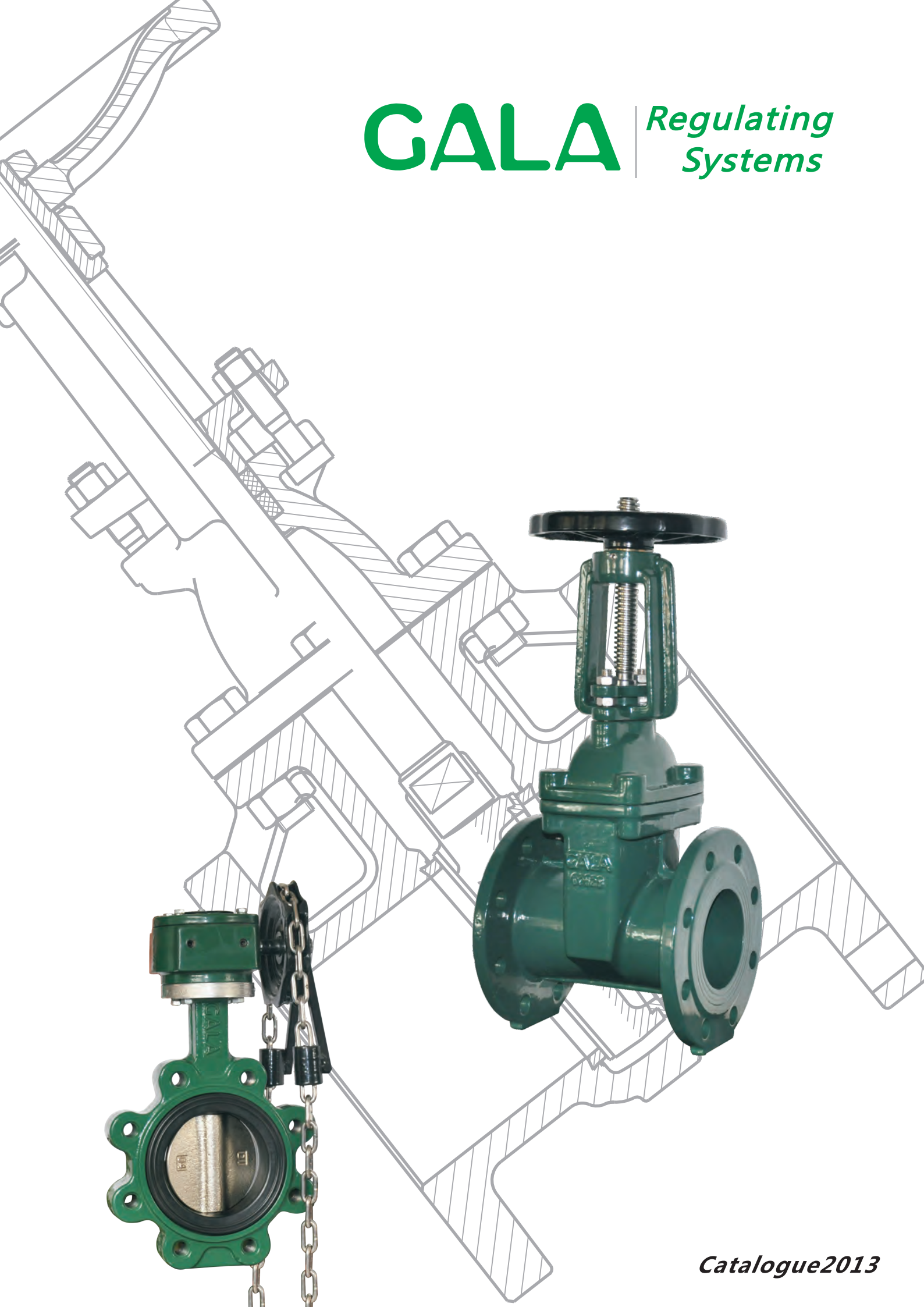
GALA | Regulating Systems



Catalogue2013

GALA Regulating Systems

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GALA Regulating Systems

Company Profile

GALA - Extends Business on a Global Perspective.
GALA company offers a wide range of products and systems in the field of valves, piping, and seismic isolation for applications ranging from equipment for office buildings, fire fighting, heating, water works, sewerage, marine, industrial to top fluid control. Our aim is meaningful contribution to society by providing comfort and safety through our products, technical skills and services!

GALA - Professional Manufacturer of Industrial Valves
GALA have variety products to meet customer demand of different valve. Designing, manufacture and sale of one-stop service is the company's core strengths.

GALA products cover the following industry area:
Water supply system, water treatment, food, chemical, cement, air-conditioning systems, industry engineering, nuclear power, papermaking, Petrochemical Industry, pharmaceutical, Powder Industry, steel industry, sugar refining, textiles and so on. GALA anti-pollution environmental protection industry is one of the major business. GALA provides various valve for wastewater processing and exhaust gas processing.

GALA have wide variety of industrial valves, including following main products:
- ♦ Fire Protection Valve
- ♦ Balancing Valve
- ♦ Butterfly Valve
- ♦ Gate Valve,Globe Valve,Check Valve,Ball Valve
- ♦ Strainer
- ♦ Flexible Rubber Joint
- ♦ Flexible Stainless Steel Hose, Expansion Joints

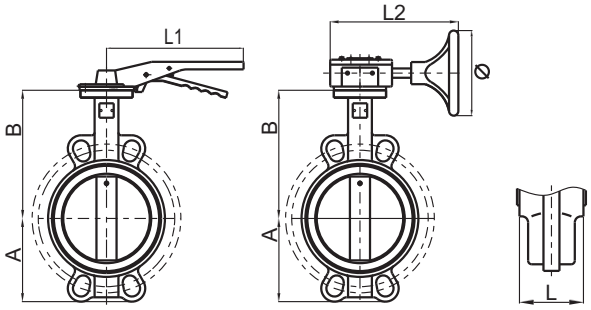
Other Valves and fittings are also available from GALA.

