

Primary characteristics

These valves are made of drop forged steel, and the following properties are some of the distinguishing features of this valve type:

- Sealing surfaces made of Alloy 6
- Spring-loaded disc
- Spring made of stainless steel
- Conical sealing surfaces

Design

These globe check valves are made of both carbon steel and alloy steel. The valve body has a threaded bonnet with an attachable bonnet which is pulled towards a stainless gasket by means of a tightening nut. The disc is spring-loaded and controlled in the valve body. The sealing surfaces in the seat and on the disc are conical and made of Alloy 6.

Applications

For media which do not attack materials included in the valve.

Connections

Welding ends as per dimensional drawing on page 3.

Capacity (Table 1)

DN	Resistance factor Z	Kv-value
15	19	2
20	10	5
25	16	6,2
32	7,5	14,7
40	12	18,5
50	16	24,5

The resistance factors given apply to fully open valves.
 Kv values are stated in m³/h at a pressure drop of 1 bar over the valve.
 There is the following link between Kv and Cv:
 $Kv = 0.86 \times Cv$ $Cv = 1.16 \times Kv$

Selection table (Table 2)

NAF-No	PN	DN	Material		Max. temp °C
			Carbon steel	Alloy steel	
517917	160/250	15-50	C22.8	-	400
517919			-	13 CrMo 44	530
517921			-	10 CrMo 910	550
517941	400	15-50	C22.8	-	400
517945			-	10 CrMo 910	550



Technical specification

Material:	Carbon steel and alloy steel
Dimensions:	DN 15—50
Pressure class:	PN160/250 and 400 (PN 640, contact NAF)
Face-to-face:	See Table on page 2
Connections:	Welded ends
Temperature range:	Max. 550°C, see Table on page 2
Test pressure:	Open valve 1,5 x PN Closed valve 1,1 x PN

Ordering example

When placing an order, specify the NAF No. and DN as shown in the following example:
 NAF 517941, DN 25, Globe check valve

Material specification (Table 3)

Pos	Part	Material		
		NAF517917, 517941	NAF517919	NAF517921, 517945
1	Body	C22.8	13 CrMo 44	10 CrMo 910
2	Seat	Alloy 6	Alloy 6	Alloy 6
3*	Disc	Alloy 6	Alloy 6	Alloy 6
17*	Spring	Stainless steel W 1.4319	Stainless steel W 1.4319	Stainless steel W 1.4319
18	Bonnet	Stainless steel W 1.4401	Stainless steel W 1.4401	Stainless steel W 1.4401
19*	Gasket	Stainless steel W 1.4401	Stainless steel W 1.4401	Stainless steel W 1.4401
20	Cap	Stainless steel W 1.4301	Stainless steel W 1.4301	Stainless steel W 1.4301
32	Nut	Steel	Steel	Steel

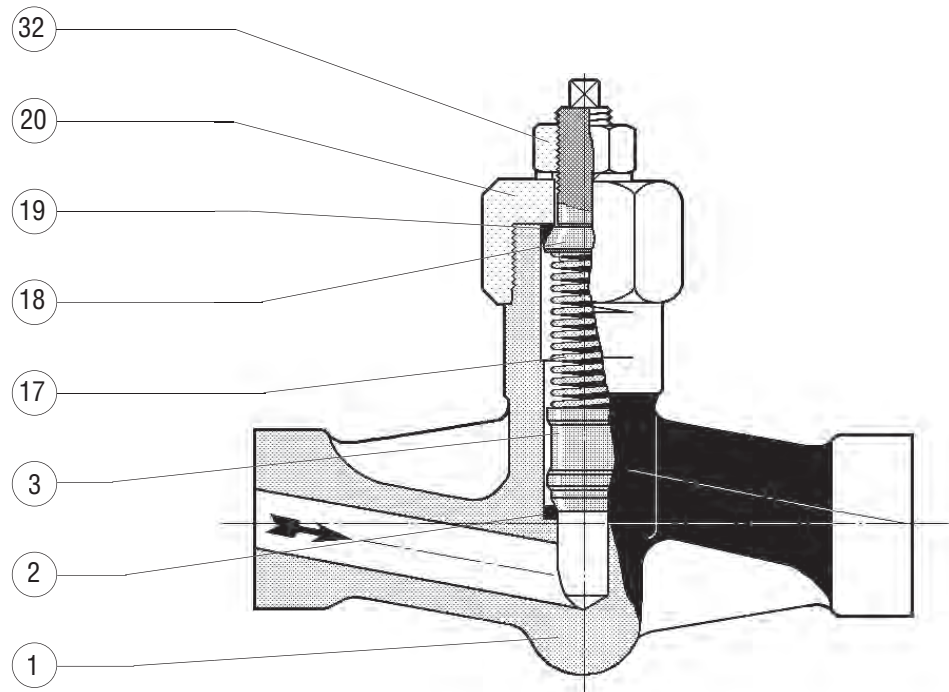
* Recommended spares.

