

**Primary characteristics**

NAF-HP globe valves are made of drop forged steel, and the following properties are some of the distinguishing features of this valve type:

- Pressure absorbing threaded joint between body and yoke, with gland bolts to secure it.
- Conical sealing surfaces made of Alloy 6 on disc and seat. Valve disc and stem are a single unit.
- Box packing made of expanding graphite to ensure minimum maintenance.
- Easy to remove for servicing and preventive maintenance.

**CE-marked** in accordance with Pressure Equipment AFS 1999:4 (PED97/23/EC) module H, category III.

**Design**

NAF-HP globe valves are made of both carbon steel and alloy steel. The valve body has a threaded yoke which is secured to the body by means of gland bolts running through between the gland flange and gland support in the valve body. The valve type has a rising, non-rotating stem and handwheel mounted in a bearing. The sealing surfaces in the seat and disc are conical and coated with Alloy 6. The valve disc and stem are manufactured in a single piece. This valve type cannot have new packing fitted while pressurised. These globe valves have a straight profile and welding ends. Position indication is standard for these valves.



**Technical specification**

Material: Carbon steel or alloy steel  
 Dimensions: DN 15—50  
 Pressure class: PN 64/100, 160/250, 400 and 640  
 Face-to-face: See table on page 3  
 Connections: Welding ends  
 Temperature range: Max. 550°C, see table on page 3  
 Test pressure: Open valve 1,5 x PN  
 Closed valve 1,1 x PN

**Selection table (Table 1)**

NAF-No	PN	DN	Material		Max. temp °C
			Carbon steel	Alloy steel	
827841	64/100	15-50	SA105N (EN1.0460)	-	400
827843			-	SA182-F12 (13CrMo4.4)	530
827845			-	SA182-F22 (10CrMo9.10)	550
827917	160/250	15-50	SA105N (EN1.0460)	-	400
827919			-	SA182-F12 (13CrMo4.4)	530
827921			-	SA182-F22 (10CrMo9.10)	550
827941	400	15-50	SA105N (EN1.0460)	-	400
827945			-	SA182-F22 (10CrMo9.10)	550
827981	640	15-50	SA105N (EN1.0460)	-	400
827989			-	SA182-F22 (10CrMo9.10)	550

**Applications**

NAF-HP globe valves in accordance with this catalogue sheet are designed for control and shutoff, and for media which will not damage materials included. A few examples – steam, water, air and oil.

**Connections**

As per dimensional drawing on page 2.

**Capacity (Table 2)**

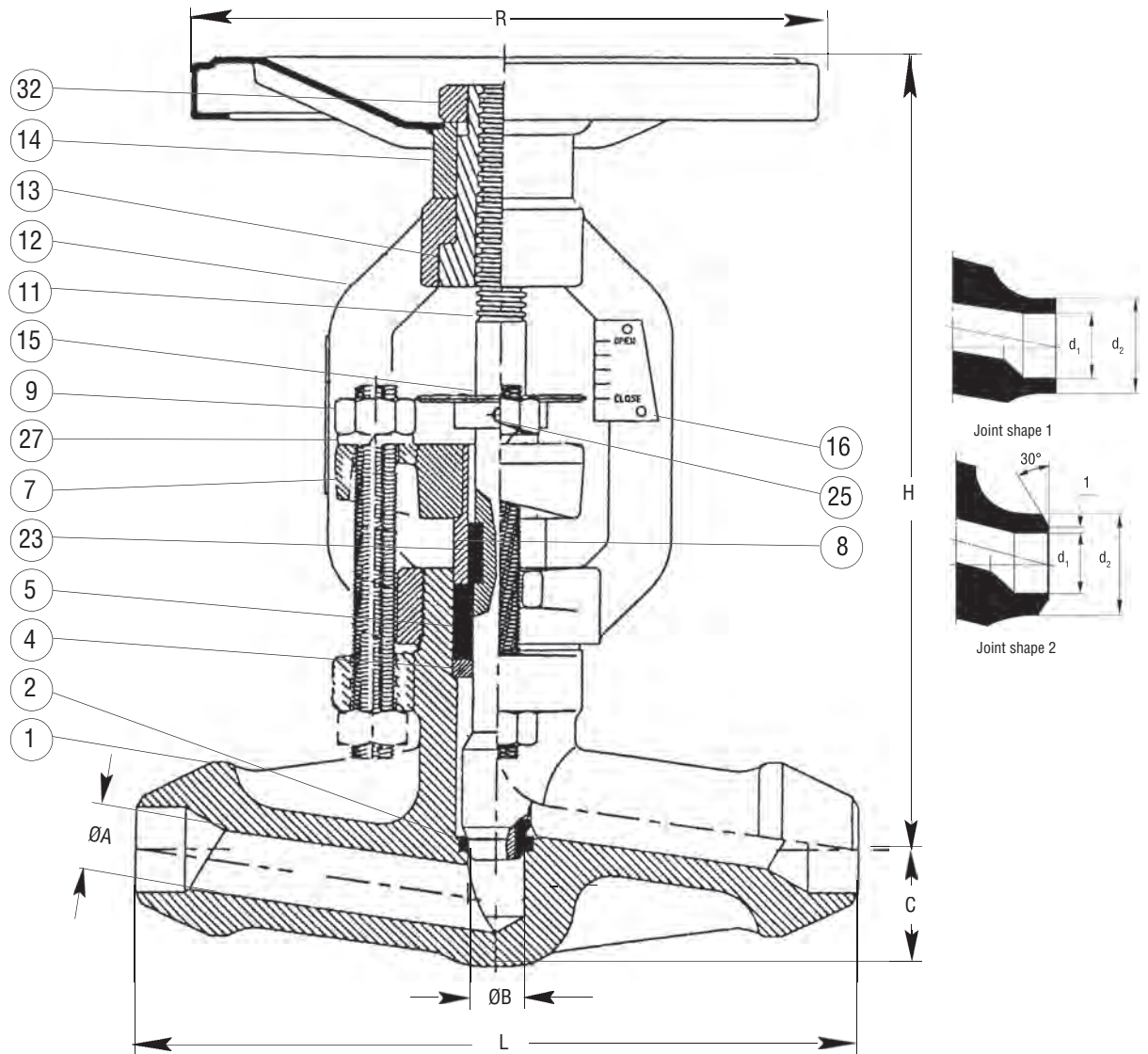
DN	Resistance factor Z	Kv value
15	19	2
20	10	5
25	16	6,2
32	7,5	14,7
40	12	18,5
50	16	24,5

