PM 512

6-12-5 XX

Pressure relief valve

2007.05

Technical description

Application:
Heating and cooling systems with variable flow.

Function:
Inline pressure relief valve with pneumatic spring.
Opens at increasing inlet pressure.

Pressure class:
PN 25

Max. differential pressure:
16 bar

Setting range:
0-16 bar

Temperature:
Max. working temperature: 100°C
Min. working temperature: -10°C

Media:
Water and neutral fluids, water-glycol mixtures.

Material:
Valve body: Ductile iron EN-GJS-400-18LT
Diaphragms and gaskets: NBR, EPDM

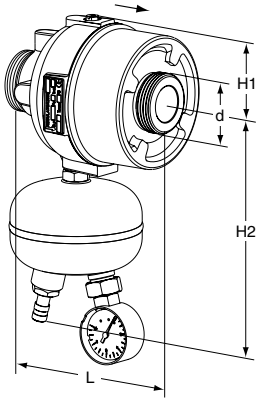
Surface treatment:
Electrophoretic painting.

Marking:
TA, DN, PN, Kvs, GGG-40.3 and flow direction arrow.

Flanges:
DN 15-50 (optional): According to EN-1092-2:1997, type 16.
DN 65-125: According to EN-1092-2:1997, type 21.

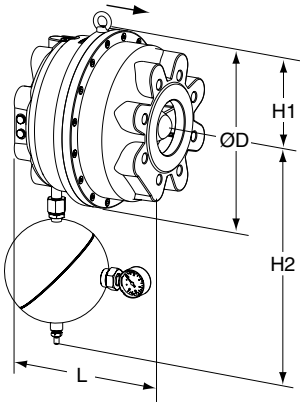
PM 512

DN 15-50



TA No	DN	d	L	H1	H2	Kvs	Kg
52 766-120	15/20	G1	106	45	143	4	1,0
52 766-132	25/32	G1 1/4	125	55	161	12	1,7
52 766-150	40/50	G2	131	75	198	30	4,4

DN 65-125

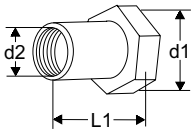


TA No	DN	D	L	H1	H2	Kvs	Kg
PN 25 (DN 65 and 80 also fit PN 16 flanges)							
52 766-165	65	200	160	100	390	60	14
52 766-180	80	200	160	100	390	60	14
52 766-190	100	320	254	160	430	150	60
52 766-191	125	320	254	160	430	150	60
PN 16							
52 766-390	100	320	254	160	430	150	60
52 766-391	125	320	254	160	430	150	60

→ = Flow direction

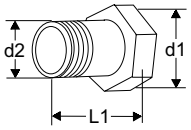
Connections for DN 15-50

With female thread



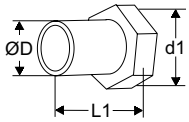
TA No	d1	d2	L1
52 759-015	G1	G1/2	26
52 759-020	G1	G3/4	32
52 759-025	G1 1/4	G1	47
52 759-032	G1 1/4	G1 1/4	52
52 759-040	G2	G1 1/2	52
52 759-050	G2	G2	64,5

With male thread



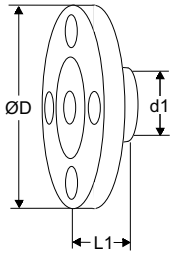
TA No	d1	d2	L1
52 759-115	G1	G1/2	34
52 759-120	G1	G3/4	40
52 759-125	G1 1/4	G1	40
52 759-132	G1 1/4	G1 1/4	45
52 759-140	G2	G1 1/2	45
52 759-150	G2	G2	50

For welding



TA No	d1	D	L1
52 759-315	G1	20,8	37
52 759-320	G1	26,3	42
52 759-325	G1 1/4	33,2	47
52 759-332	G1 1/4	40,9	47
52 759-340	G2	48,0	47
52 759-350	G2	60,0	52

