

# **DINICOLA**<sup>®</sup>

*Manufacturing  
Water Valves  
Radial Gates  
Industrial Valves  
Special Applications*



## **Gate Valves** *WITH RESILIENT WEDGE*

**kiwa**  
certified



SISTEMA DI GESTIONE  
CERTIFICATO

UNI EN ISO 9001:2015

Organismo accreditato da ACCREDIA  
Body accredited by ACCREDIA

**14**



## GATE VALVES WITH RESILIENT WEDGE - NP 10 - 16 - 25

### TECHNICAL FEATURES

The primary sealing of the Di Nicola gate valves with resilient wedge is obtained by a simple compression of the wedge rubber surfaces. The total absence of lateral frictions avoid the wearing due to long time working. The secondary sealing is obtained by two O-Rings positioned in the upper part of the valve. The operating stem rotates on a bronze bushing fixed on the bonnet by a threaded connection, with an upper sealing as dust protection. The wedge is completely coated with vulcanized EPDM rubber, with drainage on the bottom. The fixing screw between body and bonnet are protected against oxidation by a sealing material. The painting cycle with epoxy resins used for the Di Nicola valves grants a high adhesion of the coating to the metal, a total absence of imperfections and a thickness of minimum 200 microns.

The marking of the Di Nicola valves is conforming to the UNI-EN 19 standards, including the brand of the producer, the nominal diameter (ND), the nominal pressure (NP) and the indication of the valve body material (additional markings can be required in order phase). The maximum recommended working temperature is 75°C. The valves are built for the nominal pressures of 10/16/25 bar. The working tests on each valve are made according to the ruling standards at a pressure equivalent to 1,5 times the nominal pressure.

**N.B.** All the Di Nicola valves are also available with prearrangement for electric motorization.

### HYDRAULIC FEATURES

Kv of the gate valve with resilient wedge according to the opening degree of the valve

DN	20%	40%	60%	80%	100%
50	40.1	80	130	162	199
65	54.6	125.4	200	289	389
80	71.2	167	280	408	589
100	92.1	209.8	408.6	652	992
125	179	328.6	609.2	1079.3	1789
150	342	596.3	1102	1796.5	2890
200	505	948	1840.6	3297	5996
250	658	1597.5	2898	5400	9930
300	820	1789	3795	7996	15870
350	830	1805	3800	8000	16050
400	1392	2870	5994	1297	32930

- Kv** = flow coefficient of the valve
- Q** = flow in m<sup>3</sup>/h
- ΔP** = Headloss in the valve, in bar
- ρ** = density of the fluid, in kg/m<sup>3</sup>

$$Kv = \frac{Q}{31,6} \sqrt{\frac{\rho}{\Delta P}}$$

Expression of the headloss for a gate valve with partial opening degree of the valve (a):

$$\Delta P = 10, K_{\alpha} \rho \frac{V_2^2}{2}$$

In case of water the formula will be:

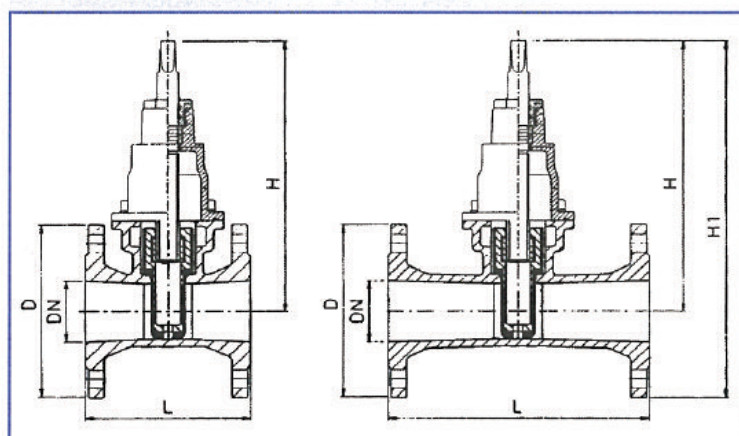
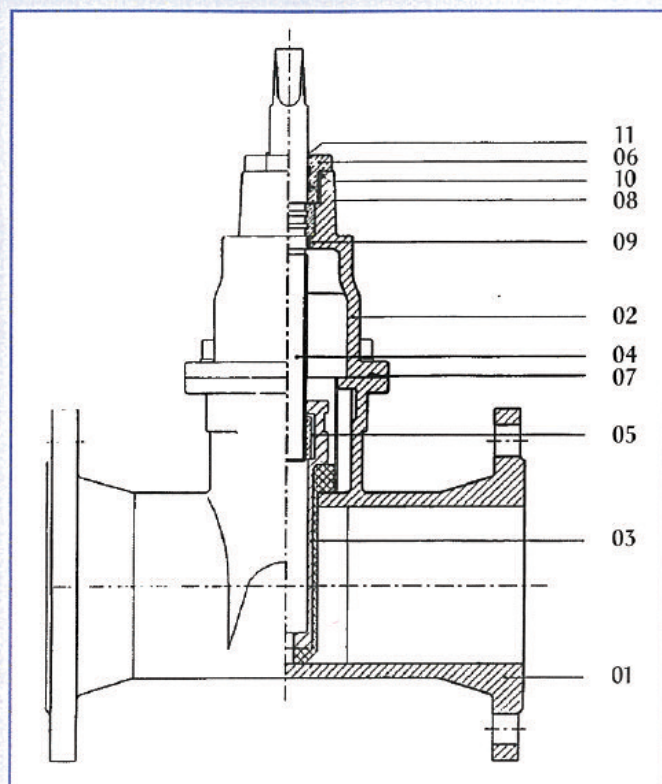
$$\Delta H_{\alpha} = K_{\alpha}$$