All products will be designed, manufactured and assembly by GALA.

CLASS 125/ CLASS 250/
PN16/PN25/JIS 10K/JIS 16K

Wafer Butterfly Valves

Fig. 2302



Valve Standard :

Comply with ISO 5752/BS 5155/
BS EN 593/MSS SP-67/API 609
Lever / Worm Gear Operator, Epoxy Coated

Pressure Temperature Ratings

Working pressure	16bar/25bar
Testing Pressure	Shell:24bar/37.5bar Seat:17.6bar/27.5bar
Working Temperature	-20℃ to 110℃ EPDM Seat -10℃ to 80℃ NBR Seat
Suitable Media	Water,Oil&Gas

Material Specification

Part	Material	ASTM
Body	Cast Iron	A126 Class B
	Ductile Iron	A536 65-45-12
Disc	Ductile Iron	A536 65-45-12
	Bronze	B148 C95400
	Stainless Steel 304	A351 CF-8
	Stainless steel 316	A351 CF-8M
Shaft	Stainless steel 316	A276 S 316 00
	Stainless Steel 410	A276 S 410 00
	Stainless Steel 431	A276 S 431 00
Seat Ring	EPDM / NBR	
Taper Pins	Stainless Steel 304	A276 S 304 00
	Stainless Steel 316	A276 S 316 00
	Stainless Steel 410	A276 S 410 00
Key	Carbon Steel	
O-Ring	EPDM / NBR	
Bushing	PTFE	
	Bronze	B62 C83600

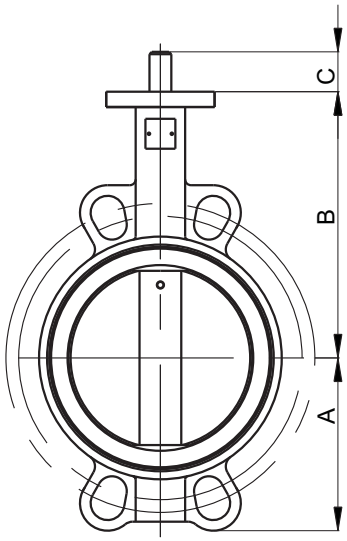
Dimensions

DN	mm	40	50	65	80	100	125	150	200	250	300	350	400
	inch	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	16
A		68	80	89	95	114	127	139	175	203	242	267	316
B		110	161	175	181	200	213	226	260	292	337	368	400
L		33	42	45	45	51	55	55	60	67	76	76	102
L1		180	180	180	180	220	276	276	318	318	318	-	-
L2		-	212	212	212	212	212	212	305	305	300	300	423
Ø		-	145	145	145	145	145	145	285	285	285	285	385

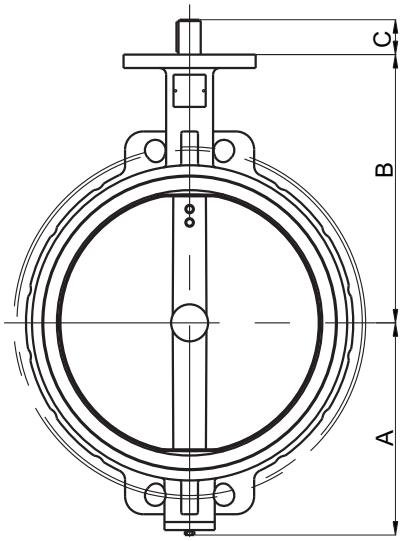
DN	mm	450	500	550	600	650	700	750	800	900	1000	1200	-
	inch	18	20	22	24	26	28	30	32	36	40	48	-
A		334	370	433	468	484	530	565	602	661	724	869	-
B		422	480	533	562	540	626	660	666	722	806	938	-
L		114	127	151	151	172	165	167	188	203	216	276	-
L1		-	-	-	-	-	-	-	-	-	-	-	-
L2		423	490	490	490	416	532	532	483	483	600	628	-
Ø		385	385	385	385	385	425	425	425	425	425	425	-

Note: The butterfly valve can be supplied with electric or pneumatic actuator.

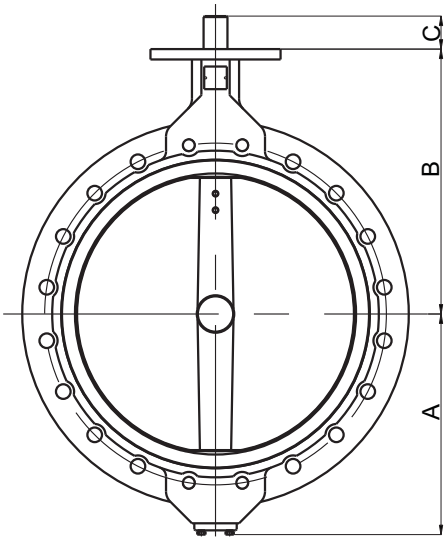
Appearance



Fit DN40-DN350 Wafer Butterfly valves



Fit DN400-DN500 Wafer Butterfly valves

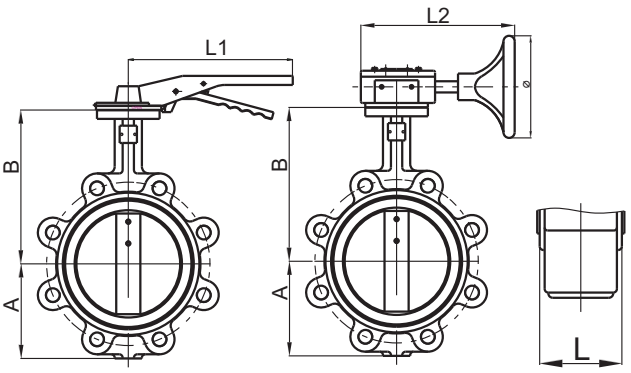


Fit DN550-DN1200 Wafer Butterfly valves

CLASS 125/ CLASS 250/
PN 16/PN25/JIS 10K/JIS 16K

Lug Butterfly Valves

Fig. 2502



Valve Standard :

