



GALLI & CASSINA
Plug Valves
SINCE 1919

**PTFE
SLEEVED**



**PLUG
VALVES
3S-SERIES**



Quality Assurance Programme

CE CERTIFICATE OF CONFORMITY

Directive 97/23/EC
UK Statutory Instrument 1999 No. 2001 and 2002

This is to certify that the Quality Management System of:

Galli & Cassina S.p.A.
Solaro (MI)
Italy

has been assessed against the requirements of Annex II, Module H of the Pressure Equipment Directive 97/23/EC, and Schedule 4, Module H of the Pressure Equipment Regulations 1999 and conforms to the requirements for the products shown below:

Design and manufacturing of manual and actuated plug valves (straight three way and four way) in carbon, alloy and special alloy from 1 1/4" to 30" DN 32 to DN 750) class rating up to 600lb (up to PN 100), from 1 1/4" to 24" (DN 32 to DN 600) class rating up to 1500lb (up to PN 250), from 1 1/4" to 12" (DN 32 to DN 300) class rating up to 2500lb (up to PN 420), from 2" to 10" class rating up to API 10000.

Approval is subject to the continued maintenance of the quality system in accordance with requirements of the above Directive and Regulations.

Authorisation is hereby given to use the LRV Notified Body Identification Number in accordance with the requirements of the specified Directive and Regulations in relation to the products shown above.

Certificate No: COV 0212158/01
Original Approval: 27th June 2002
Current Certificate: 15th September 2008
Certificate Expiry: 03rd July 2011
LRV Notified Body Number 0038

G. Agorano on behalf of Lloyd's Register UK

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that the Quality Management System of:

Galli & Cassina S.p.A.
Via Drizza, 30/32
Solaro - Milano, Italy

has been approved by Lloyd's Register Quality Assurance to the following Quality Management System Standards:

ISO 9001:2000
EN ISO 9001:2000
UNI EN ISO 9001:2000

The Quality Management System is applicable to:

Design, manufacturing and stockholding of plug valves, including after sales services, in carbon, alloy and special alloy from 1 1/4" to 32" (DN 32 to DN 800) class rating up to 2500 lbs (up to PN 420), from 2" to 10" class rating up to API 10000, sight glasses and gear boxes. The Quality Management System supports the requirements of Annex I sect. 4.3. of Directive 97/23/EC.

Approval Certificate No: LRC 131183

Original Approval: 23rd December 2003

Current Certificate: 4th January 2007

Certificate Expiry: 23rd December 2009

Issued by: Lloyd's Register Quality Assurance Italy S.r.l.



Certificate of Authority to use the Official API Monogram

License Number: 6D-0049.1

ORIGINAL

The American Petroleum Institute hereby grants to
GALLI & CASSINA S.P.A.
Via Drizza, 30/32
Solaro, Milano
Italy

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled **API Spec Q1®** and **API Spec 6D** and in accordance with the provisions of the License Agreement.

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The scope of this license includes the following product: **Plug Valves**

QMS Exclusions: No Exclusions Identified as Applicable

American Petroleum Institute
John S. Madine
Director of Certification Programs

to use the Official API Monogram

GALLI & CASSINA S.P.A.
Via Drizza, 30/32
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American Petroleum Institute
John S. Madine
Director of Certification Programs



American Petroleum Institute





GALLI&CASSINA Profile

Galli&Cassina is a prominent Italian Company mainly involved in the manufacture of a complete range of lubricated and non lubricated Plug Valves. It is located in Solaro near to Milano, with extensive offices and workshop covering 12000 sq. mt. area including 4500 sq. mt. of covered space. Since its foundation in 1919, Galli&Cassina has been taking part to the safety increase in refineries, chemical plants and gas pipelines all over the world, building its reputation on high quality workmanship as well on the reliability of its products.

Quality Assurance System.

After 80 years of manufacturing experience and latest technology machinery, the Galli&Cassina's Quality Assurance System has been assessed, approved and certified against the following quality assurance standards: ISO 9001 and API-Q1. Rigorous procedures and internal audits guarantee that the quality system is implemented at all stages, starting from incoming raw materials, production, final tests and up to the final delivery.

Standard Inspection and Test.

All components are subjected to a strict control, chemical analysis, mechanical properties. All NDT tests (RT, MT, PT, UT) can be carried out by internal and/or external laboratory. Each valve is hydraulically and pneumatically tested and completed with a final test book (material and test certificates). Standard or special tests witnessed by third party or qualified inspection agency can be carried out according to customer's requirements.

Customer Service.

Galli&Cassina's customer Service is always willing to assist the customer with a prompt response to "service" requests. Full after sales services assistance can be offered either at our workshop or by supplying parts in a timely and efficient manner.





Patterns

Galli&Cassina plug valves are available in four different patterns. The pattern indicated basic information about the valve in terms of end dimension (according to API 6D, BS 5353, ANSI B16.10 and DIN 3202/F1) & the size of the flow port through the valve.

Short Pattern

Short Pattern Plug Valves have compact face to face dimensions (like a Gate Valve) and port areas of 40% to 50% of a Full Bore plug valve.
This provides an economical valve for services where some reduction of flow rates can be tolerated.
The Short Pattern is only in classes 150 and 300.

Regular Pattern

Regular Pattern Plug Valves have longer face to face dimensions and port areas of 50%.
This configuration provides minimal loss of flow while economising on the overall valve dimensions from using a rectangular port.
The Regular Pattern are in classes 600 and 900.

Applicable Standard-Specification

Plug Valves are designed to use with most refining services according to API 599 or BS 5353 norms whichever is applicable. API 6D norm aims to standardize the materials as well as instructions to manufacture valves suitable for energy transportation in the pipelines.

API 6D	Specification for Pipeline Valves.	BS 2080	Face to Face - Centre to Face - End to End - Steel Valves.
API 607	Specification for Fire Test soft seat valves.	BS 5353	Specification for Steel Plug Valves.
API RP6F	Recommended - Practice for Fire Test for valves.	BS 6755 part 1	Testing of Valves (Spec. for Production Pressure Testing Requirements).
API 598	Valve Inspection and Testing.	BS 6755 part 2	Testing of Valves (Spec. for Fire Safe Testing Requirements).
API 599	Steel Plug Valves Flanged or Butt Welding Ends.	CSA Z 245. 15	Canadian Standard Association.
ASME/ANSI B 16.5	Pipe Flanges and Flanged Fittings.	MSS-SP6	Standard Finish for contact Face of Pipe Flanges.
ASME/ANSI B 16.10	Face-to-Face and End-to-End Dimensions of Valves.	MSS-SP25	Standard Marking System for Valves.
ASME/ANSI B 16.25	Buttwelding Ends.	MSS-SP44	Steel Pipe Line Flanges.
ASME/ANSI B 16.34	Valves-Flanged, threaded and Welding Ends.	MSS-SP53	Quality Standard for Steel Casting-Magnetic Particle Examination Method.
ASME/ANSI B 31.3	Chemical Plant and Petroleum Refinery Piping.	MSS-SP54	Quality Standard for Steel Casting-Radiographic Examination Method.
ASME/ANSI B 31.4	Liquid Transportation System for Liquid Petroleum Gas.	MSS-SP55	Quality Standard for Steel Casting Visual Method.
ASME/ANSI B 31.8	Gas Transmission and Distribution Piping System.	MSS-SP61	Pressure Testing of Steel Valves.
ASME	Boiler and Pressure Vessel Section VIII - DIV. 1 & 2.	NACE Std. MR 01.75 Latest Edition	National Association of Corrosion Engineers.
ASME	Boiler and Pressure Vessel Section V.	ASTM	American Society for Testing and Materials.
ASNT-TC-1A	Recommended Practice for Personnel Qualification and Certification in Non destructive Testing.		



