



Fucoli Somepal
FUNDIÇÃO DE FERRO, S. A.

DESDE
SINCE 1946

OPERATION MANUAL



GATE VALVE with METAL/METAL sealing

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1. DESCRIPTION

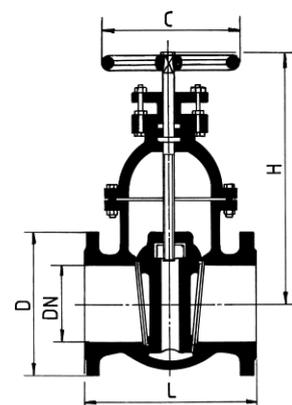
1.1 Description of function

The GATE VALVE with Metal / Metal sealing, is full bore corresponding to the nominal diameter being for flow isolation and flow regulation due they robust conception. That may be used in any flow direction and construction are according to the standard EN 1171.

1.2 Dimensional

The flanges are according to DIN EN 1092-2 and distance between them are Series 15 according to EN 558.

The dimensions are according to the Table 1 above.



picture 1

**Table 1 – Gate Valve with Metal/Metal sealing
Technical data sheet 04.500**

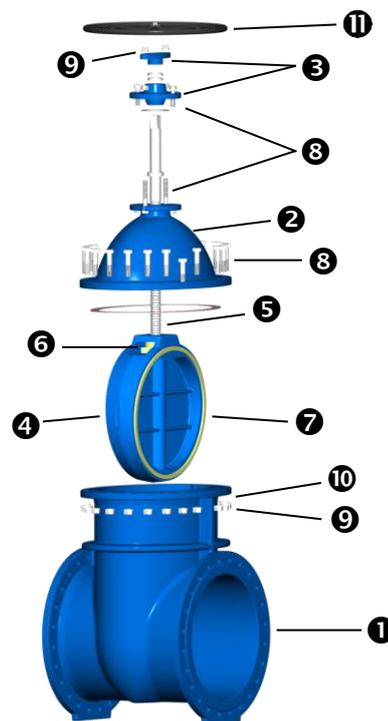
DN	D PN10	D PN16	D PN25	D PN40	L	H	C
40	150	150	150	150	240	295	150
50	165	165	165	165	250	295	150
60	175	175	175	175	270	365	250
65	185	185	185	185	270	365	250
80	200	200	200	200	280	385	300
100	220	220	235	235	300	420	300
125	250	250	270	270	325	500	300
150	285	285	300	300	350	540	300
200	340	340	360	375	400	650	400
250	400	400	425	450	450	785	500
300	455	455	485	515	500	850	500
350	505	520	555	580	550	970	600
400	565	580	620	660	600	1130	800
450	615	640	670	685	650	1160	800
500	670	715	730	755	700	1240	800
600	780	840	845	890	800	1420	1200
700	895	910	960	-	900	1610	1200

1.3 Materials

All materials and their standards used on the Gate Valves Metal/Metal sealing, are mentioned on Table 2 and picture 2.

Table 2 – Materials

item	component	material	standard
❶	body	ductile iron (EN-GJS-500-7)	DIN EN 1563
❷	bonnet	ductile iron (EN-GJS-500-7)	DIN EN 1563
❸	gland and gland box	ductile iron (EN-GJS-500-7)	DIN EN 1563
❹	gate	ductile iron (EN-GJS-500-7)	DIN EN 1563
❺	stem	stainless steel AISI 420 (X20 Cr13) with rolled thread	EN 10088-1
❻	stem nut	bronze CuSn7Zn4Pb7 (Rg7)	DIN EN 1982
❼	body seat gate seat	bronze CuSn7Zn4Pb7 (Rg7)	DIN EN 1982
❽	bolts	steel zinc plated cl. 8.8 yellow passivated	ISO 898-1
❾	nuts	steel zinc plated cl. 8.8 yellow passivated	ISO 898-2
❿	washers	steel zinc plated yellow passivated	ISO 898-2
⓫	handwheel	printed steel ST W24 or ductile iron (EN-GJS-500-7)	DIN 10305-3 DIN EN 1563
	coating (inside and outside)	epoxy paint potable RAL 5005 applied electrostatically with thickness $\geq 250 \mu\text{m}$	DIN 30677



picture 2

1.4 Pressure tests

All the valves, without exception, are individually tested at factory, according to standard EN 1074-2 and EN 12266-1.

hydraulic pressure test (bar)		
PN	sealing	body
10	11	15
16	18	24
25	28	38
40	44	59
Class of leakage – degree A according to standard EN12266-1		

1.5 Working temperature

maximum working temperature
up to 70°C

1.6 Homologations of Materials

The valve has the following homologation

Approvals	Entity
COATING (Approved for drinking water)	BRL – K759 (Netherlands)
	BS6920 – 1 (United Kingdom)
	ACS (France)
ELASTOMERS	WITH CE MARKING, homologated according to EN 681-1 standard
	DVGW – W270 (Germany)

Approval of materials

2. POTENTIAL RISK IDENTIFICATION

There were not identified any potential use risks during its development. Its commercialization and after-sales service is not associated or realize any assembly or operational risks.

