Midea

R290 Natural Refrigerant

Midea Building Technologies Division

# Engineering Data

## All DC Inverter

**MHS-SVC50-RN7TL-B** **MHS-SVC50(M)-RN7TL-B**

**MHS-SVC60-RN7TL-B** **MHS-SVC60(M)-RN7TL-B**

**MHS-SVC70-RN7TL-B** **MHS-SVC70(M)-RN7TL-B**

# CONTENTS

# Part 1

# General Information

# 1. System Introduction

## 1.1 System schematic

Mars Large 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. Mars Large 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.

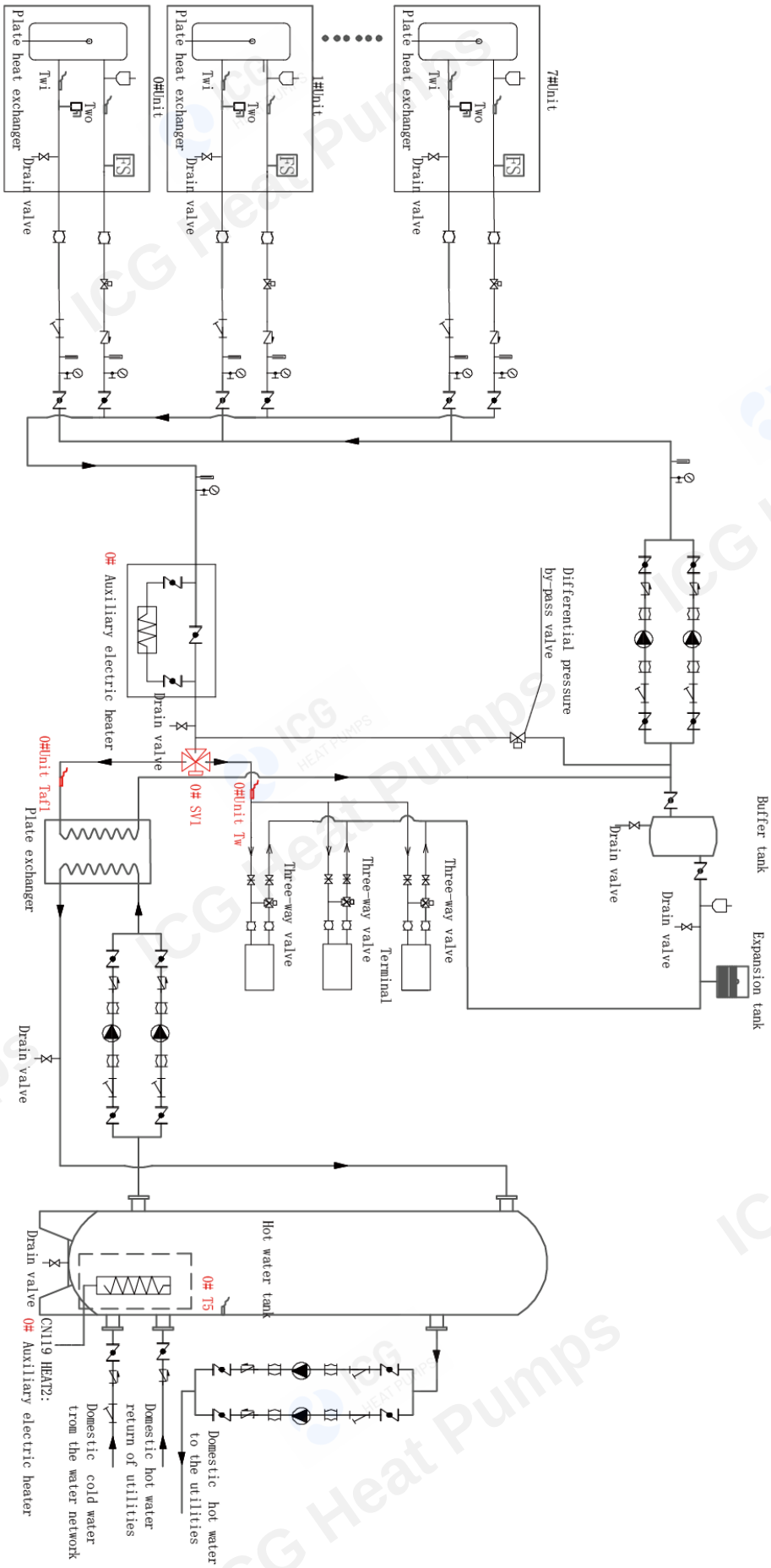
## 1.2 Typical applications

| | | | | |
|---|---|---|---|---|
| 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:

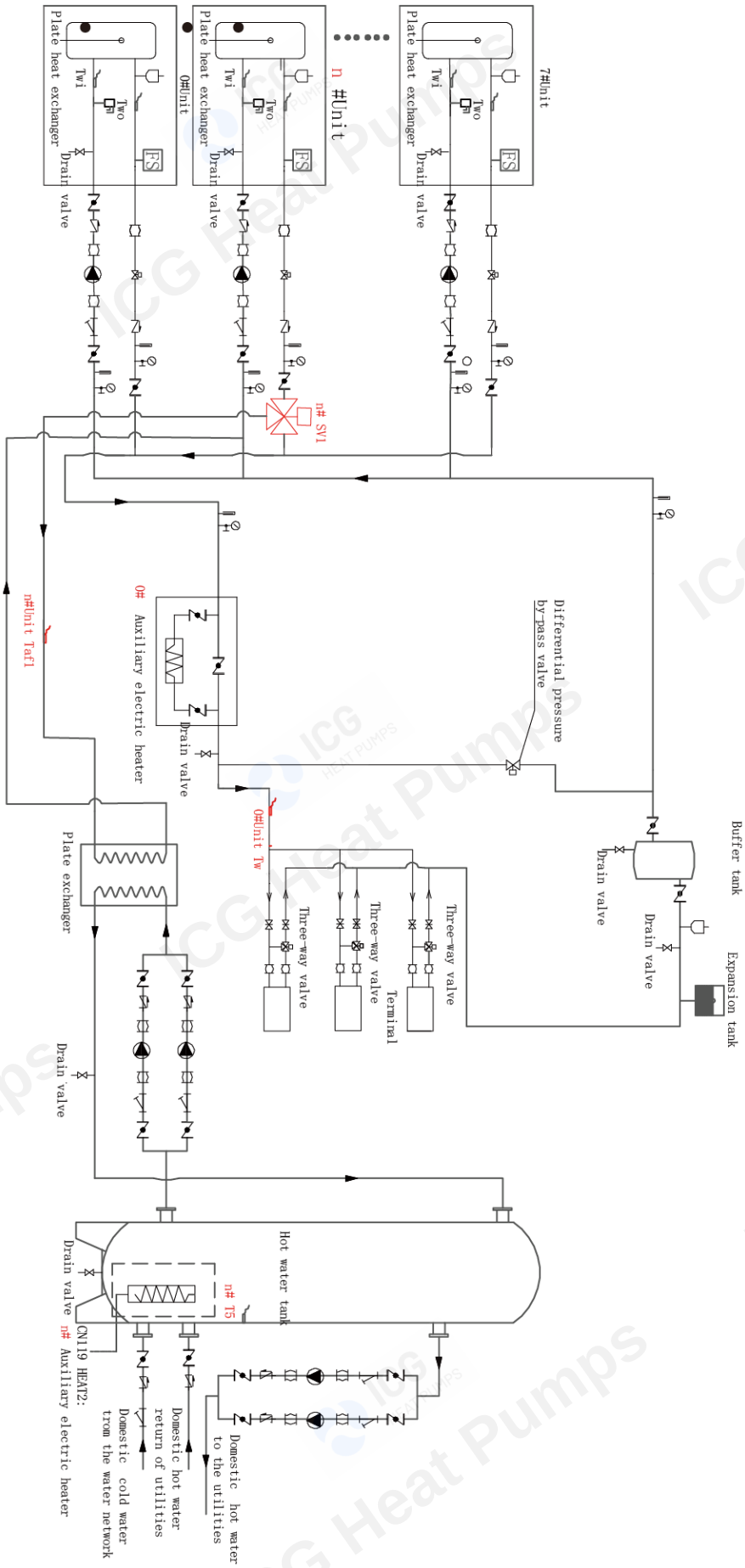
1. The 2- way valves amount on the terminal should not exceed the amount of 3-way valve, otherwise the water flow protection will be triggered while all terminals are turned off.
2. The main outlet water temperature sensor (Tw) head of the unit at address 0 needs to be placed on the main outlet pipe.
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



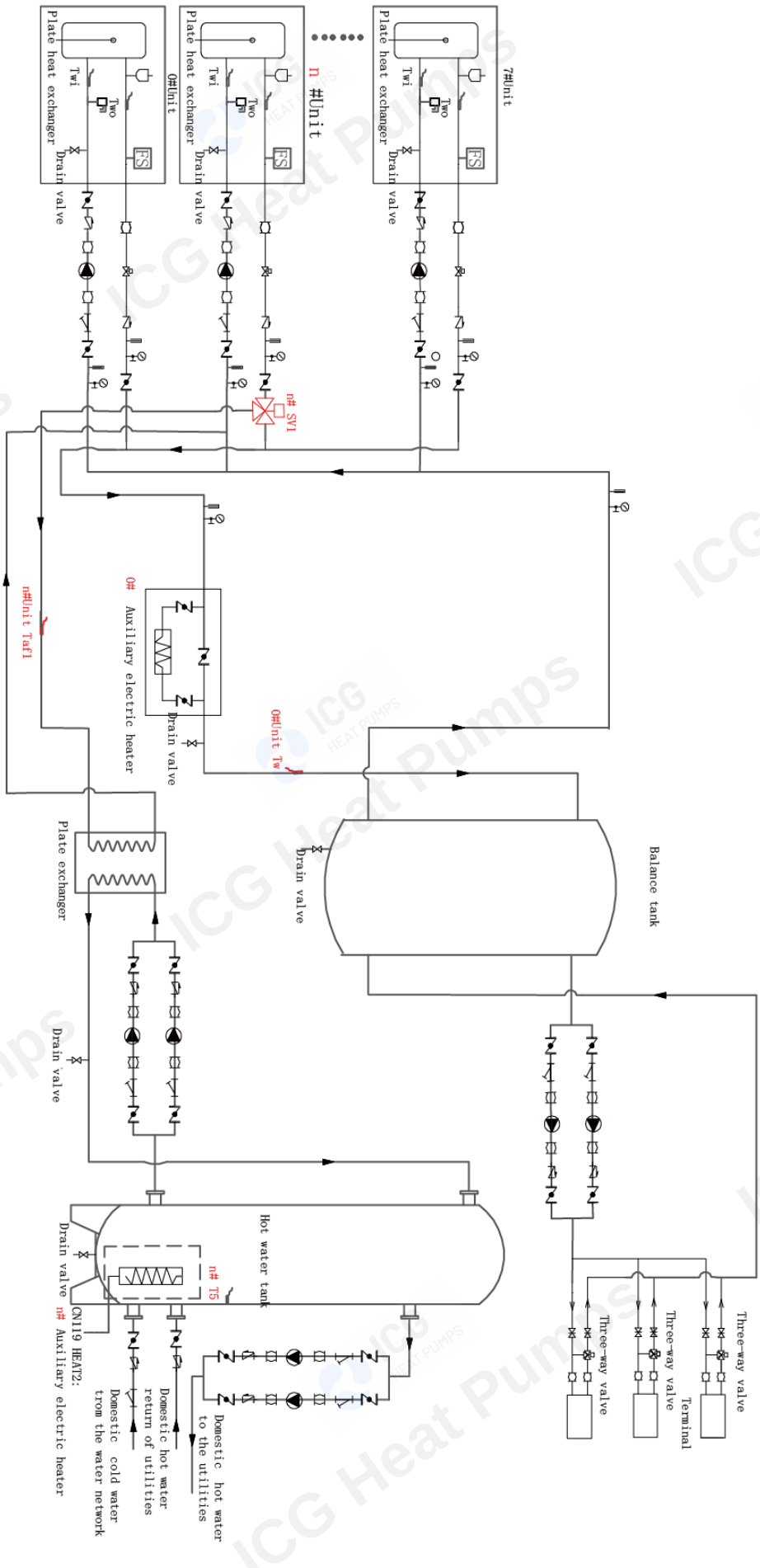

Primary pump system with buffer tank (S1-3 OFF)