PTFE Sleeved Plug Valve Two Way

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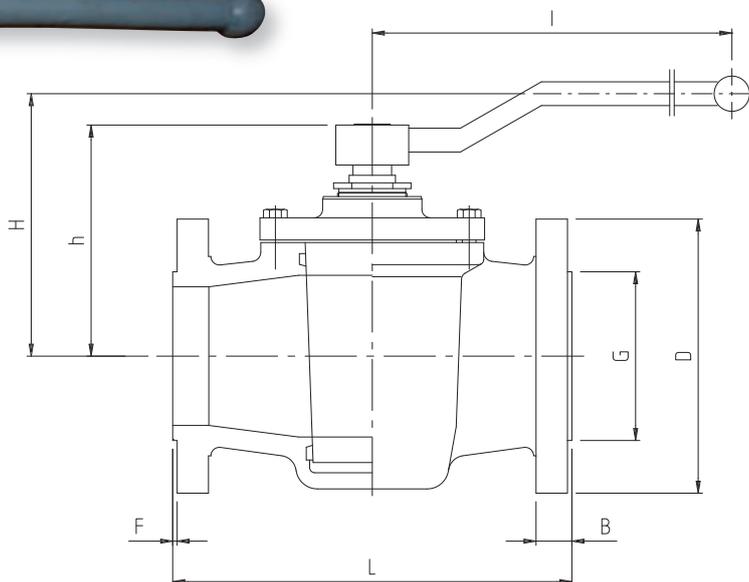
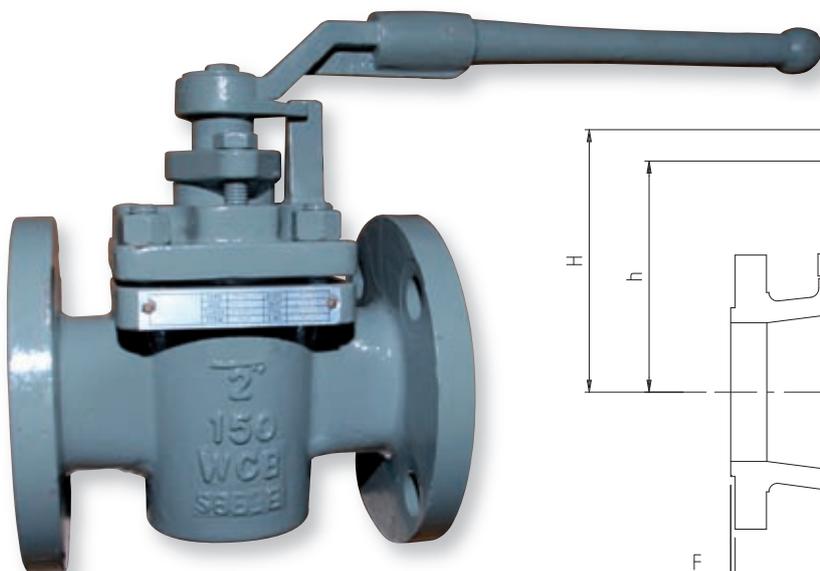
WARNING

PTFE (TFE) as used for seats and seals in these valves gives off toxic fumes when incinerated.

We have endeavoured in this catalogue to make the information as accurate as possible, but we cannot accept any responsibility should it be found that in any respect the information is inaccurate or incomplete or becomes so as a result of further developments-



Main parts materials



No.	Part name	Material
1	Body	ASTM A216 WCB – ASTM A351 - CF8, CF8M, CF3, CF3M
2	Sleeve	PTFE
3	Plug	ASTM A217 - WC1, WC6, WC9, C5 – ASTM A351 - CF8, CF8M, CF3, CF3M
4	Gasket	Flexible graphite + stainless steel, PTFE
5	Cover	ASTM A216-WCB – ASTM A351 - CF8, CF8M, CF3, CF3M
6	Adjusting bolt	ASTM A193-B7, A193-B8, A193-B8M
7	Nut	ASTM A194-2H, A194-8, A194-8M
8	Bolt	ASTM A193-B7, A193-B8, A193-B8M
9	Wrench	ASTM A216-WCB



Introduction

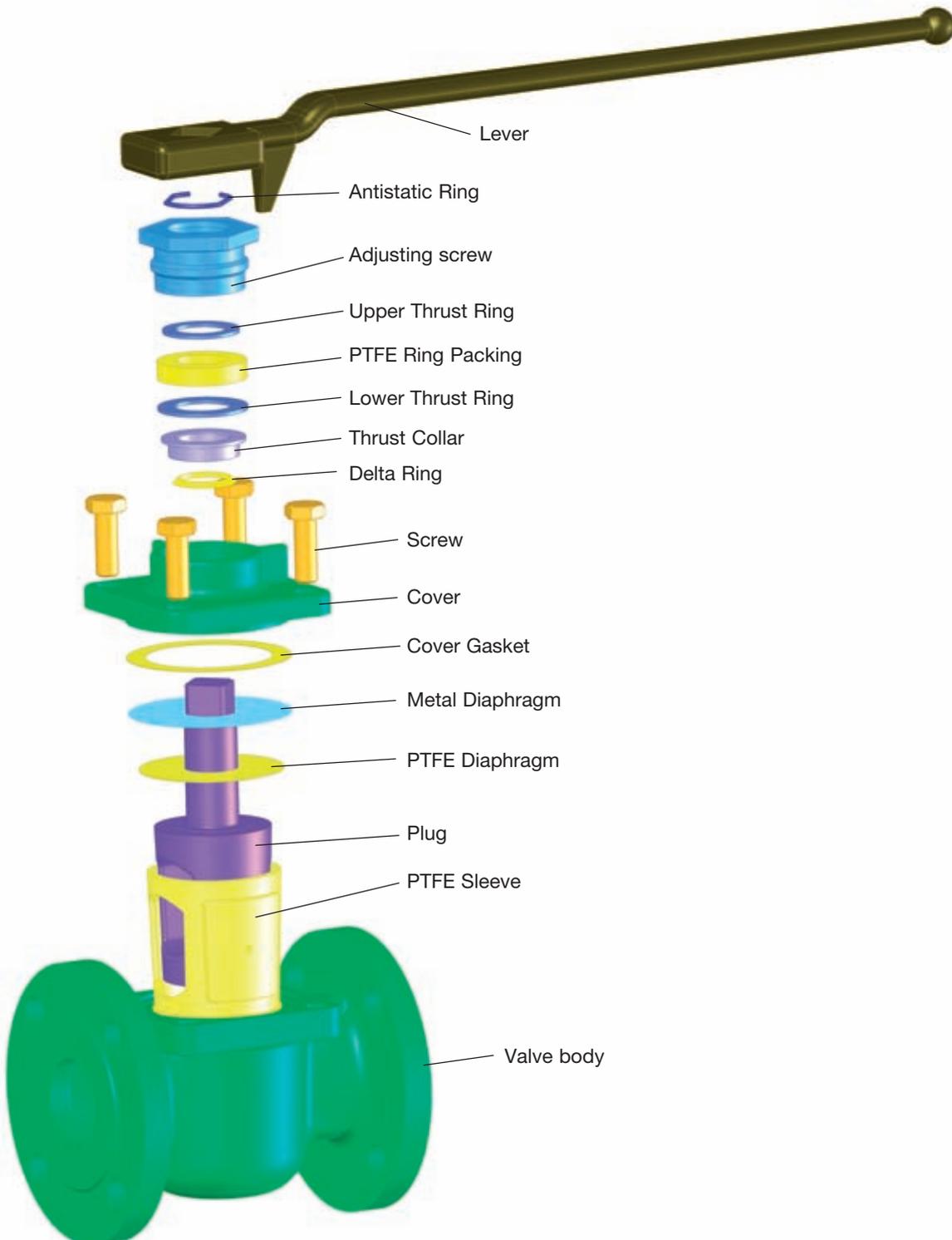
A high standard of performance is achieved by intimate contact between plug and the firmly fixed PTFE sleeve in the body and by separate atmospheric seals.