Comply with ISO 5752/BS 5155/
BS EN 593/MSS SP-67/API 609
Lever / Worm Gear Operator, Epoxy Coated

Pressure Temperature Ratings

Working pressure	16bar/25bar
Testing Pressure	Shell:24bar/37.5bar Seat:17.6bar/27.5bar
Working Temperature	-20℃ to 110℃ EPDM Seat -10℃ to 80℃ NBR Seat
Suitable Media	Water,Oil&Gas

Material Specification

Part	Material	ASTM
Body	Cast Iron Ductile Iron	A126 Class B A536 65-45-12
Disc	Ductile Iron Bronze Stainless Steel 304 Stainless steel 316	A536 65-45-12 B148 95400 A351 CF-8 A351 CF-8M
Shaft	Stainless steel 316 Stainless Steel 410 Stainless Steel 431	A276 S 316 00 A276 S 410 00 A276 S 431 00
Seat Ring	EPDM / NBR	
Taper Pins	Stainless Steel 304 Stainless Steel 316 Stainless Steel 410	A276 S 304 00 A276 S 316 00 A276 S 410 00
Key	Carbon Steel	
O-Ring	EPDM / NBR	
Bushing	PTFE Bronze	 B62 C83600

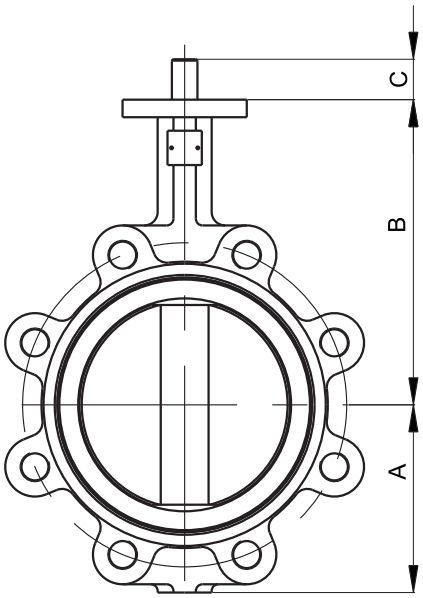
Dimensions

DN	mm	40	50	65	80	100	125	150	200	250
	inch	1-1/2	2	2-1/2	3	4	5	6	8	10
A		68	80	89	95	114	127	139	175	203
B		110	161	175	181	200	213	226	260	292
L		33	42	45	45	51	55	55	60	67
L1		180	180	180	180	220	276	276	318	318
L2		-	212	212	212	212	212	212	305	305
Ø		-	145	145	145	145	145	145	285	285

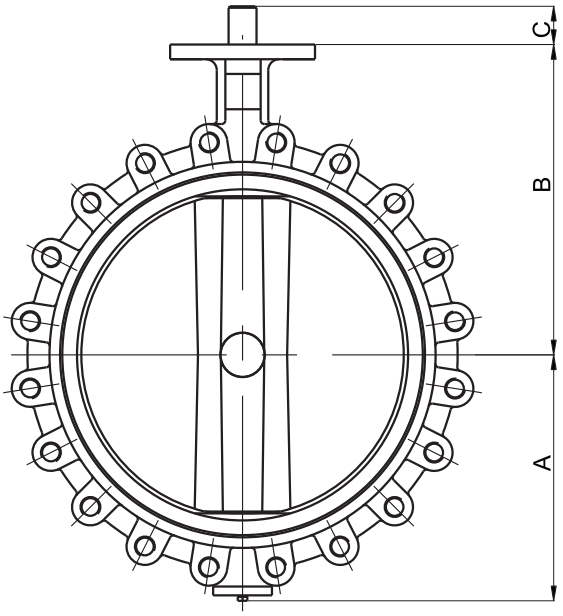
DN	mm	300	350	400	450	500	550	600	650	700
	inch	12	14	16	18	20	22	24	26	28
A		242	267	316	334	370	433	468	484	530
B		337	368	400	422	480	533	562	540	626
L		76	76	102	114	127	151	151	172	165
L1		318	-	-	-	-	-	-	-	-
L2		300	300	423	423	490	490	490	416	532
Ø		285	285	385	385	385	385	385	385	425

Note: The butterfly valve can be supplied with electric or pneumatic actuator.

Appearance



Fit DN40-DN350 Lug Butterfly valves

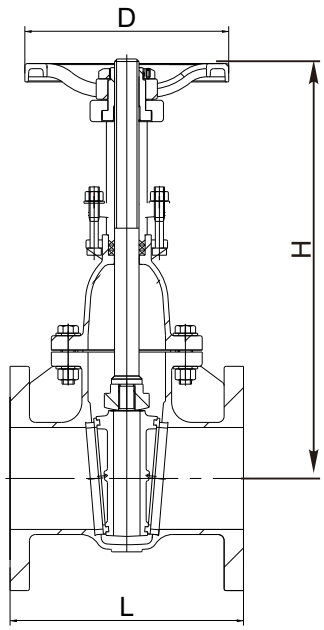


Fit DN400-DN700 Lug Butterfly valves

CLASS 150/PN16/JIS 10K

OS&Y Metal Seated Gate Valve • Bronze Trim

Fig. 3611



Valve Standard :

