

#### Tender specification:

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

DN 20 Item no. 1085006  
DN 25 Item no. 1085008  
DN 32 Item no. 1085010

Oventrop differential pressure relief valve PN 10, max. temperature 120 °C, nominal value infinitely adjustable between 50 and 500 mbar, with setting indicator, setting lockable.

DN 20 Item no. 1085206  
DN 25 Item no. 1085208  
DN 32 Item no. 1085210

#### Function:

Disturbing flow noises in central heating systems during part load conditions can be prevented by installing a differential pressure relief valve.

A minimum water circulation is maintained in installations with gas fired continuous-flow water heaters when the regulating valves are closed. The differential pressure relief valve is installed in a bypass pipe between the supply and the return pipe.

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

Control range: 50 - 500 mbar, preset at works to 200 mbar

#### Advantages:

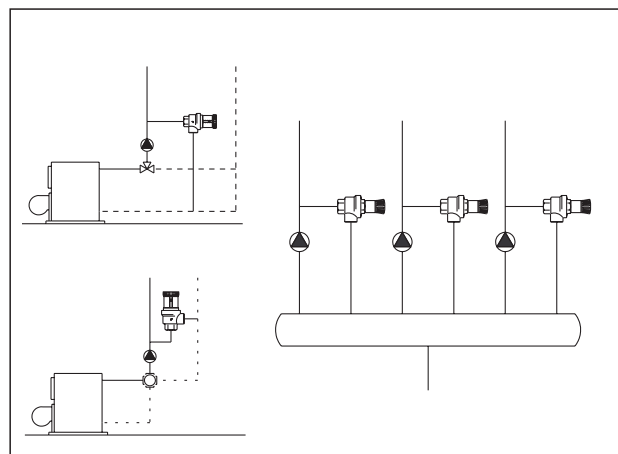
- infinitely adjustable presetting
- lockable at any setting
- display of the set differential pressure (model with preset indicator only)

#### Application:

Central heating systems with circulation pump, PN 10, max. temperature 120 °C, to avoid flow noises. Central heating systems with gas fired continuous-flow water heaters for the maintenance of a minimum water circulation.

#### Model:

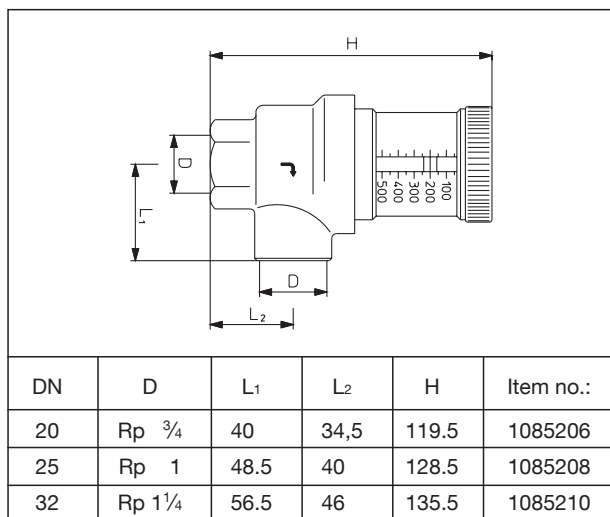
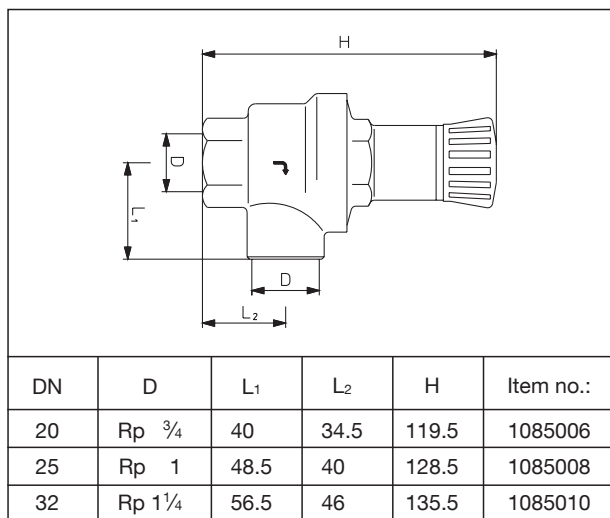
Body made of bronze/brass, brass bonnet, washer and ring gasket made of EPDM, spring made of stainless steel, all other components made of brass. Threads according to DIN EN 10226.