Design Features

Body design

The PTFE sleeve serves as the seat for the valve plug thus eliminating contact of two metal surfaces. Turning effort is low and galling is avoided. The design also permits the use of any body/plug material combination. Positive shut-off is ensured and the valves are free from regular maintenance.

PTFE has a natural tendency to flow under temperature and pressure. In the G&C valve PTFE flow is prevented by containment lips cast around the body ports. These lips also prevent rotation of the sleeve during valve operation.





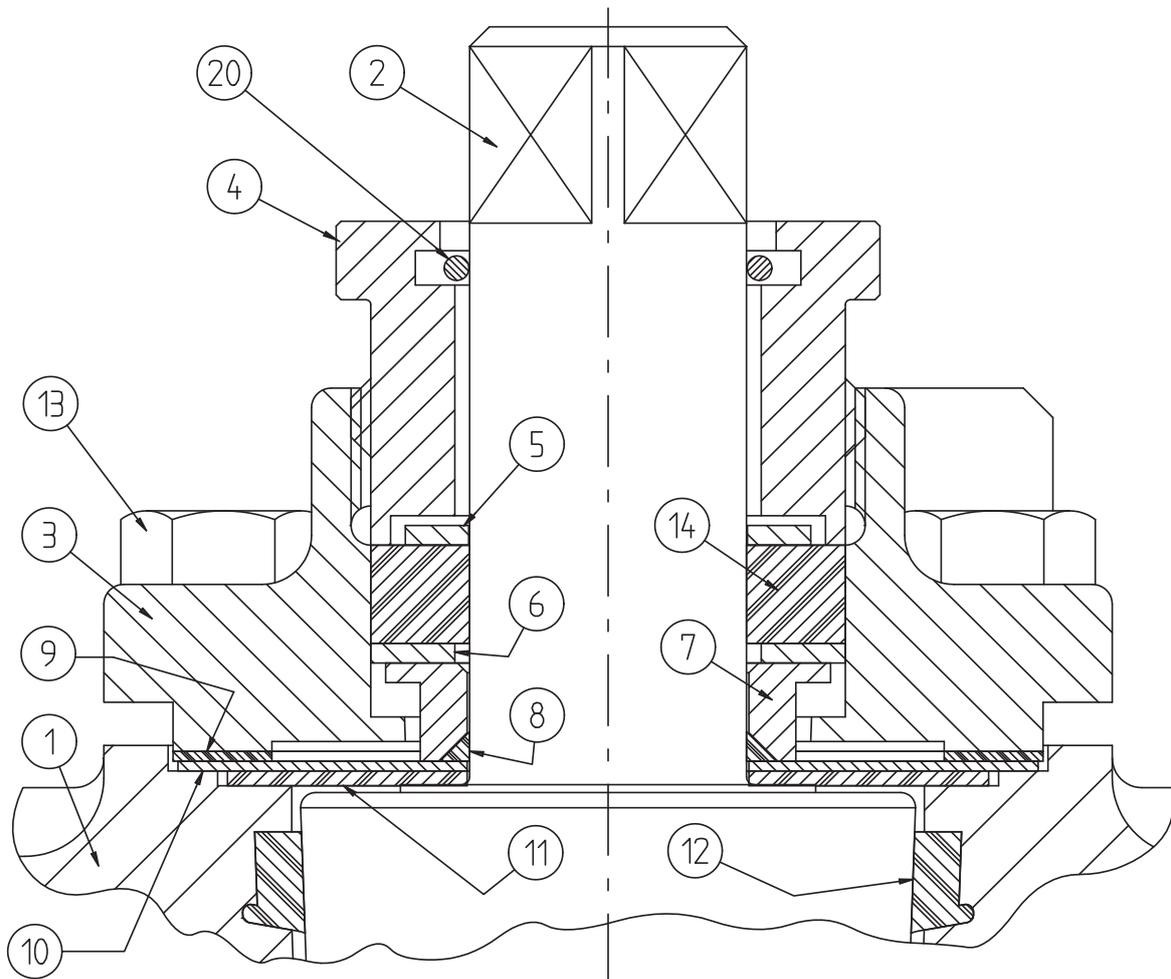
Sealing to atmosphere

The primary seal to atmosphere in the G&C valve is the PTFE seat. When valves have been installed for a considerable time on a difficult service it can be a problem to achieve a 100% seal on the seat due to wear. The sealing qualities of the G&C valve are such that in these conditions the valve will continue to seal to atmosphere.

Sealing of the cover flange is by means of a PTFE diaphragm which is protected by a metal diaphragm. Between the cover and metal diaphragm is a further PTFE ring. A Delta ring prevents leakage through the stem.

In addition to these the G&C valve has a special feature which ensures total sealing to atmosphere even if the sleeve is badly damaged. In the event of a badly damaged sleeve, experience has shown that the plug has insufficient resistance to compress the packing.

It is possible to adjust the taper plug uniformly and at the same time compress the PTFE filament packing which is held between two thrust rings. By tightening the adjusting screw, a shoulder on the thrust ring is pulled down against a lip in the cover, thus allowing the packing to be compressed. Even under such severe conditions the G&C valve gives total sealing to atmosphere.



- | | |
|---------------------|---------------------|
| 1 Body | 9 PTFE Cover Gasket |
| 2 Plug | 10 Metal Diaphragm |
| 3 Cover | 11 PTFE Diaphragm |
| 4 Adjusting Screw | 12 PTFE Sleeve |
| 5 Upper Thrust Ring | 13 Cover Screw |
| 6 Lower Thrust Ring | 14 Packing Ring |
| 7 Thrust Collar | 20 Antistatic Ring |
| 8 Delta Ring | |



Special Valve Requirements

Firesafety

G&C sleeved plug valves can be supplied fire safe designed in accordance with API 607.

Anti-static

A build-up of static electricity around the plug can be caused by either current in the line or by the plug rubbing against the PTFE sleeve.

When an anti-static version is required, a ring is inserted into a groove in the adjusting screw which creates an electrical contact between the plug and the body.

Purge connections

Bodies of G&C valves can be supplied with one or two purge connections, so that the inside of the valves can be cleaned when required.

Cavity Relief

G&C valves can be supplied with a relief hole or slot in the plug. This is required when the valves are handling services which cause a pressure build up or polymerisation when the valve is in the closed position.

Testing

Body and Seat Test

G&C valves are pressure tested at the factory. Tests are in accordance with API Standard 6D, API 598 and DIN 3230. Test pressure is 1.5 times valve maximum working pressure. Test certificates are available on request.

Material Test

Material certificates are available on request.

Material Specifications

	B.S.	American	DIN
Carbon steel	1504-161 Gr. 480A	A216 Gr. WCB - WCC - A352 LCC	GS-C 25 DIN 17245
Stainless steel	B 1632 Gr. B	ASTM A351 Gr. CF8M	GX 6 CrNiMo 18.10 DIN 17445 Werkstoff-Nr. 1.4408

