



# Frese SPERAMAX

Indoor-series

# Frese covers district heating

– all the way from energy production to consumer

From pre-insulated underground valves in the distribution network to intelligent solutions in the cloud. And everything in between. Frese has the products and services to connect your entire district heating network into one smart system.

As a supplier of quality components in valve technology, as well as an expert in customised solutions such as filter wells, pumping stations and fully welded ball valves that form part of the pipeline network itself, we see ourselves as part of a larger ecosystem of connected products and solutions for the entire energy production and distribution chain. However, a system is only smart when it gives you insight into your network, powerful analysis tools and the ability to act on the results.



## Frese SPERAMAX Indoor-series

**With fully welded steel ball valves, Frese offers a coherent product range covering district heating supply from energy production to the individual consumer.**

Frese SPERAMAX Indoor-series is a Danish manufactured valve designed specifically for district heating systems and other closed systems where water is treated to resist internal corrosion.

The ball valve is fully welded and fulfils the high requirements of district heating and cooling and provides the highest level of safety.

The unique design ensures that the floating ball is not affected by axial forces. At the same time, it has the lowest torque on the market for floating ball valves.

Frese SPERAMAX also has the best Kv value for reduced bore ball valves on the market, resulting in significant operational savings.

The valve design ensures lower turbulence, which requires less pumping power and so reduces CO<sub>2</sub> emission. So for owners and operators in the district heating sector, there are major benefits in terms of both the bottom line and the green image.

Furthermore, Frese SPERAMAX needs virtually no maintenance.

## Features

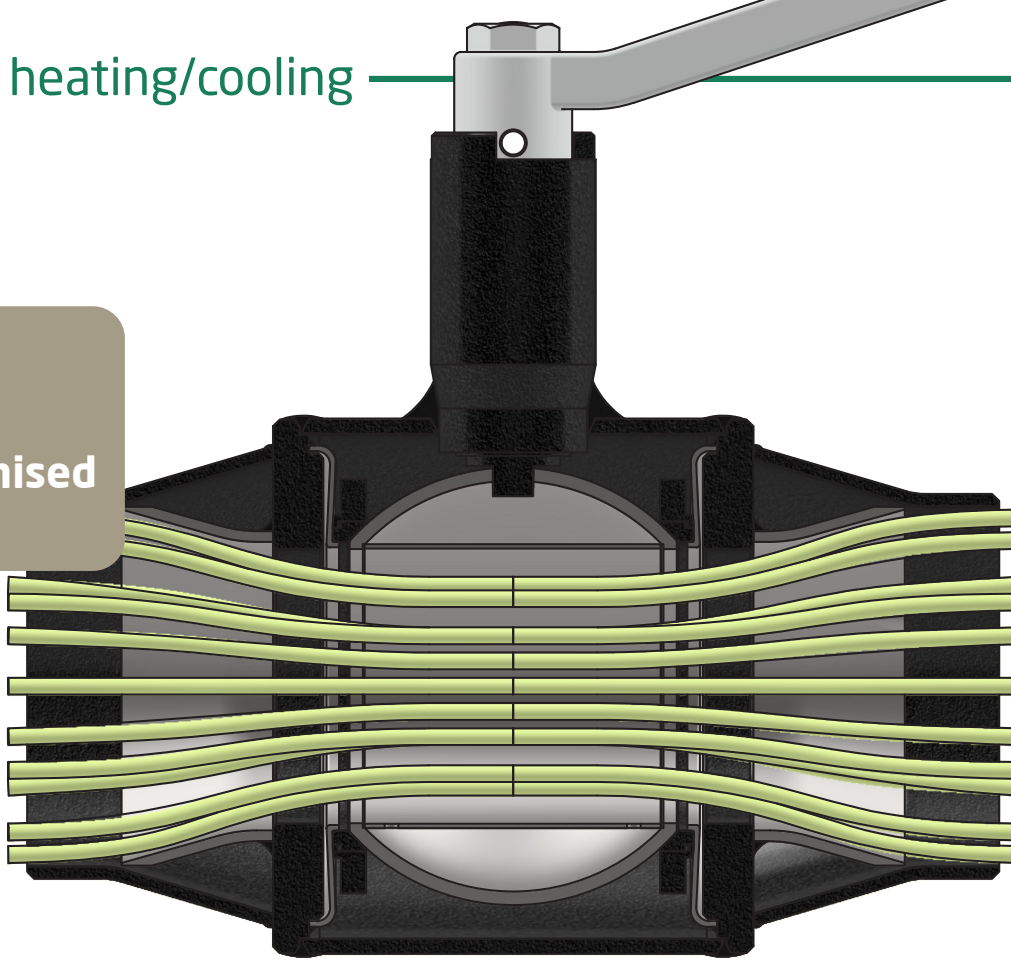
### Standard

- + Frese SPERAMAX is "Best in Class" with low torque and a high Kv value
- + Different connectivity options
- + Stuffing box with a seal in Teflon-reinforced graphite. This ensures far better durability than with traditional valve design with soft sealing o-rings in the stem construction. At the same time, the seal can be tightened under pressure.

