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OPTIMA Compact EP

Pressure Independent Control Valve

OPTIMA Compact EP

With OPTIMA Compact EP (Extended Performance), you get a dynamic flow and temperature control valve for heating and cooling systems.

OPTIMA Compact EP combines the functions of an externally adjustable automatic balancing valve, an integrated differential pressure controller, and a full authority modulating control valve in a single, compact valve housing.

By ensuring 100% control of the water flow in the building, the OPTIMA Compact EP provides modulating control with full authority, regardless of variations in the system's differential pressure.

Designed for high temperatures (up to 150°C) and high differential pressures (up to 1200 kPa), typical applications include district heating substations, plate heat exchangers, and other heating systems. The valve is also suitable for low-temperature applications (down to -10°C).

Manufactured from cast iron and ductile iron, the Frese OPTIMA Compact EP is available in sizes DN50 to DN200, with a range of actuators suitable for modulating control, including spring-return options.

When correctly applied, the OPTIMA Compact EP can significantly reduce pump energy consumption and improve the efficiency of other hydronic system components. It also enhances user comfort through high-precision temperature control.

The valve automatically adjusts to the pre-set flow under fluctuating pressure conditions while providing full modulating control. To achieve the design flow rate, the simple pre-setting scale on top of the valve is rotated to the required set point, which can be determined using the Frese flow tables or the Frese Valves app.

Save Time, Energy and Costs with Our Patented Valve Technology

Frese's pressure independent technology is an innovative, energy-saving alternative to traditional hydronic balancing and control. It ensures effective flow and temperature control.

The pressure independent control valves ensure that the design flow conditions are met at all times – regardless of pressure fluctuations in the system. The technology also eliminates overflow, resulting in significant savings on pump energy.

Dynamic valves have several advantages over traditional, static balancing valves. They help simplify system designs by eliminating the need for additional balancing valves in the system. They are also very flexible if your system needs to be modified or expanded at a later date.

Because pressure independent control valves automatically adapt to any changes in the rest of the system, they are much easier to commission as they do not require proportional balancing.

We Connect the District Heating Network

Optimise Operations and Reduce Consumption and Expenses

Intelligent Solutions to Your Challenges

Complete District Energy Solutions from Frese

– All the Way from Energy Production to Consumer

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

"Complete District Energy Solutions" is our concept of products and services that connect parts of your district heating system, allowing you to reduce pump capacity and lower the supply temperature. In this way, it is designed to optimise operations and reduce both consumption and expenditure.

Optimizing your district heating system is more relevant than ever, given the conversion wave, which is a major task. This task requires increased heating capacity and solutions to problems such as cooling and over and underflow in the system.

Working with us as your partner, you will benefit from intelligent ways to solve these challenges and a holistic overview of your system.

Extended Performance PICV

Technical Data · Frese OPTIMA Compact EP · DN50 - DN80

Size Range:	DN50-DN80	
Max. differential pressure:	1,200 kPa	
Medium temperature:	-10°C to 150°C	
Flow Range:	2,500 l/h to 43,000 l/h	
Valve Housing:	DN50-DN65:	GJL-250 PN16 GJS-400 PN25
	DN80:	GJS-400 PN16/PN25
Pressure Class:	PN16/25	
Stroke:	20 mm	
Flange connections:	ISO 7005-2 / EN 1092-2	
Actuator Options:	Motoric 0-10V, 4-20 mA or 3 point control	

When used at temperatures below 0°C, a stem heater must be used, to prevent ice on the spindle

Technical Data · Frese OPTIMA Compact EP · DN100 - DN125

Size Range:	DN100-DN125	
Max. differential pressure:	1,200 kPa	
Medium temperature:	-10°C to 150°C	
Flow Range:	12,100 l/h to 135,000 l/h	
Valve Housing:	DN100:	GJS-400 PN16/PN25
	DN125:	GJL-250 PN16 GJS-400 PN25
Pressure Class:	PN16/25	
Stroke:	40 mm	
Flange connections:	ISO 7005-2 / EN 1092-2	
Actuator Options:	Motoric 0-10V, 4-20 mA or 3 point control	

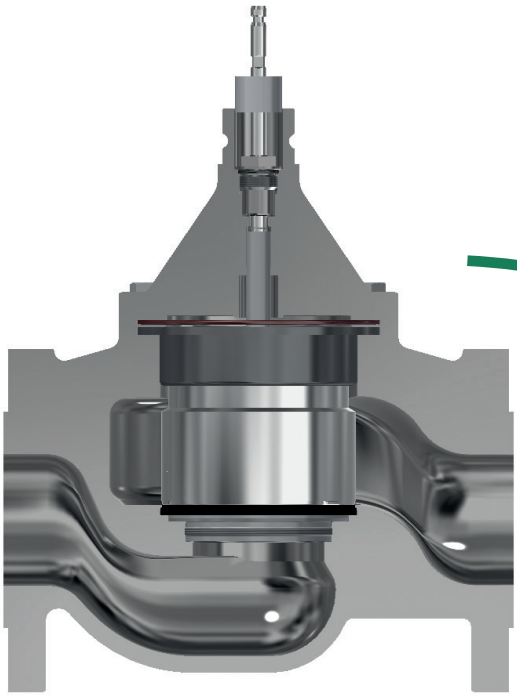
When used at temperatures below 0°C, a stem heater must be used, to prevent ice on the spindle

Technical Data · Frese OPTIMA Compact EP · DN150 - DN200

Size Range:	DN150 – DN200
Max. differential pressure:	1,200 kPa
Medium temperature:	-10°C to 150°C
Flow Range:	25,600 l/h to 280,000 l/h
Valve Housing:	GJS-400 PN16
Pressure Class:	PN16
Stroke:	43 mm
Flange connections:	ISO 7005-2 / EN 1092-2
Actuator Options:	Motoric 0-10V, 4-20 mA or 3 point control

When used at temperatures below 0°C, a stem heater must be used, to prevent ice on the spindle

OPTIMA Compact EP · Unique & patented design



Replaceable DZR sealing box in high temperature resistant rubber - up to 150°C

Reinforced diaphragm in high temperature resistant rubber

Stainless steel piston for differential pressure control - ensuring constant flow

Stainless steel spring for our custom made differential pressure controller

Exploded view
Flow Control Unit

Two in one unique control stem and pre-setting in stainless steel - providing an innovative compact design

Stainless steel valve seat mounted in valve house - ensuring robustness

High temperature resistant rubber seal for positive close off - resulting in low actuator force required

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