

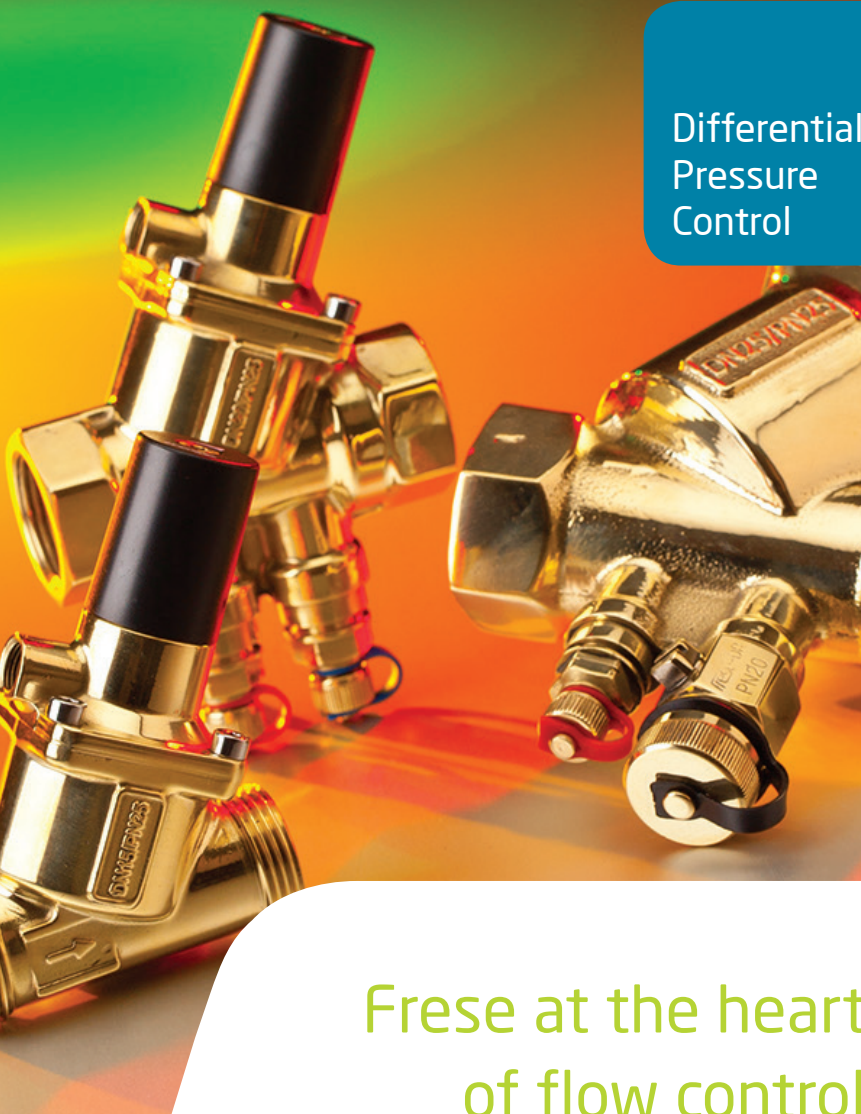


## Frese PV Compact

Differential Pressure Control Valve

## Frese PV Compact

### Differential Pressure 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.

### Differential Pressure Control

Differential pressure control valves can be used in both domestic and commercial heating and cooling systems.

Due to fluctuating differential pressures, heating and cooling systems can often create noise as a result of the thermostatic control valves being unable to close fully. Despite the more regular use of variable speed pumps in larger systems, the differential pressure is likely to increase when the system is in a partial load condition potentially resulting in an increase in system noise and the inefficient regulation of control valves.

A differential pressure control valve ensures that the differential pressure across a circuit or load remains constant under all conditions, protecting the thermostatic radiator valves and control valves from any increase in differential pressure thus ensuring good modulating control and a reduced risk of noise.

## Frese PV Compact · Differential Pressure Control Valve

The Frese PV Compact is a dynamic, adjustable differential pressure control valve designed using the common Frese COMPACT design platform seen in the popular Frese OPTIMA Compact and SIGMA Compact.

By design, the Frese PV Compact has a high Kv value which means it achieves the lowest pressure loss of any comparable differential pressure control valve contributing towards lower pump energy consumption and ultimately saving energy.

The compact design of the PV Compact makes installation easy, especially in systems with limited space availability and the external, tamper-proof pre-setting device on the valve allows the differential pressure to be set and adjusted on site with minimal disruption to the operation of the system.

The Frese PV Compact is supplied as standard with a capillary tube and adapters and can be fitted with a drain if required.

The partner system valve for the supply side can also be provided as part of the solution.

Setting the PV Compact is quick and easy with the valve being set using the simple and clear pre-setting device on the top of the valve. The required set point can be determined using the official Frese flow graphs or the Frese APP.