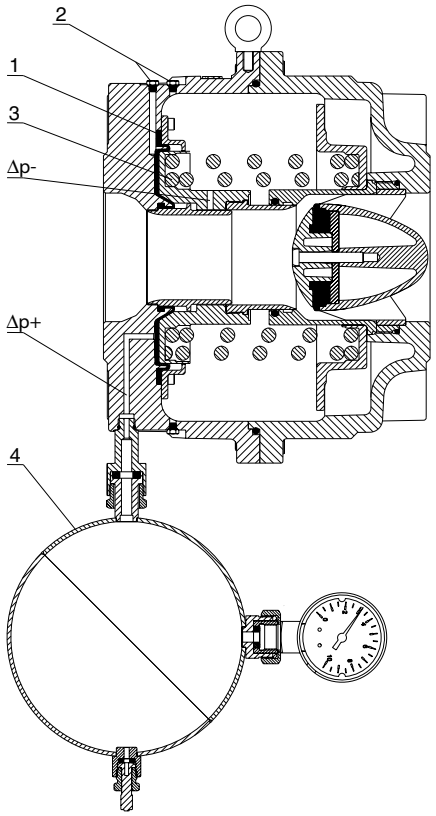
With flange



TA No	d1	D	L1
52 759-515	G1	95	10
52 759-520	G1	105	20
52 759-525	G1 1/4	115	5
52 759-532	G1 1/4	140	15
52 759-540	G2	150	5
52 759-550	G2	165	20

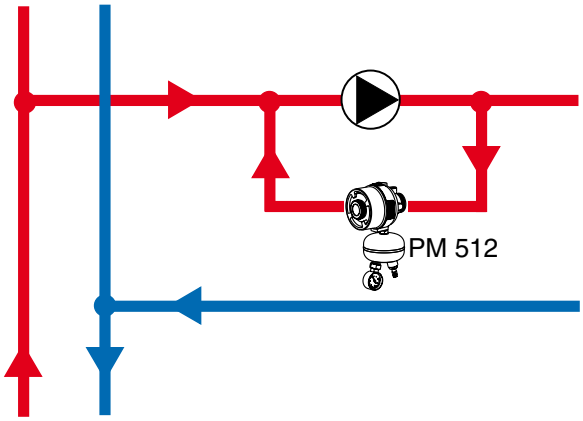
Operating function

(DN 65-125)



Pressure from inlet acts through internal impulse pipe (P-) to the outlet side of the diaphragm (1) and together with spring force (3) opens the valve.
Compressed gas pressure from the pressure vessel (4) acts through another impulse pipe (P+) to the inlet side of the diaphragm and closes the valve.
As long as the forces that act to the diaphragm are in equilibrium, the valves seat stands still. If the inlet pressure rises, the valve opens until the equilibrium is reached again.
In case of a diaphragm rupture the pressures on both sides of the diaphragm are the same and spring fully opens the valve. The force of spring corresponds to 20 kPa differential pressure on the diaphragm.

Installation



Flow direction is shown by arrow on the valve's identification plate (5). The best position is horizontal with vent screws (2) on top.
Installation of a strainer upstream of pressure relief valve is not allowed, because it can reduce or prevent the flow.
It is important to ensure that working temperature and pressure do not exceed allowed values.

Before you mount the controller, check the fitting length of the controller and distance between connections on the pipeline. You should fit the connections (welding and threaded ends) to the pipeline first, then clean the remains of welding if needed. Then install the controller. If you use flanged connections, check pitch diameter and the diameter of the holes for the screws.

When the pipeline and the controller are full of water and the pressure is stabilized, vent the controller by the vent screws.

Setting

Fill the pressure vessel with compressed air or nitrogen.
Pressure in the pressure vessel should be 20 kPa higher than desired pressure in the system.

At **PM 512** the pressure can be controlled by pressure gauge on the pipeline or through pressure gauge on the pressure vessel.

Sizing

Select the size according to maximal speed. Control the pressure drop in valve by equation:

$\Delta p = 100 \times q^2 / Kvs^2$ (kPa), where q is flow in m^3/h.