### 1.2.2 Cooling and hot water mode are operated simultaneously



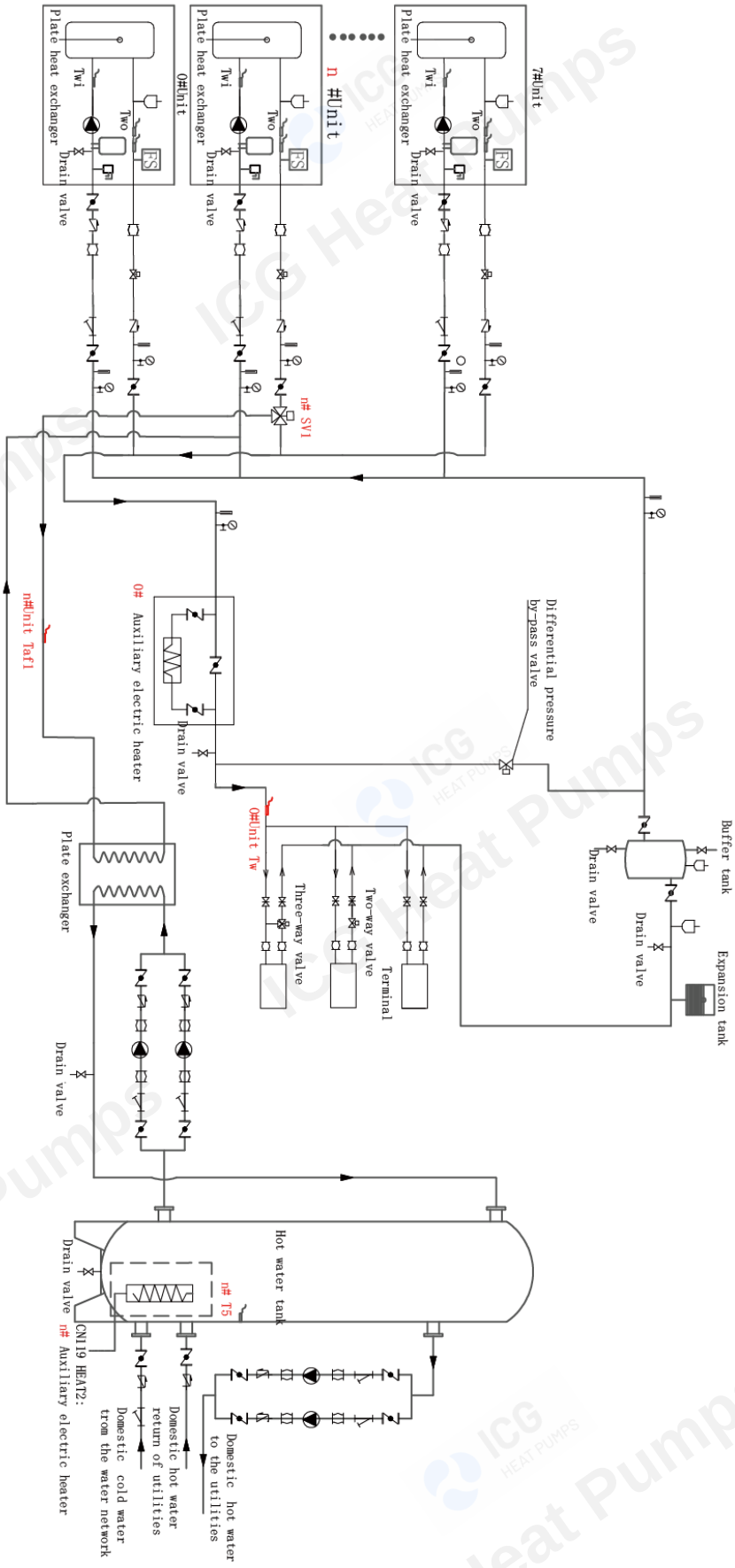

Primary pump system with buffer tank (S1-3 ON)

### 1.2.3 Cooling and hot water mode are operated simultaneously



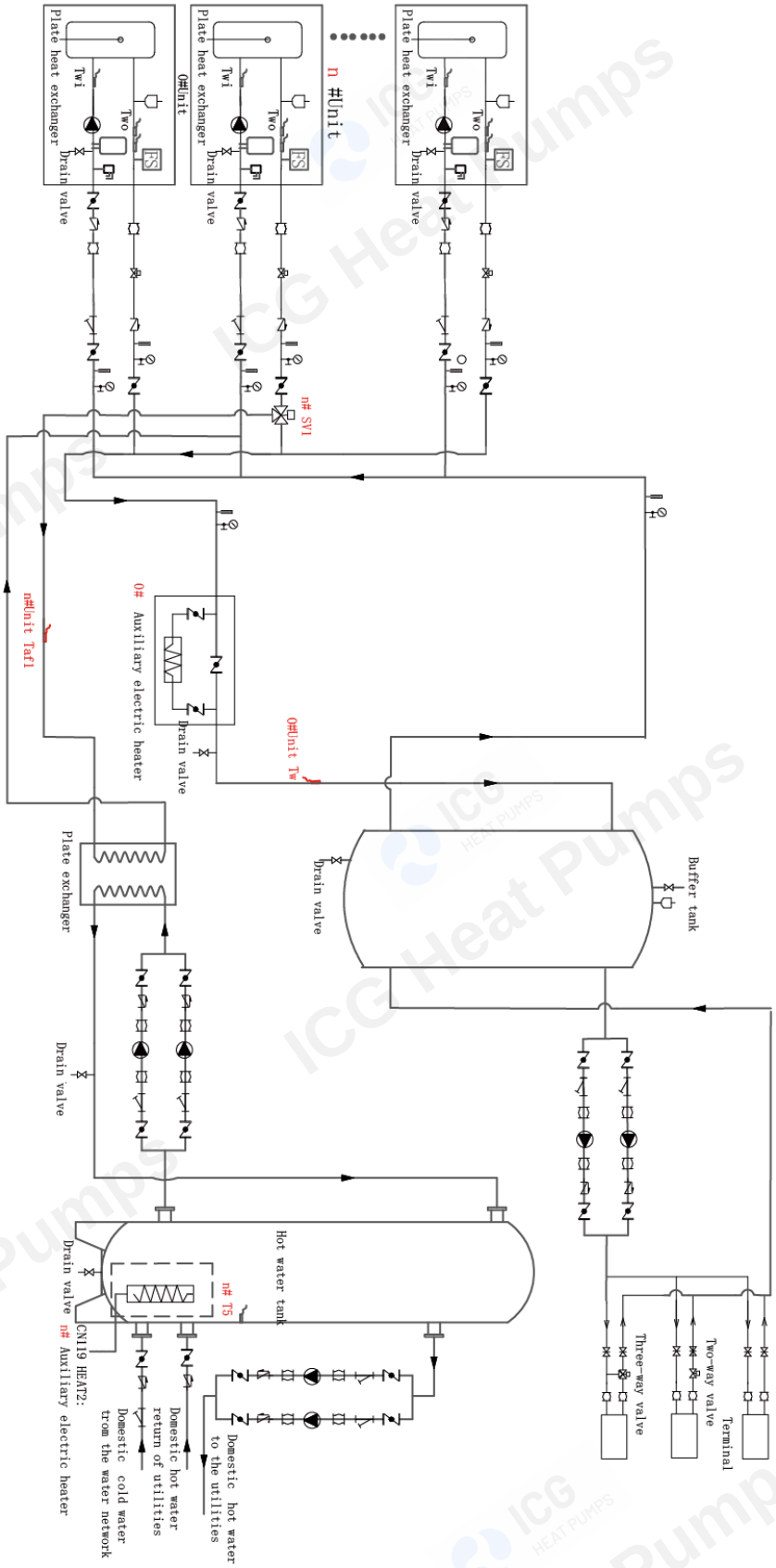

Secondary pump system with buffer tank (S1-3 ON)

### 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 | MHS-SVC50-RN7TL-B<br>MHS-SVC50(M)-RN7TL-B | MHS-SVC60-RN7TL-B<br>MHS-SVC60(M)-RN7TL-B | MHS-SVC70-RN7TL-B<br>MHS-SVC70(M)-RN7TL-B |
|---|---|---|---|
| Power supply | 380-415V/3N/50Hz | | |
| Appearance |  | | |

## 3. Nomenclature

| M | HS | - | S | VC | 50 | (M) | - | R | N7 | TL | - | B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | | 3 | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 |

| Legend | | |
|---|---|---|
| **No.** | **Code** | **Remarks** |
| 1 | M | Brand: Midea brand |
| 2 | HS | H: Heat pump<br>S: Space cooling/heating |
| 3 | S | Series code |
| 4 | VC | Special function code<br>V: Inverter Compressor & Fan Motor<br>C: Cycle |
| 5 | 50 | Rated heating capacity (kW)<br>50: 50kW; |
| 6 | (M) | (M): With hydronic module<br>Omitted: Without hydronic module |
| 7 | R | Power supply: 380-415V/3N/50Hz |
| 8 | N7 | Refrigerant type<br>N7: R290 |
| 9 | TL | T: T3 application<br>L: Low temperature refrigeration function<br>Omitted: Without low temperature refrigeration function |
| 10 | B | Design series code<br>B: 2nd designed |

# 4. System Design and Unit Selection

## 4.1 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 Mars Large unit capacity[1] based on nominal capacity

Correct capacity of the outdoor units for the following items:
Outdoor air temperature / Outdoor humidity / Water outlet temperature[2] / Altitude / Anti-freeze type

Is corrected Mars Large capacity ≥ Required total heat load on outdoor units[3]

Yes → Mars Large system selection is complete

No → Select a larger model or enable auxiliary electric heater operation → (back to correction step)

Notes:

1. Up to 8 units can be connected together, giving a system cooling/heating capacity range from 50kW to 560kW.
2. If the required water temperatures of the heat emitters are not all the same, the outlet water temperature of Mars Large 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.
3. Select Mars Large which satisfies both total heating and cooling load requirements.

## 4.2 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.

## 4.3 Optimizing system design

To get the most comfort with the lowest energy consumption with Mars Large, 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.

## 4.4 Design of the buffer tank in the system

### 4.4.1Selection 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℃. The buffer tank's volume should be calculated based on the above data.

Heating conditions, minimum effective water capacity calculation:

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

Where:

$M_H$: minimum water capacity of the system, $m^3$;

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

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

△TH : Water temperature drop before and after defrosting,℃; Conventional units generally take 3℃;

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

ρ : Density of water, 1000 kg/m3;

TH: 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:

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

Where:

$M_C$: minimum system water capacity, $m^3$;

$Q_c$: cooling rated capacity, kW;

CA: 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%;

△TC: Control temperature range, ℃; Factory default 4℃;
C: specific heat gain of water 4.18 kJ/(kg·℃);
ρ : Density of water, 1000 kg/$m^3$;
Tc: cooling operation time, S, generally 300S;

C) Calculate the system capacity according to the cooling and heating conditions, and take the maximum value;
M=MAX ($M_H$,$M_c$)
Single cooling unit takes Mc, 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.
M2 =V× L
Where: M2: effective water capacity of water system, $m^3$;
L: Total length of system pipeline, m;
V: Water capacity $m^3$/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 – M2
$V_{min}$ - Minimum volume of buffer tank, $m^3$.