Other materials available include: Hastelloy B or C
Monel
Alloy 20



How to Order

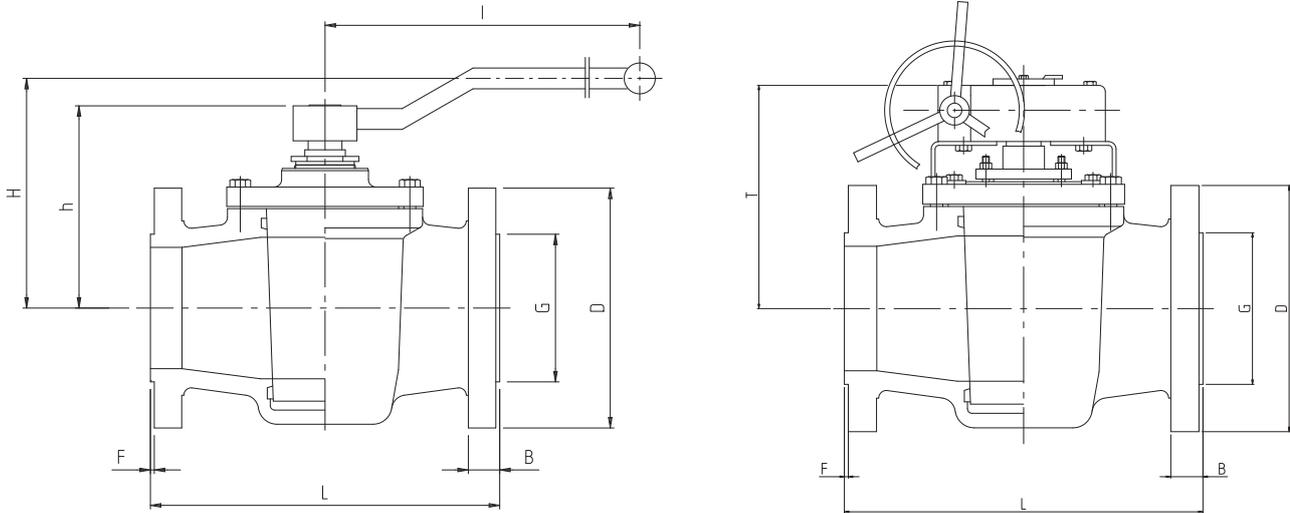
G&C valves have a five digit Figure Number for your particular requirements. When ordering threeway valves please specify port arrangement as detailed on page 14.

		1	2	3	4	5
1 Face to face	Screwed valve	SA				
	Flanged DIN	SB				
	Flanged Jacketed DIN	SC				
	Flanged ANSI 150	SD				
	Flanged Jacketed ANSI 150	SE				
	Flanged ANSI 300	SF				
	Flanged Jacketed ANSI 300	SG				
	Flanged ANSI 600	SH				
	Flanged ANSI 900	SL				
2 Ports	Twoway		5			
	Threeway		6			
	Fourway		7			
	Twoway (with oversize flanges)		8			
	Three (with oversize flanges)		9			
3 Operation	Wrench			A		
	Gear			B		
	Pneumatic Actuator			C		
	Electric Actuator			D		
	Special operation			E		
	Bare Stem			F		
4 Body/Plug materials	Body					
	Stainless Steel	Plug	Stainless Steel		1	
	Carbon Steel	Stainless Steel			2	
	Carbon Steel	Monel			3	
	Special materials				4	
5 End connections	Butt welded ends					A
	Flanges PN16					B
	Flanges PN25					C
	Flanges PN40					D
	Flanges ANSI 150					F
	Flanges ANSI 300					G
	Flanges ANSI 600					H
	Flanges ANSI 900					I
	Socket welding ends					L

Example: Flanged ANSI 150, Two way DN 2", Wrench operated valve with carbon steel body and Stainless Steel plug, SD5A2F



ANSI Class 150 (PN20)



The face-to-face dimensions of these valves conform with ISO DIS 5752 (Short) and ANSI B16.10 Class 150.

WRENCH OPERATED

DN	Size in	Rating	L	D	B	H	h	F	G	I	Weight (kg)
15	1/2	ANSI 150	108	89	10	110	100	1.6	35	260	2.2
20	3/4		117	98	10	115	105	1.6	43	260	2.7
25	1		127	108	11	115	105	1.6	51	260	3.2
40	1 1/2		165	127	14	140	130	1.6	73	360	5.5
50	2		178	152	16	150	140	1.6	92	450	8.5
80	3		203	191	19	180	170	1.6	127	450	12.5

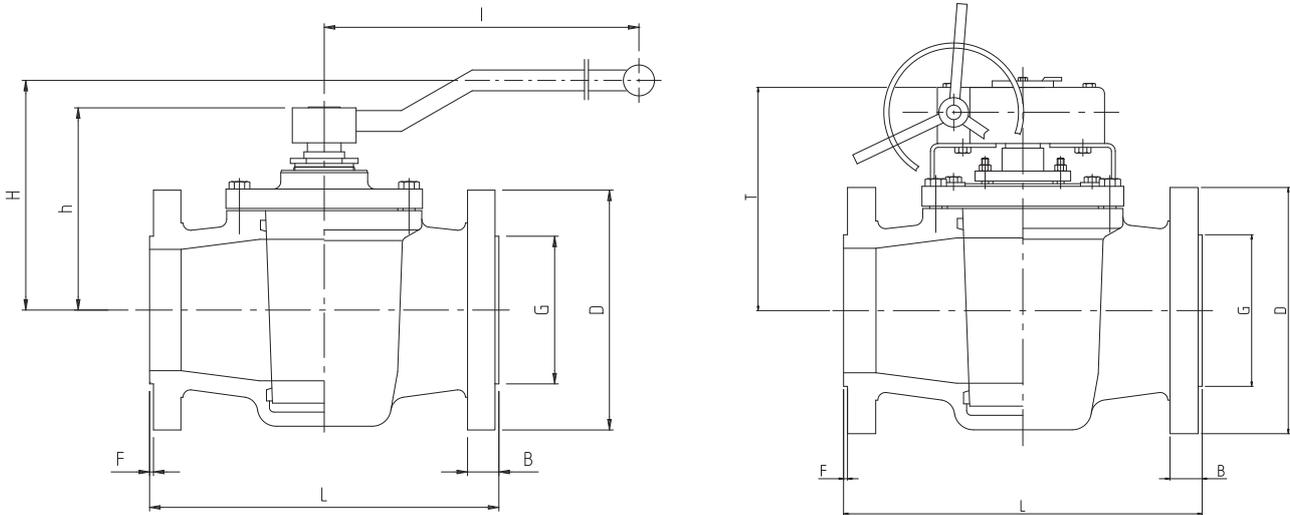
GEAR OPERATED

DN	Size in	Rating	L	D	B	F	G	T	Weight (kg)
100	4	ANSI 150	229	229	24	1.6	157	380	25.0
150	6		267	279	26	1.6	216	520	56.0
200	8		292	343	29	1.6	270	580	81.6
250	10		330	406	30	1.6	324	620	115.0
300	12		356	483	32	1.6	381	680	175.0

For ordering purposes complete the figure number by referring to page 8



ANSI Class 300 (PN50)



The face-to-face dimensions of these valves conform with ISO DIS 5752 (Short) and ANSI B16.10 Class 300.

WRENCH OPERATED

DN	Size in	Rating	L	D	B	H	h	F	G	I	Weight (kg)
15	1/2	ANSI 300	140	95	14	110	100	1.6	35	260	3.0
20	3/4		152	118	16	115	105	1.6	43	260	4.0
25	1		165	124	18	115	105	1.6	51	260	5.5
40	1 1/2		190	156	21	140	130	1.6	73	360	7.5
50	2		216	165	22	150	140	1.6	92	450	13.0
80	3		283	210	29	180	170	1.6	127	450	22.0

