

Pressure Independent Balancing & Control Valve

Frese OPTIMA Compact

DN50-DN150

At the heart of flow control

BHUTORIA

Is proud to be a Key Supply
Chain Partner for Frese

- KNOWLEDGE
- QUALITY
- INNOVATION
- MANUFACTURING EXCELLENCE
- CUSTOMER FOCUS


Frese
Energy-saving valves

Frese OPTIMA Compact Actuator Range

The design of the valve, combined with the Frese actuator, produces a perfect control characteristic that utilises the full control range of the system.



0-10V

	Valve size	Stroke	Actuator force	Type-01	Type-02	Type-03
	DN50	20	900		•	
	DN65	20	900		•	
	DN80	20	900		•	
	DN100	40	900		•	
	DN125	40	900		•	
	DN150	43	1500			•

Pump Energy Savings

Field tests at Canary Wharf, London, proved a significant reduction in pump energy costs through the installation of the Frese OPTIMA PICV. A saving of **35%** was achieved from a higher ΔT in the system as a result of increased system stability due to the patented pressure independent design of the valve.

In addition to this saving, a further **50%** can be achieved through a simplified design of the system and optimal pump control.





Frese at the heart of flow control

Frese

Innovative solutions from Frese balance global HVAC systems accurately and efficiently. From cooling systems in the Middle East to heating systems in Scandinavia, our products transform state of the art technology into everyday solutions.

Over 25 years' experience producing dynamic balancing solutions, has positioned Frese as the leading manufacturer of energy saving valves and through our commitment to innovation, we continue to be at the forefront of technological advancements in our areas of expertise.

To support our products, the knowledge, experience and dedication of our employees and partners ensure our solutions are applied correctly to maximise savings and position Frese as the authoritative voice for pressure independent and dynamic solutions.

OPTIMA Compact

The innovative design of Frese OPTIMA Compact introduces an intelligent control valve that adjusts automatically to the preset flow in order to provide full modulating control. When the installer presets the valve according to the maximum designed flow, the stroke of the control valve remains the same providing 100% modulating control.

In practical terms, Frese OPTIMA Compact ensures that there is no overflow and that below the design flow the actuator has absolute authority.

Furthermore, Frese OPTIMA Compact combines all those features that are necessary to ease the work of designers and installers:

- The wide high differential pressure range (up to 600kPa) meets the requirements of most applications.
- The compact design and the user-friendly presetting unit guarantee easy installation and commissioning.

Application & Benefits

The Frese OPTIMA Compact pressure independent balancing & control valve is used in heating and cooling systems with air handling units, chillers, plate heat exchangers or other terminal unit applications.

Frese OPTIMA Compact:

- Provides modulating control with full authority regardless of any fluctuations in the differential pressure of the system.
- Combines an externally adjustable automatic balancing valve, a differential pressure control valve and a full authority modulating control valve.
- Achieve 100% control of the water flow in the building, while providing high comfort and energy savings at the same time. An additional benefit is that no balancing is required if further stages are added to the system, or if the total system flow is changed

Features

- The presetting function has no impact on the stroke; Full stroke modulation at all times, regardless of the preset flow.
- Regulation characteristic remains unchanged regardless of preset flow.
- The constant differential pressure across the modulating control component guarantees 100% authority.
- Automatic balancing eliminates overflows, regardless of fluctuating pressure conditions in the system.
- Motoric actuator 0-10 V.
- Differential pressure operating range up to 600 kPa.
- High flows with minimal required differential pressure due to advanced design of the valve
- Small dimensions due to compact housing.
- Higher presetting precision due to stepless analogue scale.

Valve design

Main components:

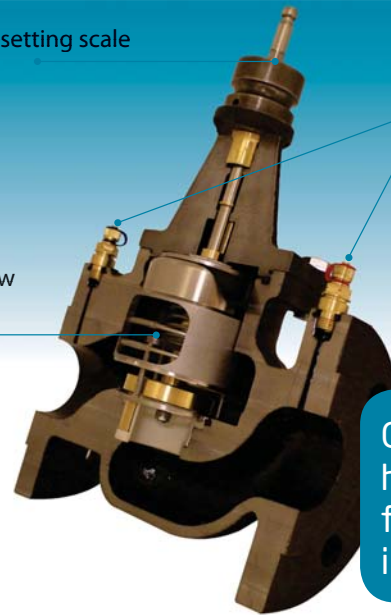


Presetting scale

Combined pressure control, flow balancing and modulating control assembly

Presetting scale

PT plugs



Compact housing for easy installation

Frese OPTIMA Compact

Easy Valve Selection

To size and select the Frese Optima Compact, simply determine the flow rate of the coil, or load of the system, select the pipe size, and make the selection using our technical data. The minimum differential pressure can also be calculated. Regardless of fluctuations in the differential pressure, the design of the Frese OPTIMA Compact will ensure the most accurate flow control at the selected set point.