- ΔPa** = Headloss in the valve, in bar
- Kα** = Headloss coefficient of the valve according to the opening percentage
- ρ** = Density of the fluid, in kg/m<sup>3</sup>
- V** = Velocity of the fluid in the pipe with same diameter as the valve, in m/s
- ΔHα** = Headloss in the valve, in m. of water column
- g** = Acceleration of gravity, in m/s<sup>2</sup>



## MATERIALS

	ISO Standards	BS Standards
1. Body	GS 400/500 ISO 1083	2789-61 Grade SNC 24/17
2. Bonnet	GS 400/500 ISO 1083	2789-61 Grade SNC 24/17
3. Wedge	GS 400/500 ISO 1083 Interamente rivestito in EPDM o NBR EN 681.1	2789-61 Grade SNC 24/17 Interamente rivestito in EPDM o NBR
4. Stem	Acciaio Inox EN 14028	420 - S 29
5. Nutscrew	Ottone EN 6509 CuZn 37	2874: 62 CZ 108
6. Ring	Ottone EN 6509 CuZn 37	
7. Sealing	Ottone EN 6509 CuZn 37	2874: 62 CZ 108
8. O-Ring	NBR EN 681.1	NBR
9. O-Ring	NBR EN 681.1	NBR
10. Sealing	NBR EN 681.1	NBR
11. Dust protec.	NBR EN 681.1	NBR