**4.4.2 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 × 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.

**4.4.3 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

# 1 Specifications

| Model | | | MHS-SVC70-RN7TL-B | MHS-SVC60-RN7TL-B | MHS-SVC50-RN7TL-B |
|---|---|---|---|---|---|
| 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 |

# Mars Large

| | | | | | |
|---|---|---|---|---|---|
| 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 |
| | 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 |
| 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 | $m^3/h$ | 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 | | $m^3/h$ | 1.2 | | |
| Water flow range | | $m^3/h$ | 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. 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 ≥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 $m^3/h$.

2. 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 $m^3/h$.

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

| Model | | | MHS-SVC70(M)-RN7TL-B | MHS-SVC60(M)-RN7TL-B | MHS-SVC50(M)-RN7TL-B |
|---|---|---|---|---|---|
| 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 |
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| | 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 |
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| | 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 |
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| | Input | kW | 33.89 | 32.79 | 25.64 |
| | COP | | 1.8 | 1.83 | 1.95 |
| 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 | $m^3/h$ | 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 | | |
| 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 | | $m^3/h$ | 1.2 | | |
| Water flow range | | $m^3/h$ | 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:

1. 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 ≥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 $m^3/h$.

2. 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 $m^3/h$.

*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 $mm^2$ 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 Table2-3 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 |

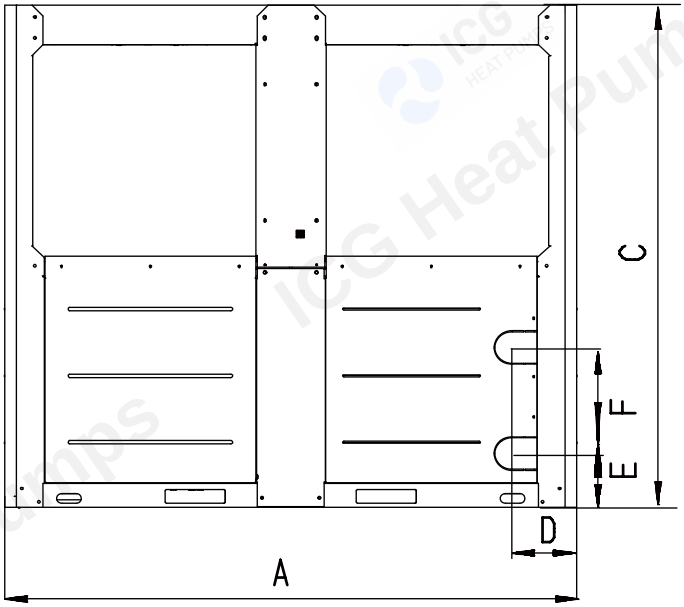
Table 2-3

| System | Outdoor unit | | | | Power current | | |
|---|---|---|---|---|---|---|---|
| | Voltage(V) | Hz | Min.(V) | Max.(V) | MCA(A) | TOCA(A) | MFA(A) |
| MHS-SVC50-RN7TL-B | 380-415 | 50 | 342 | 456 | 60 | 70 | 80 |
| MHS-SVC60-RN7TL-B | 380-415 | 50 | 342 | 456 | 62 | 70 | 80 |
| MHS-SVC70-RN7TL-B | 380-415 | 50 | 342 | 456 | 64 | 70 | 80 |
| MHS-SVC50(M)-RN7TL-B | 380-415 | 50 | 342 | 456 | 65 | 75 | 85 |
| MHS-SVC60(M)-RN7TL-B | 380-415 | 50 | 342 | 456 | 67 | 75 | 85 |
| MHS-SVC70(M)-RN7TL-B | 380-415 | 50 | 342 | 456 | 69 | 75 | 85 |

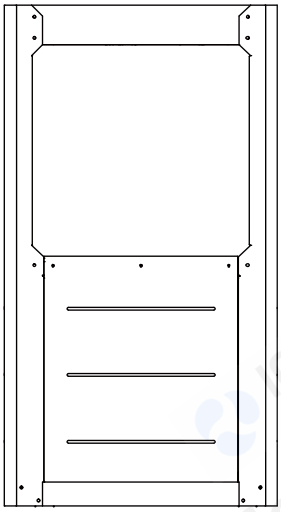
MCA: min. circuit current. (A) TOCA: total over current (A) MFA: max. fuse current (A)

## 3 Dimensions and Center of Gravity

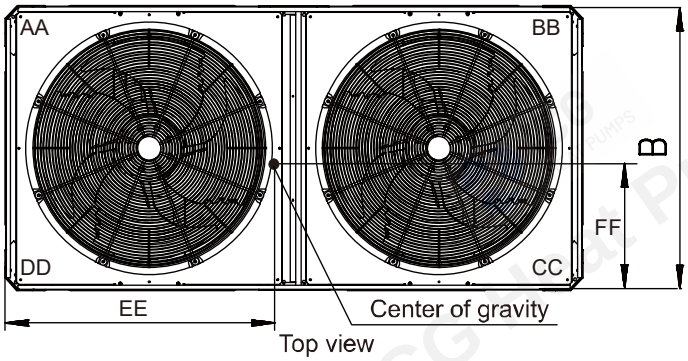
**MHS-SVC50-RN7TL-B / MHS-SVC60-RN7TL-B / MHS-SVC70-RN7TL-B**




Front view



Left view

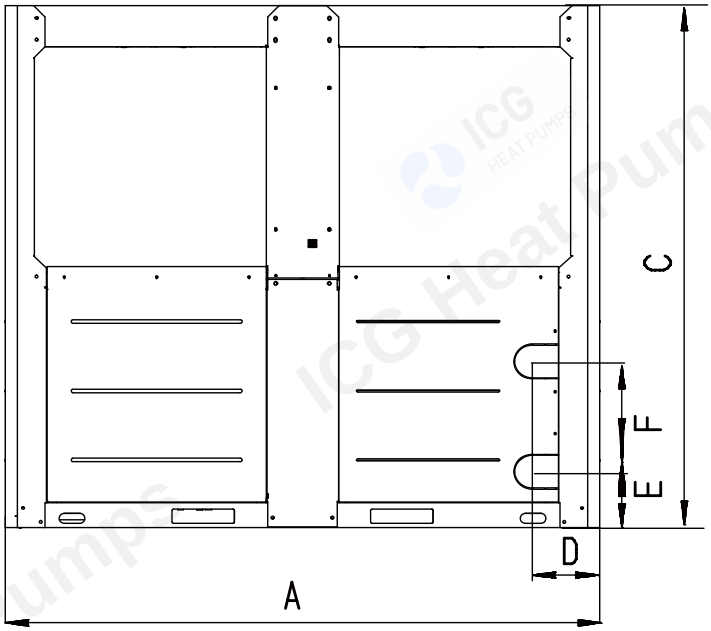



Top view

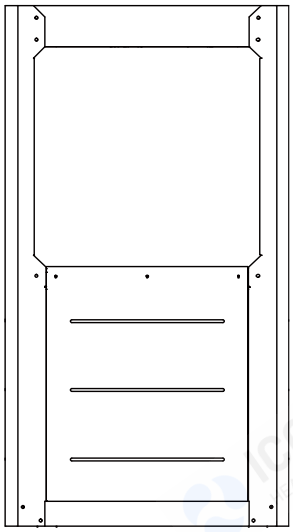
| Model | 50/60/70kW |
|---|---|
| A | 2 000 |
| B | 960 |
| C | 1 870 |
| D | 226 |
| E | 200 |
| F | 397 |

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

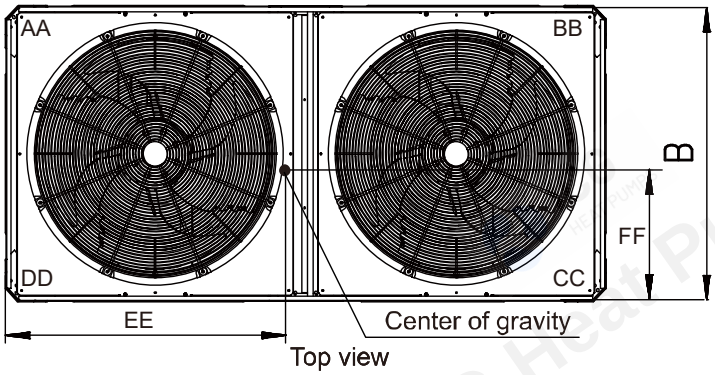
**MHS-SVC50(M)-RN7TL-B / MHS-SVC60(M)-RN7TL-B / MHS-SVC70(M)-RN7TL-B**




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 MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)

| 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：

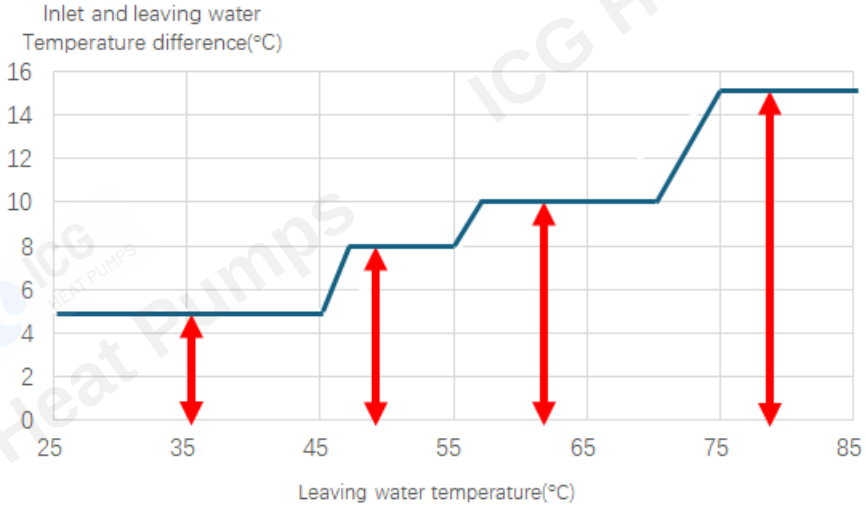
HC: Total heating capacity (kW)

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:



**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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：

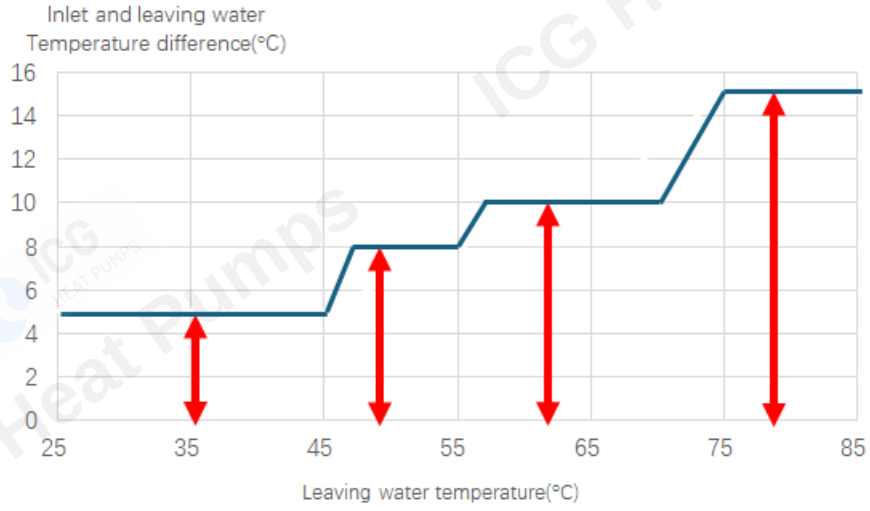
HC: Total heating capacity (kW)

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:



