



The Oventrop Quality Management System is certified to DIN-EN-ISO 9001

Tender specification:

Oventrop differential pressure relief valve PN 10, max temperature 120°C, nominal value infinitely adjustable between 50 and 500 mbar (5 and 50 kPa), presetting lockable.

DN 20 item no. 108 50 06

DN 25 item no. 108 50 08

DN 32 item no. 108 50 10

Oventrop differential pressure relief valve PN 10, max temperature 120°C, nominal value infinitely adjustable between 50 and 500 mbar (5 and 50 kPa) with preset indicator, presetting lockable.

DN 20 item no. 108 52 06

DN 25 item no. 108 52 08

DN 32 item no. 108 52 10

Function:

By installing a differential pressure relief valve, disturbing flow noises are prevented in central heating systems, when operating during low demand periods.

A minimum volume of circulating water is maintained in installations with gas fired continuous-flow water heaters at times of "no demand", i.e. when TRVs are closed. The differential pressure relief valve is installed in the bypass pipe between supply and the return pipe.

The bypass is opened with the pump head exceeding the set value of the differential pressure relief valve.

Control range: 50 - 500 mbar (5 and 50 kPa), factory preset at 200 mbar.

Advantages:

- infinitely adjustable presetting
- lockable for all settings
- preset indicator (item no. 108 52 .. only)

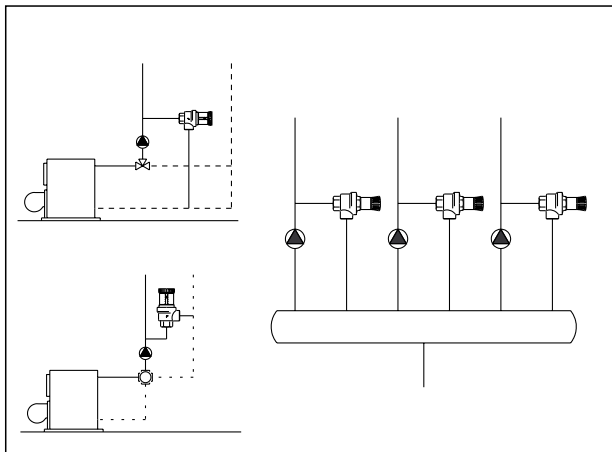
Application:

Central heating systems with circulation pump PN 10, max. temperature 120°C, to avoid flow noises. To maintain a minimum volume of circulating water in central heating systems with gas fired continuous-flow water heaters.

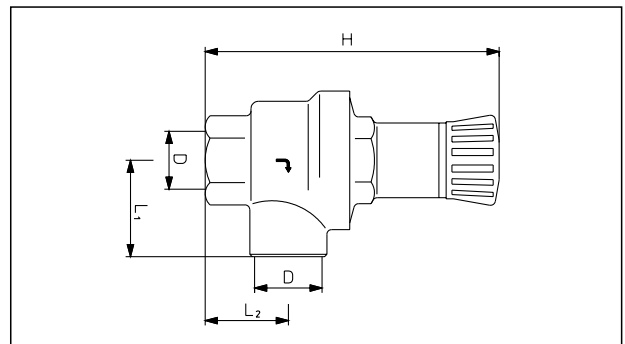
Model:

Body made of bronze/brass, brass bonnet, washer and ring gasket made of EPDM, spring made of stainless steel, all other parts made of brass. Threads according to EN 10226.

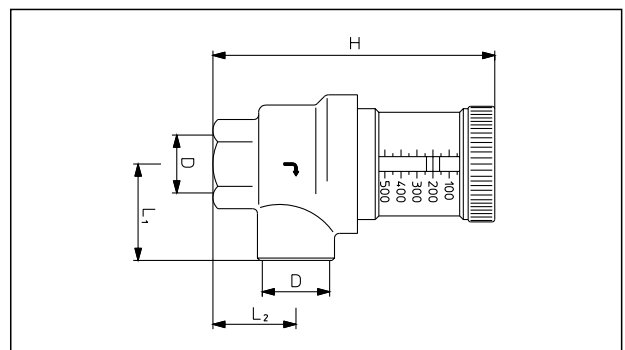
Examples of installation:



Dimensions:

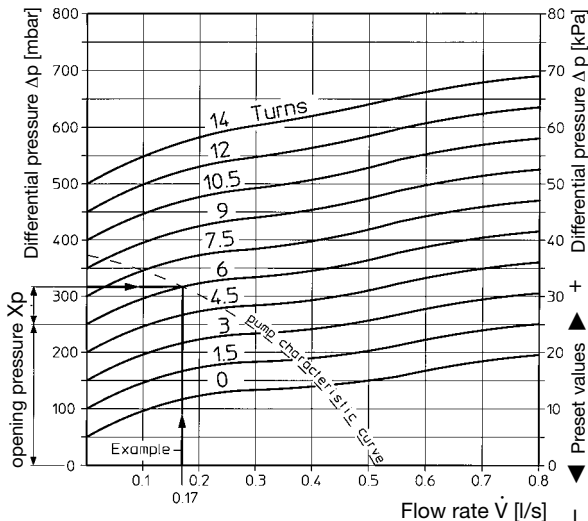


DN	D EN 10226	L ₁	L ₂	H	Item no.
20	Rp 3/4	40	34,5	119,5	108 50 06
25	Rp 1	48,5	40	128,5	108 50 08
32	Rp 1 1/4	56,5	46	135,5	108 50 10