Dimensions and mass (Table 4)

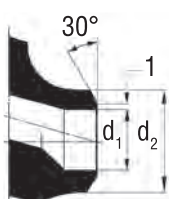
NAF-No	PN	DN	Joint shape	d ₁	d ₂	L	H	Ø A	Ø B	C	Mass, kg
517917	160/250	15	2	14	22	210	108	11	11	25	2,5
517919		20	2	19	28	230	135	16	18	38	4,5
517921		25	2	24	34	230	135	20	18	38	4,5
		32	2	31	43	300	213	30	36	72	20
		40	2	36	49	300	213	30	36	72	20
		50	2	44	61	300	213	40	36	72	20
517941	400	15	2	17	28	210	108	11	11	25	2,5
517945		20	2	22	34	230	135	16	18	38	4,5
		25	2	28	44	230	135	20	18	38	4,5
		40	2	39	61	300	213	30	36	72	20
		50	2	49	77	300	213	40	36	72	20

Working pressure and temperature (Table 5)

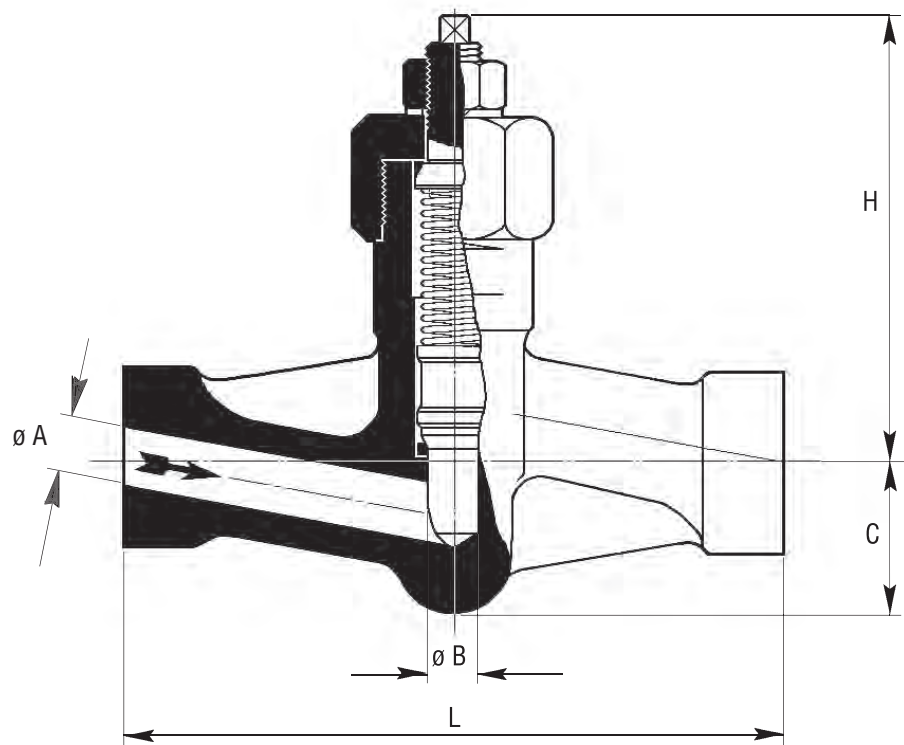
NAF-No	PN	Max. temperature °C															
		20	150	200	250	300	350	400	425	450	475	500	510	520	530	540	550
		Max. pressure bar (e)															
517917	160/250	250	250	244	228	200	156	112	-	-	-	-	-	-	-	-	-
517941	400	400	360	320	280	240	225	200	-	-	-	-	-	-	-	-	-
517919	160/250	250	250	250	250	250	238	227	223	217	206	184	154	124	97	-	-
517921		250	250	250	250	250	238	227	223	217	206	184	154	124	108	95	81
517945	400	400	400	400	400	400	380	364	356	348	330	295	250	198	155	116	78



Joint shape 1



Joint shape 2



Installation and maintenance instructions

Mounting

Check during planning that the valve will be fitted so that it is not subject to abnormal forces from pipelines, mountings or connected components.

The disc in the check valve is controlled and loaded by the spring, which is why the valve can be fitted in both horizontal and vertical pipelines.

Welding in

Check before welding in that the pipe system to be served by the valve is free of contaminants. Flush the pipe clear of scale, welding sparks, etc. after welding in.

Select the correct welding electrode with regard to the material in the valve body and the connecting pipes. Follow the rules applicable to the preheating and subsequent heat treatment of the materials.

Inspection and dismantling

1. Before removing the valve, check that the system is not pressurised.
2. Unscrew the nut from the bonnet by approx. 12 mm.
3. Unscrew the cap towards the nut.
4. Turn the nut clockwise to force the bonnet out of the body.
5. Unscrew the cap together with the bonnet and the gasket from the valve body.
6. Remove the remaining parts – the spring and the disc – from the body.
7. Examine the inner parts and seat in the body. Clean them and renovate them if there are any scratches or patches of corrosion. If so required, contact NAF for more detailed information on tools and how to lap the sealing surfaces.

Mounting

1. Do not fit the valve until item 7 above has been rectified.
2. Clean all inner parts using a solvent, then wipe them with a clean polishing rag.
3. Lubricate all threads using Molykote HCS or equivalent.
4. Spray the gasket with Molykote K321 R or equivalent.
5. Insert the disc and spring into the valve.
6. Fit the bonnet and gasket in the valve body.
7. Screw the cap onto the valve body.

8. Place the locking washer on the cap and tighten the nut on the bonnet thread.
9. Turn the nut clockwise to force the bonnet to lie tight against the gasket.
10. Tighten the gasket by means of the nut when the system has been pressurised and reached working temperature.