GEAR OPERATED

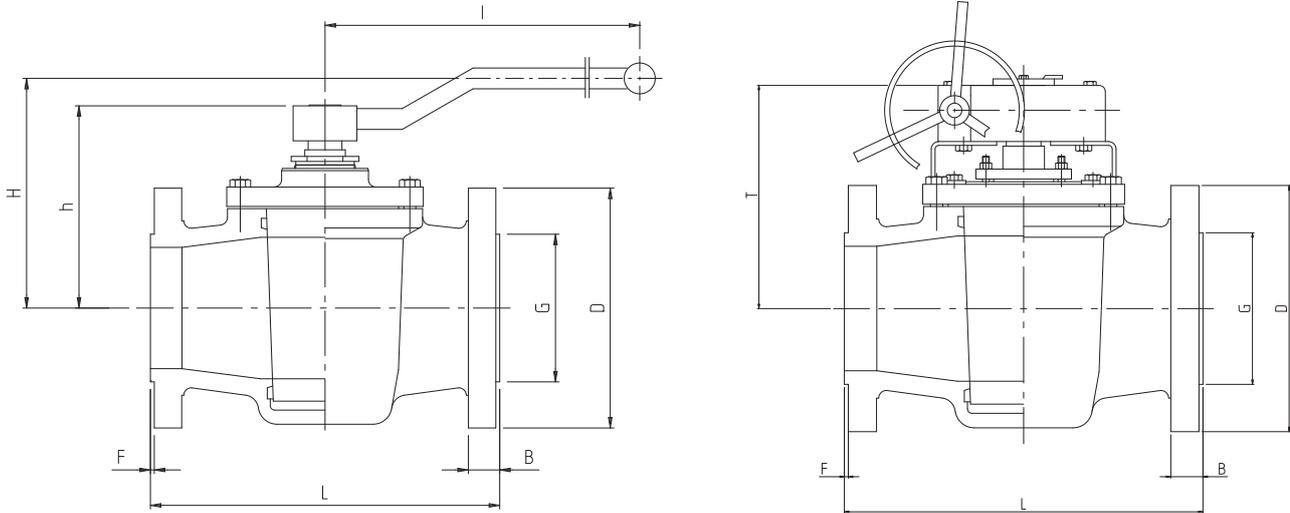
DN	Size in	Rating	L	D	B	F	G	T	Weight (kg)
100	4	ANSI 300	305	254	32	1.6	157	380	45.0
150	6		403	318	37	1.6	216	520	75.0
200	8		419	381	42	1.6	270	580	125.0

Other size upon request.

For ordering purposes complete the figure number by referring to page 8



ANSI Class 600 (PN100)



The face-to-face dimensions of these valves conform with ISO DIS 5752 (Regular) and ANSI B16.10 Class 600.

WRENCH OPERATED

DN	Size in	Rating	L	D	B	H	h	F	G	I	Weight (kg)
15	1/2	ANSI 600	165	95	14	110	100	6.4	35	260	4.5
20	3/4		190	118	16	115	105	6.4	43	260	5.2
25	1		216	124	18	115	105	6.4	51	260	8.5
40	1 1/2		241	156	23	140	130	6.4	73	360	13.0
50	2		292	165	26	150	140	6.4	92	450	23.5
80	3		330	210	32	180	170	6.4	127	450	31.0

GEAR OPERATED

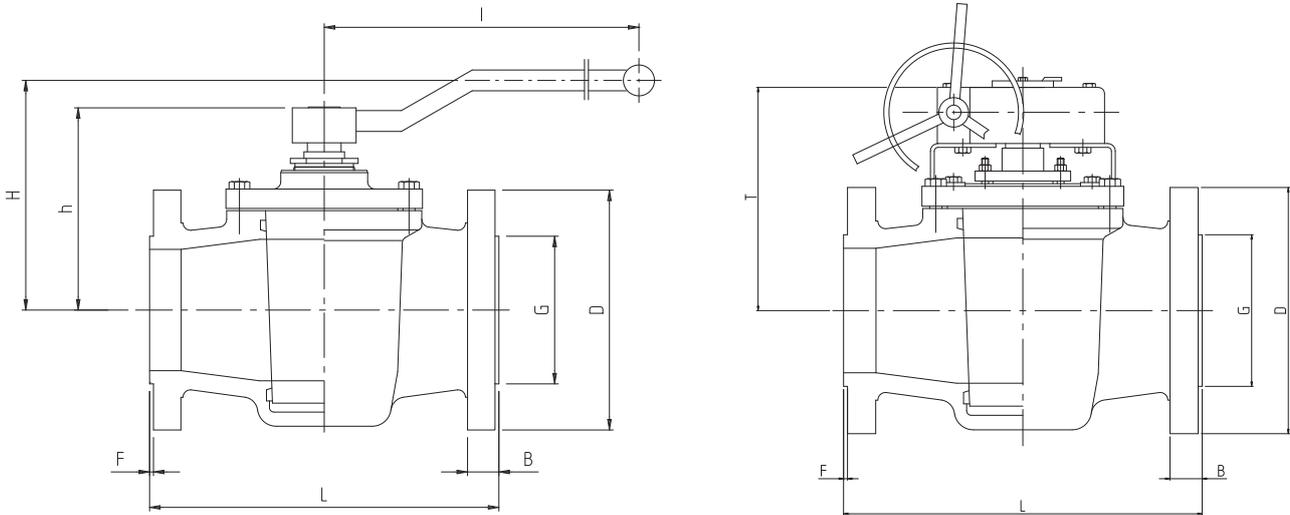
DN	Size in	Rating	L	D	B	F	G	T	Weight (kg)
100	4	ANSI 600	432	273	38	6.4	157	380	51.0
150	6		559	356	48	6.4	216	520	114.0
200	8		660	419	56	6.4	270	580	192.0

Other size upon request.

For ordering purposes complete the figure number by referring to page 8



ANSI Class 900 (PN150)



The face-to-face dimensions of these valves conform with ISO DIS 5752 (Regular) and ANSI B16.10 Class 900.

WRENCH OPERATED

DN	Size in	Rating	L	D	B	H	h	F	G	I	Weight (kg)
15	1/2	ANSI 900	229	95	22	110	100	6.4	35	260	6.0
20	3/4		229	118	25	115	105	6.4	43	260	6.5
25	1		254	149	29	115	105	6.4	51	260	11.0
40	1 1/2		305	178	32	140	130	6.4	73	360	17.0
50	2		368	216	38.5	150	140	6.4	92	450	31.0
80	3		381	241	38.5	180	170	6.4	127	450	40.0

GEAR OPERATED

DN	Size in	Rating	L	D	B	F	G	T	Weight (kg)
100	4	ANSI 900	457	292	45	6.4	157	380	66.0
150	6		610	381	56	6.4	216	520	148.0
200	8		737	470	64	6.4	270	580	250.0

Other size upon request.

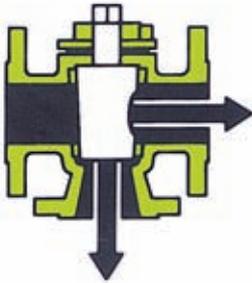
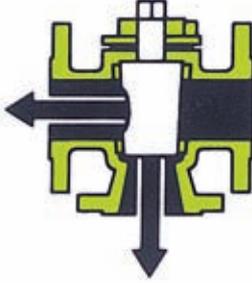
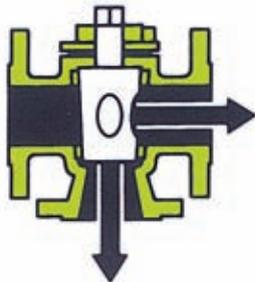
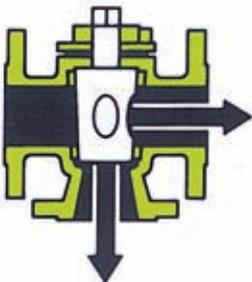
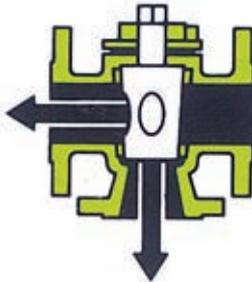
For ordering purposes complete the figure number by referring to page 8



