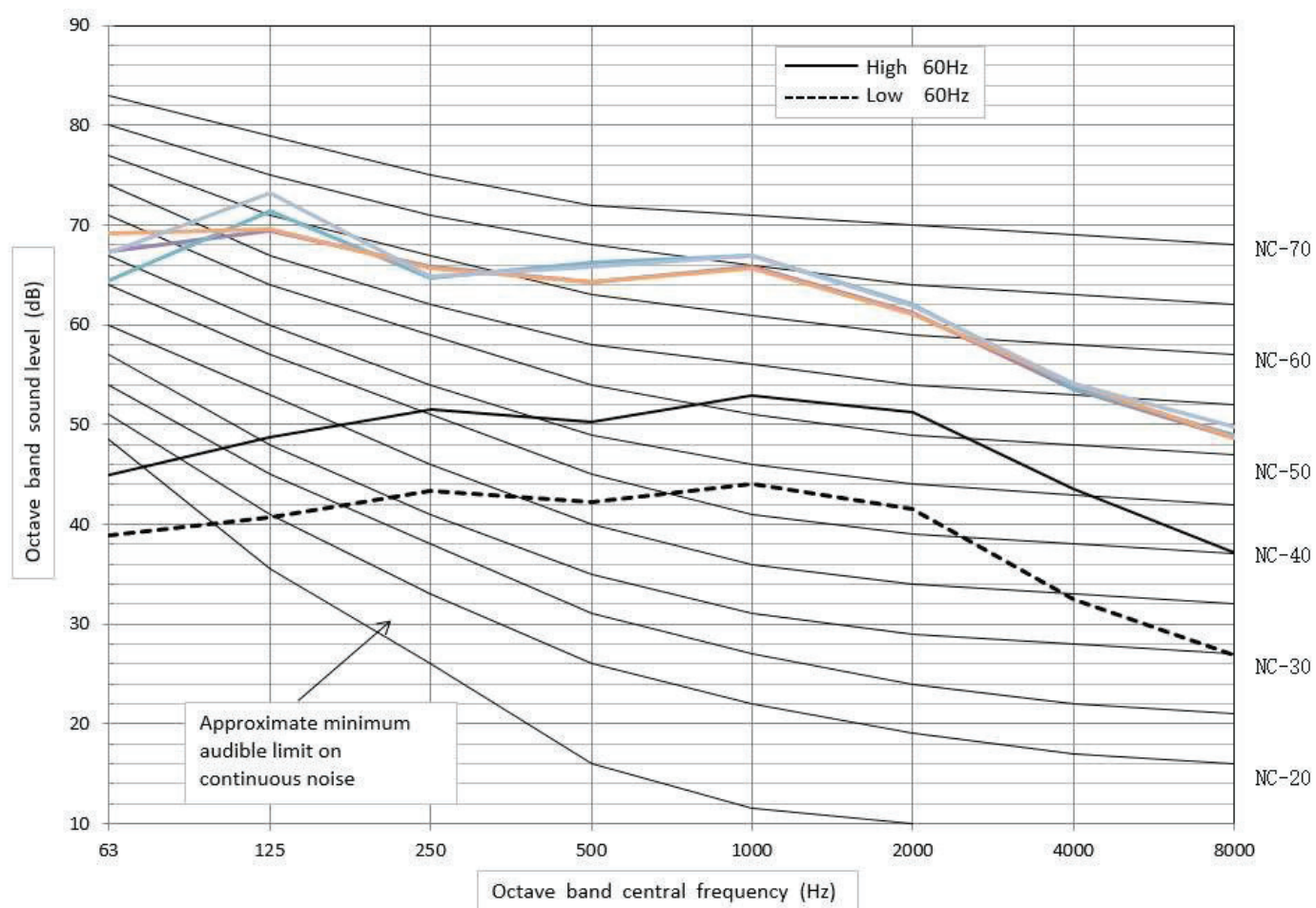


Test condition: Cooling; Outdoor ambient temperature 35°C DB. LWT 7°C

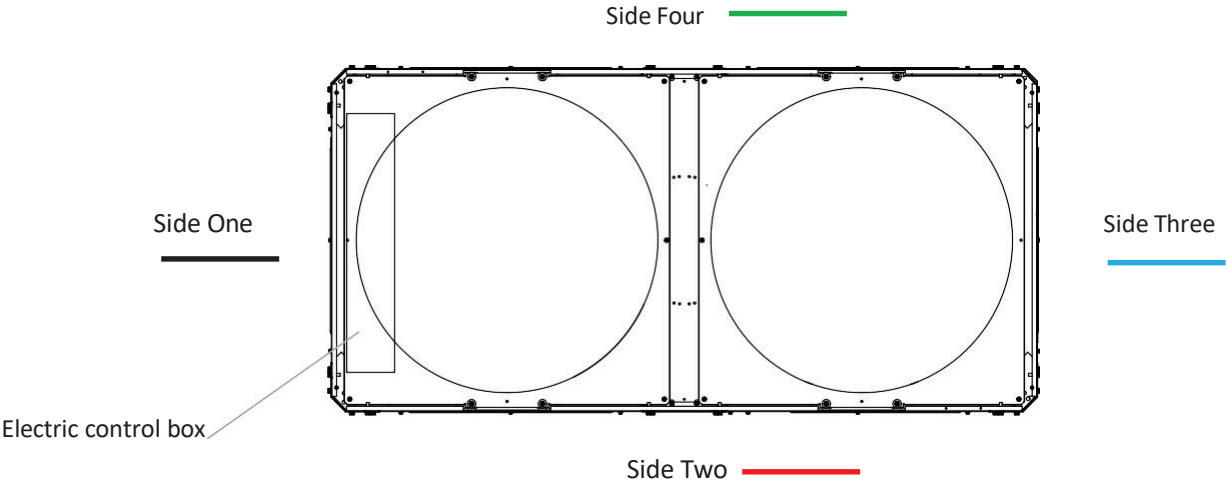


EXTREME PRO L

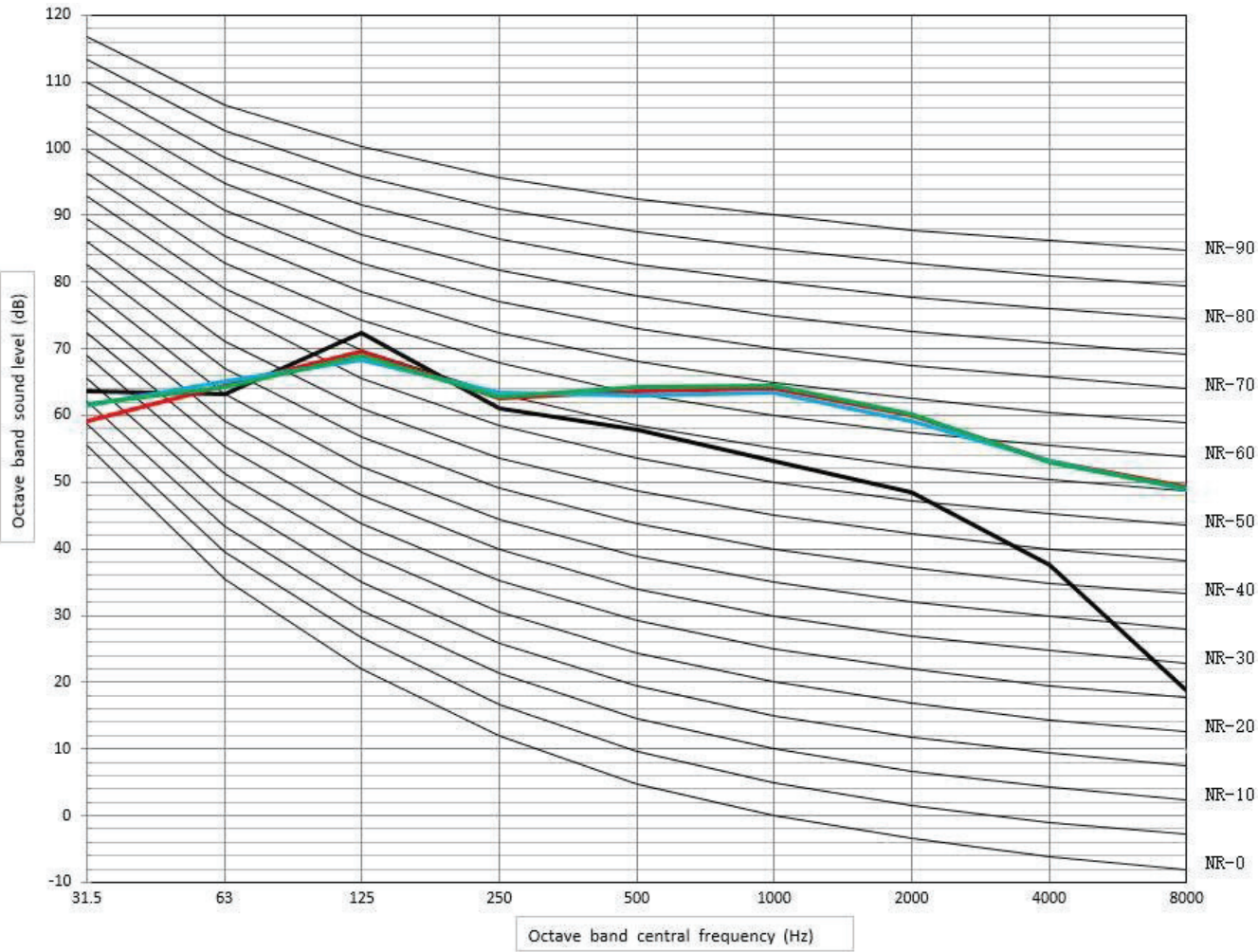
Test condition: Heating; Outdoor ambient temperature 7C DB. LWT 35°C



NR



Test condition: Cooling; Outdoor ambient temperature 35°C (95°F) DB. LWT 7°C(44.6°F)



EXTREME PRO L

Test condition: Heating; Outdoor ambient temperature 7C DB. LWT 35°C

