



Frese OPTIMA Compact

Pressure Independent Balancing & Control Valve

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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.

Pressure Independent Balancing and Control

Pressure independent balancing and control is an innovative, energy saving alternative to traditional hydronic balancing and control methods that use separate static balancing valves, differential pressure control valves and two port control valves. A system with pressure independent balancing and control valves provides efficient and accurate flow limitation, differential pressure control and temperature control ensuring the design flow conditions are realised at all times irrespective of pressure fluctuations in the system at part load conditions.

A hydronic system designed and fitted with pressure independent balancing and control valves offers many advantages over traditionally designed, static systems. These advantages include a simplified system design, ease of selection, system flexibility and a minimised commissioning process. The major benefit is the significant energy saving benefits that can be achieved through maximising Delta T and eliminating overflows in the system.

Frese OPTIMA Compact · Pressure Independent Balancing & Control Valve

The Frese OPTIMA Compact is the second generation of pressure independent balancing and control valves from Frese. The OPTIMA Compact is an automatic flow, pressure and temperature control valve for heating and cooling systems that combines the functions of an externally adjustable automatic balancing valve, a differential pressure control valve and a full authority modulating control valve in one single, compact valve housing.

The Frese OPTIMA Compact provides modulating control with full authority regardless of any fluctuations in the differential pressure of the system making it possible to achieve 100% control of the water flow in the building. In addition, the correct application of the Frese OPTIMA Compact can also significantly reduce pump energy consumption and improve the efficiency of other hydronic system components as well as providing high levels of comfort for end users due to high precision temperature control.

The valve operates by adjusting automatically to the pre-set flow under fluctuating pressure conditions whilst also providing full modulating control. To achieve the design flow rate, the valve is set using the simple pre-setting scale on top of the valve to the required set point, which can be determined using the official Frese flow graphs or the Frese APP.

Benefits

- Easy to size and select as only the flow rate is required
- Simplifies system design
- Compact housing for ease of installation
- Simplified commissioning process as no proportional balancing is required
- Full stroke modulation with total authority at all times, regardless of the pre-set flow
- Provides system flexibility
- Improves the energy efficiency of heating and cooling systems



Frese OPTIMA Compact for HVAC Applications

For over 25 years, Frese has specialised in the design and manufacture of dynamic, pressure independent flow solutions for heating and cooling applications in a wide variety of market sectors including commercial office developments, hotels, educational establishments, sports complexes and residential buildings.

The Frese OPTIMA Compact pressure independent balancing and control valve is the perfect solution for accurate and efficient control of primary and secondary terminal units in variable volume heating and cooling systems.

Typical applications include fan coil units, chilled beams, plate heat exchangers and air handling units.

Manufactured from DZR and Ductile Iron, the Frese OPTIMA Compact is available in sizes DN10 to DN150, controlling flow rates from 0.008 l/s (30 l/h) to 54 l/s (195,000 l/h), with a range of actuators suitable for both modulating and on/off control.

Applications

Typical applications for the Frese OPTIMA Compact pressure independent balancing and control valve include:

- Fan Coil Units
- Chilled Beams (active and passive)
- Radiant Panels
- Underfloor Heating
- Plate Heat Exchangers
- Air Handling Units



Pressure Independent Balancing & Control Valve



Technical Data · Frese OPTIMA Compact DN10 - DN32

Size Range:	DN10 – DN32
Max. Differential Pressure:	800 kPa
Valve Housing:	DZR Brass
Pressure Class:	PN25
Temperature Range:	-20°C to 120°C
Flow Range:	30 l/h to 4,001 l/h
Leakage Rate:	EN1349 Class IV compliant
Actuator Options:	Thermic on/off and modulating Motoric modulating 0-10V DC and 3 POS



