



Technical description

Application:

Heating and cooling systems with variable flow.
Air-conditioning.

Function:

Differential pressure control over the load.
Closes at increasing Δp .
D 512: Installation in return pipe.
DF 512: Installation in inlet pipe.

Pressure class:

PN 25 or PN 16 (DN 100 and 125)

Max. differential pressure:

1600 kPa = 16 bar

Temperature:

Max. working temperature: 140°C
Min. working temperature: -10°C

Setting range:

Differential pressure fixed at 12, 15, 20, 40, 60 and 100 kPa.

Media:

Water and neutral fluids, water-glycol mixtures.

Material:

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

Surface treatment:

Electrophoretic painting.

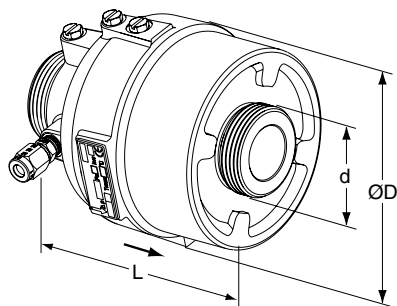
Marking:

TA, DN, PN, GGG 40.3, Kvs, Δp 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.

DN 15-50



12 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 764-420	15/20	G1	97	106	4	1,2
52 764-425	25/32	G1 1/4	112	125	12	2,2
52 764-440	40/50	G2	146	131	30	4,2

15 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 764-020	15/20	G1	97	106	4	1,2
52 764-025	25/32	G1 1/4	112	125	12	2,2
52 764-040	40/50	G2	146	131	30	4,2

20 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 764-520	15/20	G1	97	106	4	1,2
52 764-525	25/32	G1 1/4	112	125	12	2,2
52 764-540	40/50	G2	146	131	30	4,2

40 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 764-120	15/20	G1	97	106	4	1,2
52 764-125	25/32	G1 1/4	112	125	12	2,2
52 764-140	40/50	G2	146	131	30	4,2

60 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 764-220	15/20	G1	97	106	4	1,2
52 764-225	25/32	G1 1/4	112	125	12	2,2
52 764-240	40/50	G2	146	131	30	4,2

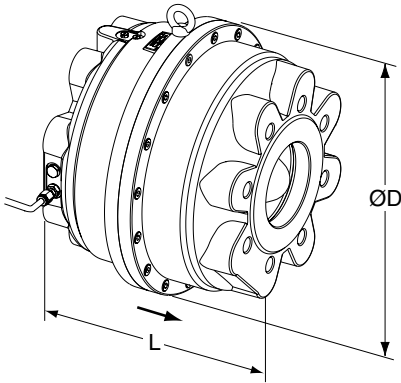
100 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 764-320	15/20	G1	97	106	4	1,2
52 764-325	25/32	G1 1/4	112	125	12	2,2
52 764-340	40/50	G2	146	131	30	4,2

Capillary pipe (Ø6) included:
DN 15-50: 1 200 mm

→ = Flow direction

DN 65-125



12 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 766-490	100	320	254	150	53
52 766-491	125	320	254	150	53
PN 25					
52 764-465	65	200	160	60	14
52 764-480	80	200	160	60	14
52 764-490	100	320	254	150	53
52 764-491	125	320	254	150	53

15 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 766-690	100	320	254	150	53
52 766-691	125	320	254	150	53
PN 25					
52 764-065	65	200	160	60	14
52 764-080	80	200	160	60	14
52 764-090	100	320	254	150	53
52 764-091	125	320	254	150	53

20 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 766-590	100	320	254	150	53
52 766-591	125	320	254	150	53
PN 25					
52 764-565	65	200	160	60	14
52 764-580	80	200	160	60	14
52 764-590	100	320	254	150	53
52 764-591	125	320	254	150	53

