



Technical description

Application:

Heating and cooling systems with variable flow.

Function:

Differential pressure control over the load.

DA 516: Installation in return pipe.

DAF 516: 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 adjustable in ranges 5-30, 10-60, 10-100 and 60-150 kPa.

Media:

Water and neutral fluids, water-glycol mixtures.

Material:

Valve body: Ductile iron EN-GJS-400-18LT

Diaphragms and gaskets: EPDM

Adjustment ring: DN 15-50 Ryton plastic,

DN 65-125 R St 37-2 steel.

Surface treatment:

Electrophoretic painting.

Marking:

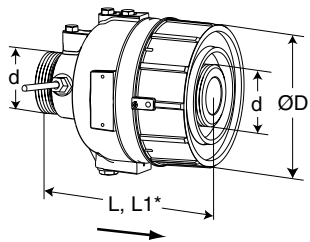
TA, DN, PN, GGG 40.3, Kvs, Δp and flow direction arrow.

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



5-30 kPa

TA No	DN	d	D	L	L1*	Kvs	Kg
PN 25							
52 763-020	15/20	G1	97	106	116	4	1,5
52 763-025	25/32	G1 1/4	112	125	150	12	2,6
52 763-040	40/50	G2	146	162	190	30	5,8

10-60 kPa

TA No	DN	d	D	L	L1*	Kvs	Kg
PN 25							
52 761-020	15/20	G1	97	106	116	4	1,5
52 761-025	25/32	G1 1/4	112	125	150	12	2,6
52 761-040	40/50	G2	146	162	190	30	5,8

10-100 kPa

TA No	DN	d	D	L	L1*	Kvs	Kg
PN 25							
52 760-020	15/20	G1	97	106	116	4	1,5
52 760-025	25/32	G1 1/4	112	125	150	12	2,6
52 760-040	40/50	G2	146	162	190	30	5,8

60-150 kPa

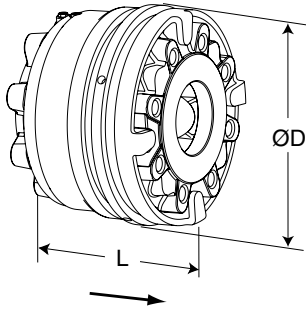
TA No	DN	d	D	L	L1*	Kvs	Kg
PN 25							
52 762-020	15/20	G1	97	106	116	4	1,5
52 762-025	25/32	G1 1/4	112	125	150	12	2,6
52 762-040	40/50	G2	146	162	190	30	5,8

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

→ = Flow direction

*) Length incl adjustment ring.

DN 65-125



5-30 kPa

TA No	DN	D	L	L1*	Kvs	Kg
PN 16						
52 763-490	100	320	254	254	150	58
52 763-491	125	320	254	254	150	58
PN 25						
52 763-065	65	210	160	160	60	18
52 763-080	80	210	160	160	60	18
52 763-090	100	320	254	254	150	58
52 763-091	125	320	254	254	150	58

10-60 kPa

TA No	DN	D	L	L1*	Kvs	Kg
PN 16						
52 761-490	100	320	254	254	150	58
52 761-491	125	320	254	254	150	58
PN 25						
52 761-065	65	210	160	160	60	18
52 761-080	80	210	160	160	60	18
52 761-090	100	320	254	254	150	58
52 761-091	125	320	254	254	150	58

10-100 kPa

TA No	DN	D	L	L1*	Kvs	Kg
PN 16						
52 760-490	100	320	254	254	150	58
52 760-491	125	320	254	254	150	58
PN 25						
52 760-065	65	210	160	160	60	18
52 760-080	80	210	160	160	60	18
52 760-090	100	320	254	254	150	58
52 760-091	125	320	254	254	150	58

60-150 kPa

TA No	DN	D	L	L1*	Kvs	Kg
PN 16						
52 762-490	100	320	254	254	150	58
52 762-491	125	320	254	254	150	58
PN 25						
52 762-065	65	210	160	160	60	18
52 762-080	80	210	160	160	60	18
52 762-090	100	320	254	254	150	58
52 762-091	125	320	254	254	150	58

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

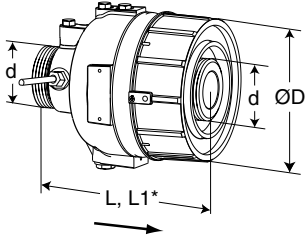
DN 65-125 are flanged and do not need any separate connections.