PTFE Sleeved Plug Valves Three Way

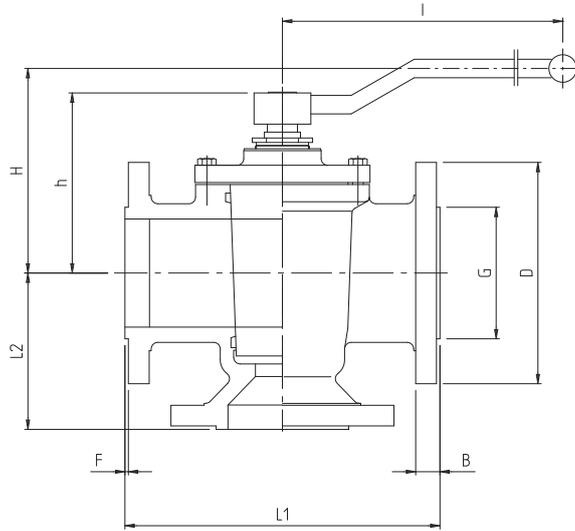


Port arrangements with G&C Threeway Valves

Type	Position 1 0°	Position 2 90°	Position 3 180°	
 <p>L</p>				Non Transflow
 <p>LL</p>				Transflow
 <p>T</p>				Transflow
 <p>Y</p>				Transflow



ANSI Class 150 (PN20)



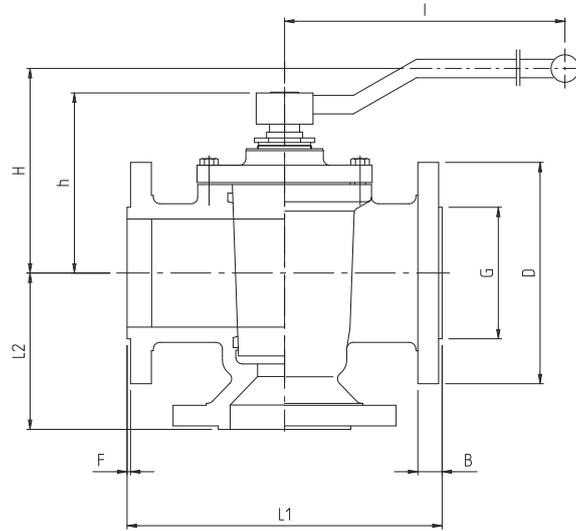
The face-to-face dimensions of these valves conform with ISO DIS 5752 (Short) and ANSI B16.10 Class 150.

DN	Size in	Rating	L1	D	B	H	h	F	G	I	L2	Weight (kg)
15	1/2	ANSI 150	108	89	10	105	95	1.6	35	260	70	3.0
20	3/4		117	98	10	105	95	1.6	43	260	73	4.0
25	1		127	108	11	110	100	1.6	51	260	89	5.5
40	1 1/2		165	127	14	115	105	1.6	73	360	105	7.5
50	2		178	152	16	130	120	1.6	92	450	114	13.0
80	3		203	191	19	145	135	1.6	127	450	130	22.0
100	4		229	229	24	160	150	1.6	157	600	152	45.0

Other size upon request.



ANSI Class 300 (PN50)



The face-to-face dimensions of these valves conform with ISO DIS 5752 (Short) and ANSI B16.10 Class 300.

DN	Size in	Rating	L1	D	B	H	h	F	G	I	L2	Weight (kg)
15	1/2	ANSI 300	140	95	14	105	95	1.6	35	260	73	5.0
20	3/4		152	118	16	105	95	1.6	43	260	76	5.5
25	1		165	124	18	110	100	1.6	51	260	95	7.0
40	1 1/2		190	156	21	115	105	1.6	73	360	111	9.0
50	2		216	165	22	130	120	1.6	92	450	121	15.5
80	3		283	210	29	145	135	1.6	127	450	141	24.0
100	4		305	254	32	160	150	1.6	157	600	171	50.0

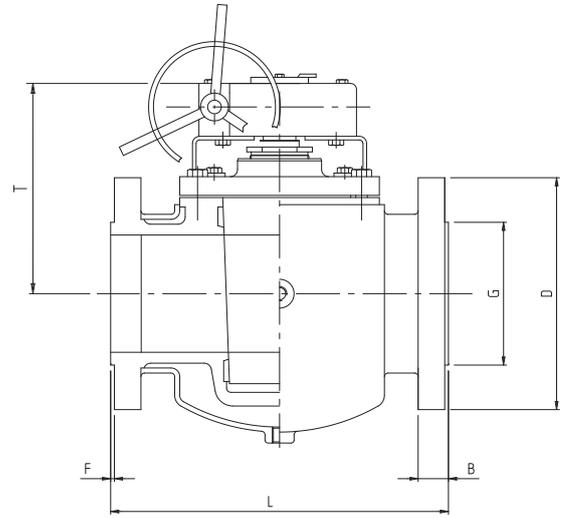
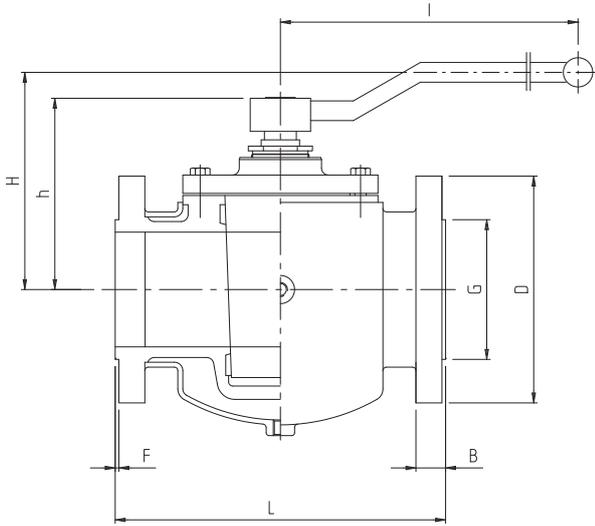
Other size upon request.



PTFE Sleeved Plug Two & Three Way Jacketed



ANSI Class 150 (PN20) - Two Way



The face-to-face dimensions of these valves conform with ISO DIS 5752 (Short) and ANSI B16.10 Class 150.

WRENCH OPERATED

DN	Size in	Rating	L	D	B	H	h	F	G	I	Weight (kg)
15	1/2	ANSI 150	108	89	10	110	100	1.6	35	260	2.7
20	3/4		117	98	10	115	105	1.6	43	260	3.0
25	1		127	108	11	115	105	1.6	51	260	3.8
40	1 1/2		165	127	14	140	130	1.6	73	360	6.5
50	2		178	152	16	150	140	1.6	92	450	10.4
80	3		203	191	19	180	170	1.6	127	450	15.6

GEAR OPERATED

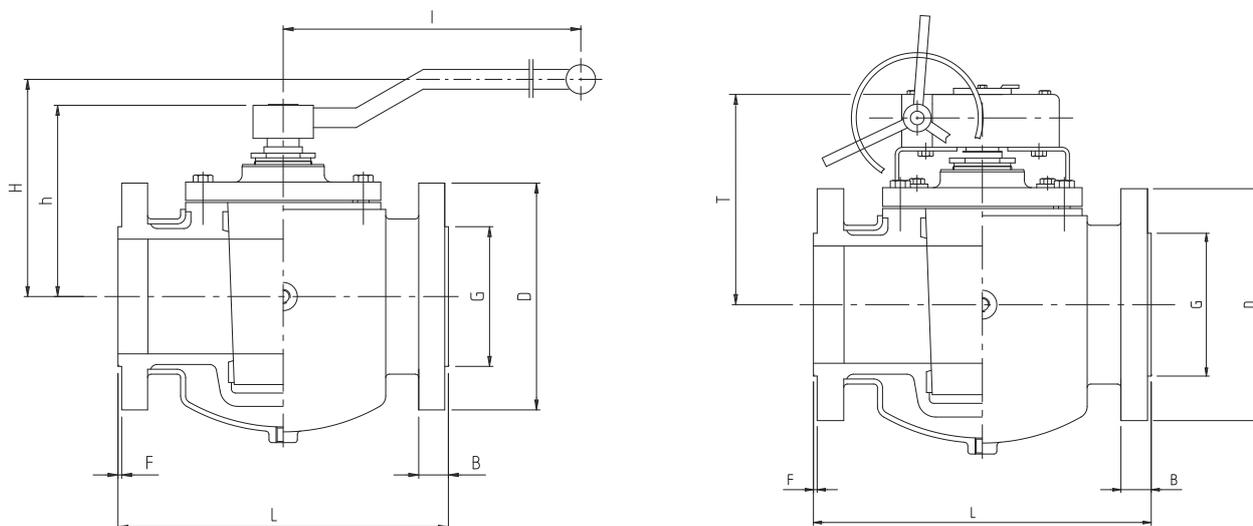
DN	Size in	Rating	L	D	B	F	G	T	Weight (kg)
100	4	ANSI 150	229	229	24	1.6	157	380	28.0
150	6		267	279	25	1.6	216	510	62.0
200	8		292	343	29	1.6	270	540	93.0
250	10		330	406	30	1.6	324	570	130.0
300	12		356	483	32	1.6	381	598	195.0

Jacketed valves are only available with Carbon and Stainless Steel body.
Maximum working pressure of the jacket is 16 bar.