40 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 766-790	100	320	254	150	53
52 766-791	125	320	254	150	53
PN 25					
52 764-165	65	200	160	60	14
52 764-180	80	200	160	60	14
52 764-190	100	320	254	150	53
52 764-191	125	320	254	150	53

60 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 766-890	100	320	254	150	53
52 766-891	125	320	254	150	53
PN 25					
52 764-265	65	200	160	60	14
52 764-280	80	200	160	60	14
52 764-290	100	320	254	150	53
52 764-291	125	320	254	150	53

100 kPa

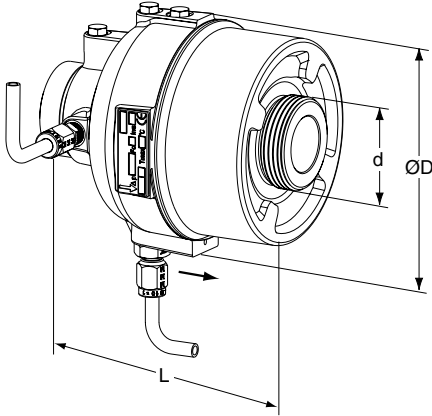
TA No	DN	D	L	Kvs	Kg
PN 16					
52 766-990	100	320	254	150	53
52 766-991	125	320	254	150	53
PN 25					
52 764-365	65	200	160	60	14
52 764-380	80	200	160	60	14
52 764-390	100	320	254	150	53
52 764-391	125	320	254	150	53

Capillary pipe (Ø6) included:
DN 65-125: 1 500 mm

DN 65-125 are flanged and do not need any separate connections.

→ = Flow direction

DN 15-50



12 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 765-420	15/20	G1	97	106	4	1,2
52 765-425	25/32	G1 1/4	112	125	12	2,2
52 765-440	40/50	G2	146	131	30	4,2

15 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 765-020	15/20	G1	97	106	4	1,2
52 765-025	25/32	G1 1/4	112	125	12	2,2
52 765-040	40/50	G2	146	131	30	4,2

20 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 765-520	15/20	G1	97	106	4	1,2
52 765-525	25/32	G1 1/4	112	125	12	2,2
52 765-540	40/50	G2	146	131	30	4,2

40 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 765-120	15/20	G1	97	106	4	1,2
52 765-125	25/32	G1 1/4	112	125	12	2,2
52 765-140	40/50	G2	146	131	30	4,2

60 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 765-220	15/20	G1	97	106	4	1,2
52 765-225	25/32	G1 1/4	112	125	12	2,2
52 765-240	40/50	G2	146	131	30	4,2

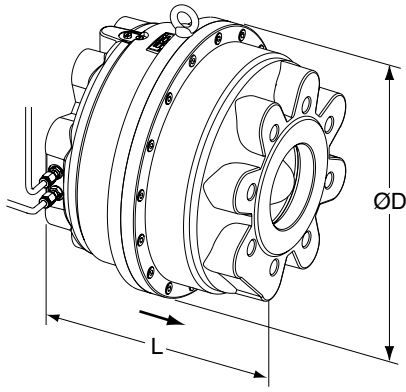
100 kPa

TA No	DN	d	D	L	Kvs	Kg
PN 25						
52 765-320	15/20	G1	97	106	4	1,2
52 765-325	25/32	G1 1/4	112	125	12	2,2
52 765-340	40/50	G2	146	131	30	4,2

Capillary pipe (Ø6) included:
DN 15-50: 1 200 mm

→ = Flow direction

DN 65-125



12 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 767-490	100	320	254	150	53
52 767-491	125	320	254	150	53
PN 25					
52 765-465	65	200	160	60	14
52 765-480	80	200	160	60	14
52 765-490	100	320	254	150	53
52 765-491	125	320	254	150	53

15 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 767-690	100	320	254	150	53
52 767-691	125	320	254	150	53
PN 25					
52 765-065	65	200	160	60	14
52 765-080	80	200	160	60	14
52 765-090	100	320	254	150	53
52 765-091	125	320	254	150	53