Comply with EN 1171（BS 5150）& MSS SP-70
Rising Stem, Outside Screw and Yoke, Epoxy coated, flanged to ANSI Class150, BS4504 PN16, JIS 10K

Pressure Temperature Ratings

Working pressure	16bar
Testing Pressure	Shell:24bar Seat:17.6bar
Working Temperature	-10℃ to 120℃
Suitable Media	Water, Oil & Gas

Material Specification

Part	Material	ASTM	BS
Body	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Bonnet	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Disc	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Seat Ring	Bronze	B62 C83600	1400 LG2
	SS304	A351 CF-8	970 304S15
	SS316	A351 CF-8M	970 316S16
Body Ring	Bronze	B62 C83600	1400 LG2
Stem	Brass	B16 C36000	2874 CZ 124
	SS420	A276 S42000	970 420S37
Packing	Graphite	Non-Asbestos	
Hand Wheel	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040

Dimensions

DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
	inch	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
L		178	190	203	229	254	267	292	330	356	381	406.4	432	457	508
H(Close)		311	347	384	490	541	656	778	933	1102	1259	1395	1560	1708	1990
D		160	160	200	200	250	250	280	370	370	560	560	610	610	765

CLASS 125/PN16/JIS 10K

OS&Y Metal Seated Gate Valve • Bronze Trim

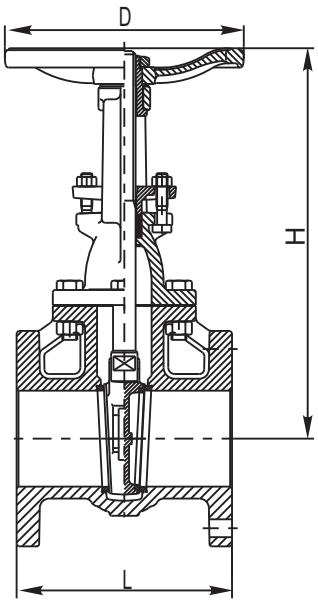
Fig. 3113

Valve Standard :

Comply with EN 1171〔BS 5150〕& MSS SP-70
Rising Stem, Outside Screw and Yoke, Epoxy coated, flanged to ANSI Class125, BS4504 PN16, JIS 10K

Pressure Temperature Ratings

Working pressure	16bar
Testing Pressure	Shell:24bar Seat:17.6bar
Working Temperature	-10℃ to 120℃
Suitable Media	Water, Oil & Gas



Material Specification

Part	Material	ASTM	BS
Body	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Bonnet	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Disc	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
	Bronze	B62 C83600	1400 LG2
	SS304	A351 CF-8	970 304S15
	SS316	A351 CF-8M	970 316S16
Seat Ring	Bronze	B62 C83600	1400 LG2
Body Ring	Bronze	B62 C83600	1400 LG2
Stem	Brass	B16 C36000	2874 CZ 124
	SS420	A276 S42000	970 420S37
Packing	Graphite	Non-Asbestos	
Hand Wheel	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040

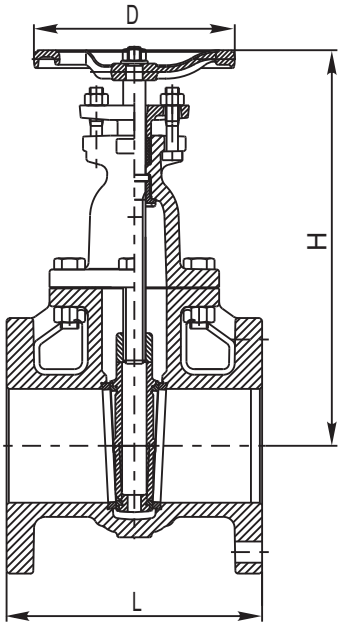
Dimensions

DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
	inch	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
L		177.8	190	203.2	228.6	254	266.7	292.1	330.2	355.6	381	406.4	432	457	508
H(Close)		311	347	384	490	541	656	778	933	1102	1259	1395	1560	1708	1990
D		178	178	200	254	300	300	348	400	457	560	560	610	610	765

CLASS 125/PN16/JIS 10K

NRS Metal Seated Gate Valve • Bronze Trim

Fig. 3123



Valve Standard :

Comply with EN 1171〔BS 5150〕& MSS SP-70
Non-Rising Stem, inside Screw , Epoxy coated , flanged to ANSI Class125, BS4504 PN 16, JIS 10K

Pressure Temperature Ratings

Working pressure	16bar
Testing Pressure	Shell:24bar Seat:17.6bar
Working Temperature	-10℃ to 120℃
Suitable Media	Water, Oil & Gas

Material Specification

Part	Material	ASTM	BS
Body	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Bonnet	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Disc	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
	Bronze	B62 C83600	1400LG2
	SS 304	A351 CF-8	970 304S15
	SS316	A351 CF-8M	970 316S16
Seat Ring	Bronze	B62 C83600	1400LG2
Body Ring	Bronze	B62 C83600	1400LG2
Stem	Brass	B16 C36000	2874 CZ 124
	SS420	A276 S42000	970 420S37
Packing	Graphite	Non-Asbestos	
Hand Wheel	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040

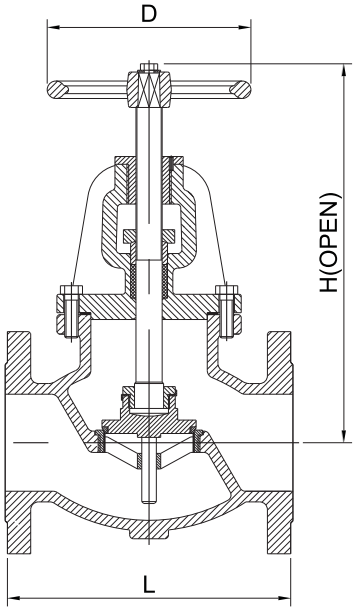
Dimensions

DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
	inch	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
	L	177.8	190	203.2	228.6	254	266.7	292.1	330.2	355.6	381	406.4	432	457	508
	H	302	332	335	423	485	545	644	769	860	987	1044	1148	1257	1418
	D	178	178	200	254	300	300	348	400	457	560	560	610	610	765

