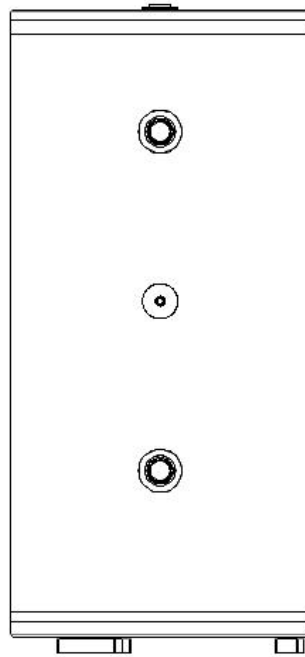


# BUTTER TANK

## INSTALLATION & OWNER'S MANUAL



**IMPORTANT NOTE:**

Thank you very much for purchasing our product. Before using your unit, please read this manual carefully and keep it for future reference.



## **Safety Precautions**

1. Please read these instructions carefully before installation and use. This manual contains the information necessary for the proper installation, commissioning, startup and maintenance of the equipment.
2. Please select the wiring cable specification according to the maximum current or maximum power.
3. Equipment installation, commissioning and maintenance must be completed by professionals.
4. Professionals must wear anti-static gloves when performing electrical operations.
5. Please regularly check the aging of components and lines, insulation and other problems, and make corresponding treatment when necessary.
6. Failure to follow the above instructions may cause equipment damage and even endanger personal safety.

## **Warning**

1. Cut off the power supply before dismantling or repairing the equipment, otherwise there is a risk of electric shock.
2. The circuit connection must be reliable, otherwise it will cause short circuit and fire events.
3. All external connection wires must be protected by rubber or plastic rings when they pass through the sheet metal of the unit, otherwise there will be danger of electric shock.

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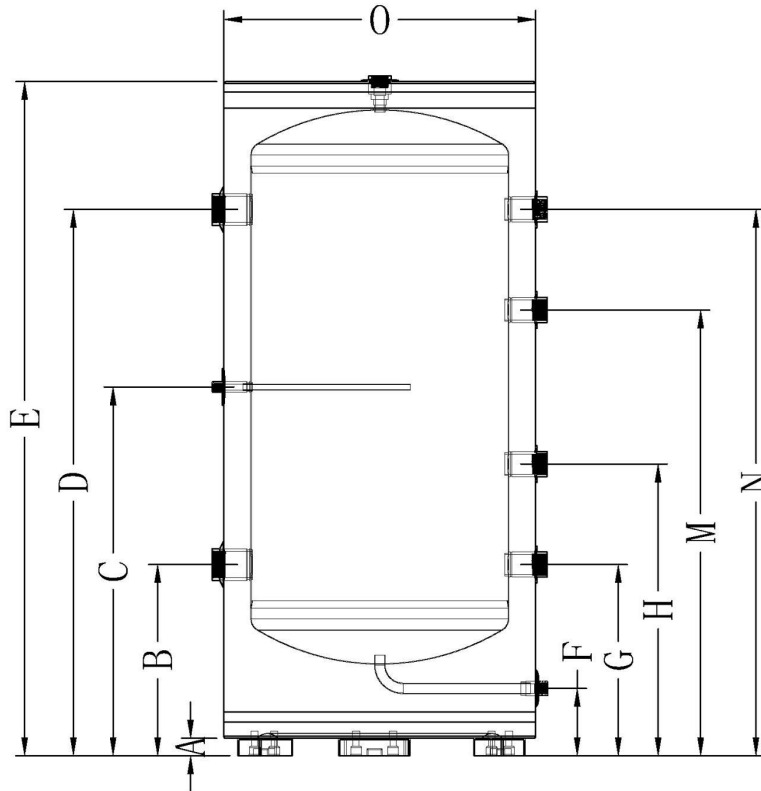
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# 1. UNIT SPECIFICATIONS

## 1.1 Notes

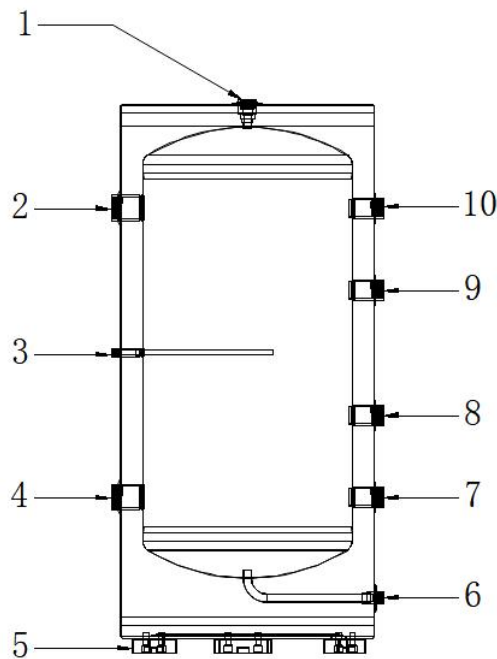
1. Please read these instructions carefully before installation and use. This manual contains the information necessary for the proper installation, commissioning, startup and maintenance of the equipment.
2. The manufacturer does not assume any responsibility for any personal injury or equipment damage caused by improper installation, commissioning, unnecessary maintenance, non-compliance with the provisions or instructions of this manual.
3. When the unit is not in use, please drain all the water inside the unit to avoid freezing the heat exchanger in winter.