20 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 767-590	100	320	254	150	53
52 767-591	125	320	254	150	53
PN 25					
52 765-565	65	200	160	60	14
52 765-580	80	200	160	60	14
52 765-590	100	320	254	150	53
52 765-591	125	320	254	150	53

40 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 767-790	100	320	254	150	53
52 767-791	125	320	254	150	53
PN 25					
52 765-165	65	200	160	60	14
52 765-180	80	200	160	60	14
52 765-190	100	320	254	150	53
52 765-191	125	320	254	150	53

60 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 767-890	100	320	254	150	53
52 767-891	125	320	254	150	53
PN 25					
52 765-265	65	200	160	60	14
52 765-280	80	200	160	60	14
52 765-290	100	320	254	150	53
52 765-291	125	320	254	150	53

100 kPa

TA No	DN	D	L	Kvs	Kg
PN 16					
52 767-990	100	320	254	150	53
52 767-991	125	320	254	150	53
PN 25					
52 765-365	65	200	160	60	14
52 765-380	80	200	160	60	14
52 765-390	100	320	254	150	53
52 765-391	125	320	254	150	53

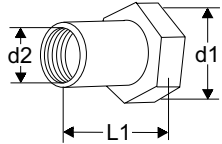
Capillary pipe (Ø6) included:
DN 65-125: 1 500 mm

DN 65-125 are flanged and do not need any separate connections.

→ = Flow direction

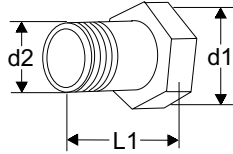
Connections for DN 15-50

With female thread



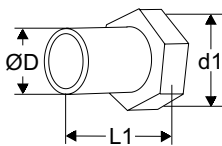
TA No	d1	d2	L1
52 759-015	G1	G1/2	26
52 759-020	G1	G3/4	32
52 759-025	G1 1/4	G1	47
52 759-032	G1 1/4	G1 1/4	52
52 759-040	G2	G1 1/2	52
52 759-050	G2	G2	64,5

With male thread



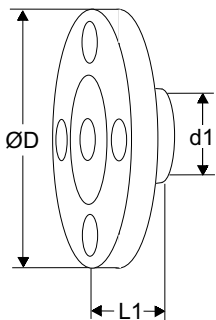
TA No	d1	d2	L1
52 759-115	G1	G1/2	34
52 759-120	G1	G3/4	40
52 759-125	G1 1/4	G1	40
52 759-132	G1 1/4	G1 1/4	45
52 759-140	G2	G1 1/2	45
52 759-150	G2	G2	50