CLASS 125 /PN16 /JIS 10K

OS&Y Globe Valve • Bronze Trim

Fig. 6123



Valve Standard :

Comply with BS EN 13789（BS 5152）/MSS SP-85
Rising Stem, outside Screw and Yoke , Epoxy coated , flanged to ANSI class125, BS4504 PN16

Pressure Temperature Ratings

Working pressure	16bar
Testing Pressure	Shell:24bar Seat:17.6bar
Working Temperature	-10℃ to 120℃
Suitable Media	Water,Oil&Gas

Material Specification

Part	Material	ASTM	BS
Body	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Bonnet	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Disc	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
	Bronze	B62 C83600	1400 LG2
	SS 304	A351 CF-8	970 304S15
	SS316	A351 CF-8M	970 316S16
Seat Ring	Bronze	B62 C83600	1452 Gr.220
Body Ring	Bronze	B62 C83600	1452 Gr.220
Stem	Brass	B16 C36000	2874 CZ 124
	SS	A276 S42000	970 420S37
Packing	Graphite	Non-Asbestos	
Hand Wheel	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040

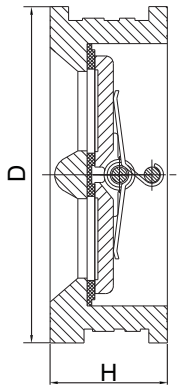
Dimensions

DN	mm	50	65	80	100	125	150	200	250	300
	inch	2	2-1/2	3	4	5	6	8	10	12
L		203	216	241	292	330	356	495	622	699
H（open）		295	336	345	389	425	511	580	720	859
D		190	190	190	305	305	305	455	405	455

CLASS 125/ CLASS 250/
PN16/PN25/JIS 10K/JIS 16K

Wafer Type Double Door Check Valve

Fig. 5306



Valve Standard :
Comply with DIN 3202/API 594
Epoxy Coated

Pressure Temperature Ratings

Working pressure	16bar/25bar
Testing Pressure	Shell:24bar/37.5bar Seat:17.6bar/27.5bar
Working Temperature	-20℃ to 110℃ EPDM -10℃ to 80℃ NBR
Suitable Media	Water,Oil&Gas

Material Specification

Part	Material	ASTM Spec.
Body	Cast Iron	A126 Class B
	Ductile Iron	A536 65-45-12
	Stainless Steel 304	A351 CF8
	Stainless Steel 316	A351 CF8M
	Carbon Steel	A216 WCB
Disc	Ductile Iron	A536 65-45-12
	Bronze	B148 C95400
	Stainless Steel 304	A351 CF8
	Stainless Steel 316	A351 CF8M
Shaft	Stainless Steel 304	S30400
	Stainless Steel 316	S31600
	Stainless Steel 410	S41000
Seat-Ring	EPDM / NBR	Commercial
Spring	Stainless Steel 316	S31600
	Stainless Steel 304	S30400

Dimensions

DN	mm	40	50	65	80	100	125	150	200	250
	inch	1-1/2	2	2-1/2	3	4	5	6	8	10
H（DIN3202）		43	43	46	64	64	70	76	89	114
D		84	103	122	132	157	188	218	268	328

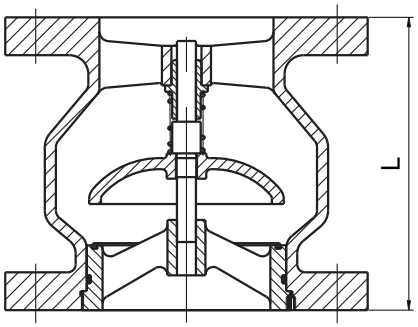
DN	mm	300	350	400	450	500	600	700	800	900
	inch	12	14	16	18	20	24	28	32	36
H（DIN3202）		114	127	140	152	152	178	229	241	241
D		407	445	510	547	604	724	828	936	1045

CLASS 125/ CLASS 250/
PN16/PN25/JIS 10K/JIS 16K

Globe Type Silent Check Valve

Fig. 5104

Valve Standard:
Epoxy Coated, Flanged to ANSI Class 125,
BS 4504 PN16



Pressure Temperature Ratings

Working pressure	16bar/25bar
Testing Pressure	Shell:24bar/37.5bar Seat:17.6bar/27.5bar
Working Temperature	-20℃ to 110℃ EPDM -10℃ to 80℃ NBR
Suitable Media	Water,Oil&Gas

Material Specification

Part	Material	ASTM Spec.	BS
Body	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Disc	Ductile Iron	A536 65-45-12	1563 EN-JS1040
	Bronze	B62 C83600	1400 LG2
	SS 304	A351 CF-8	970 304S15
	SS 316	A351 CF-8M	970 316S16
Seat	Ductile Iron	A536 65-45-12	1563 EN-JS1040
	Bronze	B62 C83600	1400 LG2
	SS304	A276 S 304 00	970 304S15
	SS316	A276 S 316 00	970 304S16
Seat Ring	EPDM / NBR	Commercial	
Bushing	Bronze	B62 C83600	1400 LG2
Spring	SS316	S31600	970 316S16
	SS304	S30400	970 304S15
Stem	SS 410	A276 S 410 00	970 410 S21
	SS 431	A276 S 431 00	970 431 S29
	Bronze	B62 C83600	1400 LG2

Dimensions

DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
	inch	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
L		133	140	152	185	216	229	257	393	362	400	448	476	524	610

