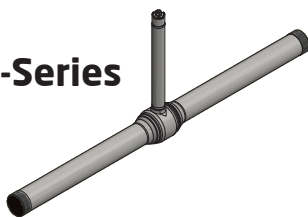


Frese SPERAMAX Underground-Series

Installation guide & User Manual



www.frese.eu/districtenergy



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Safety Instructions: Before assembly and commissioning, this document should be read carefully and observed. Assembly, start-up, and operation must only be performed by qualified, trained, and authorized personnel. Frese A/S cannot be held responsible in case of any misuse of the products.

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Name plate Valve description

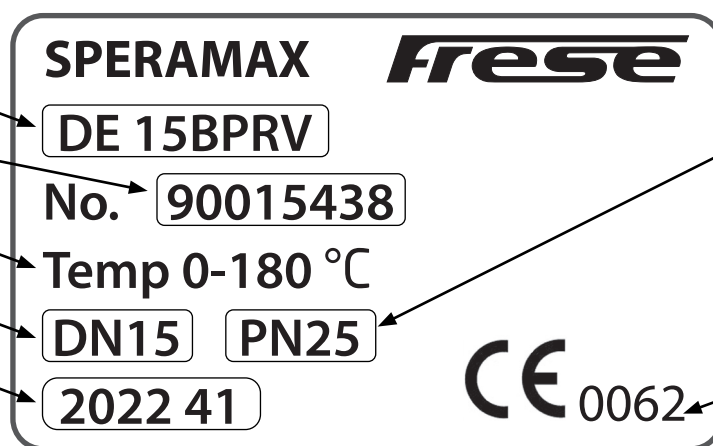
Valve type

Product number

Operating temperature

Valve size

Production Year Week



Pressure class

Notified Body Number

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General information

- Ball valves from Frese A/S are designed for installation in district heating and cooling systems/networks, operated with treated water not decomposing the materials of the valves.
- For more info about materials used, please see Technote or contact Frese A/S
- The ball valves are tight from both directions (leakage rate A) and can be installed in all positions

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Storing and handling – before installation

- Check that the valve has not been damaged during transport
- If the valve are equipped with lifting eyes use only these to handle the valve and always use both lifting eyes
- Store the valves in a dry and well-ventilated room. The end caps on the pipe-ends of the valve should only be removed shortly before installation, in order to avoid particles e.g. sand and metal to enter into the valve

General Precautions

WARNING: Incorrect installation may result in serious personal injuries.

- Check that the valve is suitable and approved for the medium and application
- Correct function of the valve requires a proper water quality and correct installation
- Do not exceed temperature and pressure limits (more info in our product data sheet)
- Note that valves installed in e.g. district heating networks can be very hot and can cause burns if not observed
- If a valve is used as end stop valve, we recommend to close with an end plate/closing cap until a later expansion of the system. and leave the valve in a fully open position
- Closing time for a valve is depending on size and flow in the pipe line – however closing time must take several minutes from fully open position to fully closed to avoid pressure peaks/shocks in the system

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Installation

- The valves can be installed in all positions
- The ball valve must be in fully opened position during the installation
- At welding procedure – only use qualified welders, and do not heat up the valve unnecessarily
- By service valves/air vents, we recommend to close the valve with the safety plug included when delivered, so that the valve can be left in fully open position
- If a valve is used as end stop valve, we recommend to close with an end plate/closing cap until a later expansion of the system and leave the valve in a fully open position. This will protect the ball surface from sediments of sludge etc., and ease later operation of the valve
- The valve is maintenance free – however it is recommended to operate the valve 1-4 times per year in order to secure easy operation of the valve
- The valve housing and welding ends are made of mild steel and therefore not corrosion resistant. To avoid corrosion coming from the outside, the valve will either have to be installed in dry surroundings, or protected by watertight insulation or other effective surface protection

Pressure testing of the system

- The valve has been pressure and function tested at the factory before delivery. When pressure testing the finished pipe system the valve will be pressure tested once again
- Pressure testing against a closed valve should be avoided if possible. If necessary to pressure test against a closed valve, you must make sure that the pressure is being build up slowly and gradually. No pressure peaks are allowed!
- After ending the pressure test, make sure to operate the valve several times to test correct function of the valve, as well to ensure water lubrication on all sealing surfaces
- In case the system is not taken into operation immediately after pressure testing, make sure to keep temperatures above 0°C. If remaining water in the valve starts to freeze, this may damage the valve

Operation

- The valve can be hot due to high media temperatures in pipelines/ networks. Use of suitable gloves is recommended.  Notified Body Number
- Operation of the ball valves must only be performed by qualified, trained, and authorized personnel
- The ball valves are on/off-valves, and should always be left in a fully open or fully closed position
- Only during filling or emptying the system, the valve may be in a partly open/closed position for a short time
- It is recommended to operate the valve 1-4 times per year in order to secure easy operation of the valve
- When operating the valve – build up the torque and have some patience to allow the sealing surface to slip
- Closing time for a valve is depending on size and flow in the pipe line – however closing time must take several minutes from fully open position to fully closed to avoid pressure peaks/shocks in the system
- Hammering on the operating key/handle or sudden impacts are strictly forbidden

After installation

- After the pipe system has been rinsed/flushed through and filled with treated water, the valves must be activated slowly and several times before the pressure testing is performed – this in order to get a good evacuation of the cavity around the ball and to lubricate the sealing surface with water
- The seat rings are made of carbon reinforced teflon and the good friction qualities are to some extent depending on water as lubrication between ball and the seat rings
- If the system is not rinsed/flushed through, the sealing surfaces can be damaged during activation of the valve

Disposal

- The valve are mainly constructed from carbon steel and can be disposed as such

