

See how
it works!

www.frese.eu/optimacompact

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.



Max differential pressure:
800 kPa

Operating temperature:
Please refer to technote

Dimensions:
DN50 – DN300

Flow rate:
Up to 600,000 l/h

Material:
Cast iron / Ductile iron

Static pressure:
PN16/PN25

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.

KNOWLEDGE

QUALITY



INNOVATION

MANUFACTURING
EXCELLENCE

CUSTOMER
FOCUS

Air Handling Unit with PICV direct control



Function

The air temperature of the Air Handling Unit is controlled by a sensor in the outlet. When the control system calls for higher or lower temperature on the air outlet, the PICV opens or closes to increase or decrease the flow through the coil. The power output from the coil follows a parabolic curve where often an EQ% valve/ actuator characteristic is chosen to have a direct relation between the input control signal and power output.



Benefits

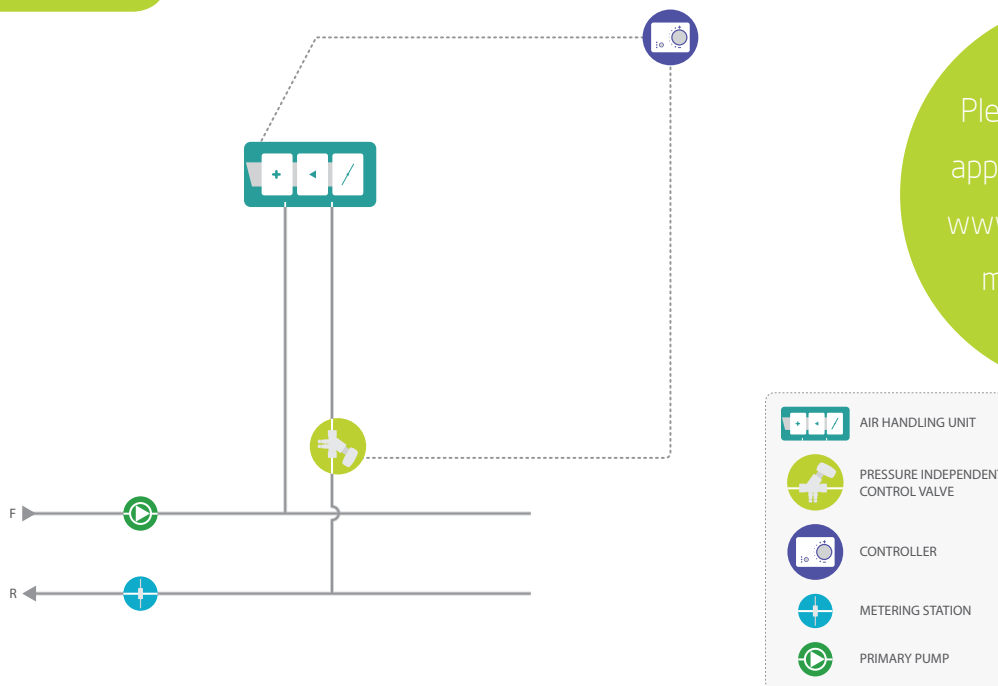
- The PICV ensures balancing of the primary flow and eliminates the use of both static balancing valves and differential pressure control valves.
- Simple application as only a PICV is required to control flow, temperature and differential pressure.

Considerations

- At part load, the flow through the coil can be low leading to laminar flow and reducing the power output.
- Larger coils can have different temperatures in different areas of the coil making precise temperature control difficult.
- A metering station can be installed if additional flow verification is required.

Applications

- Plate Heat Exchangers
- Air Handling Units
- Plant room equipment



Please download our application guide from www.frese.eu/hvac for more applications