PN 16 / CLASS 125 / JIS 10K

Flange Type Swing Check Valve • Bronze Trim

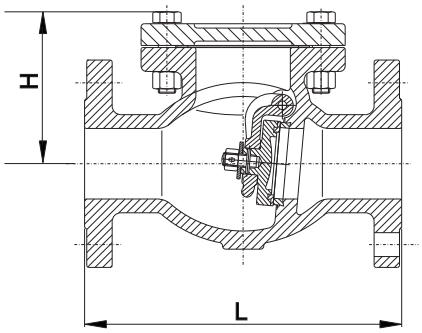
Fig. 5101 (Class 125 & PN16)
5102 (Class 250 & PN25)

Valve Standard :

Comply with EN 12334(BS 5153) & MSS SP-71
Bronze / Resilient seat , Epoxy coated , flanged to ANSI Class125, BS4504 PN16, JIS10K

Pressure Temperature Ratings

Working pressure	16bar/125Lb/250Lb
Testing Pressure	Shell:24bar/51.7 Seat:17.6bar/34.5
Working Temperature	-10℃ to 120℃
Suitable Media	Water,Oil&Gas



Material Specification

Part	Material	ASTM Spec.	BS
Body	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Cover	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Disc	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
	Bronze	B62 C83600	1400 LG2
	SS304	A351 CF-8	970 304S15
	SS316	A351 CF-8M	970 316S16
Seat Ring	Bronze	B62 C83600	1400 LG2
Disc Ring	Bronze	B62 C83600	1400 LG2
Gasket	Non Asbestos		

Dimensions

DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
	inch	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
	L	203	216	241	292	330	356	495	622	699	787	914	914	1016	1219
	H	112	132	141	162	192	211	270	316	357	560	589	645	702	812

Fig. 5501

Valve Standard :

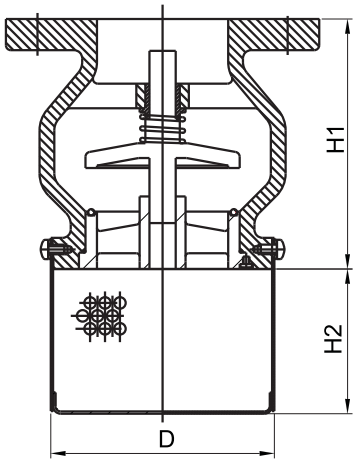
Epoxy Coated, Flanged to ANSI Class 125 / Class 250, BS 4504 PN16 / PN25

Pressure Temperature Ratings

Working pressure	16bar/25bar
Testing Pressure	Shell:24bar/37.5bar Seat:17.6bar/27.5bar
Working Temperature	-20℃ to 110℃ EPDM -10℃ to 80℃ NBR
Suitable Media	Water

Material Specification

Part	Material	ASTM Spec.	BS
Body	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Disc	Ductile Iron	A536 65-45-12	1563 EN-JS1040
	Bronze	B62 C83600	1400 LG2
	SS 304	A351 CF-8	970 304S15
	SS 316	A351 CF-8M	970 316S16
Seat	Ductile Iron	A536 65-45-12	1563 EN-JS1040
	Bronze	B62 C83600	1400 LG2
	SS 304	A351 CF-8	970 304S15
	SS 316	A351 CF-8M	970 316S16
Seat Ring	EPDM / NBR	Commercial	
Bushing	Bronze	B62 C83600	1400 LG2
Spring	SS 316	S31600	970 316S16
	SS 304	S30400	970 304S15
Stem	SS 410	A276 S 410 00	970 410 S21
	SS 431	A276 S 431 00	970 431 S29
Screen	SS 304	S30400	970 304S15
	SS 316	S31600	970 316S16



Note :

DI Body For Class 125 & Class 250

Dimensions

DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
	inch	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
H1		133	140	152	185	216	229	257	393	362	400	448	476	524	610
H2		68	93	108	138	163	189	208	225	245	270	290	315	340	365
D		114	130	144	177	203	237	290	330	383	470	520	570	630	740

CLASS 125/ CLASS 250/
PN16/PN25/JIS 10K/JIS 16K

Y-Type Strainer

Fig. 7101

Valve Standard :

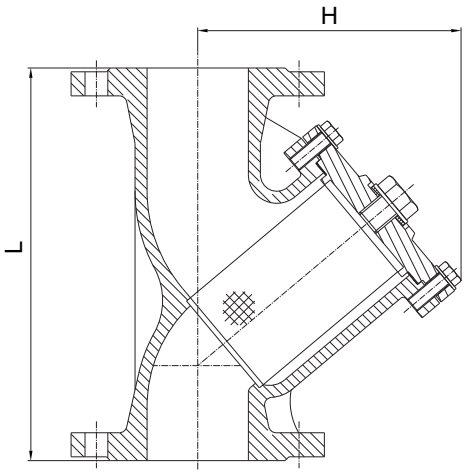
Bolted cover with blow-off drain plug, Stainless steel perforated screen , Epoxy Coated, Flanged to ANSI Class 125, BS 4504 PN16

Pressure Temperature Ratings

Working pressure	16bar
Testing Pressure	Shell:24bar
Working Temperature	-20℃ to 110℃ EPDM Seat
Suitable Media	Water,Oil&Gas

Material Specification

Part	Material	ASTM Spec.	BS
Body	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Cover	Cast Iron	A126 Class B	1452 Gr.220
	Ductile Iron	A536 65-45-12	1563 EN-JS1040
Screen	SS304	S30400	970 304S15
	SS316	S31600	970 316S16
Blow-Off Plug	Carbon Steel		



Standard Screen

Size〔mm〕	Hole Dia.〔mm〕	Mesh
50~150	1.5	104
200~350	2.5	26
400~600	3.5	22

Dimensions

DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650
	inch	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24	26
L		230	290	310	350	400	480	600	730	850	980	1100	1200	1250	1450	1550
H		160	180	215	235	275	305	390	540	680	740	845	838	908	1078	1100

I. INTRODUCTION

These instructions are furnished for use in installation, operation and maintenance of cast iron bolted bonnet / cap, wedge gate, globe and swing check valves. These valves are designed and manufactured in conformance with MSS-SP70 (Gate), MSS-SP71 (Swing Check), MSS-SP85 (Globe) and ASTM A126, Class B.