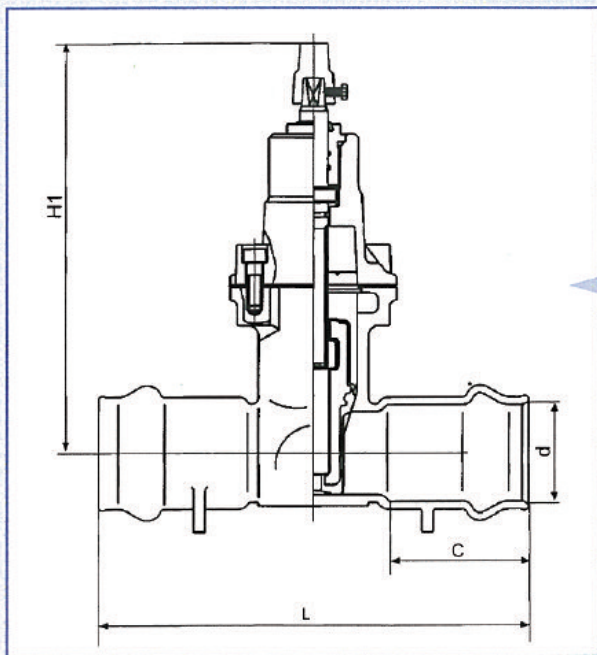
## DIMENSION E WEIGHTS

ND	D	H	H1	ISO 5752 series 14		ISO 5752 series 15		BS 5163 ANSI /AWWA C 509		N° of turns
				L	kg	L	kg	L	kg	
40	150	181	256.00	140	6.500	240	8.000	168	7.000	10.0
50	165	202	284.50	150	8.000	250	9.000	178	8.000	14.0
65	185	270	362.50	170	14.50	270	16.00	190	14.70	12.0
80	200	304	404.00	180	18.00	280	20.00	203	29.00	14.5
100	220	360	470.00	190	23.00	300	25.00	229	24.50	21.5
125	250	399	524.00	200	29.00	325	27.00	254	30.00	23.0
150	285	458	600.50	210	38.00	350	44.00	267	39.00	28.0
200	340	551	721.00	230	64.00	400	72.00	292	66.00	35.0
250	400	662	862.00	250	111.0	450	124.0	330	116.0	40.0
300	455	750	977.50	270	155.0	500	168.0	356	165.0	46.0
350	505	820	1072.5	290	176.0	550	192.0	381	185.0	46.0
400	565	950	1212.5	310	286.0	600	346.0	406	301.0	55.0

**N.B.** The dimension of the series NP 25 are conforming to the standards ISO 5752 Basic serie 15

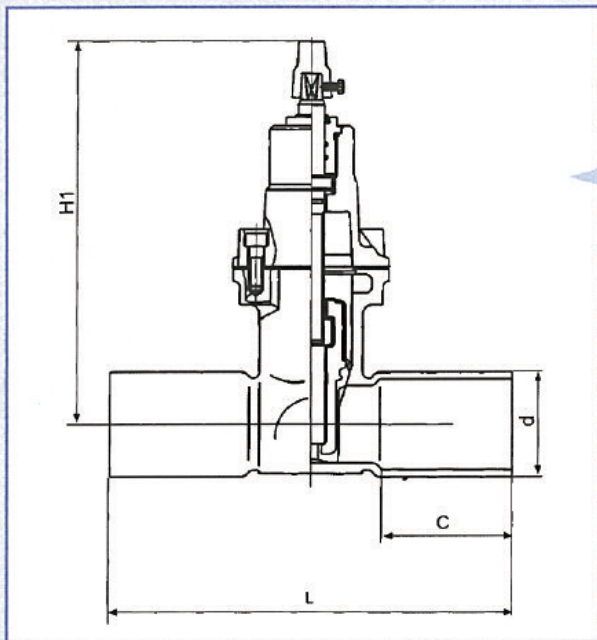


# GATE VALVES



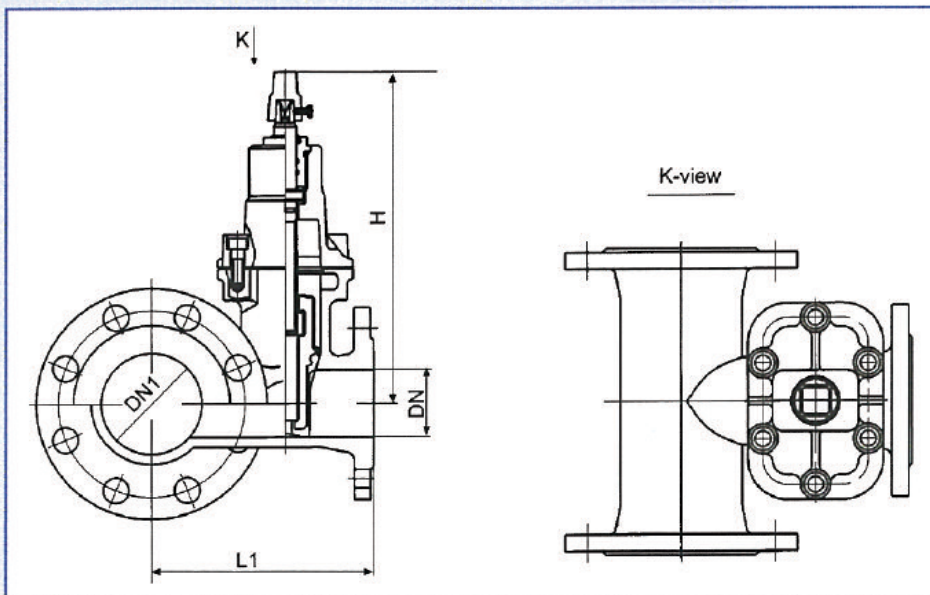
ND	d	c	L	H1
<b>50/63</b>	63,8	90	335	262
<b>65/75</b>	75,8	110	335	296
<b>80/90</b>	90,9	120	335	323
<b>100/110</b>	111	130	335	359
<b>150/160</b>	161,2	150	405	460
<b>200/225</b>	201,4	170	450	567
<b>250/280</b>	251,7	180	500	768
<b>300/315</b>	317	210	550	953