## 1.2 Model



Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	M (mm)	N (mm)	O (mm)
NE-F60BT4-SA	26	285	365	525	715	100	285	365	445	525	465
NE-F100BT4-SA	26	285	550	815	1005	100	285	435	665	815	465
NE-F200BT4-SA	26	447	847	1247	1665	97	357	607	1157	1407	480

### 1.3 Specification of ports



NO.	Meaning	Port Diameter		
		NE-F60BT4-SA	NE-F100BT4-SA	NE-F200BT4-SA
1	Exhaust valve	G3/4" female thread	G3/4" female thread	G3/4" female thread
2	Circulation water inlet (for heat pump)	G1 1/4"	G1 1/4"	G1 1/2"
3	Temperature sensor			
4	Circulation water outlet (for heat pump)	G1 1/4"	G1 1/4"	G1 1/2"
5	Rubber feet			
6	Water drain	G1/2"	G1/2"	G1/2"
7	Circulation water inlet 1(for user)	G1"	G1"	G1 1/2"
8	Circulation water inlet 2(for user)	G1"	G1"	G1 1/2"
9	Circulation water outlet 2(for user)	G1"	G1"	G1 1/2"
10	Circulation water outlet 1(for user)	G1"	G1"	G1 1/2"

## 1.4 Parameters

Model:	NE-F60BT4-SA	NE-F100BT4-SA	NE-F200BT4-SA
Volume(L)	60L	100L	200L
Inner Tank Material	SUS304	SUS304	SUS304
Outer Tank Material	Coated Plate		
Water Connection (for heat pump) (inch)	G1 1/4"	G1 1/4"	G1 1/2"
Water Connection (for user) (inch)	G1"	G1"	G1 1/2"
Net Dimensions(L/W/H)	Φ465×715	Φ465×1005	Φ480×1665
Net weight(kg)	18	24	38

## 2. INSTALLATION

### 2.1 Unit installation

#### 2.1.1. Installation location

- a. The unit should be installed indoors with enough space for installation and maintenance;
- b. The unit should be installed in a ventilated place that can bear the weight of the unit, and can be installed horizontally without increasing mechanical noise and vibration.
- c. The installation location should be convenient for maintenance pipeline installation and electrical connection;

#### 2.1.2. Attention

Installation is prohibited in the following locations

- a. Where there is mineral oil such as cutting oil;
- b. Seaside or other places that contain more salt in the air or water;
- c. Places where there are corrosive gases such as sulfur gas, acid or alkali, such as hot spring areas, etc.
- d. Kitchen or other places full of oil and gas and oil;

### 3. COMMISSIONING

#### 3.1 Test run operation

##### Precautions before test run operation:

1. The water system pipeline needs to be flushed and drained several times to ensure that the water quality and cleanliness meet the requirements. The pipeline system should be refilled with water and drained before turning on the water pump, and ensure that the water flow and outlet pressure meet the requirements.

The water quality should meet the requirements in the table

PH (25°C)	6.5-8.0	CL <sup>-</sup> (mg/L)	< 50
Conductivity (25°C) (µs/cm)	<250	SO <sub>4</sub> <sup>2-</sup> (mg/L)	<50
Fe (mg/L)	<0.3	Total Alkaline	<50
Hardness (mg/L)	<50	SiO <sub>2</sub>	<30

2. The test run only starts after all installations have been completed.
3. Please final check the following matters before the test run, and tick the box after confirmation..
  - The unit is installed correctly.
  - The supply voltage is the same as the rated voltage of the unit.
  - The piping and wiring are correct.
  - The air inlet and outlet of the unit are free from obstruction.
  - Drainage and evacuation are smooth and leak-free.
  - Leakage protector can operate effectively.
  - Pipe insulation is complete.
  - Grounding wires are properly connected.
4. Observe whether there is any leakage in the entire heating circulation system.

### 4. MAINTENANCE

#### Descaling

After a long-term operation, calcium oxide or other minerals may deposit on the surface of the water



side heat exchanger. When these substances scale more, they will affect the heat exchange performance and lead to more power consumption, and high exhaust pressure (or low suction pressure).

Organic acids such as formic acid, citric acid and acetic acid can be used for cleaning. Never use cleaning agents containing chloric acid or fluoride, because the material of the water side heat exchanger is stainless steel, which is easy to be corroded.

Pay attention to the following aspects during the cleaning and descaling process:

- The cleaning of the water side heat exchanger must be carried out by a professional.
- After using the cleaning agent, clean the water pipes and heat exchanger with clean water for water treatment to prevent the system from being corroded or re-adsorbed after cleaning.
- When using cleaning agent, the concentration of the cleaning agent, the cleaning time and the water temperature should be adjusted according to the dirt deposits.
- After the cleaning of the acid solution is completed, the waste liquid needs to be neutralized, and contact the relevant company to deal with the waste liquid.
- Cleaning agents and neutralising agents are corrosive to the eyes, skin, nasal mucous membranes etc. Therefore protective devices (e.g. goggles, protective gloves, protective masks, protective footwear etc.) must be used during cleaning to prevent inhalation or contact with the agents.

### **Winter Shutdown**

- When the unit is powered off, the water must be drained clean.
- When the unit is powered on, the water cannot be drained.

### **Initial start-up after shutdown**

After any prolonged shutdown, the following preparations shall be made when the unit is started up again.

- Thoroughly inspect and clean the unit.
- Clean the plumbing system.
- Check the pressure relief valve and other equipment in the plumbing system.
- Fasten all electrical connections

**Warning:** During leak detection and air tightness test, never charge the refrigeration system with

oxygen, acetylene, or other flammable or toxic gas, and only use high pressure nitrogen or refrigerant.

### **System antifreeze protection**

If the flow passage of the water side heat exchanger freezes, it will cause serious damage and cause the heat exchanger to rupture and leak. Therefore, special attention should be paid to antifreeze.

- 1) When the unit is shut down for standby at a lower ambient temperature, if the unit is placed in an environment where the outdoor temperature is lower than 2 °C, the water in the water system should be drained.