DN50 - DN150



Flow l/h	20.000	40.000	60.000	80.000	100.000	120.000	140.000	160.000	180.000	200.000
Flow l/s	5,556	11,11	16,67	22,22	27,78	33,33	38,89	44,44	50,00	55,56
Flow gpm	88,06	176,11	264,17	352,23	440,29	528,34	616,40	704,46	792,52	880,57

Specifications

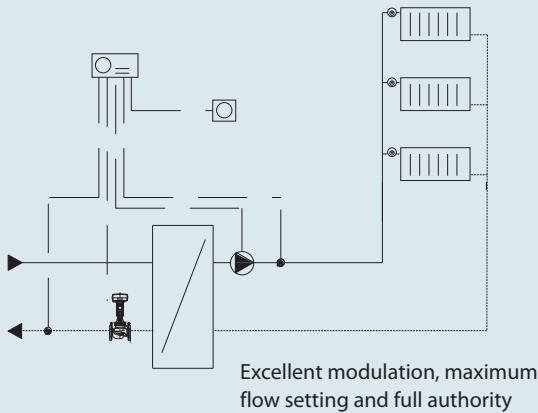
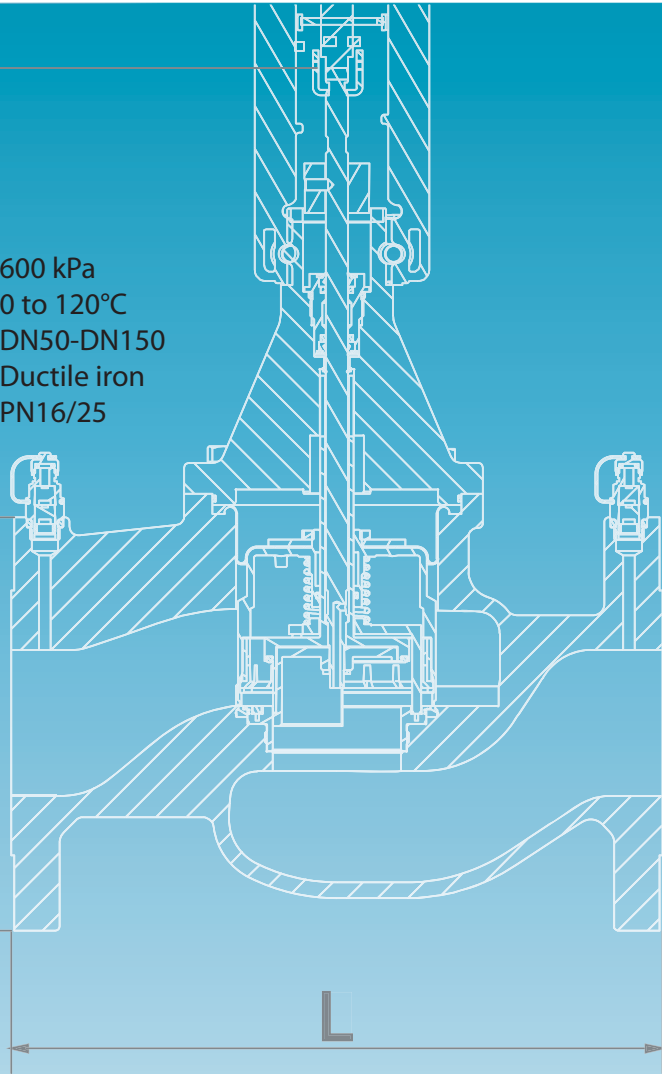
- Max differential pressure : 600 kPa
- Temperature : 0 to 120°C
- Dimensions : DN50-DN150
- Material : Ductile iron
- Pressure class : PN16/25

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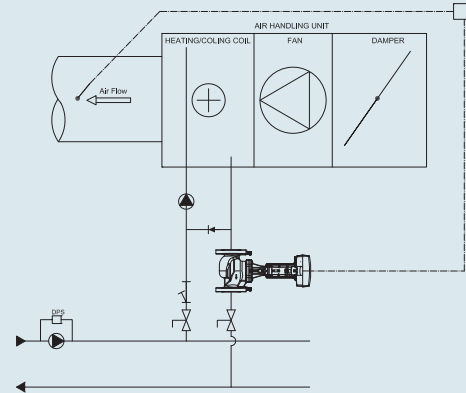
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Application Diagram Indirect Heating

Frese OPTIMA Compact controlling the inlet temperature on the secondary side of an indirect system with a heat exchanger. Design flow can be controlled directly by Frese OPTIMA Compact setting.



Application Diagram Air Conditioning

Frese OPTIMA Compact modulating the control of an air handling unit.

BHUTORIA

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Frese
Energy-saving valves

KNOWLEDGE

QUALITY

INNOVATION

MANUFACTURING
EXCELLENCE

CUSTOMER FOCUS

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