The socket ends are conforming to the standards ISO 2531, DIN 8062, BS 4346 e SABS 664



ND	d	c	L	H1
<b>50</b>	40.1	80	130	162
<b>65/75</b>	54.6	125.4	200	289
<b>80/90</b>	71.2	167	280	408
<b>100/110</b>	92.1	209.8	408.6	652
<b>150/160</b>	179	328.6	609.2	1079.3
<b>200/225</b>	342	596.3	1102	1796.5
<b>250/280</b>	505	948	1840.6	3297
<b>300/315</b>	658	1597.5	2898	5400

The spigot ends are conforming to the standards ISO 2531, EN 545, EN 598 e SABS 664

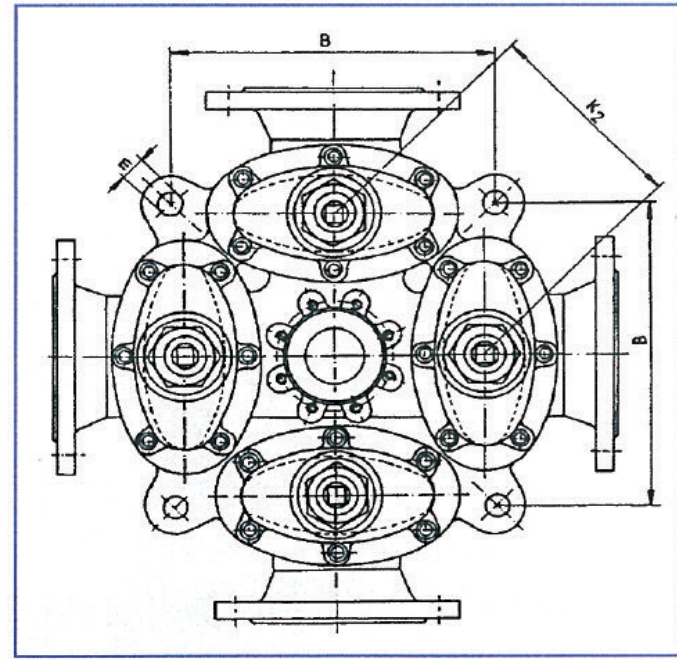
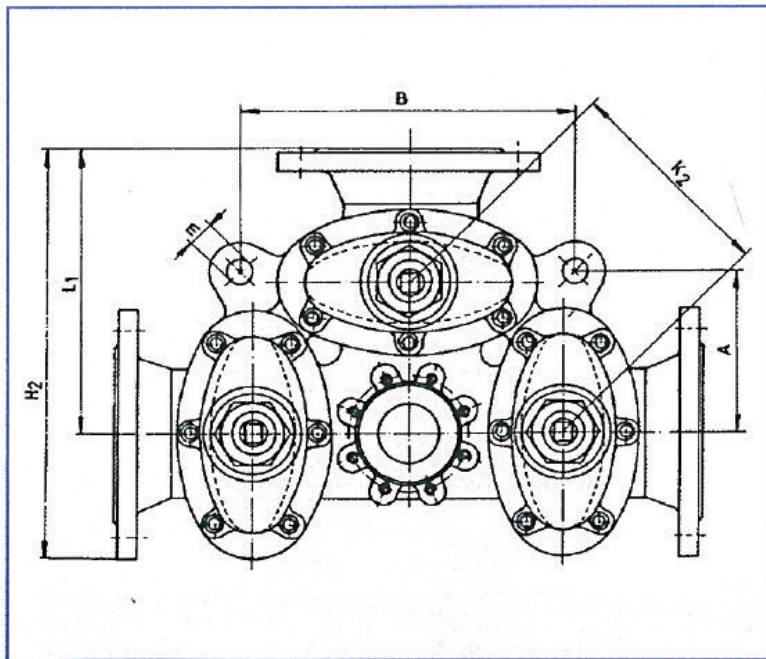
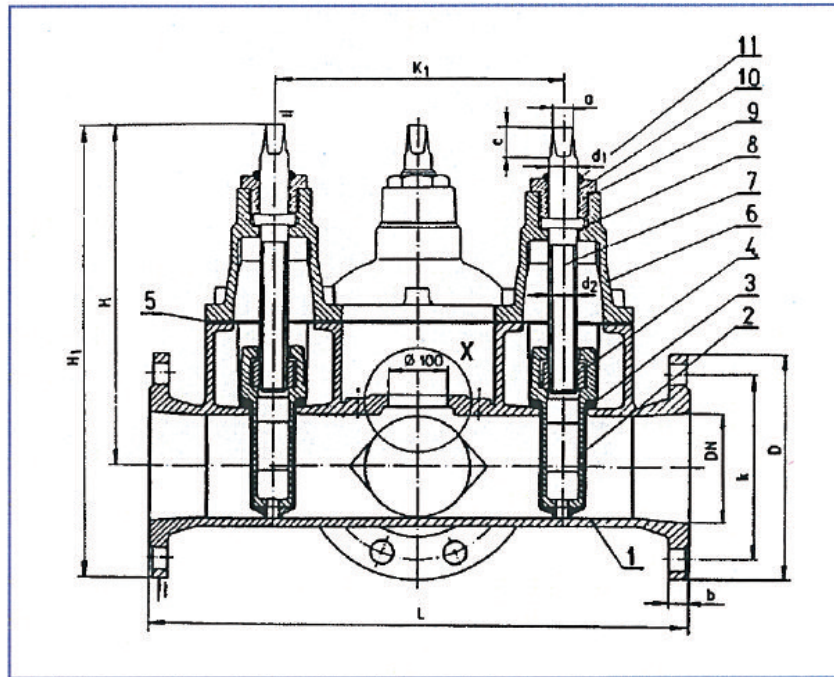