**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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：

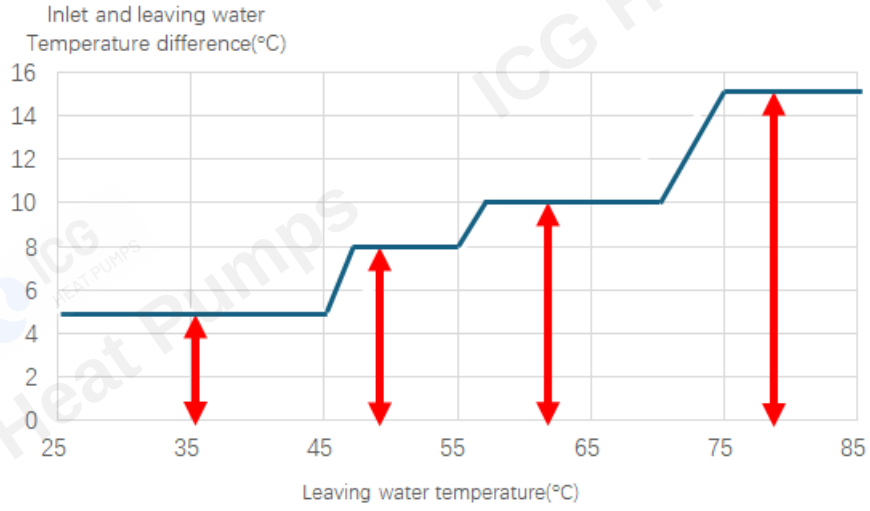
HC: Total heating capacity (kW)

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:



**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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：

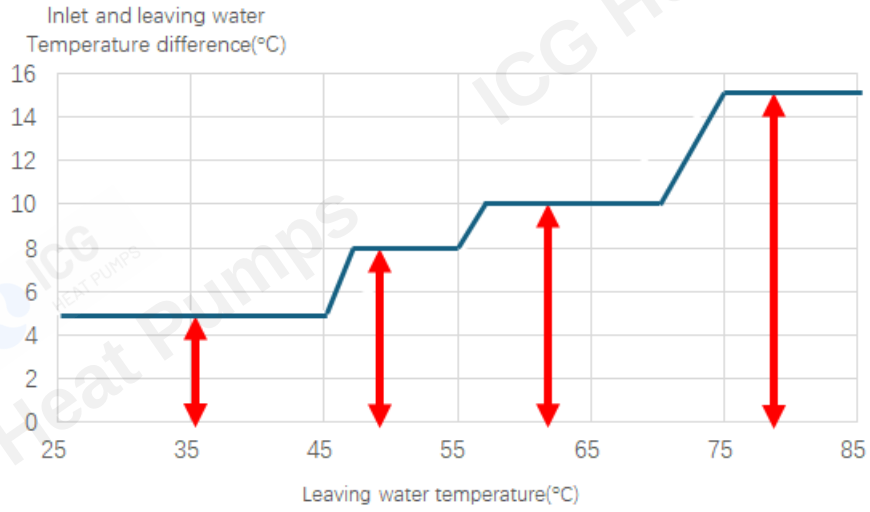
HC: Total heating capacity (kW)

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:



**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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：

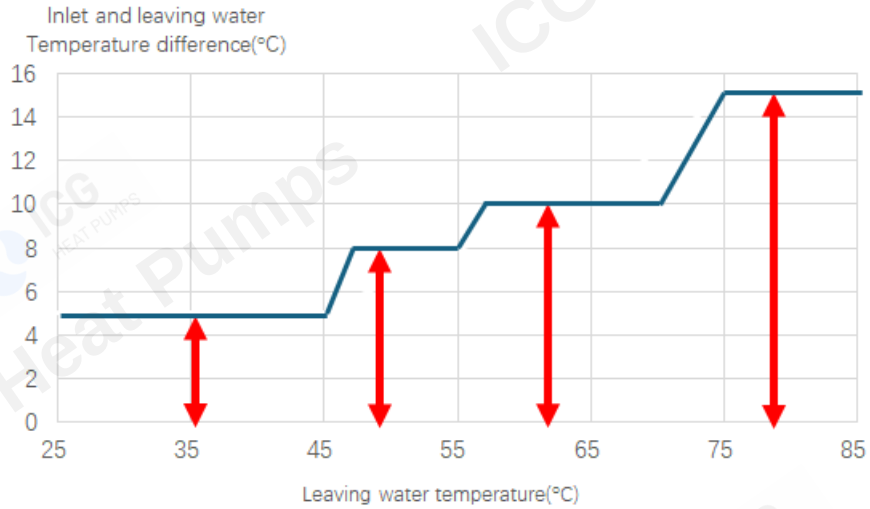
HC: Total heating capacity (kW)

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:



### 4.1.2 MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)

| 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：

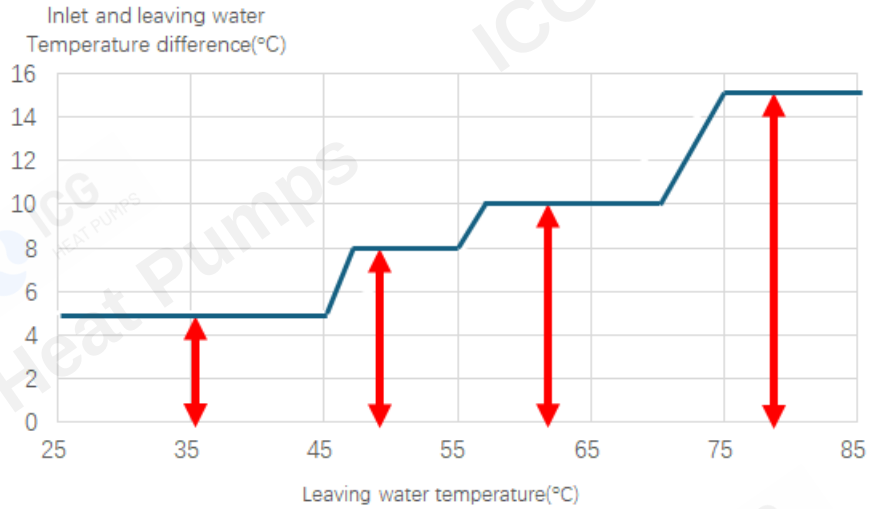
HC: Total heating capacity (kW)

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:



**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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：

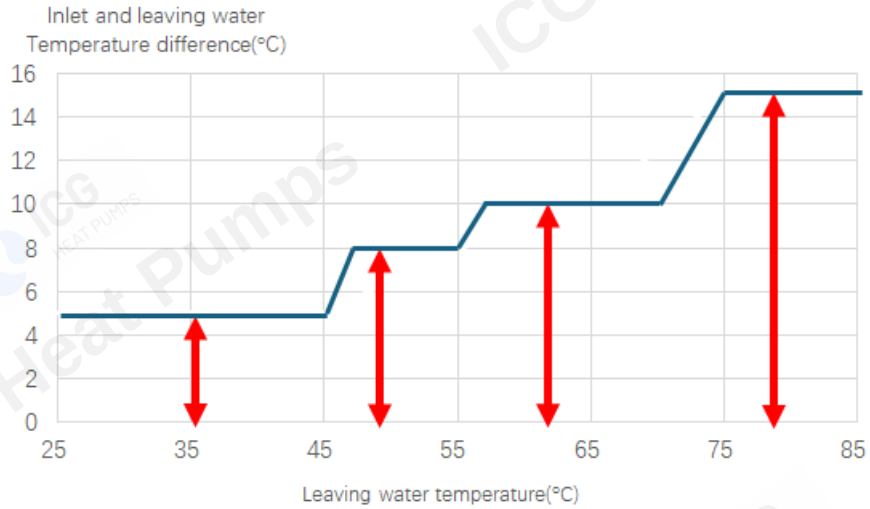
HC: Total heating capacity (kW)

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:



**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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：

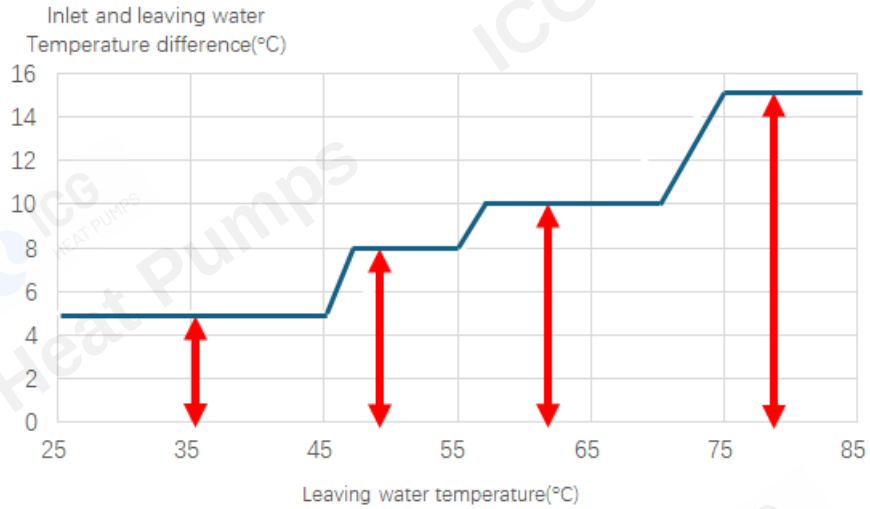
HC: Total heating capacity (kW)

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:



**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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：

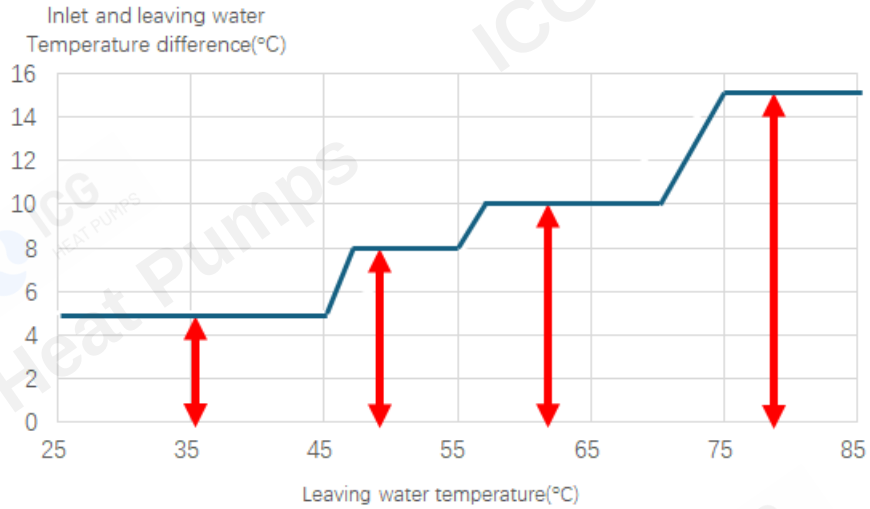
HC: Total heating capacity (kW)

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:



**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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：

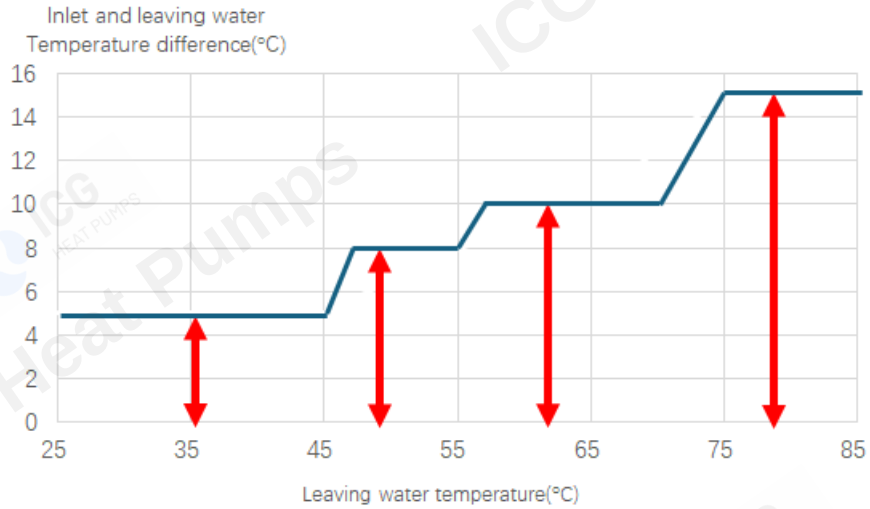
HC: Total heating capacity (kW)

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:



