



Frese OPTIMIZER

Pressure Independent 4-pipe Coil Control Unit

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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.

FUNCTION

Frese OPTIMIZER controls both heating and cooling with only one single data point from the BMS system, through a 0-10V external control signal (1).

Full modulation is provided with even different design flow of heating and cooling.

The design flow rate for the cooling system defines the maximum flow through the coil and is set using the Pressure Independent 2 way Control Valve, Frese OPTIMA Compact. Frese OPTIMIZER Controller offers setting of hot water flow, from 100% down to 10% of the maximum flow. The Heat Offset flow can be set using the dial on the Frese OPTIMIZER Controller (2) - each dot indicates 10% of maximum flow.

The switch over from cooling to heating is automatically changed via the signal from the BMS data point. Frese OPTIMA Compact Pressure Independent Control Valve is closed during the switch over and remains closed for approx. 12 minutes until switching of the 3-way valves has been safely completed. The switch over condition is signaled by the flashing of the Off-LED lamp (3).



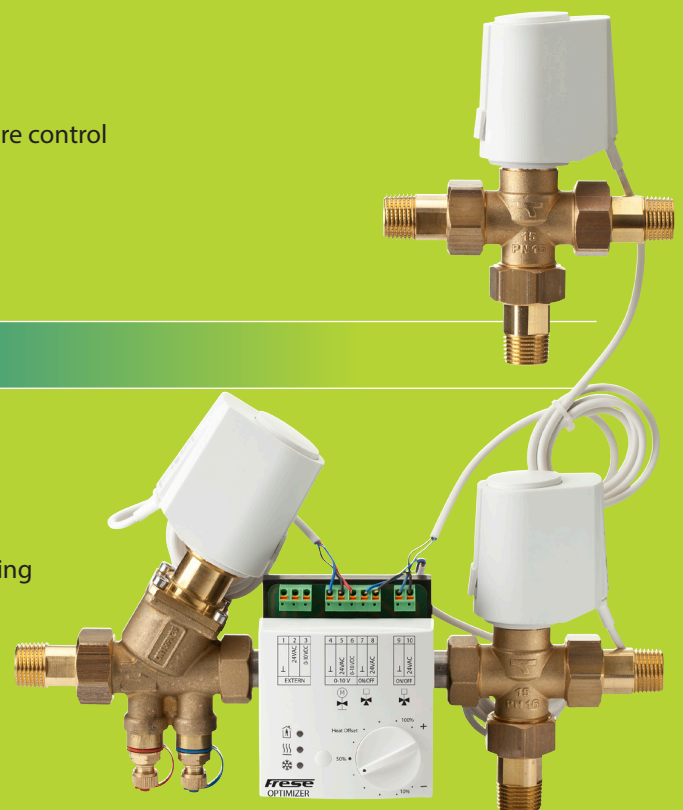


Benefits

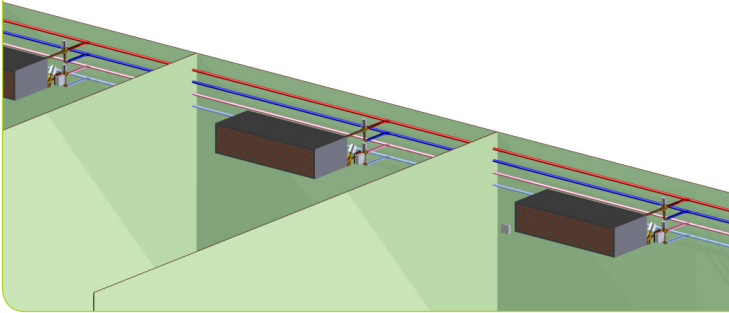
- Energy saving functionality
- One single data point
- Control group provides flow, temperature and differential pressure control
- Central BMS or localised room temperature control
- Linear control characteristic for optimal regulation
- Simple and quick to install