ND1	L1	H	ND
<b>80</b>	165	386	80
<b>100</b>	175	386	80
	180	420	100
<b>150</b>	205	420	100
	220	513	150
<b>200</b>	225	386	80
	230	420	100
	245	513	150
	250	617	200



# GATE VALVES

## COMBINED MULTI END VALVES NP 10/16



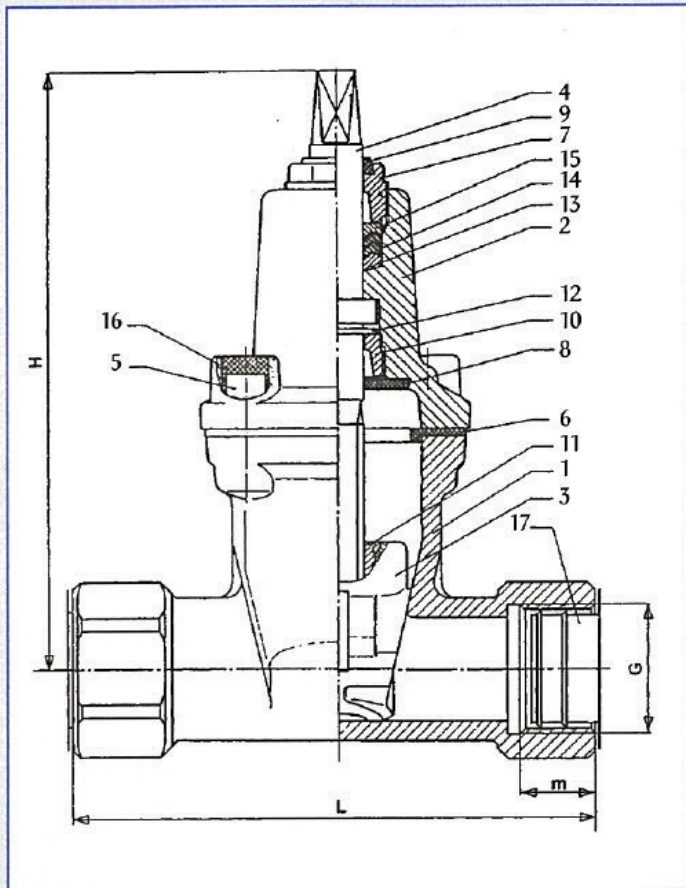
### DIMENSIONS

ND	L	B	H	H1	K1	K2	m	D	b	2	3	4
100	455	255	336	446	240	170	27	220	19	102	106	110
150	630	360	440	583	372	263	32	285	19	168	177	186
200	695	420	500	670	400	283	32	340	20	200	215	230