II. RECEIVING INSPECTION

A. Upon receipt of the valves at the destination, the valves should be examined thoroughly for signs of mishandling or damage during shipment.

B. The valves should be stored, if necessary, in a sheltered area to protect them from weather, dirt and foreign material. The valves should no be uncrated, or removed from their protective covering, or exposed to the atmosphere except in a clean area just prior to installation.

C. The valve identification is stamped on metal plates attached to a yoke arm or cap of each valve.

III. HANDLING AND PREPARATION FOR INSTALLATION

A. Lift the valve using slings around the body under the bonnet flange and rotate the bonnet end to the upright position.

IV. INSTALLATION

A. The valve identification is stamped on metal plates attached to a yoke arm or cap of each valve.

B. The valve should be blocked or slung into position with apparatus that will support the valve weight.

C. Bolt the valve into the piping system in desired position in accordance with applicable codes and requirements.

D. Valve is now ready for service and system test.

V. OPERATION

Gate and Globe Valves are opened by turning the handwheel counter-clockwise; clockwise to close. Swing Check Valves are opened and closed by line pressure or backpressure.

VI. TECHNICAL DATA

A. INSTALLATION ADJUSTMENT AND TEST OF GALA GATE, GLOBE AND SWING CHECK VALVES

1. Installation

Before installing the valve check to assure that valve being installed is specified for location, examine lines for foreign matter and clean them thoroughly. Make sure no foreign material is in the ports of the valve. Locate the valve in place and bolt in place.

2. Adjustment and Test

After installation, operate Gate and Globe Valves from full closed to full open position, and back to full closed position. Check all joints for leaks. In the event of leakage, repair as required, and repeat the above.

B. LUBRICATION AND MAINTENANCE OF GALA GATE AND GLOBE VALVES

1. Lubrication

Valves need no internal lubrication. Lubrication may be required; however, for the valve stem threads and for the operator (if valve is equipped with an operator).

2. Maintenance (Packing Gland Type)

Gate and Globe Valves should be operated through approximately 80% of travel at intervals of approximately one month depending on convenience. If not operated at intervals of one month or less, it is recommended that regular inspection of the stuffing box should be made to verify tightness. In adjusting the stuffing box, great care should be taken that the packing is not tighter than necessary to control leakage and that the packing nuts are adjusted equally. Uneven adjustment can cause damage to the stem and operating failure. If leakage is detected and cannot be stopped by tightening the packing nuts, the leakage may be attributed to one of more of the following reasons:

a. Incorrect packing used; replace with proper packing.

b. Packing may have become hard; replace with new packing.

c. Stem may be scored or deeply scratched; stem must be replaced.

d. Packing may have been improperly installed; packing ring splits should be staggered so that the splits are not positioned one over the other.

e. Stuffing box gland may be binding against either the stem or the stuffing box, due to uneven bolt pull-up. Stuffing box parts should be repositioned to assure even compression of the packing.

3. Maintenance (Injection Type)

When put into service, a clockwise turn of the Hex Head Adjustment Screw may be required to compress additional packing from the reservoir into the sealing area. Adjustment can be made under FULL line pressure with the disc of ANY position. There is no need to backseat the disc; the specially designed Ball Check Valve eliminates the possibility of packing extrusion. Additional adjustment turns may be made, as necessary, until adjustment screw “bottoms” in the injector fitting. In the event the screw “bottoms”, the packing reservoir must be replenished. Remove screw and insert new packing sticks. Replace adjustment screw.

CAUTION: Do not remove packing injector unit while under pressure.

C. REPAIR OF GATE VALVES

1. **Valve Disassembly**
   Have replacement gasket available. Shut off line pressure and remove valve from line. Unwedge the disc. Remove bonnet bolting and carefully lift bonnet assembly with disc from body.
2. **Procedure for Lapping Disc**
   Apply Grade 80 or 120 emery cloth to flat surface. Lay disc face on abrasive and use oscillating motion for lapping until face is polished. In extreme cases, first use a soft grade of carborundum stone.
3. **Procedure for Lapping Body Seat Ring**
   Apply Grade 80 or 120 emery cloth to a convenient size block. Hand lap by applying abrasive to face of body seat ring, use oscillating motion all around until face is polished. In extreme cases, first use a soft grade of carborundum stone.
   After lapping, clean body seat and disc to remove residue from the abrasives. Apply Prussian Blue to faces of disc and insert into seat, tap lightly to record seat bearing. If bearing periphery does not record a complete circle on disc face, repeat lapping operation to remove high spots until a complete circle is obtained.
4. **Procedure for Making Up Bonnet Joint**
   Before reassembly of bonnet to body, inspect bonnet flange and body-bonnet flange gasket surfaces for damage and/or any foreign material that will obstruct a good sealing surface. Such matter must be removed with an emery cloth (Grade 80 or 120). Clean off all residue from gasket surface before reassembly.
5. **Reassembly**
   Apply high temperature thread lubricant to gasket (on non-critical service application only), spotface surfaces and bonnet bolting. Place gasket on body. During bonnet assembly raise stem to full open position. Insert bonnet with disc to body in proper position. Tighten bonnet bolting alternately (crossover method) with even pressure, up to a bolt stress of 15,000 lbs/in?. Should there be any leakage at bonnet joint after valve is put into service, tighten nuts up to a maximum of 30,000 lbs./In.? bolt stress.