Features

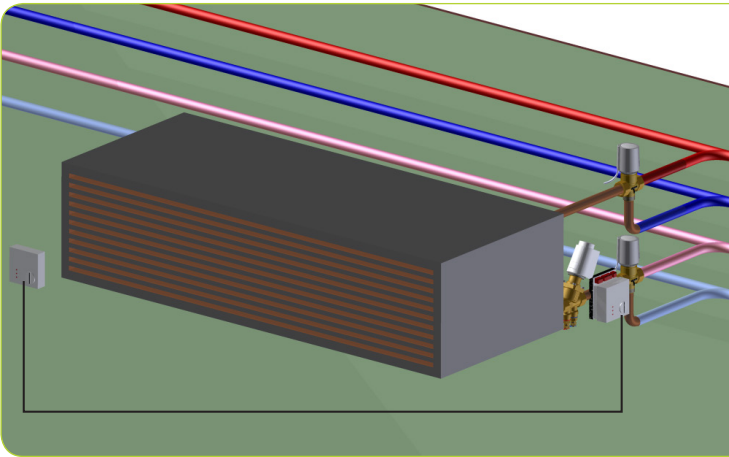
- Full stroke modulation at all times, regardless the preset flow
- The constant differential pressure across the modulating control component guarantees 100% authority
- Automatic balancing eliminates overflows, regardless of fluctuating pressure conditions in the system
- Thermal actuator on/off and 0-10V, normally closed
- 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



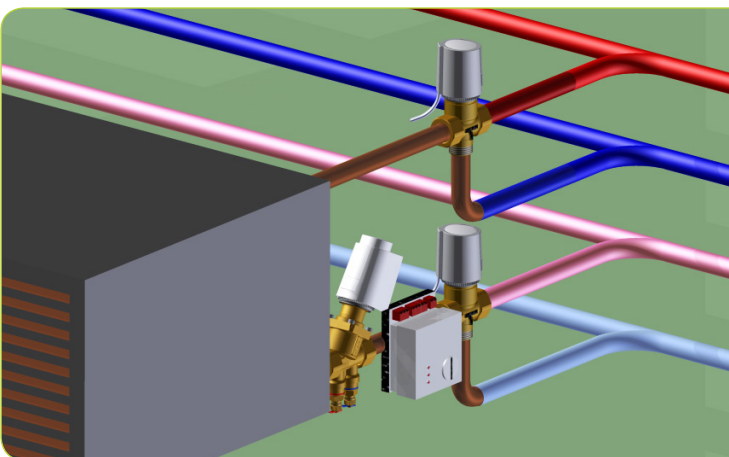
Application OPTIMIZER



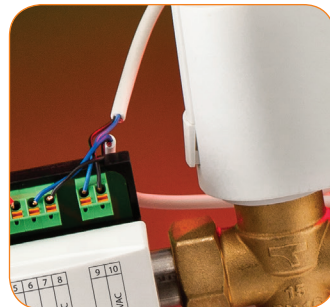
Frese OPTIMIZER controls every room independently of other rooms