### 4.1.3 MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)

| 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：

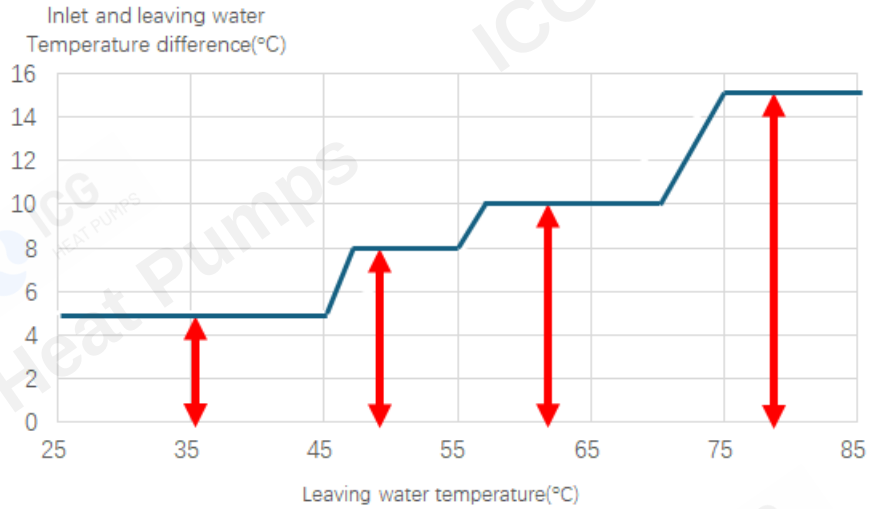
HC: Total heating capacity (kW)

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:



**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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：

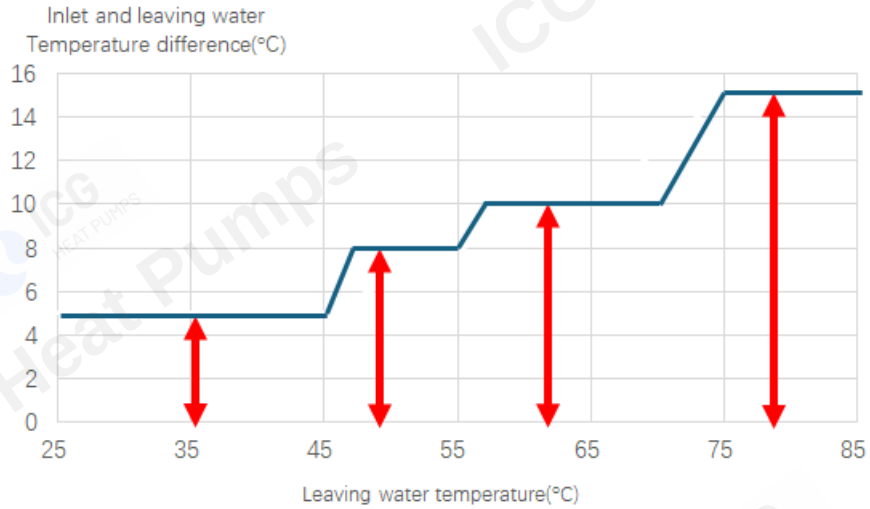
HC: Total heating capacity (kW)

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:



**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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：

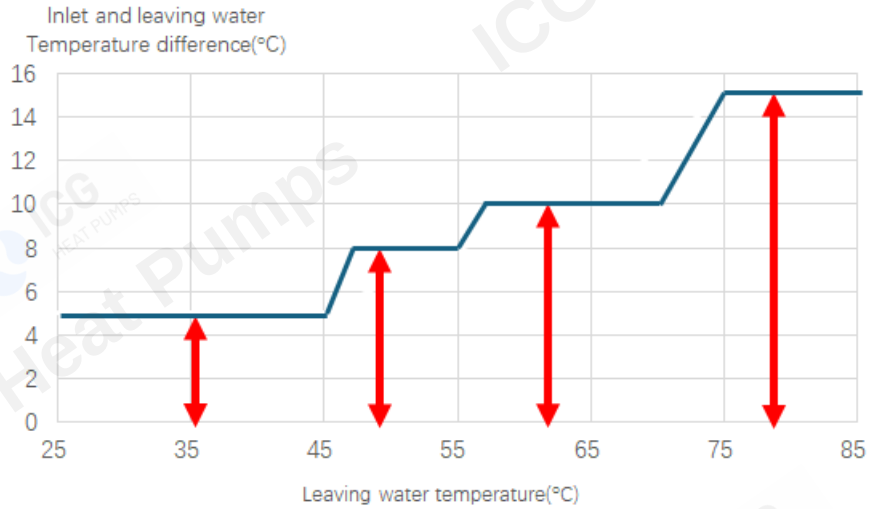
HC: Total heating capacity (kW)

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:



**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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：

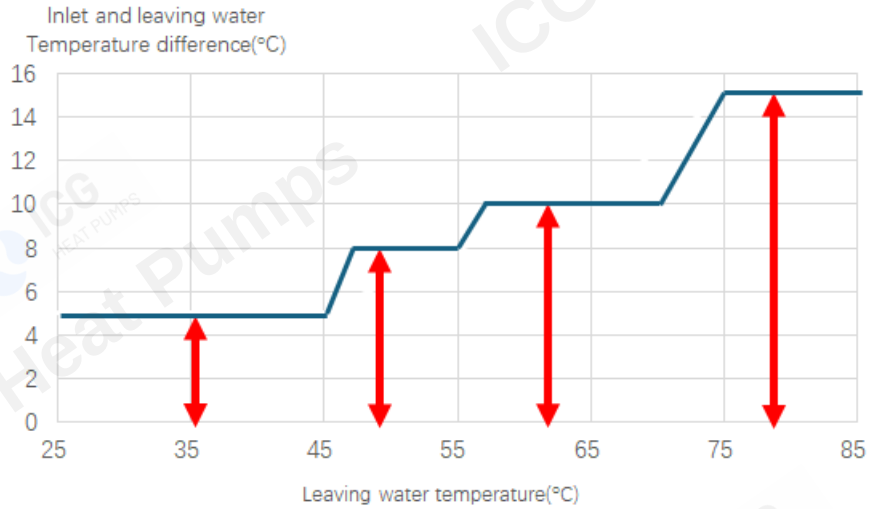
HC: Total heating capacity (kW)

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:



**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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：

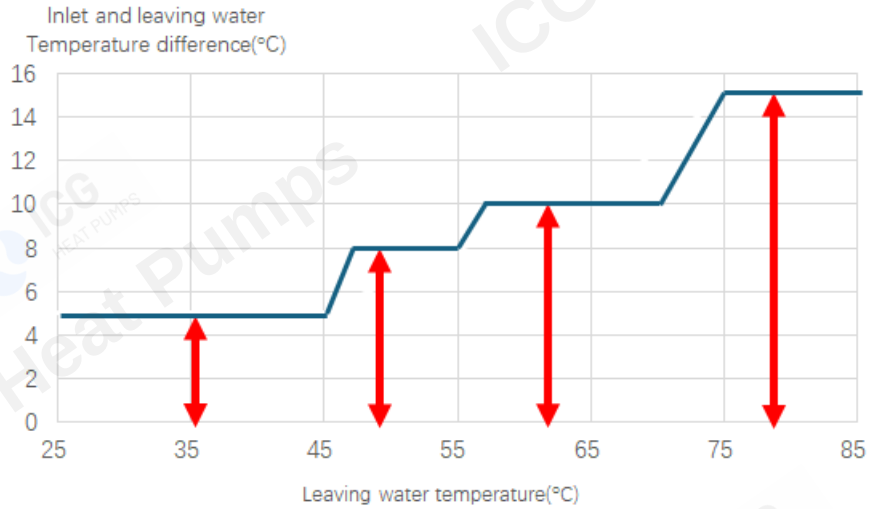
HC: Total heating capacity (kW)

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:



## 4.2 Heating Capacity Tables (Including Defrosting Cycle)

### 4.2.1 MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)

| 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：

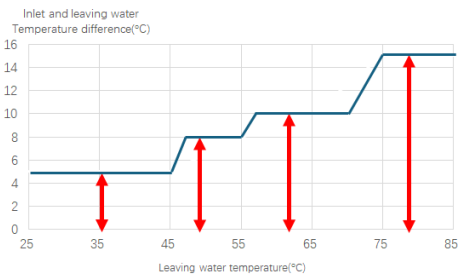
HC: Total heating capacity (kW)

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:



**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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：

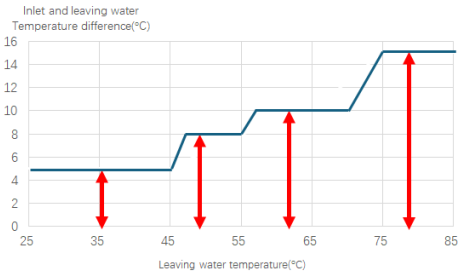
HC: Total heating capacity (kW)

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:



**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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 | | | | | | | | | |
| | LWT | DB | | | | | | | | | | | | | | |
| | | 35 | | | 40 | | | 43 | | | | | | | | |
| | | HC | PI | COP | HC | PI | COP | HC | PI | COP | | | | | | |
| 70 | 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：

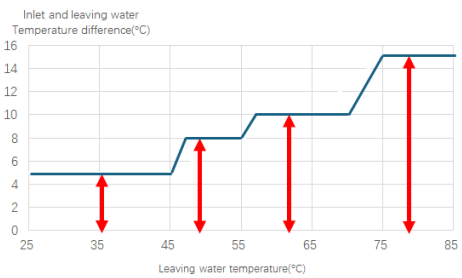
HC: Total heating capacity (kW)

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:



**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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：

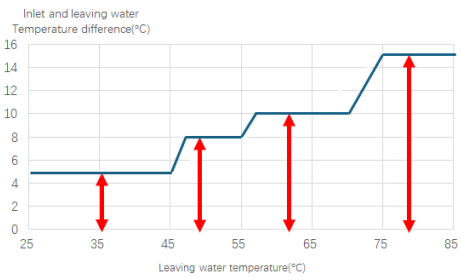
HC: Total heating capacity (kW)

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:



**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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 | | | | | | | | | |
| | LWT | DB | | | | | | | | | | | | | | |
| | | 35 | | | 40 | | | 43 | | | | | | | | |
| | | HC | PI | COP | HC | PI | COP | HC | PI | COP | | | | | | |
| 30 | 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：

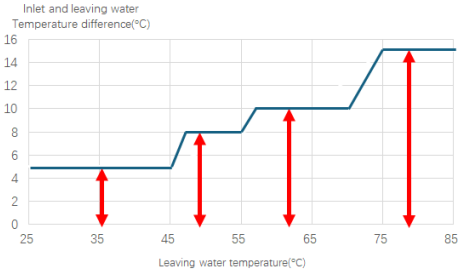
HC: Total heating capacity (kW)

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:



### 4.2.2 MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)

| 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 | | | | | | | | | |
| | LWT | DB | | | | | | | | | | | | | | |
| | | 35 | | | 40 | | | 43 | | | | | | | | |
| | | HC | PI | COP | HC | PI | COP | HC | PI | COP | | | | | | |
| 100 | 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：

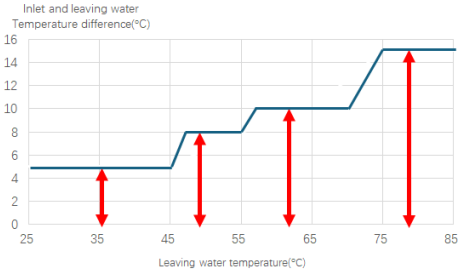
HC: Total heating capacity (kW)

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:



**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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 | | | | | | | | | |
| | LWT | DB | | | | | | | | | | | | | | |
| | | 35 | | | 40 | | | 43 | | | | | | | | |
| | | HC | PI | COP | HC | PI | COP | HC | PI | COP | | | | | | |
| 90 | 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：

