

Danfoss
XB Brazed Plate
Heat Exchangers



Danfoss XB Brazed Plate Heat Exchangers Instructions

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Danfoss XB Brazed Plate Heat Exchangers



Product Usage Instructions

- To avoid injury and damage, it is crucial to carefully read and follow the safety instructions provided. Assembly, startup, and maintenance should only be carried out by qualified personnel.
- Ensure the heat exchanger is properly connected to the system according to the provided guidelines.
- Check the permissible system pressure for the installation and adjust accordingly.
- Start the system as per the startup instructions provided in the manual.
- Monitor the heat exchanger during operation to ensure it functions correctly.
- Regularly clean the heat exchange plates to maintain efficiency.
- Conduct pressure tests periodically to ensure safe operation.

Safety notes

- To avoid injury of persons and damages to the device, it is absolutely necessary to carefully read and observe these instructions.
Necessary assembly, start-up, and maintenance work must only be performed by qualified and authorized personnel.

Warning of high pressure and temperature

- The maximum temperature of the medium of the heat exchanger has been set to +180 °C.
- The maximum operating pressure of the heat exchanger is 25 bar.
- Be aware of the installation's permissible system pressure.
- The risk of equipment and personal accidents will increase dramatically if the recommendations as to maximum operating pressure are ignored.
- The heat exchanger must be equipped with a safety valve.
- Warning of hot surfaces. The heat exchanger has hot surfaces, which can cause skin burns. Please observe extreme caution close to the heat exchanger.

Warning Hot water

- District heating water can be very hot and under high pressure. Consequently, the station must be emptied of

water prior to dismantling.

Warning of transport damage

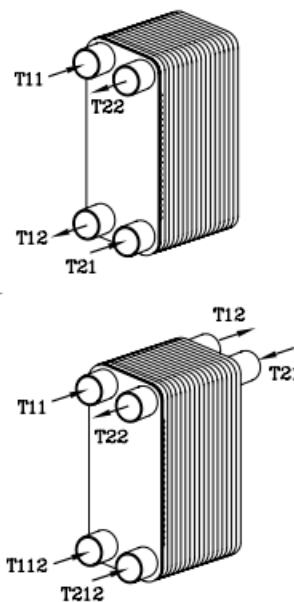
- Before the heat exchanger is taken into use, please make sure that The heat exchanger has not been damaged during transport.

Delivery

- The heat exchangers can be delivered in any position. The recommended position is, however, lying on the end plate. If the heat exchangers are delivered in bulk, it is necessary to insert a protective material between them. The heat exchanger may not to transported or stored on the pipe connections.

Connections

•



T11 – Primary side in

- T12 – Primary side out
- T112 – Primary side second inlet (two pass)
- T21 – Secondary side in T22 – Secondary side out T212 – Secondary side second inlet (two pass)
- The heat exchanger includes thread or flange connection.

Operation

- The medium must flow through the heat exchanger in the opposite direction (counter current). The brazed heat exchangers are counter-current and cannot be opened.
- The task of the heat exchanger is to transfer heat from the primary to the secondary flow through a heat transfer plate so that each flow does not mix with the other.

To intensify the heat exchange effect, each plate is pressed in a V-shape. The adjacent plate is turned 180

degrees and thus creates a grid of intertwined channels.

1. pass heat exchanger XB...-1 (fig. 1)
2. pass heat exchanger XB...-2 (fig.2)

