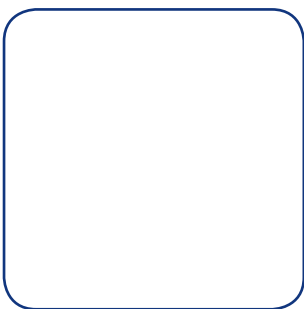


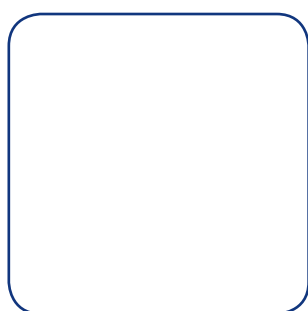


Dynamic
Flow
Limiting
Valve



Frese SIGMA Compact

Training, Commissioning
& Trouble shooting



Overview

Size Range	DN15 to DN32
Max Flow	5000 l/h (1.389 l/s)
Max DP	400 kPa

Applications

Heating and cooling systems for the effective distribution of flow in various sections of the system.

Backward Flushing (preferred method)

1. Ensure the Frese SIGMA Compact valve on the flow is fully open. Open the isolation valves on flow and return and flush through the SIGMA Compact valve.
2. Backward flushing and forward flushing can be done at max Δp of 400 kPa.
3. The SIGMA Compact is then ready for setting the flow and adjusting the Δp from the pump.



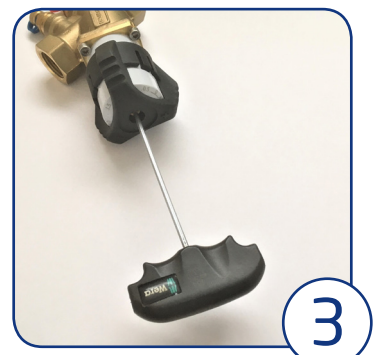
1

Setting the Flow & Pressure

1. From the SIGMA Compact pre-setting table and graphs in the Technote or instruction manual, select the size of the valves installed and look up the required design flow rate from the graph.
2. Read across from the flow rate to the flow curve and down to the pre-setting scale, or use of the Frese APP. This shows the setting and minimum Δp for the SIGMA Compact valve.
3. Pre-set the flow on the adjustable hand wheel. (See fig. 1)
4. Pre-setting max flow position.
 - Remove cap marked Frese (See fig. 2), and tighten (turn clockwise) with 2mm hexagonal key. (See fig. 3)
 - The valve can then be reopened to the pre-set flow after the valve has been used for isolation
5. Replace cap marked Frese.



2



3

Commissioning

1. Using the PT points on the SIGMA Compact valve, measure that the required minimum DP is available. (See fig. 4)
2. The required DP can be found on the flow graphs and commissioning schedule.
3. Flow tolerance of a SIGMA Compact is +/- 10%. For nominal flow below 0.06 l/s the flow rate is accurate to +/- 0.003



4

Trouble shooting on site

Problem: Flow is not according to design flow.

1. Check the flow range and the pre-setting of the valve.
2. Check by use of a manometer, connected to the PT plugs (See fig. 5) that Δp is above the minimum required Δp for the valve pre-setting.
3. **Please note:**
 - The accuracy of a portable manometer is +/- 10% or minimum 1-2 kPa.
 - Flow verified by a DRV or a metering station in combination with a portable manometer, has a tolerance of +/- 15-25%.
 - Flow verified by a ultra sonic meter built into the water flow, has a tolerance of +/- 5%



5

Problem: The system can have dirty water.

1. Open the valve by removing the 4 screws using a 3mm hexagonal key. (See fig. 6)
2. Check that the valve is not blocked by dirt and debris.

Please note:

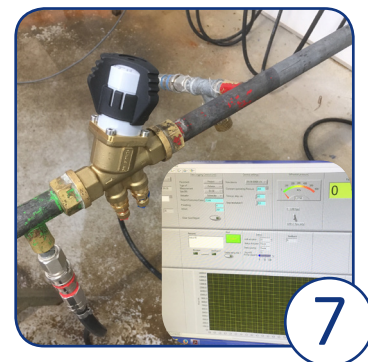
- Water treatment is essential for valves and other equipment to function according to specification.
- The use of untreated tap water can cause growth of bacteria and other damage to the system.



6

The problem cannot be detected following the instructions above.

1. The valve can be sent back to the Frese QA department for inspection in the laboratory. (See fig. 7)
2. If a fault on the valve is detected in the laboratory, the Frese QA department will handle it as a claim, according to the General Conditions of Sale and Delivery.
3. If no fault can be detected on the valve, it will be returned to the customer after agreement with the sales manager.



7



KNOWLEDGE

QUALITY

INNOVATION

MANUFACTURING
EXCELLENCE

CUSTOMER FOCUS

www.frese.eu/hvac

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 DIS TIC. LTD. STI.
Tel: +90 216 580 93 60

China

Frese Valves (Ningbo) Co., Ltd.
Tel: +86 (21) 5110 3212

Saudi Arabia

Frese Saudi Arabia
Tel: +966 5410 25 405

Australia & New Zealand

Frese Asia Pacific
Tel: +61431 794 414

South Africa

Frese Asia Pacific
Tel: +61431 794 414