The resistance factors given apply to fully open valves.  
 Kv values are stated in m<sup>3</sup>/h at a pressure drop of 1 bar over the valve.  
 There is the following link between Kv and Cv:  
 Kv = 0.86 x Cv      Cv = 1.16 x Kv

**Ordering example**

When placing an order, specify the NAF no. and DN as shown in the following example: NAF 827941, DN 25, Globe valve.

### Material specification



(Table 3)

Pos	Part	Material		
		NAF 827841, 827941 NAF 827917, 827981	NAF 827843 NAF 827919	NAF 827845, 827945 NAF 827921, 827989
1	Body	SA105N (EN1.0460)	SA182-F12 (13CrMo4.4)	SA182-F22 (10CrMo9.10)
2	Seat	Alloy 6	Alloy 6	Alloy 6
4	Washer	Stainless steel W 1.4301	Stainless steel W 1.4301	Stainless steel W 1.4301
5*	Stem packing	Graphite	Graphite	Graphite
7	Gland flange	SA105N (EN1.0460)	SA105N (EN1.0460)	SA105N (EN1.0460)
8	Gland	Stainless steel AISI 304	Stainless steel AISI 304	Stainless steel AISI 304
9	Gland bolt/ Nut	ASTM A 193 B7 ASTM A 194 2H	ASTM A 193 B7 ASTM A 194 2H	ASTM A 193 B7 ASTM A 194 2H
11*	Disc/Stem	Alloy 6 coated/W 1.4122	Alloy 6 coated/W 1.4122	Alloy 6 coated/W 1.4122
12	Yoke	SA105N (EN1.0460)	SA105N (EN1.0460)	SA105N (EN1.0460)
13	Stem nut	Al. bronze	Al. bronze	Al. bronze
14	Handwheel	Steel	Steel	Steel
15	Position indicator	Steel	Steel	Steel
16	Scale	Aluminium	Aluminium	Aluminium
23	Parallel key	Stainless steel	Stainless steel	Stainless steel
25	Locking screw	Galvanised steel	Galvanised steel	Galvanised steel
27	Spring washer	Steel	Steel	Steel
32	Nut	Galvanised steel	Galvanised steel	Galvanised steel