Temperature control can be done centrally or locally

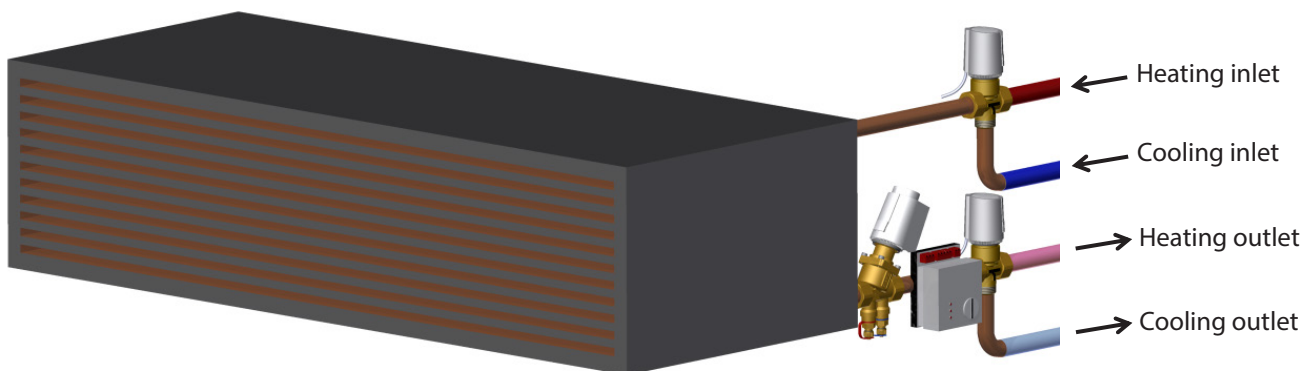
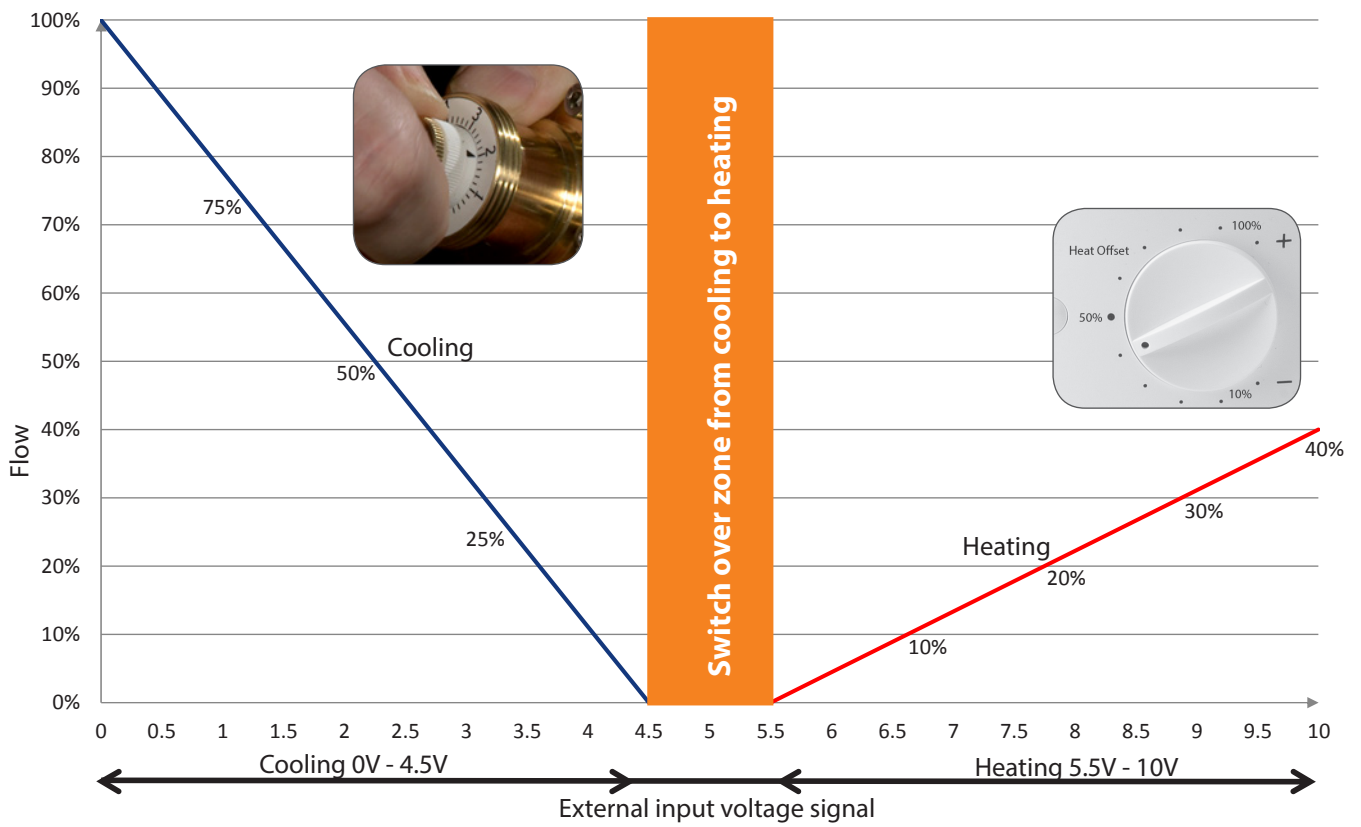


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Example with Heat Offset at 40% flow





KNOWLEDGE

QUALITY

INNOVATION

MANUFACTURING
EXCELLENCE

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