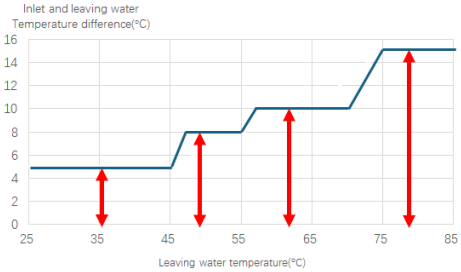
HC: Total heating capacity (kW)

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:



**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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：

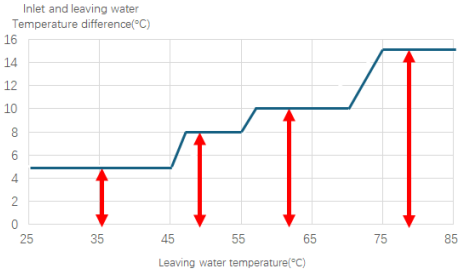
HC: Total heating capacity (kW)

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:



**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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 | | | | | | | | | | |
| | LWT | DB | | | | | | | | | | | | | | | |
| | | 35 | | | 40 | | | 43 | | | | | | | | | |
| | | HC | PI | COP | HC | PI | COP | HC | PI | COP | | | | | | | |
| 50 | 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：

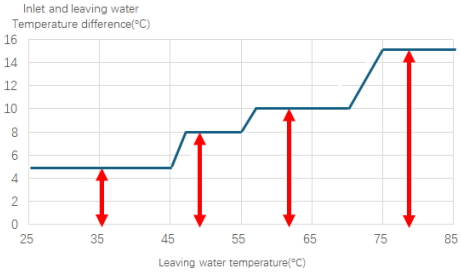
HC: Total heating capacity (kW)

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:



**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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 | | | | | | | | | | |
| | LWT | DB | | | | | | | | | | | | | | | |
| | | 35 | | | 40 | | | 43 | | | | | | | | | |
| | | HC | PI | COP | HC | PI | COP | HC | PI | COP | | | | | | | |
| 30 | 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：

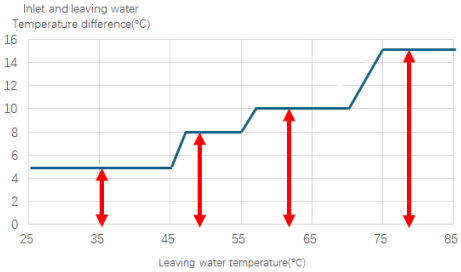
HC: Total heating capacity (kW)

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:



### 4.2.3 MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)

| 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：

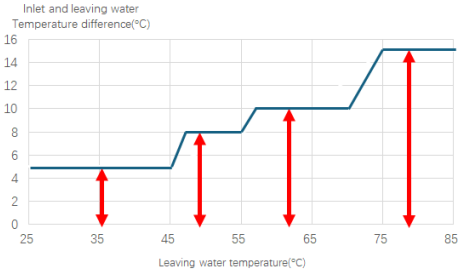
HC: Total heating capacity (kW)

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:



**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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 | | | | | | | | | |
| | LWT | DB | | | | | | | | | | | | | | |
| | | 35 | | | 40 | | | 43 | | | | | | | | |
| | | HC | PI | COP | HC | PI | COP | HC | PI | COP | | | | | | |
| 90 | 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：

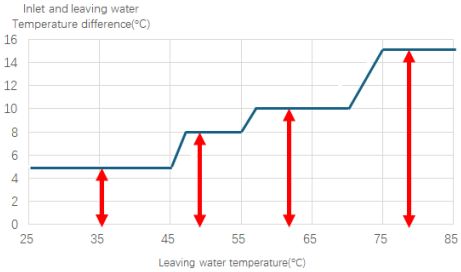
HC: Total heating capacity (kW)

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:



**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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：

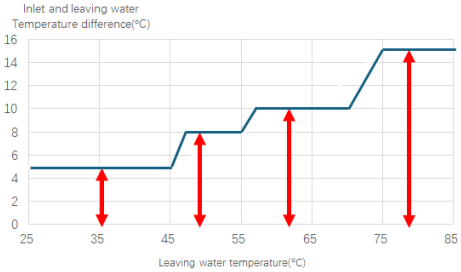
HC: Total heating capacity (kW)

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:



**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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 | | | | | | | | | | |
| | LWT | DB | | | | | | | | | | | | | | | |
| | | 35 | | | 40 | | | 43 | | | | | | | | | |
| | | HC | PI | COP | HC | PI | COP | HC | PI | COP | | | | | | | |
| 50 | 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：

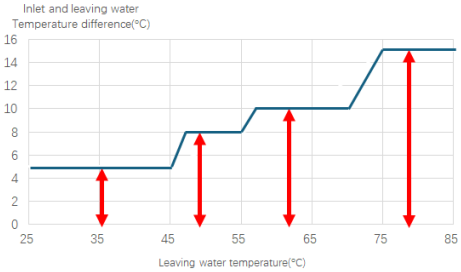
HC: Total heating capacity (kW)

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:



**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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 | | | | | | | | | | |
| | LWT | DB | | | | | | | | | | | | | | | |
| | | 35 | | | 40 | | | 43 | | | | | | | | | |
| | | HC | PI | COP | HC | PI | COP | HC | PI | COP | | | | | | | |
| 30 | 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：

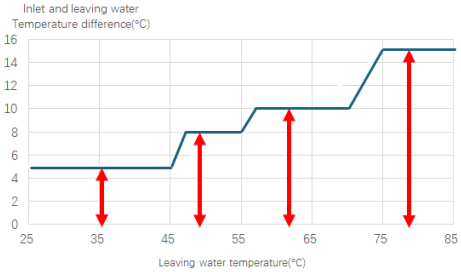
HC: Total heating capacity (kW)

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:



## 4.3 Cooling Capacity Tables

### 4.3.1 MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)

| 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.

**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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.

## MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)

| 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.

**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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.

**MHS-SVC50-RN7TL-B (MHS-SVC50(M)-RN7TL-B)**

| 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 MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)

| 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.

**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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.

**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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.

**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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.

**MHS-SVC60-RN7TL-B (MHS-SVC60(M)-RN7TL-B)**

| 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.

### 4.3.3 MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)

| 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.

**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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.

**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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.

**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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.

**MHS-SVC70-RN7TL-B (MHS-SVC70(M)-RN7TL-B)**

| 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.

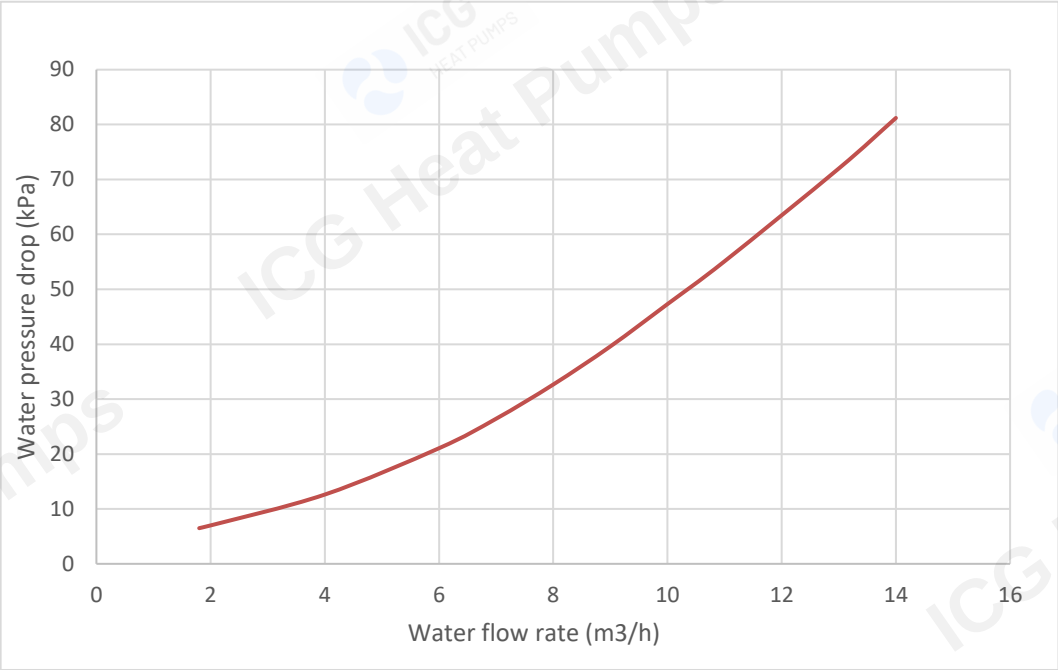
## 5.3 Altitude correction factors

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.

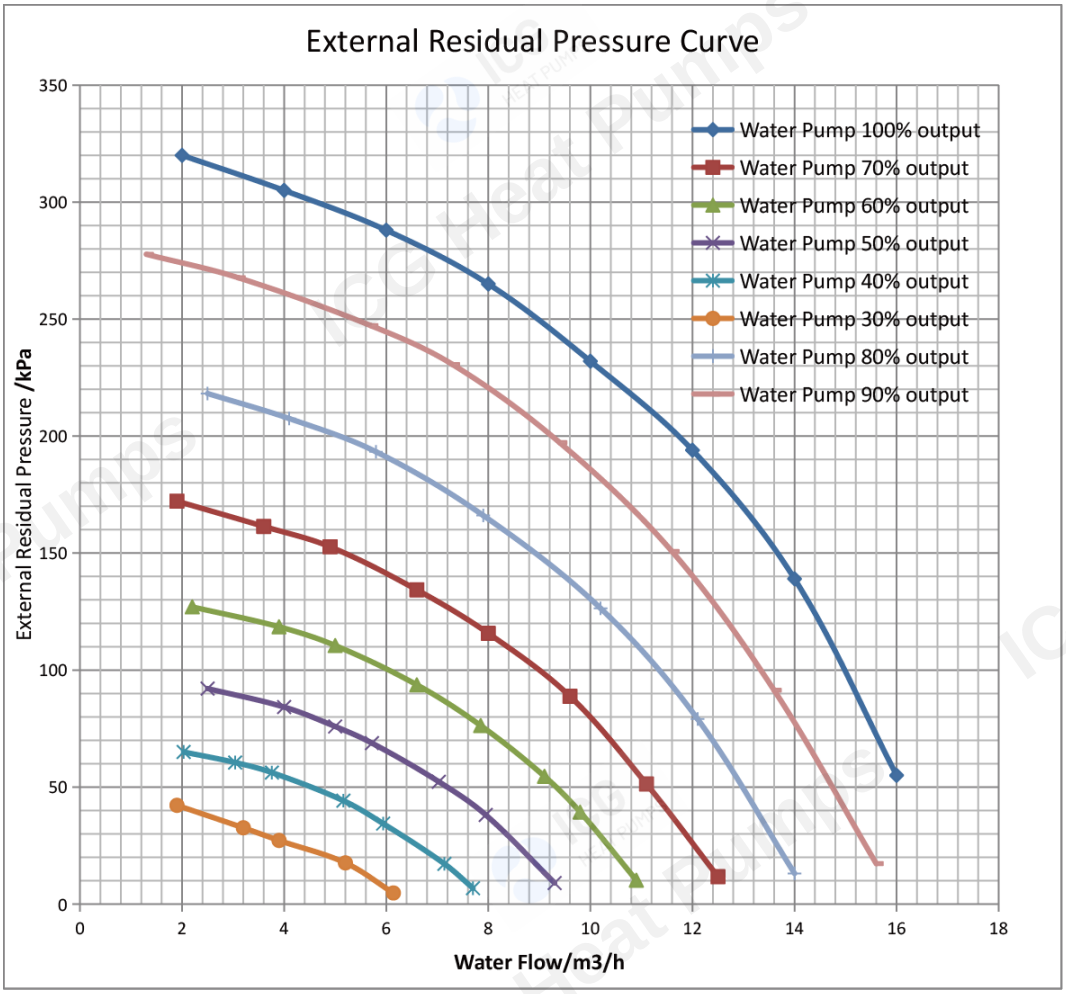
| Altitude correction factors | | |
|---|---|---|
| Altitude (m) | Capacity Correction Factor | Efficiency Correction Factor |
| 0 | 1.000 | 1.000 |
| 500 | 0.993 | 0.984 |
| 1000 | 0.986 | 0.969 |
| 1500 | 0.978 | 0.953 |
| 2000 | 0.972 | 0.940 |
| 2500 | 0.968 | 0.932 |
| 3000 | 0.966 | 0.928 |