→ = Flow direction

*) Length incl adjustment ring.

DAF 516

DN 15-50



5-30 kPa

TA No	DN	d	D	L	L1*	Kvs	Kg
PN 25							
52 763-120	15/20	G1	97	106	116	4	1,5
52 763-125	25/32	G1 1/4	112	125	150	12	2,6
52 763-140	40/50	G2	146	162	190	30	5,8

10-60 kPa

TA No	DN	d	D	L	L1*	Kvs	Kg
PN 25							
52 761-120	15/20	G1	97	106	116	4	1,5
52 761-125	25/32	G1 1/4	112	125	150	12	2,6
52 761-140	40/50	G2	146	162	190	30	5,8

10-100 kPa

TA No	DN	d	D	L	L1*	Kvs	Kg
PN 25							
52 760-120	15/20	G1	97	106	116	4	1,5
52 760-125	25/32	G1 1/4	112	125	150	12	2,6
52 760-140	40/50	G2	146	162	190	30	5,8

60-150 kPa

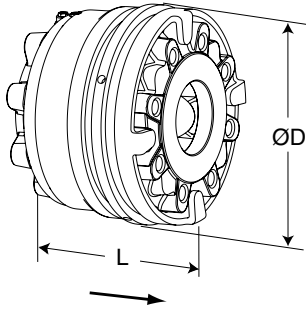
TA No	DN	d	D	L	L1*	Kvs	Kg
PN 25							
52 762-120	15/20	G1	97	106	116	4	1,5
52 762-125	25/32	G1 1/4	112	125	150	12	2,6
52 762-140	40/50	G2	146	162	190	30	5,8

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

→ = Flow direction

*) Length incl adjustment ring.

DN 65-125



5-30 kPa

TA No	DN	D	L	L1*	Kvs	Kg
PN 16						
52 763-590	100	320	254	254	150	58
52 763-591	125	320	254	254	150	58
PN 25						
52 763-165	65	210	160	160	60	18
52 763-180	80	210	160	160	60	18
52 763-190	100	320	254	254	150	58
52 763-191	125	320	254	254	150	58

10-60 kPa

TA No	DN	D	L	L1*	Kvs	Kg
PN 16						
52 761-590	100	320	254	254	150	58
52 761-591	125	320	254	254	150	58
PN 25						
52 761-165	65	210	160	160	60	18
52 761-180	80	210	160	160	60	18
52 761-190	100	320	254	254	150	58
52 761-191	125	320	254	254	150	58

10-100 kPa

TA No	DN	D	L	L1*	Kvs	Kg
PN 16						
52 760-590	100	320	254	254	150	58
52 760-591	125	320	254	254	150	58
PN 25						
52 760-165	65	210	160	160	60	18
52 760-180	80	210	160	160	60	18
52 760-190	100	320	254	254	150	58
52 760-191	125	320	254	254	150	58

60-150 kPa

TA No	DN	D	L	L1*	Kvs	Kg
PN 16						
52 762-590	100	320	254	254	150	58
52 762-591	125	320	254	254	150	58
PN 25						
52 762-165	65	210	160	160	60	18
52 762-180	80	210	160	160	60	18
52 762-190	100	320	254	254	150	58
52 762-191	125	320	254	254	150	58

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

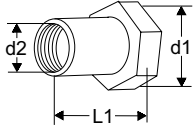
DN 65-125 are flanged and do not need any separate connections.

→ = Flow direction

*) Length incl adjustment ring.

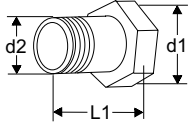
Connections for DN 15-50

With female thread



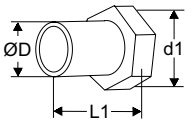
TA No	d1	d2	L1
52 759-015	G1	G1/2	26
52 759-020	G1	G3/4	32
52 759-025	G1 1/4	G1	47
52 759-032	G1 1/4	G1 1/4	52
52 759-040	G2	G1 1/2	52
52 759-050	G2	G2	64,5

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

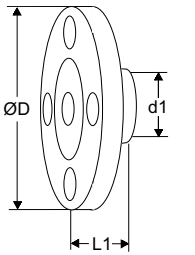
For welding



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

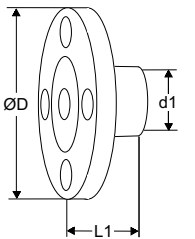
Attention! Can be used on the inlet side only.



