



SIGMA Compact

Dynamic Balancing Valve



SIGMA Compact

With SIGMA Compact you get simple, accurate and reliable flow limitation and isolation for use in both heating and cooling systems.

The externally adjustable SIGMA Compact dynamic balancing valve can be easily set to the required position by using the hand wheel or scale to limit the flow rate in certain parts of a system, eradicating overflows and the unnecessary wastage of energy. The internal differential pressure control function ensures that the set flow rate is limited irrespective of fluctuations in the differential pressure of the system.

In addition to the flow limiting function, the SIGMA Compact can also isolate up to 10 bar differential pressure. The maximum flow position can be set and locked for easy reopening back to the preset flow position after the valve has been used for isolation.

To achieve the design flow rate, the valve is set using the simple and clear pre-setting scale on the hand wheel. The required set point 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 with the number of balancing valves being reduced
- Compact housing for ease of installation
- Simplified commissioning process as no proportional balancing is required
- Provides system flexibility if the system is modified after the initial installation
- Flow limitation ensuring no overflows in the system
- Isolation to 10 bar differential pressure
- High level of comfort for the end users

Dynamic Balancing

Dynamic balancing is an innovative alternative to traditional hydronic balancing methods using static balancing valves.

A system with dynamic balancing valves provides efficient and accurate flow and differential pressure control ensuring the design flow conditions are achieved at all times irrespective of pressure fluctuations in the system at part load conditions.

Dynamic balancing valves offer many advantages over traditional, static balancing valves including simplified system design, ease of selection, system flexibility and a minimised commissioning process.

In addition, dynamic balancing offers significant energy saving benefits as a result of the elimination of overflows in the system.



SIGMA Compact for HVAC Applications

For over 30 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 SIGMA Compact can be used in both heating and cooling systems for the effective distribution of flow in various sections of the system. The SIGMA Compact can be used instead of traditional double regulating valves and can be installed in both variable flow systems and constant flow systems.

Typical applications include fan coil units, chilled beams, radiator systems and underfloor heating circuits.

Manufactured from DZR, Cast Iron and Ductile Iron, the SIGMA Compact is available in sizes DN15 to DN300, controlling flow rates from 0.011 l/s (40 l/h) to 166.67 l/s (600,000 l/h).

Applications

Typical applications for the SIGMA Compact dynamic balancing valve include:

- Fan Coil Units
- Chilled Beams
- Radiator Circuits
- Underfloor Heating Circuits
- Injection Circuits



Technical Data



SIGMA Compact DN15 - DN32

Housing:	DZR Brass
Flow Setting Handle:	PA6 (20% glass)
Spring:	Stainless Steel
Diaphragm:	HNBR
O-rings:	EPDM
Pressure Class:	PN25
Max. Differential Pressure:	400 kPa
Temperature:	-10°C to 120°C
Flow Range:	40 l/h - 5,000 l/h

Technical Data



SIGMA Compact DN40 - DN50

Housing:	Ductile Iron
Flow Setting Handle:	PA6 (20% glass)
Spring:	Stainless Steel
Diaphragm:	HNBR
O-rings:	EPDM
Pressure Class:	PN25
Max. Differential Pressure:	400 kPa
Temperature:	-10°C to 120°C
Flow Range:	719 l/h - 10,350 l/h

Technical Data



SIGMA Compact DN50 - DN300

Housing:	GJL-250 / GJS-400
Spring:	Stainless Steel
Diaphragm:	Reinforced EPDM
O-rings:	EPDM
Pressure Class:	PN16 / PN25
Max. Differential Pressure:	800 kPa
Temperature:	PN 16 - DN50-DN300: -10°C to 120°C PN 25 - DN50-DN125: -10°C to 120°C PN 25 - DN150-DN300: -10°C to 110°C
Flow Range:	2,480 l/h - 600,000 l/h



Valve design

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

The main components of the valve are:



Presetting scale

Combined pressure control and flow balancing assembly



Compact
Design
Platform



KNOWLEDGE

QUALITY

INNOVATION

MANUFACTURING
EXCELLENCE

CUSTOMER
FOCUS

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