### Benefits

- High Kv value that achieves a low pressure loss and increased energy efficiency
- Compact housing for ease of installation
- Eliminates noise caused by high differential pressure
- Differential pressure can be set and adjusted on site offering flexibility
- Simple pre-setting using the tamper-proof device



## Frese PV 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 PV Compact can be used in both domestic and commercial heating and cooling systems for the effective management of differential pressure in various sections of the system. The PV Compact is installed to protect the modulating control valves which could be either thermostatic radiator valves or two port control valves. Typical applications include systems with fan coil units, chilled beams, radiators and heat interface units.

The Frese PV Compact can also be installed with the Frese SIGMA Compact dynamic balancing valve for both differential pressure control and flow limitation (PV-SIGMA) or the Frese STBV balancing valves for both differential pressure control and flow balancing and verification (PV-STBV).

Manufactured from DZR and Ductile Iron, the Frese PV Compact is available in sizes DN15 to DN50, with 3 different control ranges. The flow range capacity is from 0.014 l/s (50 l/h) to 3.194 l/s (11,500 l/h).

## Applications

Typical applications for the Frese PV Compact differential pressure control valve include:

- Heating and Cooling Systems with modulating control valves
- Heating systems with thermostatic radiator valves
- Heat Interface Units



## Differential Pressure Control Valve



### Technical Data · Frese PV Compact DN15 - DN32

Housing:	DZR Brass
DP Controller:	PPS 40% glass
Spring:	Stainless Steel
Diaphragm:	HNBR
O-rings:	EPDM
Pressure class:	PN25
Max. Differential Pressure:	450 kPa
Temperature:	-10°C to +120°C
Flow range:	50 l/h - 5,000 l/h
Control range:	5-30 kPa / 20-60 kPa / 20-80 kPa



### Technical Data · Frese PV Compact DN40 - DN50

Housing:	Ductile Iron
Flow setting:	PA6 (20% glass)
Spring:	Stainless Steel
Diaphragm:	HNBR
O-rings:	EPDM
Pressure class:	PN25
Max. Differential Pressure:	450 kPa
Temperature:	-10°C to +120°C
Flow range DN 40:	3,000 l/h - 8,000 l/h
Flow range DN 50:	5,000 l/h - 11,500 l/h
Control range:	20-80 kPa





## Valve Design

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

The main components of the valve are:

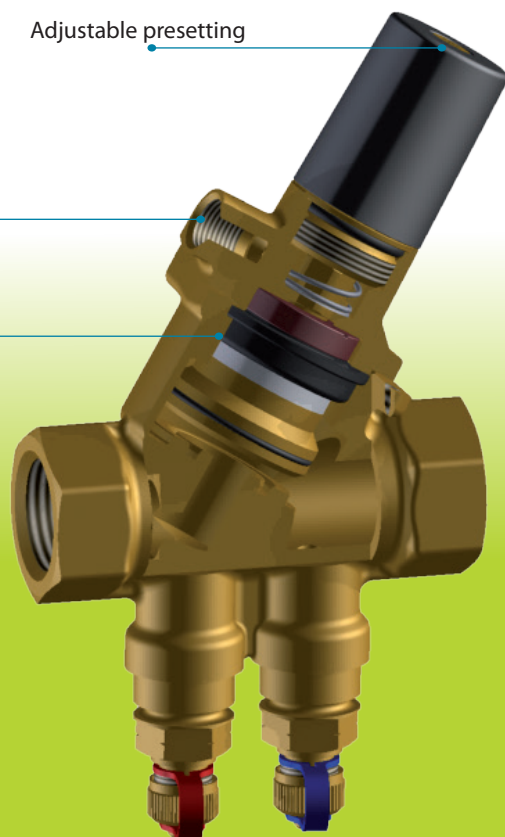
Adjustable presetting

Capillary connection

Differential pressure regulation unit



Frese  
COMPACT  
design  
platform





KNOWLEDGE

QUALITY

INNOVATION

MANUFACTURING  
EXCELLENCE

CUSTOMER FOCUS

**Denmark - Main Office**  
Frese A/S  
Tel: +45 58 56 00 00

**Germany**  
Frese Armaturen GmbH  
Tel: +49 (0)241 475 82 333

**United Kingdom**  
Frese Ltd  
Tel: +44 (0) 1704 896 012

**Turkey**  
Frese Eurasia DISTIC. LTD. STI.  
Tel: +90 216 580 93 60

**China**  
Frese Valves (Ningbo) Co., Ltd.  
Tel: +86 (21) 51103212

**Saudi Arabia**  
Frese Saudi Arabia  
Tel: +966 2 6608230

**Australia & New Zealand**  
Frese Asia Pacific  
Tel: +61431 794 414

**South Africa**  
Frese Asia Pacific  
Tel: +61431 794 414