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

With flange

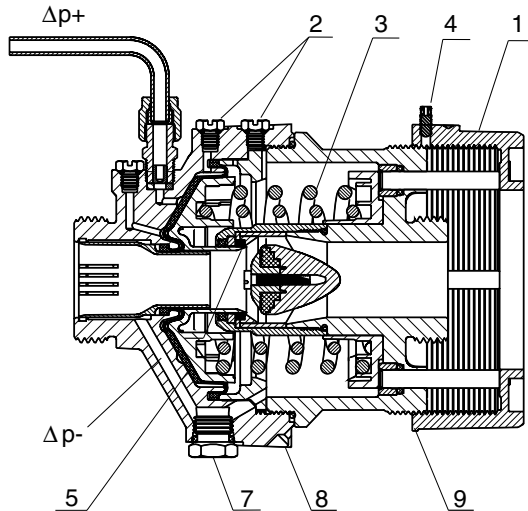
Attention! Must be used on the outlet side.



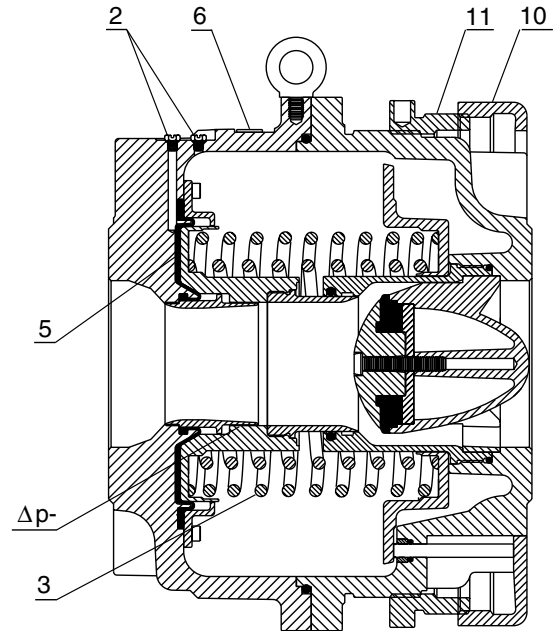
TA No	d1	D	L1
52 759-615	G1	95	47
52 759-620	G1	105	47
52 759-625	G1 1/4	115	62
52 759-632	G1 1/4	115	62
52 759-640	G2	150	72
52 759-650	G2	165	72

Operating function

DN 15-50



DN 65-125



DA 516

Installation in the return pipe. The pressure upstream the consumer acts through an external impulse pipe ($\Delta p+$). The pressure downstream the consumer (upstream the controller) acts through an internal impulse pipe ($\Delta p-$). The spring force can be adjusted by turning the setting wheel (5).

DAF 516

Installation in the inlet pipe. Function is the same as DA 516, except that the pressure downstream the consumer (from downstream the controller) acts through the another external copper impulse pipe ($\Delta p-$).

Installation

Install the controller in the return pipe, downstream the consumer (DA 516) or in the inlet pipe, upstream the consumer (DAF 516). Flow direction is shown by arrow on the valve's identification plate (6). The best position is horizontal with vent screws (2) on top. Installation of a strainer in front of the controller is recommended.