**N.B.** Diameter over 200 mm. are only available as central block with coupled spigot end valve.



## GATE VALVES WITH THREADED ENDS NP 10/16



### MATERIALS

	ISO Standards	BS Standards
1. Body	GS 400/500 ISO 1083	2789-61 Grade SNC 24/17
2. Bonnet	GS 400/500 ISO 1083	2789-61 Grade SNC 24/17
3. Wedge	GS 400/500 ISO 1083 completely coated with EPDM o NBR EN 681.1	2789-61 Grade SNC 24/17 completely coated with EPDM o NBR
4. Stem	Stainless steel EN 14028	420 - S 29
5. Bolts	Zinc coated sted 8.8 ISO 898-1	970: 1955 EN 2
6. Sealing	Brass EN 6509 CuZn 37	2874: 62 CZ 108
7. Ring	Brass EN 6509 CuZn 37	2874:62 CZ 108
8. Jacket	NBR EN 681.1	NBR
9. Dust-prot.	NBR EN 681.1	NBR
10. Bushing	Brass EN 6509 Cu Zn 37	2874: 62 CZ 108
11. Nutscrew	Brass EN 6509 Cu Zn 37	2874: 62 CZ 108
12. Washer	Polyamide PA 6	Poliamide PA 6
13. Washer	Polyamide PA 6	Poliamide PA 6
14. O-Ring	NBR EN 681.1	NBR
15. Tap	Polyethylene PE	Polyethylene PE

### DIMENSION

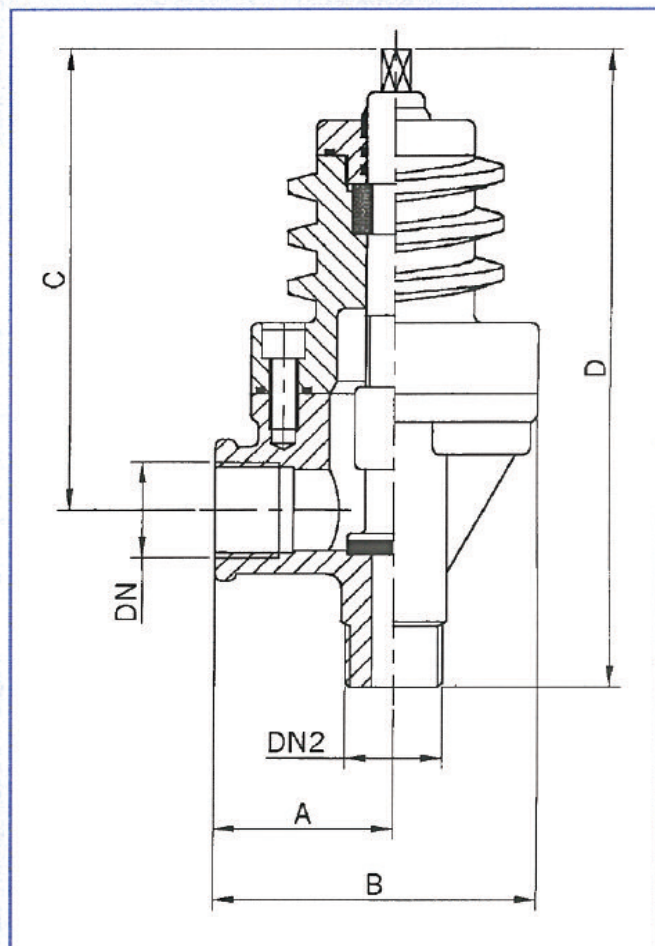
ND	G	l	m	H
15	1/2	85	13	155
20	3/4	95	15	157
25	1	105	19	160
32	1 1/4	120	24	163
40	1 1/2	130	29	205
50	2	150	39	219



## RESILIENT TAPPING VALVES NP 10/16

### MATERIALS

	ISO Standards	BS Standards
Body	GS 400/500 ISO 1083	2789-61 Grade SNC 24/17
Bonnet	GS 400/500 ISO 1083	2789-61 Grade SNC 24/17
Wedge	GS 400/500 ISO 1083	2789-61 Grade SNC 24/17
	Ottone EN 6509 Cu Zn 37	2874:62 CZ 108
Stem	Stainless steel EN 14028	420 - S 29
Sealing	NBR EN 681.1	NBR
Dust-prot.	NBR EN 681.1	NBR
Ring	Brass EN 6509 Cu Zn 37	2874: 62 CZ 108
O-Ring	NBR EN 681.1	NBR
Bolts	Zinc-coated steel 8.8 ISO 898-1	970: 1955 EN 2



DN		DN2	DIMENSION mm				WEIGHT
mm	INCHES	INCHES	A	B	C	D	kg
20	3/4	1 1/4	48	95	176	240	2,80
25	1	1 1/4	48	95	176	240	2,80
32	1 1/4	1 1/4	48	95	176	240	2,80
32	1 1/4	2	60	118	210	304	5,00
40	1 1/2	2	60	118	210	304	5,00
50	2	2	60	118	210	304	4,90





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