## 6 Hydronic Performance

**MHS-SVC50-RN7TL-B / MHS-SVC60-RN7TL-B / MHS-SVC70-RN7TL-B**

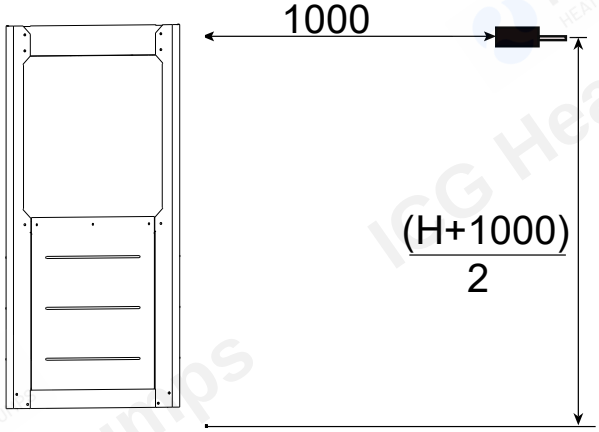



**MHS-SVC50(M)-RN7TL-B / MHS-SVC60(M)-RN7TL-B / MHS-SVC70(M)-RN7TL-B**



## 7 Noise Levels

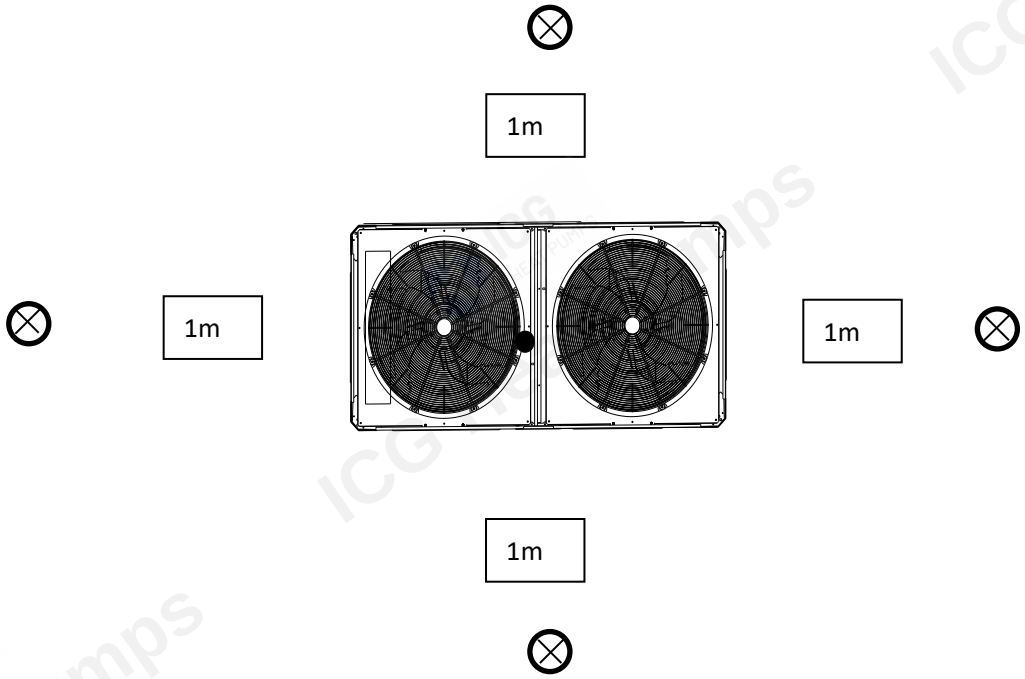
### 7.1 Overall




Notes:

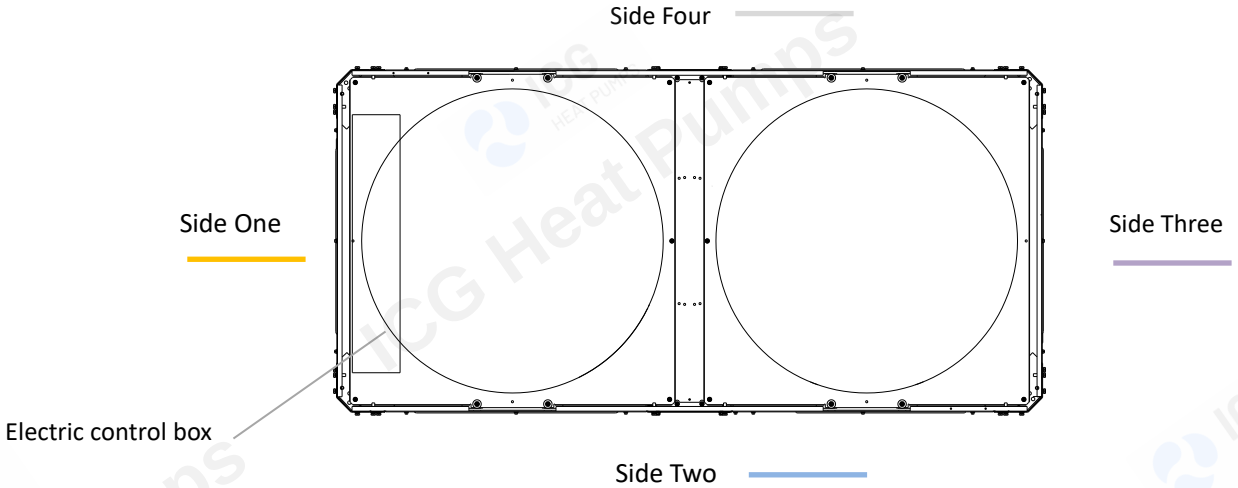
1. Sound pressure level is measured at a position 1m in front of the unit and (1+H)/2m (where H is the height of the unit) above the floor in a semi-anechoic chamber. During on-site operation, sound pressure levels may be higher as a result of ambient noise.

Sound pressure level measurement (unit: mm)