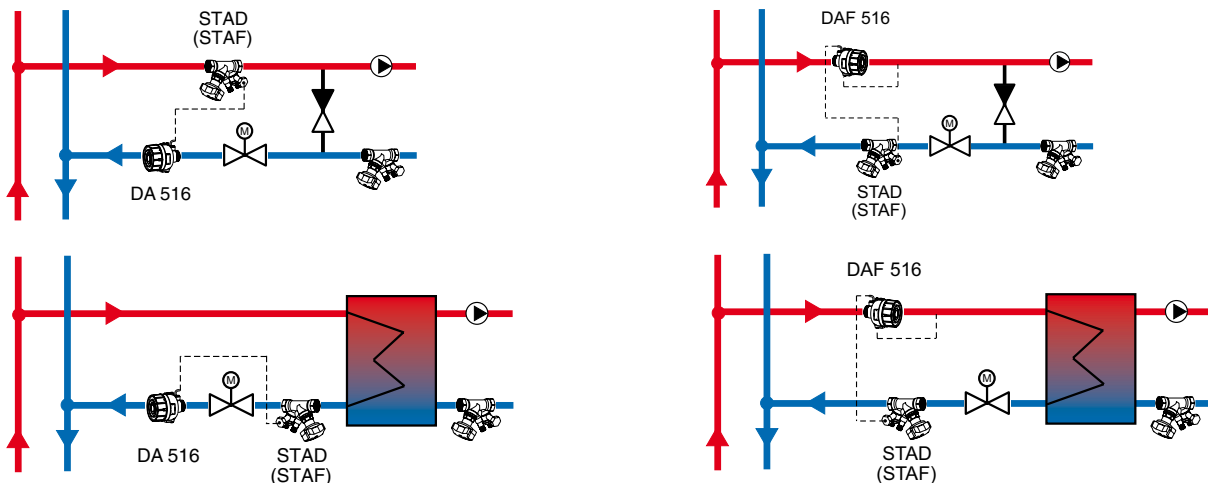
Connect copper impulse pipe ($\Delta p+$) to the pipeline upstream the consumer. In case of DAF 516, connect another copper impulse pipe ($\Delta p-$) downstream the consumer (from behind the controller). In case of a horizontal pipeline connect the copper impulse pipe laterally to prevent air and dirt from entering.

It is important to ensure that working temperature and pressure do not exceed allowed values.

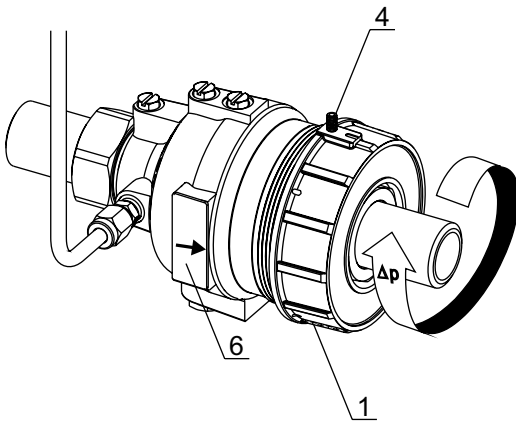
Before you mount the controller, check the fitting length of the controller and distance between connections on the pipeline. You should fit the connections (welding and threaded ends) to the pipeline first, then clean the remains of welding operations if needed. Then install the controller. If you use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

If the measuring point is mounted on DA 516 the differential pressure over the load can be measured by using the balancing instrument TA-CBI or measuring instrument TA-CMI. Installation of balancing valve STAD (STAF) is recommended to enable flow measurement, commissioning and troubleshooting with TA-CBI/TA-CMI.

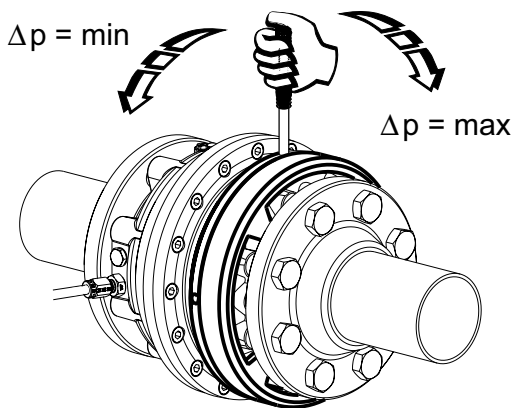


Setting



DN 15-50

1. Unscrew the fixing screw (4) - Allen key 2 mm - on setting wheel (1).
2. Turn the setting wheel clockwise to increase the differential pressure and vice versa.
3. On the setting wheel there is a mark which shows how much Δp changes at one turn of the setting wheel.
4. The pressures can be controlled through pressure gauges on the pipeline.
5. After required differential pressure Δp is reached, tighten the fixing screw on the setting wheel.
6. It is also possible to secure the setting with the leaden seal - use holes on the body (8) and the setting wheel (9).



DN 65-125

1. Principle is the same as DN 15-50, except there is no mark which shows how the Δp changes at one turn of the setting wheel and also there is no fixing screw and no leaden seal to secure the setting.
2. The setting wheel (10) moves indirectly by the middle nut (11), which is turned by the batons supplied with the controller.
3. The pressures can be controlled through pressure gauges on the pipeline.

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.