System illustration

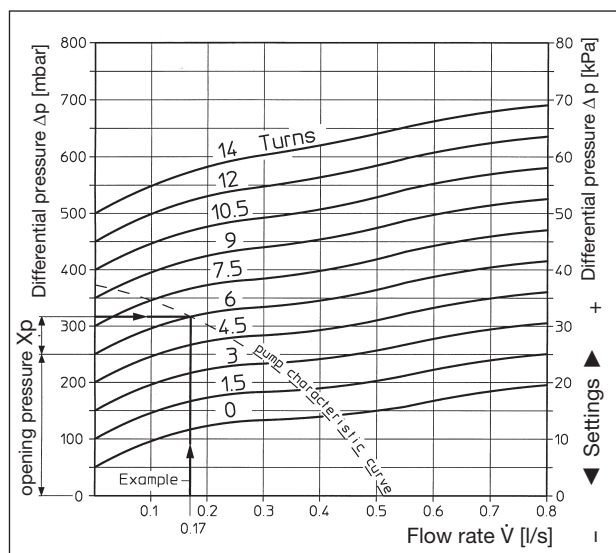


Differential pressure relief valves

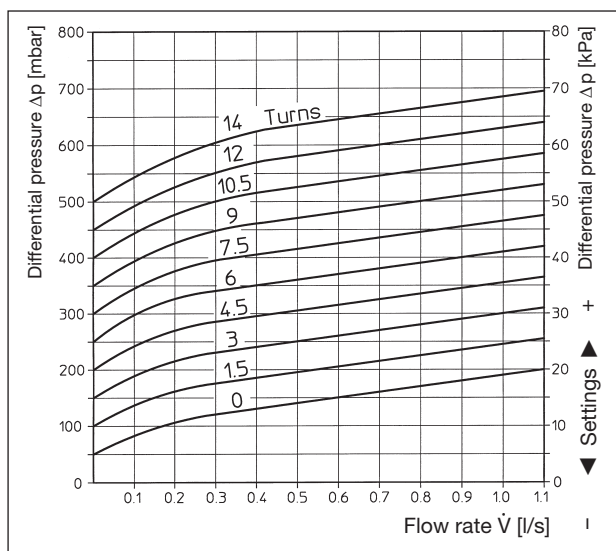


Dimensions

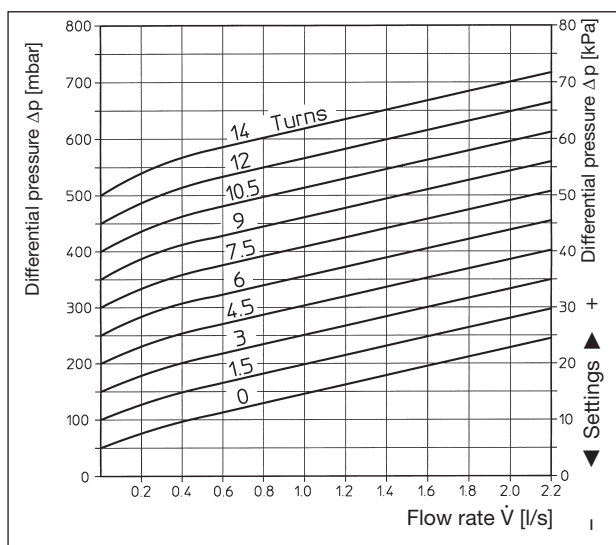
## Differential pressure relief valve Differential pressure relief valve with preset indicator



Item no. 1085006 and 1085206, DN 20



Item no. 1085008 and 1085208, DN 25



Item no. 1085010 and 1085210, DN 32

### Flow charts for differential pressure relief valves

Subject to technical modifications without notice.

Product range 6  
ti 2-EN/10/MW  
Edition 2017

The characteristic lines of both valve types are identical. The opening pressure of item no. 10850.. is determined by the number of turns of the handwheel and that of item no. 10852.. by the value displayed at the preset indicator.

### Selection of the valve size:

The selection of the correct size of the handwheel and differential pressure relief valve depends of the maximum possible excess flow  $V$ :

#### 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

### Example of the application:

A heating system with thermostatic valves has a design flow of 0.28 l/s at a pressure loss (differential pressure) of 25 kPa, see the intersection point of the pump curve with the two given values in the opposite chart.

To find:

1. The size of the valve.
2. The setting of the differential pressure valve to start opening at the design point of  $\Delta p$  25 kPa (thermostatic valves closing!).

Solution:

1. DN 20, as the excess flow  $V$  is less than 0.55 l/s.
2. Differential pressure relief valve item no. 1085206  
Set the preset indicator to 25 kPa (250 mbar).

Differential pressure relief valve item no. 1085006

The opening pressure of 25 kPa (250 mbar) will be obtained after 6 turns of the handwheel. Observe regulation rules. The intersection point of the pump characteristic line and that of the differential pressure relief valve is at a bypass flow of 0.17 l/s at a pressure loss (differential pressure) of 31 kPa. The maximum possible proportional deviation  $X_p^*$  thus amounts to 6 kPa.

### Setting:

Loosen the screw of the handwheel.

Differential pressure relief valve item no. 1085206/08/10

Set the required opening pressure at the preset indicator by turning the handwheel.

Differential pressure relief valve item no. 1085006/08/10

Turn the handwheel in the direction of the minus sign (–) until stop. Then turn the handwheel in the direction of the plus sign (+) according to the number of turns for the respective opening pressure taken from the chart.

The setting can be locked by tightening the screw of the handwheel.

### Other applications:

(for instance maintenance of a minimum water circulation)

The intersection point of the flow rate and the pressure loss is determined. Then from the oblique line running through this point, the value to be set or the number of turns of the handwheel can be read off on the left hand side.

\*\* The proportional deviation  $X_p$  is the rise in pressure required for the valve to open from the closed position to that flow which corresponds to the intersection point between the characteristic line of the pump and that of the valve.