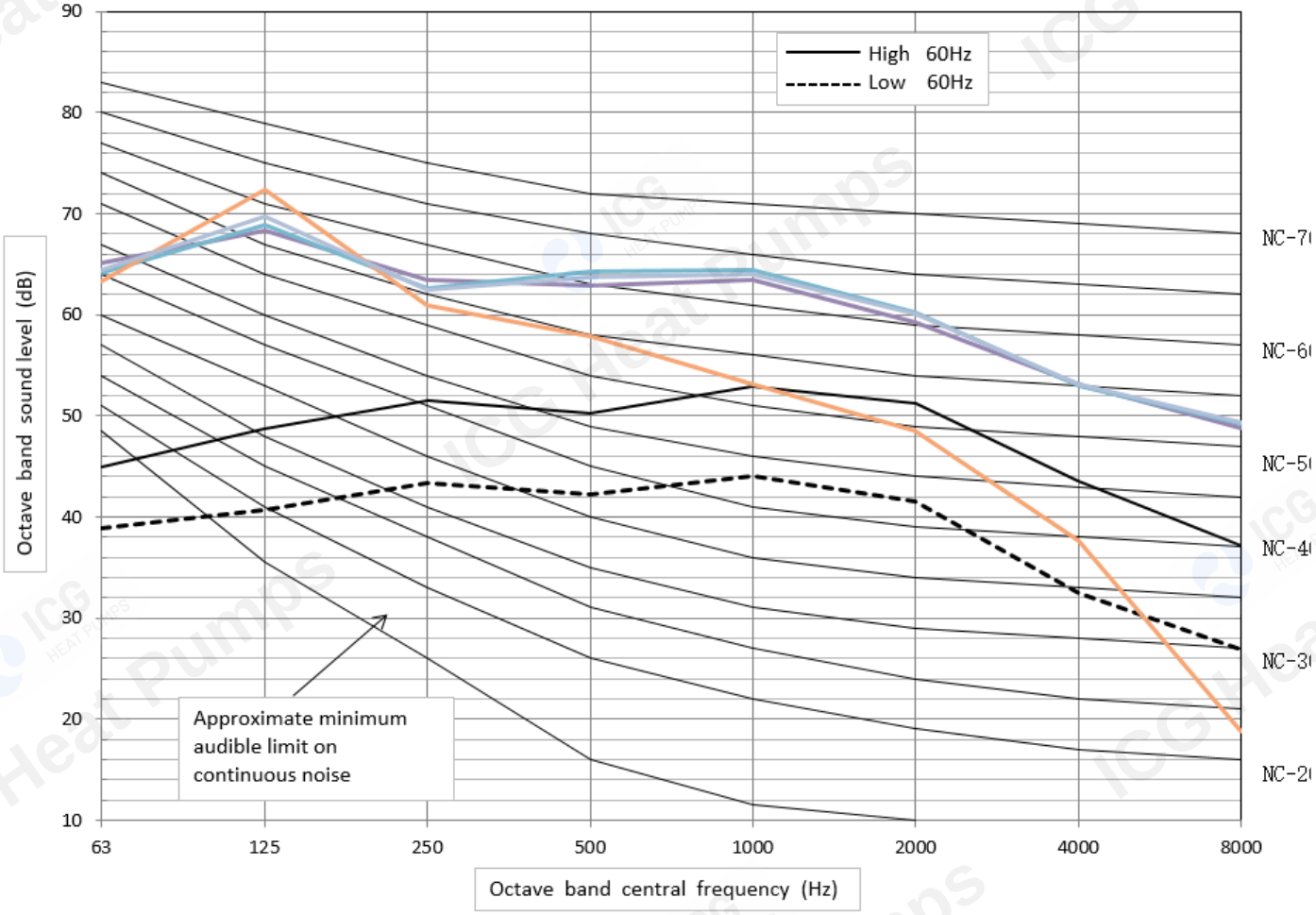


## 7.2 Octave Band Levels

**NC**

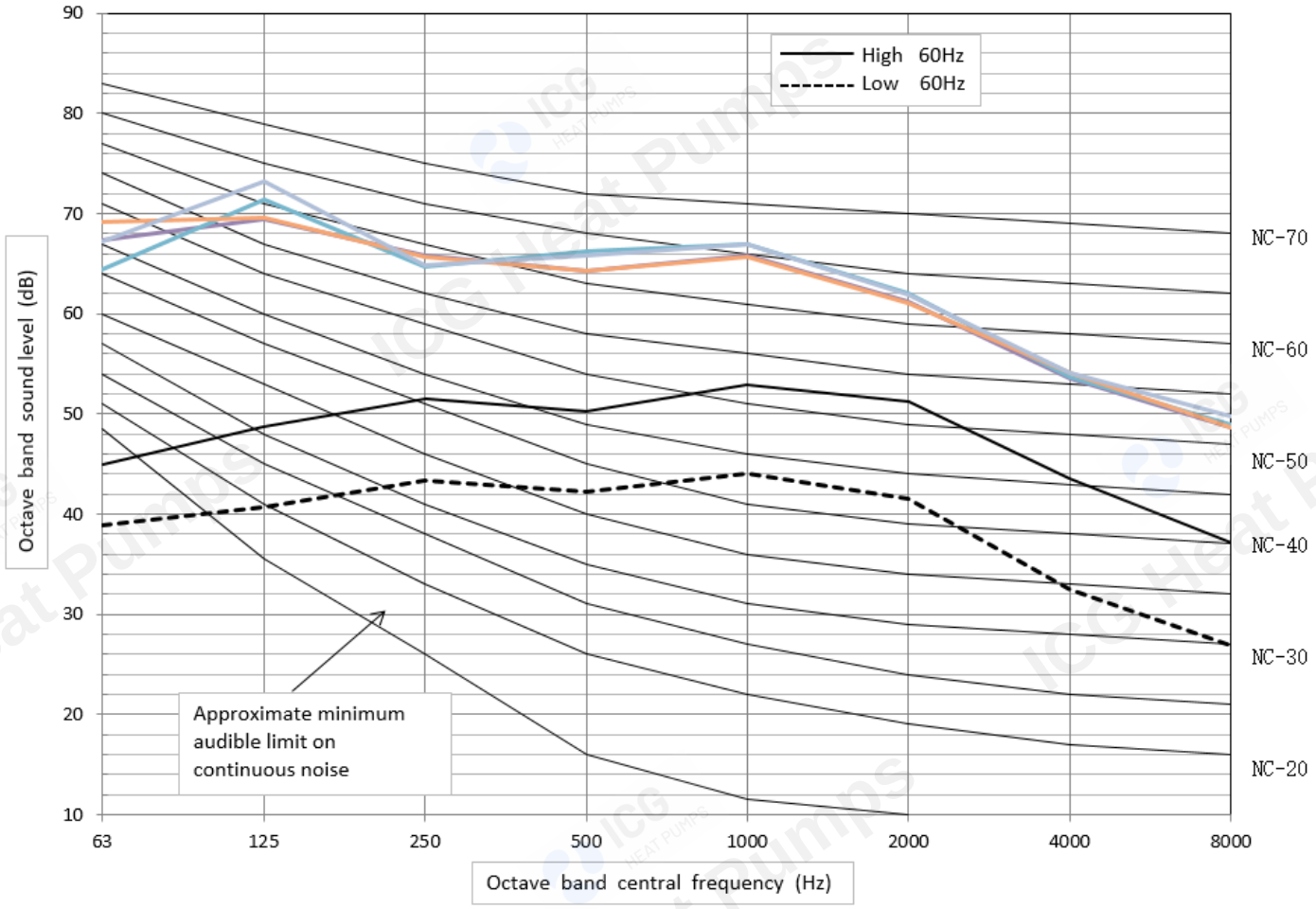



Test condition：Cooling： Outdoor ambient temperature 35°C DB. LWT 7°C

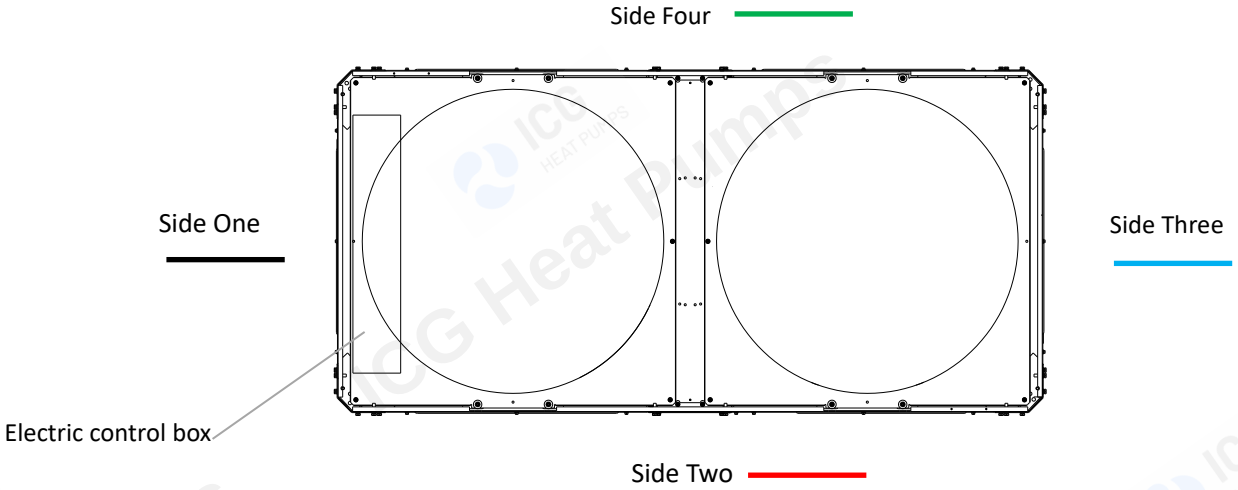


# Mars Large

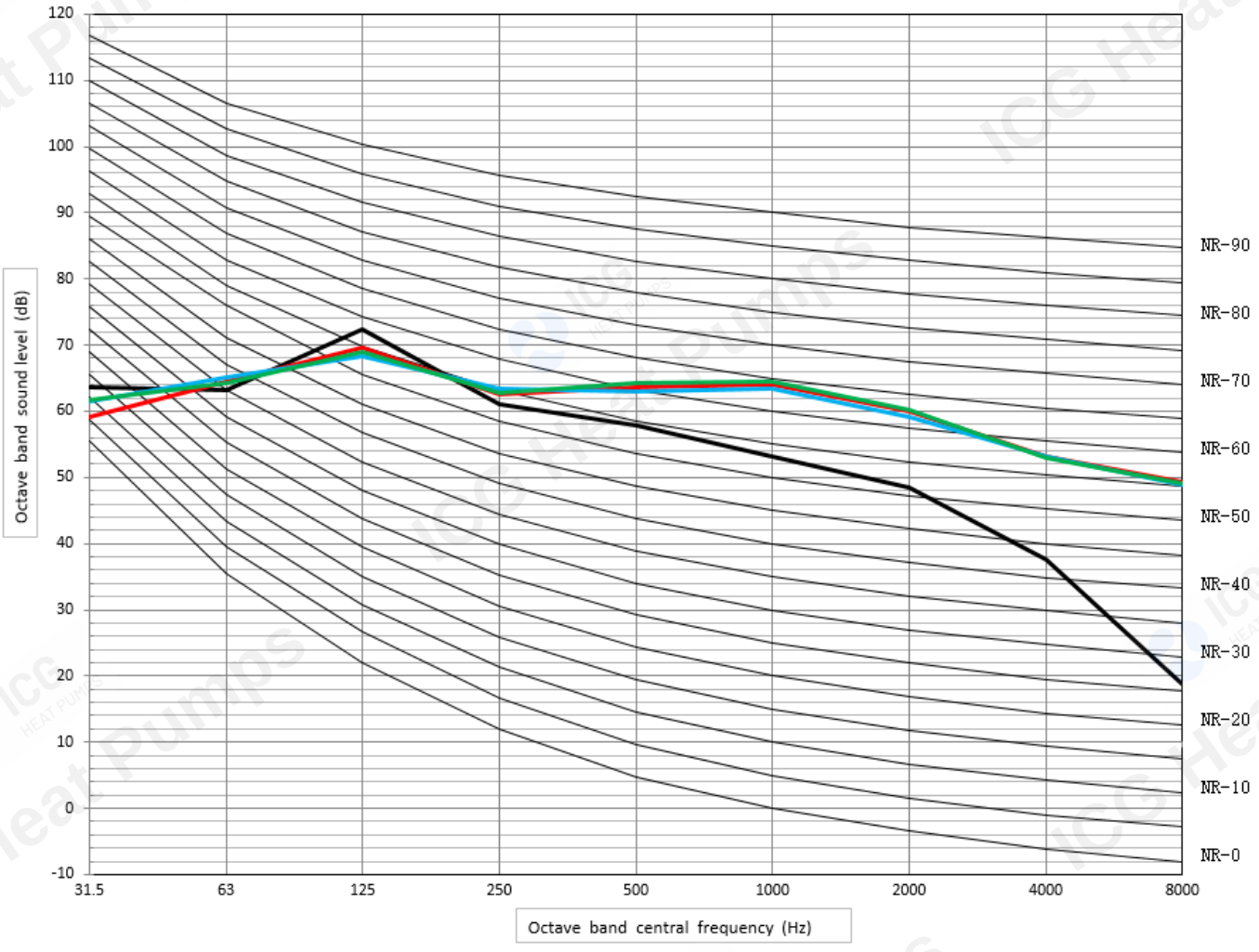
Test condition：Heating； Outdoor ambient temperature 7C DB. LWT 35°C



**NR**

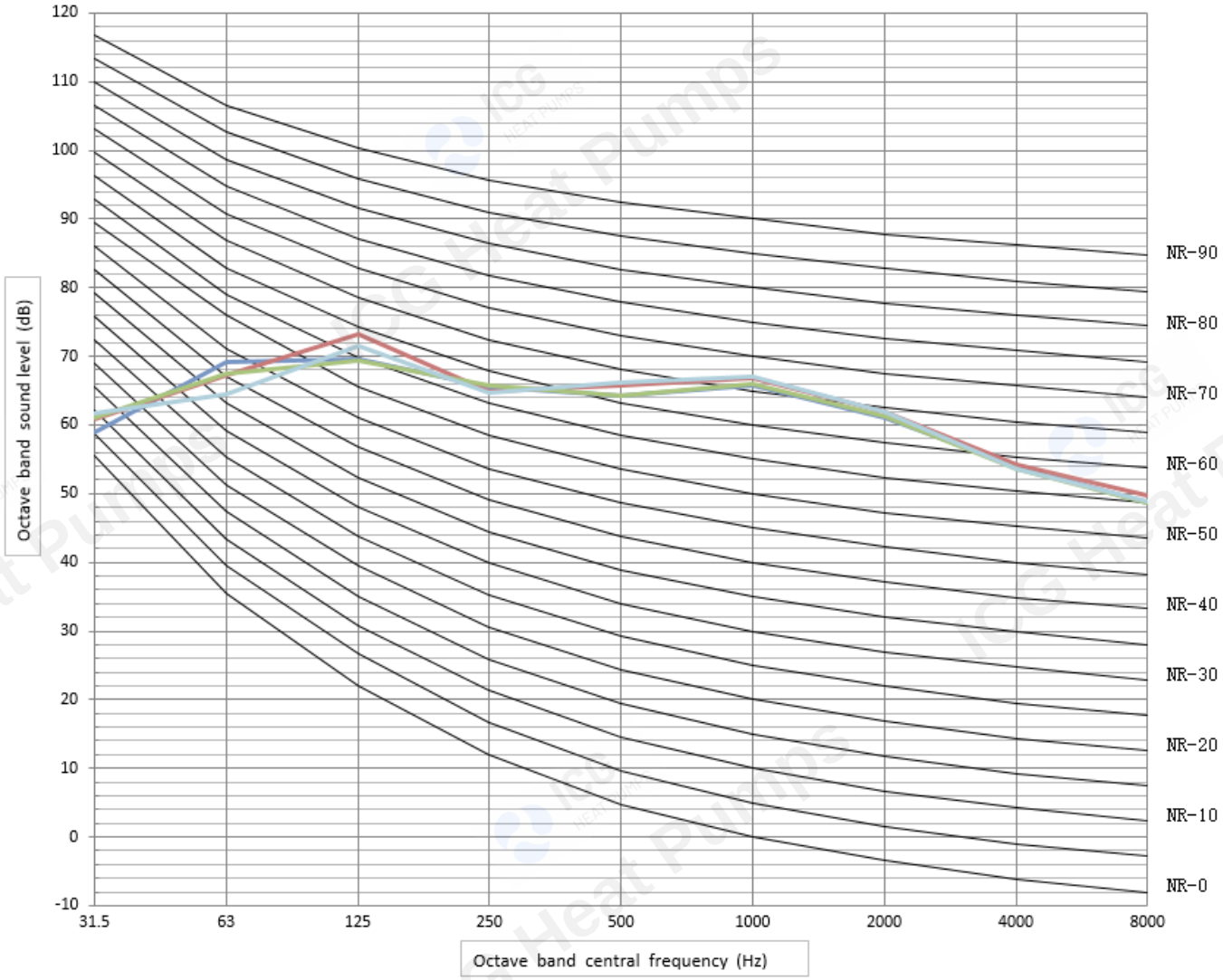



Test condition：Cooling：Outdoor ambient temperature 35°C (95°F) DB. LWT 7°C(44.6°F)



# Mars Large

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



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