Fig. 1

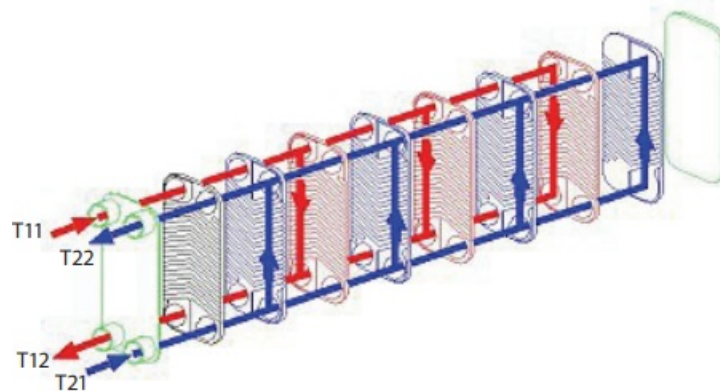
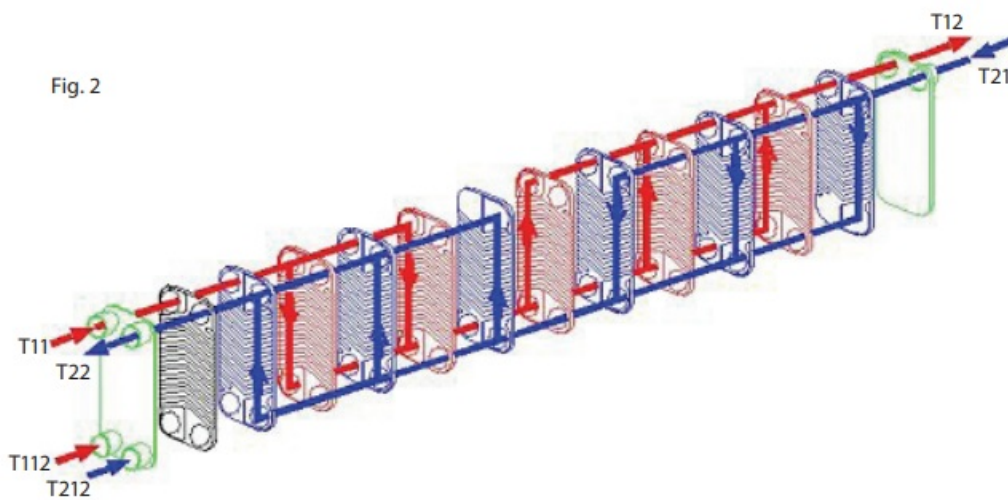
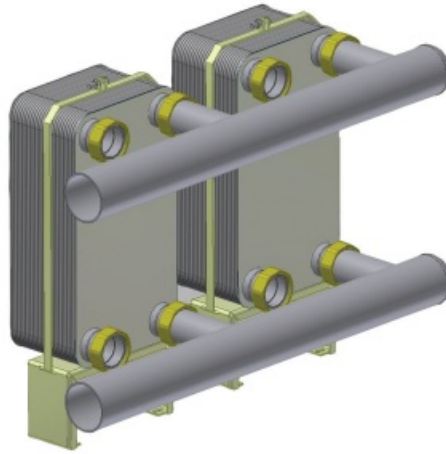


Fig. 2



Mounting

- The heat exchanger is mounted on its own base without a foundation, and it needs no bolting.
- The heat exchanger should be mounted in a vertical position.
- The space between adjacent exchangers must be at least 100 mm.
- The distance from the nearest obstacle, e.g., a wall, must be at least 1000 mm and comply with local standards.
- All pipes connected to the heat exchangers are recommended to be equipped with shut-off valves so that the heat exchanger can be removed for maintenance purposes.
- Also, the pipes to be connected must be mounted so that the strain caused, e.g., thermal expansion, does not harm the heat exchanger.
- The pipes must be equipped with brackets to prevent any torsional stress from being concentrated at the heat exchanger's pipe connections.



Filling the system, start-up

Before starting up the heat exchanger, check that:

- Pipe connections comply with the plans.
- Drain valves are closed.
- The heat exchanger is equipped with a safety valve.

Heat exchanger start-up

1. Fill the heat exchanger with liquid and raise the pressure slowly to the working pressure.
2. Open the shut-off valves and observe the operation of the heat exchanger (e.g., temperature, pressure, external leakages).

Putting out of operation

1. Close the heat exchangers and Shut-off valves slowly.
2. Stop the circulation pumps.
3. Do not drain the heat exchanger, even if the heat exchanger will be shut down for several days or longer.

Drain the heat exchanger if a shutdown would cause a danger of freezing.

Pressure test

The test pressure (PT) for the heat exchanger is shown in the table.

PS (bar)	PT (bar)
16	27.5
25	43.0

Storage

- If the heat exchangers must be stored, check that they are protected as well as possible from stress caused by changes in weather.

Cleaning the heat exchange plates

Backwash


- The backwash removes the humic matter that has accumulated on the surface of the plate.
- Clean water is flushed with high speed into the primary and/or secondary side in the opposite direction from the one used during normal operation.
- The heat exchanger can also be washed with a cleaning compound, approved by LPM (e.g. Kaloxi® or Radiner FI liquid cleaner concentrate), which is environmentally friendly and can be disposed of through a normal sewer.
- After using a cleaning compound, the heat exchanger must be flushed thoroughly with fresh water.

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FAQ

- **Q:** What is the maximum operating pressure of the heat exchanger?
- **A:** The maximum operating pressure of the heat exchanger is 25 bar. It is crucial to adhere to this limit for safe operation.
- **Q:** Is a safety valve necessary for the heat exchanger?
- **A:** Yes, the heat exchanger must be equipped with a safety valve to ensure safety in case of pressure build-up.

Documents / Resources

	<p>Danfoss XB Braze Plate Heat Exchangers [pdf] Instructions AQ13708645598703-010201, DH-SM - 2005-06 - VI.KA.A2.7Y, XB Braze Plate Heat Ex Changers, XB, Braze Plate Heat Ex Changers, Plate Heat Ex Changers, Heat Ex Changers, E x Changers</p>
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References

-  [Engineering Tomorrow | Danfoss](#)
-  [Danfoss — koncepcija Engineering tomorrow šodien | Danfoss](#)
-  [Engineering Tomorrow | Danfoss](#)
- [User Manual](#)

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