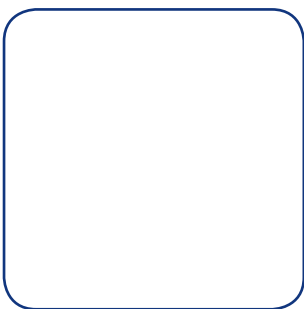


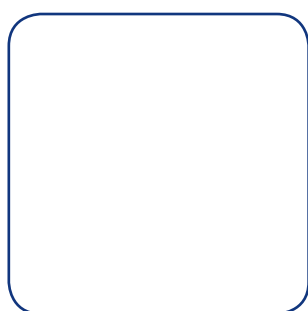


Differential
Pressure
Control
Valve



Frese PV Compact

Training, Commissioning
& Trouble shooting



Overview

Size Range	DN10 to DN32
Max Flow	4001 l/h (1.111 l/s)
Max DP	450kPa

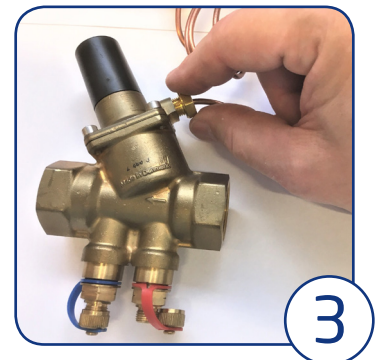
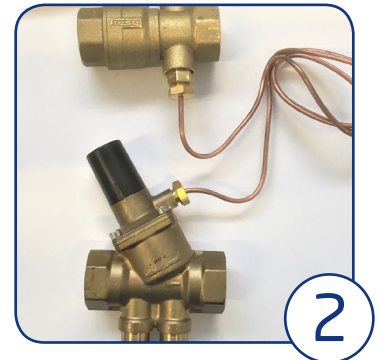
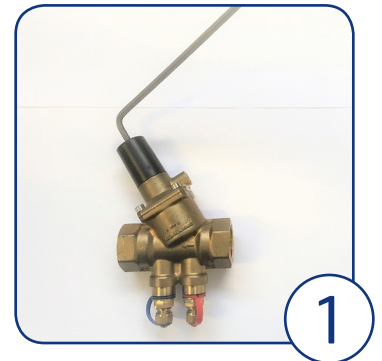
Applications

Domestic and commercial heating and cooling systems. The valve ensures the differential pressure across the load or circuit is constant.

The valve ensures good modulating control and reduces the risk of noise from thermostatic radiator valves and 2-port control valves.

Backward Flushing (preferred method)

1. Ensure the PV Compact is fully open by turning clockwise (See fig.1)
2. Ensure the capillary is disconnected if forward flushing is used.
3. Close or plug the connection port if the capillary is disconnected.
4. Open the isolation valves on flow and return and flush through the PV Compact valve.
5. Connect capillary tube. (See fig. 2)
6. Open the isolation valves and loosen the capillary connection on the PV Compact valve to release air. (See fig. 3)
7. When water flows from the capillary tube, tighten the connection screw.



Commissioning

1. Once the PV Compact has been flushed the valve can now be set to limit the Δp across the system.
2. From the PV 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.
3. Read across from the flow rate to the Δp curve and down to the pre-setting scale, or use of the Frese APP. This shows the setting and the Δp across the PV Compact.
4. To set the valve to the desired downstream Δp , the valve should be set at the minimum position (turn anti clockwise) and then adjusted in accordance with the presetting graphs. (See fig. 1)
5. The PV Compact will now limit the Δp across the system.
6. The Δp across the system can be measured using the integral PT plug on the PV Compact and the PT plug on the supply if a partner valve is installed.
7. The Δp tolerance of a PV Compact is +/- 20% at design flow.



Trouble shooting on site

Problem: Flow noise in the radiator system or the radiator valves are not able to close fully.

1. Check the pre-setting of the PV Compact valve.
2. Check by use of a manometer, connected to the red PT plug on the PV Compact and the PT plug on the supply line, that Δp across the system is correct. (See fig. 5)
3. If the Δp is too high adjust the pre-setting on the PV Compact valve.
4. **Please note:**
 - The Δp across a radiator system is normally set to 10 kPa.
 - If the Δp is above 30 kPa, noise can occur at the radiator valves.
 - If the Δp is above 60 kPa, some radiator valves are not able to close fully, and the radiator valves will leak.



Problem: Hammering noise form the radiator valves or PV Compact.

1. Check that alle radiator valves are mounted correct, with the water flowing in the right direction.
2. Check by use of a manometer, connected to the blue PT plug on the PV Compact and the PT plug on the supply line, that Δp from the external supply is not fluctuating. (See fig. 6)
3. **Please note:**
 - When the external Δp is fluctuating, the PV Compact will respond to the fluctuation. This can in some cases course a inteference which will escalate the fluctuations.
 - Installainga a longer capillary tube or a capillary tube with a smaller opening (damped) can often solve the fluctuations.

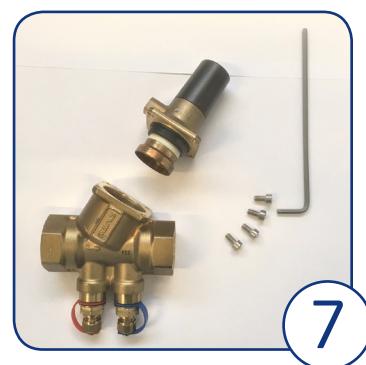


Problem: The sytem can have dirty water.

1. Open the valve by removing the 4 screws using a 3mm hexagonal key. (See fig. 7)
2. Check that the valve is not blocked by dirt and debris.

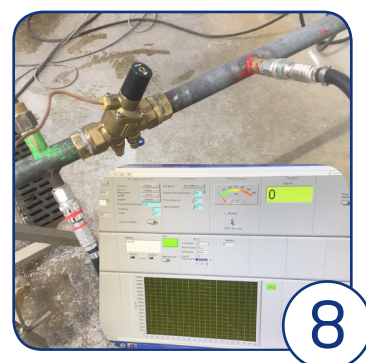
Please note:

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



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. 8)
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.





KNOWLEDGE

QUALITY

INNOVATION

MANUFACTURING
EXCELLENCE

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