Technical Data · Frese OPTIMA Compact DN40 - DN50

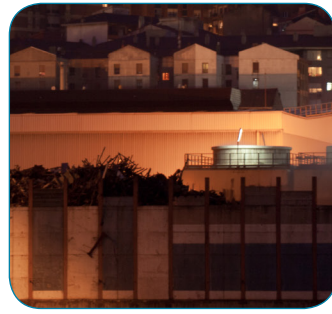
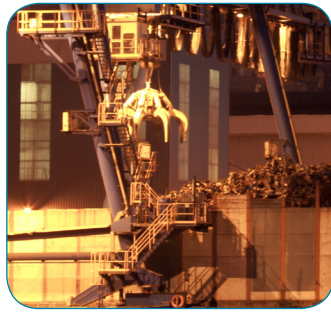
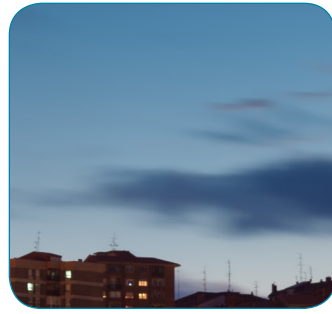
Size Range:	DN40 – DN50
Max. Differential Pressure:	800 kPa
Valve Housing:	Ductile Iron
Pressure Class:	PN25
Temperature Range:	-20°C to 120°C
Flow Range:	1,370 l/h to 11,500 l/h
Leakage Rate:	EN1349 Class IV compliant
Actuator Options:	Motoric modulating 0-10V DC and 3 POS Motoric Spring Return



Technical Data · Frese OPTIMA Compact DN50 - DN150

Size Range:	DN50 – DN150
Max. Differential Pressure:	800 kPa
Valve Housing	DN50 - DN80 & DN125: GJL-250 PN16/ GJS-400 PN25 DN100 & 150: GJS-400 PN16/PN25
Pressure Class:	PN16 / PN25
Temperature Range:	DN50 - DN125: -20°C to 120°C DN150: -20°C to 110°C
Flow Range:	2,480 l/h to 195,000 l/h
Leakage Rate:	EN1349 Class IV compliant
Actuator Options:	Motoric modulating 0-10V DC and 3 POS Motoric Spring Return

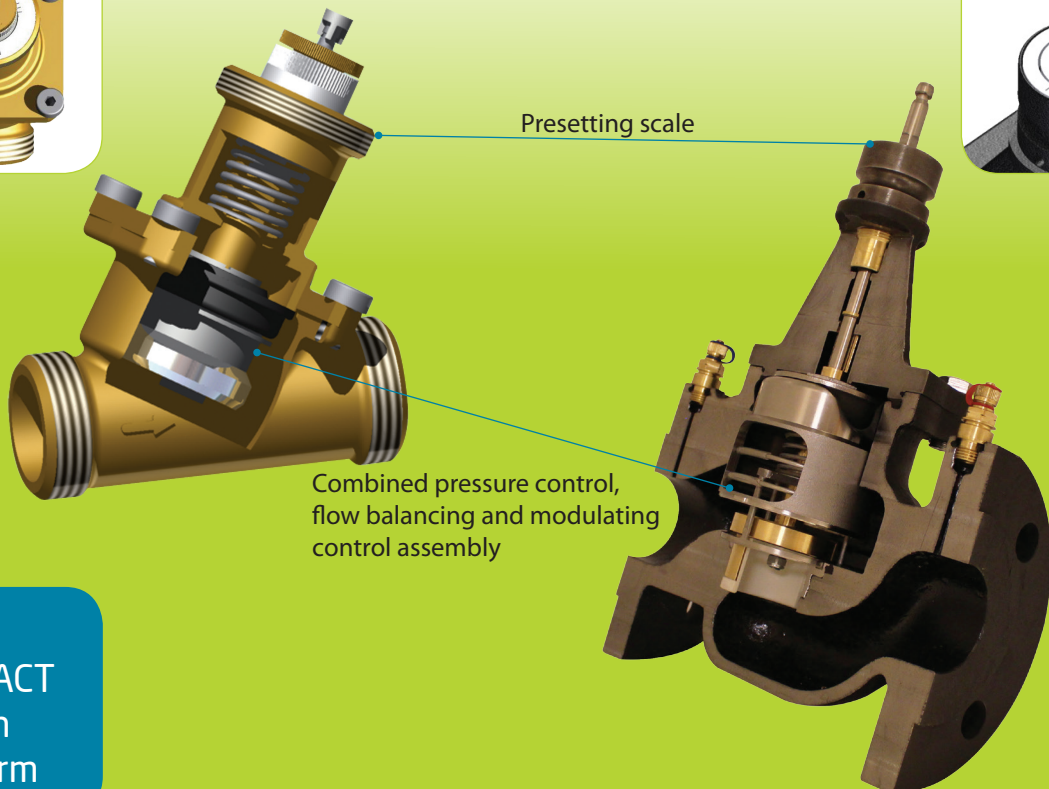




Valve design

The Frese OPTIMA Compact has a compact design that provides high levels of performance.

The main components of the valve are:



Presetting scale

Combined pressure control,
flow balancing and modulating
control assembly

Frese
COMPACT
Design
Platform



KNOWLEDGE

QUALITY

INNOVATION

MANUFACTURING
EXCELLENCE

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