For ordering purposes complete the figure number by referring to page 8



ANSI Class 300 (PN50) - Two Way



The face-to-face dimensions of these valves conform with ISO DIS 5752 (Short) and ANSI B16.10 Class 300.

WRENCH OPERATED

DN	Size in	Rating	L	D	B	H	h	F	G	I	Weight (kg)
15	1/2	ANSI 300	140	95	14	110	100	1.6	35	260	3.5
20	3/4		152	118	16	115	105	1.6	43	260	4.5
25	1		165	124	18	115	105	1.6	51	260	6.2
40	1 1/2		190	156	21	115	130	1.6	73	360	9.0
50	2		216	165	22	150	140	1.6	92	450	15.0
80	3		283	210	29	180	170	1.6	127	450	24.0

GEAR OPERATED

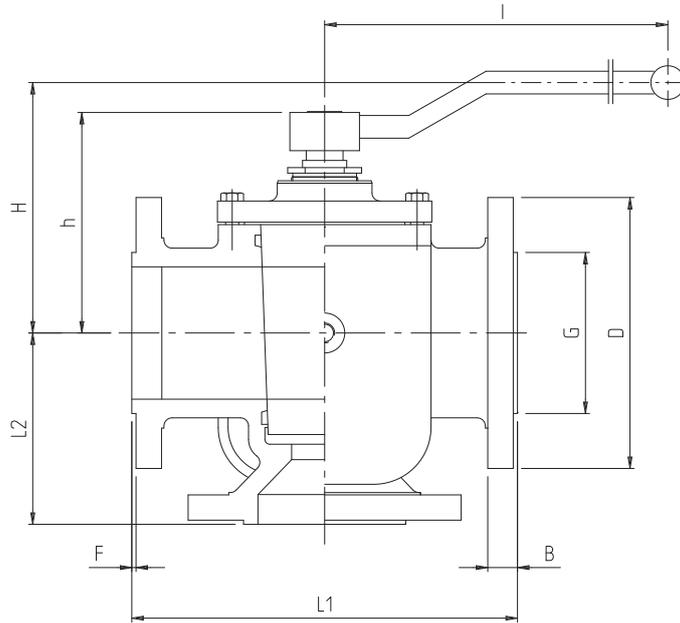
DN	Size in	Rating	L	D	B	F	G	T	Weight (kg)
100	4	ANSI 300	305	254	32	1.6	157	380	50.0
150	6		403	318	37	1.6	216	510	88.0
200	8		419	381	41	1.6	270	540	140.0

Jacketed valves are only available with Carbon and Stainless Steel body.
Maximum working pressure of the jacket is 16 bar.
Other size upon request.

For ordering purposes complete the figure number by referring to page 8



ANSI Class 150 (PN20) - Three Way



The face-to-face dimensions of these valves conform with ISO DIS 5752 (Short) and ANSI B16.10 Class 150.

WRENCH OPERATED

DN	Size in	Rating	L1	D	B	H	h	F	G	I	L2	Weight (kg)
15	1/2	ANSI 150	108	89	10	105	95	1.6	35	260	70	3.5
20	3/4		117	98	10	105	95	1.6	43	260	73	4.5
25	1		127	108	11	110	100	1.6	51	260	89	6.2
40	1 1/2		165	127	14	115	105	1.6	73	360	105	9.5
50	2		178	152	16	130	120	1.6	92	450	114	15.0
80	3		203	191	19	145	135	1.6	127	450	130	24.0
100	4		229	229	24	160	150	1.6	157	600	152	50.0

Other size upon request.

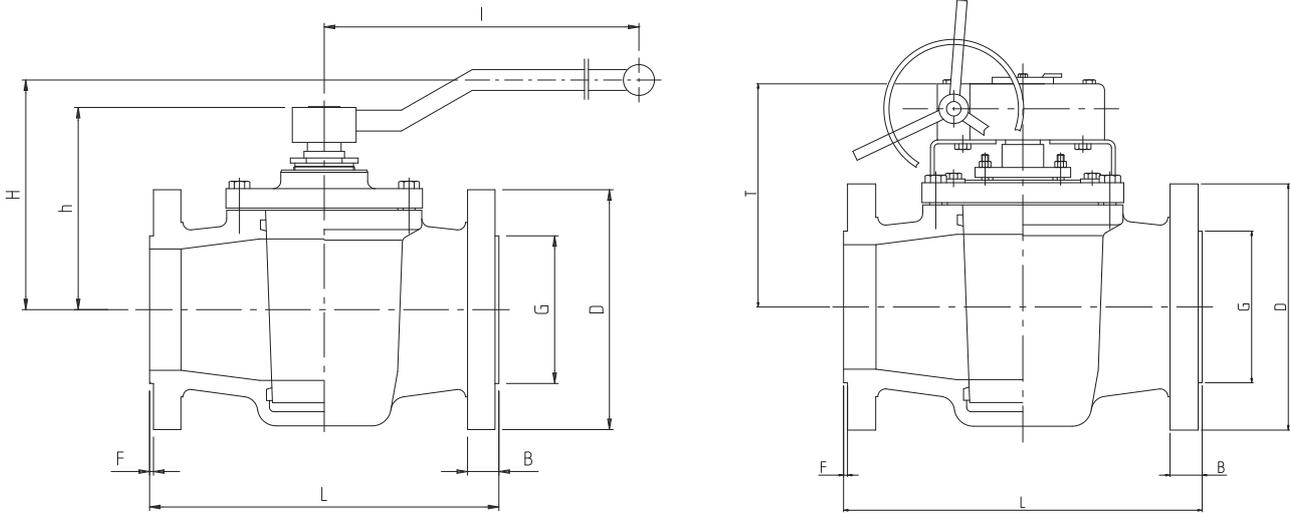
For ordering purposes complete the figure number by referring to page 8



Sleeve Plug Valve Two Way According to DIN Flanged



DIN - PN16 - PN25



The face-to-face dimensions of these valves conform with ISO DIS 5752 - DIN 3202/F1 - PN16/25.

PRESSURE PN16 - FLANGED END - DIN 2543-2549

Size DN	in	Rating	L	D	B	H	h	F	G	I	T	Weight (kg)
15	1/2	PN16	130	95	14	150	140	2	45	260	–	2.7
20	3/4		150	105	16	155	145	2	58	260	–	3.5
25	1		160	115	16	160	150	2	68	260	–	4.2
40	1 1/2		200	150	18	190	180	3	88	360	–	7.1
50	2		230	165	20	200	190	3	102	450	–	12.0
80	3		310	200	22	230	220	3	138	450	–	16.5
100	4		350	220	24	380	–	3	158	–	380	34.0
150	6		480	285	22	520	–	3	212	–	510	63.5
200	8	600	340	24	580	–	3	268	–	540	108.0	

4" or above with worm gear
Other size upon request.