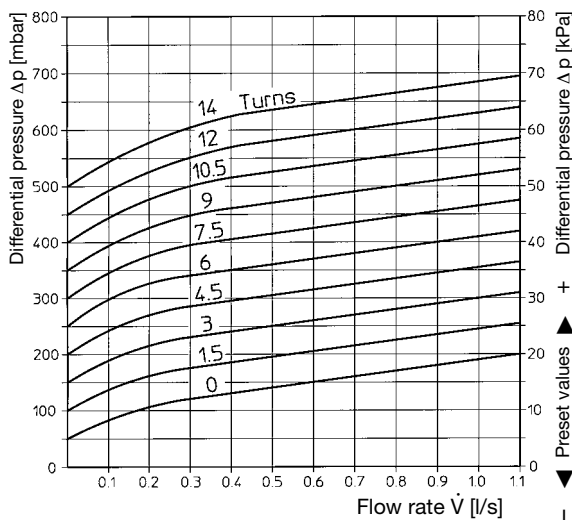


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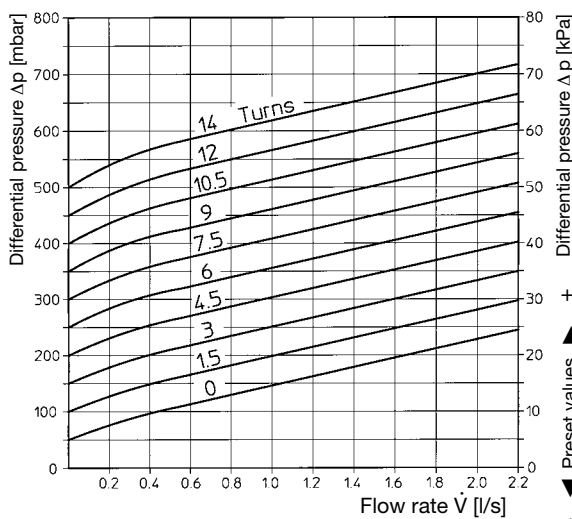
Flow charts for differential pressure relief valves



Item nos. 108 50 06 and 108 52 06, DN 20



Item nos. 108 50 08 and 108 52 08, DN 25



Item nos. 108 50 10 and 108 52 10, DN 32

Subject to technical modification without notice.

Product group 6
 ti 2-1/10/MW
 Edition 2008

Printed on paper free from
 chlorine bleaching.

The characteristic lines of both valve types are identical, whereby the required nominal pressure for the valve item no. 108 50 .. is obtained by the number of turns of the handwheel, while for the valve item no. 108 52 .. by the adjustment of the preset indicator.

Basic rule for selecting the valve size:

Choice of the bypass pipe and the DPRV* depends on the maximum volume of the excess flow:

Recommendation: Excess flow V up to	0.55 l/s = DN 20
Excess flow V up to	0.85 l/s = DN 25
Excess flow V exceeding	0.85 l/s = DN 32

Examples of application:

A given central heating system under design, fitted with TRVs has a design flow of 0.28 l/s at 25 kPa pressure loss (differential pressure), see the intersection point of the pump curve with the two given values on the uppermost chart.

To find:

1. The size of the valve.
2. The value of preset for the differential pressure relief valve to commence opening at the design point of Dp 25 kPa (TRVs at the point of closing!).

Solution:

1. Select valve size DN 20 as the volume of the excess flow is less than 0.55 l/s.
2. For the differential pressure relief valve item no. 108 52 06 set the preset indicator to 25 kPa.

For the valve item no. 108 50 06 the required nominal pressure of 25 kPa, according to the chart, will be obtained after six (6) turns of the handwheel. Observe regulation rules. The intersection point of the pump curve and the valve characteristic flow line indicate the bypass flow 0.17 l/s at a pressure loss (differential pressure) of 31 kPa. Therefore the maximum possible band of proportional deviation Xp** is 6 kPa.

Valve adjustment:

Loosen the screw of the handwheel.

Differential pressure relief valves item nos. 108 52 06/08/10

By turning the handwheel, set the required nominal pressure on the indicator scale.

Differential pressure relief valves item nos. 108 50 06/08/10

Turn the handwheel in the direction of the minus sign (-) until stop. Then, to preset the required nominal pressure, turn the handwheel in the direction of the plus (+) sign according to the number turns taken from the respective flow chart.

By tightening the screw of the handwheel, the setting may be locked.

Other applications:

(For instance to maintain a minimum volume of circulating water)

The intersection point for the flow rate and the pressure loss is determined. Then from the oblique line which runs through this point, the value of valve preset or the number of turns of the handwheel can be read off the left side.

* Differential pressure relief valve

** Proportional deviation Xp is the rise in pressure required for the valve to open from closed position to that flow which corresponds to the intersection point between the pump curve and the valve characteristic line.

F. W. OVENTROP GmbH & Co. KG
 Paul-Oventrop-Straße 1
 D-59939 Olsberg
 Germany
 Telephone +49(0) 2962 82-0
 Telefax +49(0) 2962 82-450
 E-Mail mail@oventrop.de
 Internet www.oventrop.de

For an overview of our global presence
 visit www.oventrop.de.