## Frese OPTIMA



Performance beyond size



# **Energy SAVING** Simplified SYSTEM design PATENTED technology **Compact DESIGN** full STROKE modulation Improved temperature CONTROL SIMPLE commissioning Total AUTHORITY Total AUTHORITY

**Beyond Size** 

## Frese OPTIMA



## Combining high performance and energy saving capabilities, the Frese OPTIMA is setting new control standards for heating and cooling systems

The patented range of Frese OPTIMA pressure independent control valves combine temperature, pressure and flow control within a single housing and ensure that the design conditions for the system are achieved at all times irrespective of fluctuating differential pressures.

#### Performance

The innovative, patented design of the Frese OPTIMA range provides full stroke modulating control at all flow settings, with the option of either linear or equal percentage actuated control. The design of the OPTIMA uses a single component for the linear modulating and rotational flow setting function that results in the valve having full authority.

#### **Energy Saving**

The correct application of the Frese OPTIMA range can provide pump energy savings of 35% due to a higher Delta T resulting from increased system stability. Additionally, through simplified system design and optimal pump control, a further 50% saving can be achieved.



With P/T plugs

Actuator

Simple pre-set

# Performance Beyond Size

## Frese OPTIMA flanged

## Product Launch

To complement the existing range of Frese OPTIMA pressure independent control valves, the portfolio has now been extended to include large diameter solutions for air handling units and other plant applications.

#### **Operating Principle**

The design of the Frese OPTIMA uses a single component for the linear modulating and rotational flow setting function that results in the valve having full authority.

In practice, when the value is set, the inlet area rotates horizontally with no influence on the length of stroke and during modulation, the inlet area moves in a linear vertical motion ensuring full stroke control.

The design of the patented presetting component provides full stroke proportional modulating control at all flow settings whilst the dynamic balancing function ensures that flow is limited to the preset design condition. This provides accurate control and energy efficiency irrespective of any fluctuating system differential pressures.

The large diameter Frese OPTIMA PICV can be installed within any heating or cooling system and provides accurate control for air handling units and other plant applications.

- Dimensions: DN50-DN80
  Max flow rate: 43,000 l/h 11.94 l/s
   Max differential pressure: 600 kPa
- Static pressure:
- Temperature:
- Material:
- Leakage rate:

600 kPa PN16/25 0 to 120°C GJL-250 PN16 GJS400 PN 25 EN1349 Class IV





## Application diagram Air Handling Unit

By installing the Frese OPTIMA on an air handling unit, the separate traditional balancing valve, control valve and differential pressure control valve can be replaced by one single valve.

In addition, any further traditional balancing valves and differential pressure control valves on the mains distribution pipework can be removed.



## Performance Beyond Size



## 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  $\Delta$ T 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.



# 25 years of dynamic valves

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.

### TIP: Quick Calc on your mobile

We are now making it even easier to calculate the correct presetting for your dynamic balancing valves – simply use the Frese Quick Calc app calculation programme.

To use, firstly choose your language and type of valve, then enter the flow you want to achieve. The app immediately calculates your valve presetting, or choice of flow cartridge, and your minimum required differential pressure.

## At the heart of flow control











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