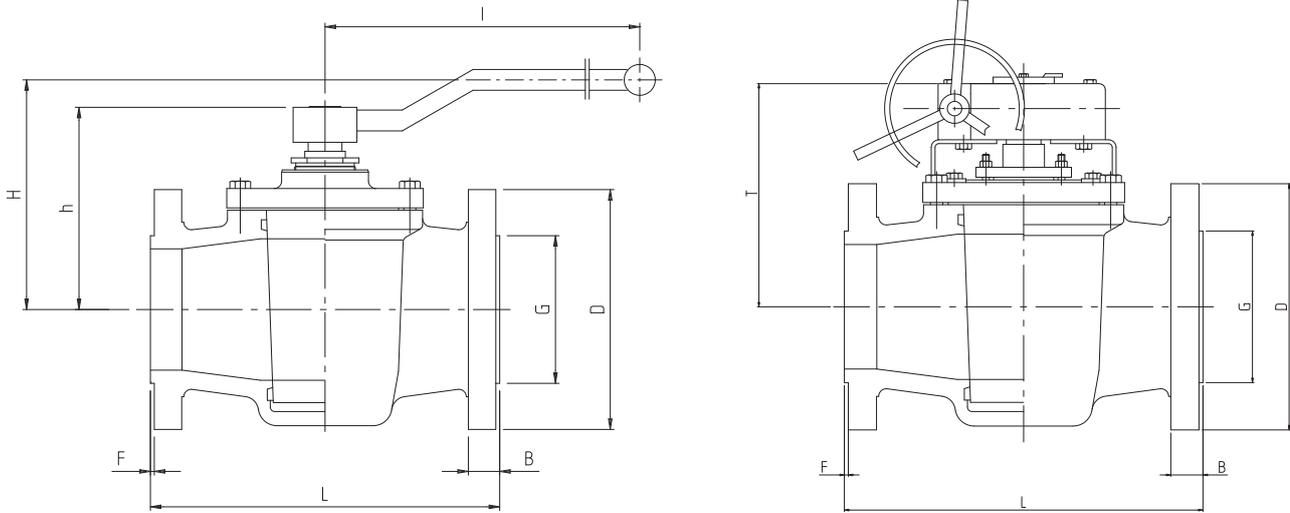
PRESSURE PN25 - FLANGED END - DIN 2543-2549

Size DN	in	Rating	L	D	B	H	h	F	G	I	T	Weight (kg)
15	1/2	PN25	130	95	16	150	140	2	45	260	–	3.5
20	3/4		150	105	18	155	145	2	58	260	–	5.0
25	1		160	115	18	160	150	2	68	260	–	6.5
40	1 1/2		200	150	18	190	180	3	88	360	–	10.0
50	2		230	165	20	200	190	3	102	450	–	14.0
80	3		310	200	24	230	220	3	138	450	–	20.0
100	4		350	235	24	380	–	3	158	–	380	40.0
150	6		480	300	28	520	–	3	218	–	510	70.0
200	8	600	360	34	580	–	3	278	–	540	147.0	

4" or above with worm gear
Other size upon request.



DIN - PN40 - PN64



The face-to-face dimensions of these valves conform with ISO DIS 5752 - DIN 3202/F1 - PN40.

PRESSURE PN40 - FLANGED END - DIN 2543-2549

DN	Size in	Rating	L	D	B	H	h	F	G	I	T	Weight (kg)
15	1/2	PN40	130	95	16	190	180	2	45	260	—	5.0
20	3/4		150	105	18	195	185	2	58	260	—	6.0
25	1		160	115	18	225	215	2	68	260	—	8.0
40	1 1/2		200	150	18	280	270	3	88	360	—	12.0
50	2		230	165	20	310	300	3	102	450	—	16.0
80	3		310	200	24	395	385	3	138	450	—	24.0
100	4		350	235	24	—	—	3	162	—	380	48.0
150	6		480	300	28	—	—	3	218	—	510	85.0
200	8		600	375	34	—	—	3	285	—	540	167.0

4" or above with worm gear
Other size upon request.

PRESSURE PN64 - FLANGED END - DIN 2543-2549

DN	Size in	Rating	L	D	B	H	h	F	G	I	T	Weight (kg)
15	1/2	PN64	130	95	16	190	180	3	45	260	—	14.0
20	3/4		150	105	18	195	185	3	58	260	—	17.0
25	1		160	115	18	225	215	3	65	260	—	22.0
40	1 1/2		200	150	18	280	270	3	85	360	—	29.0
50	2		230	165	26	310	300	3	95	450	—	34.0
80	3		310	200	28	395	385	3	130	450	—	50.0
100	4		350	235	30	—	—	3	160	—	380	94.0
150	6		480	300	36	—	—	3	215	—	510	170.0
200	8		600	360	42	—	—	3	270	—	540	291.0

4" or above with worm gear
Other size upon request.



Product structural features

3-way plug valve is applicable to change the media flowing direction or to distribute the media, that are used in various industries such as, petroleum, chemical industry, pharmacy, chemical fertilizer, power, Industry etc. under nominal pressure class 150-300 Lbs, Working temperature -29 °C to 180 °C.
For operating temperature higher than 180 °C please contact our Technical Office.

Main structural features

1. The product has reasonable structure, reliable sealing, excellent performance and beautiful appearance.
2. According to different conditions, the 3-way plug valve can be designed into different media flowing forms (eg. "L" type or "T" type) or all kinds of materials (eg. cast steel, stainless steel).
3. The materials of the parts and sizes of flanges can be reasonably configured according the actual operation condition of the requirements of the customers, so as to meet the various needs of engineering.

Technical specification

Driving maner	Wrench, worm gear, electric or pneumatic actuator
Design standard	API 599, API 6D
Face to face	ASME B16.10, API 6D - ISO - DIS 5752 - DIN 3202/F1
Flange ends	ASME B16.5, DIN 2543-2545
Test & inspection	API 598, API 6D, DIN 3230

Pressure - Testing - API 6D - API 598 - DIN 3230

Valve Rating (-20 to 100 °F)	Max. Oper. Pres. (M.O.P.)		Body Test (minimum)		Seat Test (minimum)	
	bar	psig	bar	psig	bar	psig
CLASS 150 PN20	19,0	275	29,0	425	21,0	300
CLASS 300 PN50	49,6	720	76,0	1100	55,0	800
CLASS 600 PN100	99,3	1440	150	2175	110	1600
CLASS 800 PN140	138	2000	207	3000	152	2200
CLASS 900 PN150	149	2160	224	3250	166	2400
CLASS PN16	16.0	-	24.0	-	17.6	-
CLASS PN25	25.0	-	37.5	-	27.5	-
CLASS PN40	40.0	-	60.0	-	44.0	-
CLASS PN 64	64.0	-	96.0	-	70.4	-

Duration of Hydrostatic Tests in Minutes (minimum)

Valve Size		API 598		API 6 D	
		Shell Test	Seat Test	Shell Test	Seat Test
≤ 50 mm	≤ 2"	15 Sec.	15 Sec.	not applicable	
50 mm to 100 mm	2" to 4"	-	-	2'	2'
65 mm to 150 mm	2 1/2" to 6"	1'	1'	2'	2'
150 mm to 250 mm	-	-	-	5'	5'
200 mm to 300 mm	8" to 12"	2'	2'	5'	5'
350 mm and over	≥ 14"	5'	2'	-	-
300 mm to 450 mm	12" to 18"	-	-	15'	5'

API 6D also requires a 5.5 bar (80 psi) air seat test for the same duration



GALLI & CASSINA in the World



Galli & Cassina Plug Valves are being used in most important hydrocarbon & chemical plants all over the world. For over 80 years Galli & Cassina has been committed to provide service to the end users with a full range of

products ensuring total customer satisfaction.

Galli & Cassina is represented by sales offices worldwide and you are requested to contact our main office in Italy for more details.



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