3. HANDLING

The valve can be operated by manual handwheel, with manual gearbox or by electric actuator and its handling should be performed by qualified persons for the purpose.



Gate Valve Metal/Metal sealing
with handwheel



Gate Valve Metal/Metal sealing
with manual gearbox



Gate Valve Metal/Metal sealing
with Electric Actuator

As standard this valve is provided with clockwise closing direction. By Customer request can be supplied with counter clockwise closing direction.

4. INSTALATION INSTRUCTIONS

Remove all packing material from the valve. Prior to the valve installation examine the pipeline for debris, impurities and foreign matter. Clean it if it's necessary.

This can be used in any flow direction.

It is important that all around the valve there is free access for operation and maintenance.

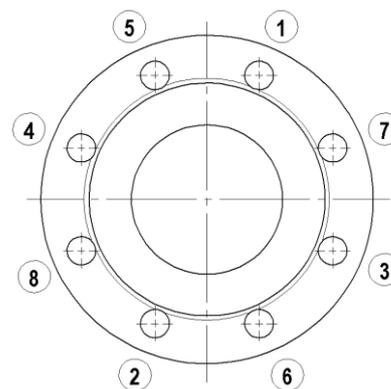
During installation of the valve, the distance between the pipe flanges should exceed the valve face-to-face dimension by at least 20 mm in order to the raised faces not be damaged and the gaskets can be inserted.

The flanges of the pipe must be plain-parallel and concentric.

Tighten the connecting bolts evenly, without distortion and crosswise, must be respect the tighten torque like as listed on Table 4 and order of the tightening like as showed on picture 3.

Table 4- Tightening torque of Bolts

DN	Bolts		Flanged Torque (máx.)	
	PN 25	PN 40	PN 25	PN 40
40	M16		80Nm	150Nm
50				
60				
65				
80				
100	M20		120Nm	200Nm
125	M24	M24	200Nm	320Nm
150		M27		400Nm
200	M27	M30	260Nm	470Nm
250				
300	M30	M33	290Nm	520Nm
350				
400	M33	M36	390Nm	750Nm
450				
500		M39		950Nm
600	M36	M45	520Nm	1200Nm
700	M39		700Nm	



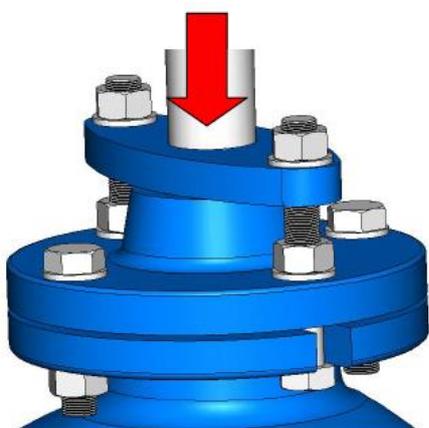
picture 3

5. MAINTENANCE

In the gasket sealing systems is usual to have to make a new tight, when the valve begin to be used and/or after several utilizations. Usually after the initial tuning the gasket fix and stabilize ensuring the sealing for a long period of time.

To assure and improve the gate valve function duration, it is recommended to verify, at least once a year, the top sealing and if necessary make the following maintenance procedure:

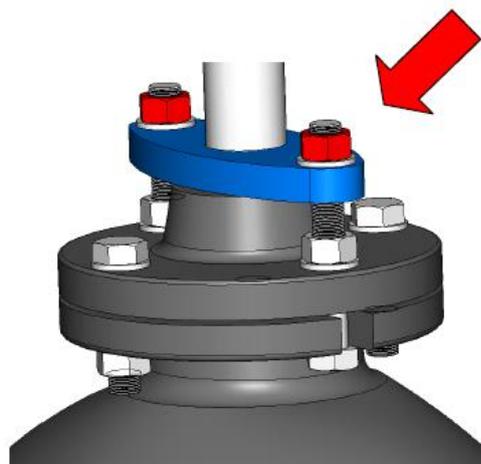
It could occasional occur a leak between the shaft and the gland (picture 4).



picture 4

The Gate Valve Metal/Metal sealing is composed with a gland which function is the leaks elimination, according to the nuts scrape.(picture 5).

This procedure could be repeated over the years.



picture 5