\*Recommended spare parts

### Dimensions and mass (Table 4)

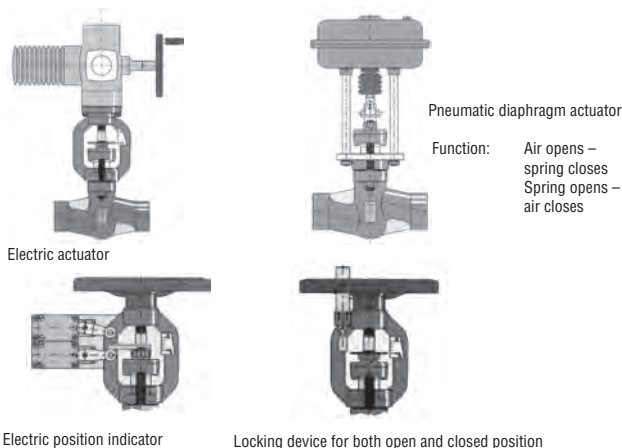
NAF-No	PN	DN	Joint shape	d <sup>1</sup>	d <sup>2</sup>	L	H**	ø A	ø B	C	R	Mass, kg	
827841	64/100	15	1	17	22	210	215	11	11	25	150	3,8	
827843		20	1	22	28	230	263	16	18	38	200	7,4	
827845		25	1	28	34	230	263	20	18	38	200	7,4	
		32	2	36	43	300	420	30	36	72	350	31	
		40	2	42	49	300	420	30	36	72	350	31	
		50	2	52	61	300	420	40	36	72	350	31	
827917	160/250	15	2	14	22	210	215	11	11	25	150	3,8	
827919		20	2	19	28	230	263	16	18	38	200	7,4	
827921		25	2	24	34	230	263	20	18	38	200	7,4	
		32	2	31	43	300	420	30	36	72	350	31	
		40	2	36	49	300	420	30	36	72	350	31	
		50	2	44	61	300	420	40	36	72	350	31	
827941	400	15	2	17	28	210	215	11	11	25	150	3,8	
827945		20	2	22	34	230	263	16	18	38	200	7,4	
		25	2	28	44	230	263	20	18	38	200	7,4	
		40	2	39	61	300	420	30	36	72	350	31	
		50	2	49	77	300	420	40	36	72	350	31	
827981	640	15	Joint shape and welding ends specified in connection with order.				210	215	11	11	25	150	3,8
827989		20					230	263	16	18	38	200	7,4
		25					230	263	20	18	38	200	7,4
		40					300	420	30	36	72	350	31
		50					300	420	40	36	72	350	31

### Working pressure and temperature (Table 5)

Dimensions in mm \*\* Open valve

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)															
827841	64/100	100	90	80	70	60	56	50	-	-	-	-	-	-	-	-	
827917	160/250	250	250	200	175	150	140	125	-	-	-	-	-	-	-	-	
827941	400	400	360	320	280	240	225	200	-	-	-	-	-	-	-	-	
827981	640	640	576	512	448	384	360	320	-	-	-	-	-	-	-	-	
827843	64/100	100	100	100	100	100	95	91	89	87	82	74	62	49	38	-	
827845	64/100	100	100	100	100	100	95	91	89	87	82	74	62	49	38	29	
827919	160/250	250	250	250	250	250	238	227	223	217	206	184	154	124	97	-	
827921	160/250	250	250	250	250	250	238	227	223	217	206	184	154	124	108	95	
827945	400	400	400	400	400	400	380	364	356	348	330	295	250	198	174	151	
827989	640	640	640	640	640	640	608	582	570	557	528	472	400	317	278	241	

### Accessories



This valve type can be supplied with electrical or mechanical position indication, pneumatic or electric actuator, a locking device for open-closed position. See below.

### Variants

Version for shutdown only, stop check valve and check valve. (See Fk 20.721, 33.721 and 30.721). All variants are also available in ANSI format. The valves are also available in stainless steel. Valve arrangement for drainage and blow-off, see Fk 20.723. Contact NAF for further information.

### Marking

The valves are marked with the NAF No., PN, DN, material, part no. and an arrow indicating the direction of flow.

## Installation and mounting instruction

### Installation

Fit the valve so that it is not subject to abnormal forces from pipelines or the like.

The valve may be fitted in any position. However, with the stem vertical and pointing upwards is preferable.

### Welding in

Before welding in, check that the pipe system is free of contaminants. After welding in, the pipe must be flushed clear of welding sparks, scale, etc.

During welding in, the valve must be in the open position. Welding in must take place under the observance of applicable technical welding rules and practice.

### Inspection and Dismounting

1. Before removing the valve, check that the system is not pressurised.
2. Unscrew the gland nuts and then remove the gland bolts.
3. Remove the locking screw for the position indicator.
4. Open the valve fully.
5. Undo the yoke by applying a force counter-clockwise, then partly unscrew it from the valve body. 7 turns for DN 15, 10 turns for DN 20-25 and 17 turns for DN 32-50.
6. Turn the handwheel counter-clockwise, past fully open position, in order to force out the box packing and back seal.
7. Unscrew the yoke and lift it away from the valve body together with the remaining valve parts.
8. Unscrew the handwheel and remove the handwheel.
9. Unscrew the stem from the stem nut, then remove the position indicator, yoke and parallel key.
10. Remove the box packing and back seal from the stem by holding the threaded part downwards and pressing on the washer.

### Mounting

The valve is fitted in reverse order.

1. First, clean all inner parts using a solvent, then wipe them with a clean polishing rag.
2. Lubricate all threads using Molykote HCS or equivalent.
3. After fitting, check that the valve can be moved from Open to Closed position.
4. Pressurise the system and keep an eye on the box packing. Tighten the gland nuts carefully if the box leaks.