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

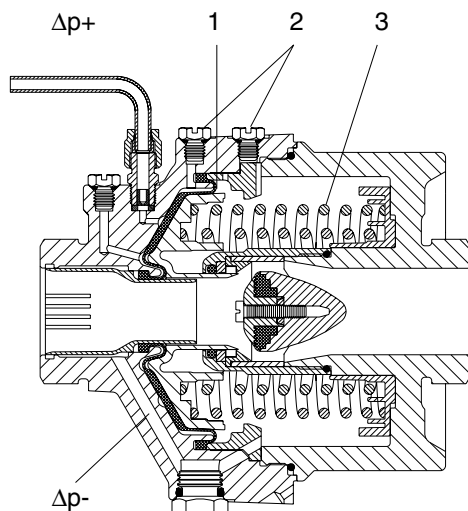
With flange



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 15-50



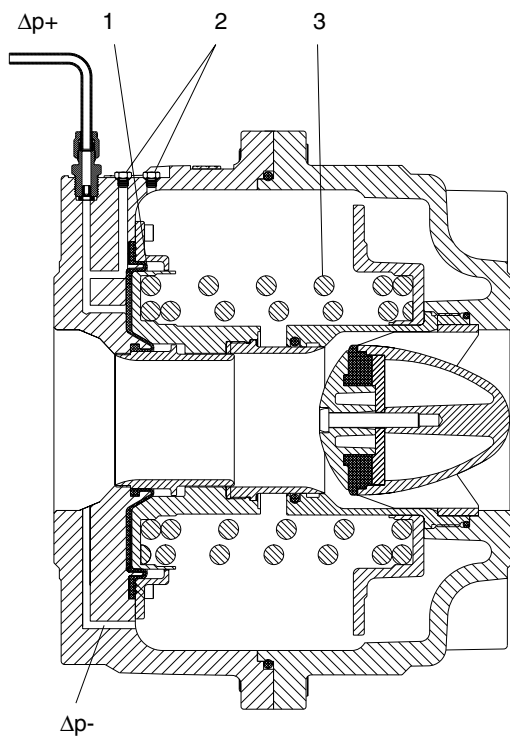
D 512

Installation in the return pipe. The pressure upstream the consumer acts through an external copper impulse pipe ($\Delta p+$) to the inlet side of the diaphragm (1) and closes the valve. The pressure downstream the consumer (in front of the valve) acts through an internal impulse pipe ($\Delta p-$) to the outlet side of the diaphragm and together with spring (3) attempts to open the valve.

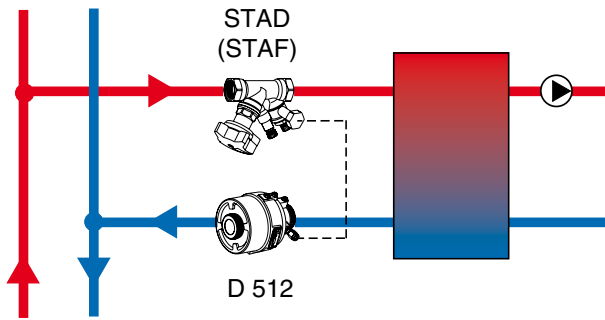
DF 512

Installation in the inlet pipe. Function is the same as D 512, except that the pressure downstream the consumer (from behind of the controller) acts through the another external copper impulse pipe ($\Delta p-$).

DN 65-125



Installation



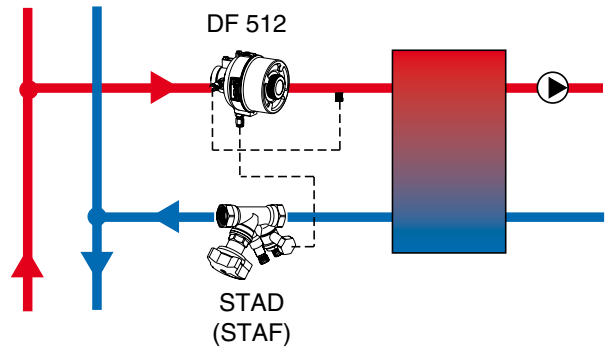
Install the controller in the return pipe, downstream the consumer (**D 512**) or in the inlet pipe, upstream the consumer (**DF 512**).

Flow direction is shown by the arrow on the valve's identification plate (5). The best position is horizontal with vent screws (2) on top.

Installation of a strainer in front of the controller is recommended.

Connect copper impulse pipe ($\Delta p+$) to the pipeline upstream the consumer. In case of DF 512, connect another copper impulse pipe ($\Delta p-$) downstream the consumer (from behind the controller). In case of a horizontal pipeline connect the copper impulse pipe laterally to prevent air and dirt from entering.

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 operations 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 (2).

Installation of balancing valve STAD (STAF) is recommended to enable flow measurement, commissioning and troubleshooting with balancing instrument TA-CBI or measuring instrument TA-CMI.

Sizing

Select the size according to maximal speed. To prevent noise, maximal speed should not exceed 2 m/s in residential buildings and 3 m/s in industrial buildings. Control the pressure drop in the valve by formula:

$\Delta p = 100 \times q^2 / Kvs^2$ [kPa], where q is flow in m³/h.