### Options

- + Possibility of different gears
- + Flex bracket

**Optimised flow**



## Best in class

In district heating pipework systems, high axial compressive and tensile stresses often occur due to temperature fluctuations. Therefore, it is crucial that the performance of the valve is not affected by these axial loads so that you can always open and close the valve.

- In Frese's ball valve, we have designed the fully welded part so that it directs the axial load through the outer part of the valve body. This way, the load does not affect the vital parts.
- An advanced spring system ensures that the seals are always pressed against the ball with a controlled force, independent of the axial load.
- The unique stem-ball design reduces operating torque.
- This system, together with the advanced spring system, ensures that you can always operate the valve.
- Maintenance-free.

## Design and quality

The valve is made with a cylindrical tube insert to avoid turbulence and so minimise pressure drop.

Furthermore, the valves have optimised conical inlets and outlets to ensure the lowest possible pressure drop, resulting in lower operating costs at pumping stations due to the low pressure drop.



## Optimeret flow

Med Frese SPERAMAX, Indoor-serie optimerede flowdesign reduceres driftsomkostningerne på pumperne og giver besparelser i hele systemets levetid. Derudover reduceres udledningen af CO<sub>2</sub> – år efter år.

Vi udvikler og tilbyder specialkomponenter, for eksempel pumper, flowmålere og filterbrønde både under jorden i en brønd eller over jorden i et bygværk. Disse projekter udføres altid i tæt samarbejde med kunden.



### Ball valve with a T-handle

<b>Dimensions:</b>	DN15 – DN32
<b>Pressure class:</b>	PN40
<b>Max. allowed torque (Nm):</b>	50 Nm
<b>Temperature range:</b>	0 °C – 180 °C
<b>Operation:</b>	T-handle



### Ball valve with an L-handle

<b>Dimensions:</b>	DN40 – DN100
<b>Pressure class:</b>	DN40 – DN50: PN40 DN65 – DN100: PN25
<b>Max. allowed torque (Nm):</b>	50 – 250 Nm
<b>Temperature range:</b>	0 °C – 180 °C
<b>Operation:</b>	L-handle



### Ball valve with a gear

<b>Dimensions:</b>	DN125 – DN300
<b>Pressure class:</b>	PN25
<b>Max. allowed torque (Nm):</b>	400 – 4000 Nm
<b>Temperature range:</b>	0 °C – 180 °C
<b>Operation:</b>	Contact Frese for guidance



## Flex brackets make work easier

With a flex bracket, you can pull the bracket slightly out from the wall using the long holes. It also allows you to move the valves left and right or to increase the distance between the valves by pulling them apart.

The ability to adjust the bracket and valves means easier installation if there are pipes or other things that make installation difficult.

There are several different types of flex brackets, and they can be used for wall mounting both externally and internally.



## Several types of flex brackets

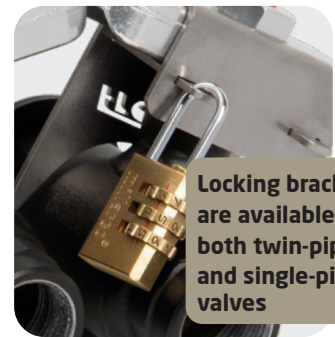
All flex brackets come with insulation jackets.



Flex brackets with twin pipe valves



Flex brackets with single pipe valves



Locking brackets are available for both twin-pipe and single-pipe valves



## Valve cabinets give installers more flexibility

In Frese's valve cabinets, the valves are mounted on a z-bracket where the valves can be moved up and down. It is also possible to move the valves sideways or slightly increase the distance between them.

There is a high opening inside the cabinet. This means there is flexibility in terms of where the pipes exit through the opening. This gives the installer greater flexibility in the installation at the consumer's premises.

The valve cabinets are available in several standard sizes, and it is also possible to have the cabinets made to measure.



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