D. REPAIR OF GLOBE VALVE

1. **Valve Disassembly**
   Have replacement gasket available. Shut off line pressure and remove valve from line. . Remove bonnet bolting and carefully lift bonnet assembly with disc from body.
2. **Procedure for Lapping Disc and Body Seat Ring**
   Apply a small amount of valve grinding compound all around the seat-bearing surface then place disc into port and lap with alternate rotary motion. Lift disc at intervals and turn 180 ° and continue lapping. Remove compound occasionally while lapping, clean body seat and disc to remove compound residue. Apply Prussian Blue to disc and insert into seat. Applying normal pressure to disc, rotate 5° (approx.) to record seat bearing. If bearing periphery does not record a complete circle on disc face, repeat operation to remove high spots until a complete circle is obtained.
3. **Procedure for Making Up Bonnet Joint**
   Before reassembly of bonnet to body inspect bonnet flange and gasket surfaces for damage and/or any foreign material that will obstruct a good sealing surface. Such matter must be removed with emery cloth (Grade 80 or 120). Clean off all residue from gasket and gasket surface before reassembly.
4. **Reassembly**
   Place gasket on body. Apply high temperature thread lubricant to gasket, (on non-critical service applications only), bonnet bolting and spot face surfaces. Before bonnet assembly, raise stem to full open position. Install bonnet to body in proper position. Tighten bonnet bolting alternately (crossover method) with even pressure, up to a bolt load of 15,000 lbs/in?. Should there be leakage at bonnet after valve is put into service, tighten nuts up to a maximum of 30,000 lbs./In.? bolt stress.

E. REPAIR OF SWING CHECK VALVES

1. **Valve Disassembly**
   Have replacement gasket available. Shut off line pressure. Remove cap bolting and carefully lift cap from body. Do not damage gasket-seating surface. Remove external pipe plugs. Hold disc-hinge subassembly in place and remove hinge pin. The subassembly can now be removed from the body. For disassembly of the disc-hinge assembly, remove the disc lock nut and washer. Note: some valves use a disc nut locking pin in place of a disc lock nut.
2. **Procedure for Lapping Disc and Body Seat Ring**
   For lapping disc and body seat ring, apply Grade 80 or 120 emery cloth to a flat plate. Lay the abrasive side of the plate on seat face and use rotary motion for lapping until face is polished. If the disc face is damaged such that grinding is required, a minimum of stock should be removed.
   After lapping, clean body seat ring and disc to remove residue from the abrasives. Apply light film of Prussian Blue to face of disc and reassemble to body. Apply pressure on disc and tap lightly with rawhide mallet to record bearing. If the bearing does not record a complete circle on disc and body ring faces, repeat lapping operation to remove high spots until a complete circle is obtained. (The hinge assembly must be free on the disc, with no binding, when the disc face is flat on the east ring face).

3. Procedure for Making Up Cap Joint
Before reassembly of cover flange to body, inspect flange gasket surfaces for damage and any foreign material that will obstruct a good sealing surface. Such matter must be removed with emery cloth (Grade 80 or 120). Clean off all residue from gasket and gasket surface before reassembly.

4. Reassembly
Assemble disc-hinge subassembly in reverse order from disassembly by placing the hinge onto the disc hub. Install washer and disc nut taking care to realign hole in disc for locking pin. Carefully position subassembly disc face onto body-seat and align hinge pin hole with body plug holes and install hinge pin. Install body pipe plugs. Place gasket onto body. Apply high temperature thread lubricant to gasket, (on no-critical service applications only), cap bolting and spot-face surfaces. Insert cap on to the body with flow arrow pointing in proper direction. Tighten cap bolting alternately (crossover method) with even pressure, up to a bolt load of 15,000 lbs/in?. Should there be leakage at the cap joint after valve is put in service, tighten nuts up to a maximum of 30,000 lbs./In.? bolt stress.

VII. PROCEDURE FOR REPLACING SPLIT RING PACKING IN VALVE STUFFING BOX

The following procedure should be used to replace packing in assembled valves whether or not installed in the system. During the packing replacement, the valve should be isolated and depressurized.

1. Remove nuts from packing gland bolting.
2. Raise packing gland and gland flange to allow access to stuffing box.
3. Remove the old packing using a suitable packing removal tool.

Caution: Extreme care shall be taken to prevent damage to surfaces of the stem and stuffing box bore.

4. Clean the stem stuffing box and packing gland.
5. Inspect surfaces of the stem and stuffing box for damage such as nicks and scratches that may cause an inadequate packing seal. Damaged parts shall be repaired or replaced.
6. Lubricate packing gland studs.
7. Install new packing into stuffing box. One packing ring shall be installed at a time as follows:
   a. Carefully install the ring on the stem, opening the split rings with a twisting motion.
   b. Position on stem locating the split approximately 120 degrees from the split of the previously installed ring.
   c. Press ring into stuffing box with care to prevent cutting the packing on edges of the stuffing box and carefully tamp ring in place.
   d) Compress the ring using packing gland, flange and nuts, tightening with reasonable torque for gland bolting.

Note: A split collar extension of soft metal, or hard wood, should be used with the packing gland, until the ring stack is high enough to be reached by the gland, to ensure compression of the lower rings.

e.The minimum number of packing rings to be installed shall be in accordance with design requirements. If the specified minimum number of rings cannot be installed, it should be ascertained that the rings have been installed and compressed properly.
f) Installation of additional packing ring may be necessary to ensure that sufficient clearance exists between the gland collar and the bonnet to permit future packing adjustment.

Note: The maximum number of packing rings installed shall permit the gland to be retained within the stuffing box bore.

Back off packing gland stud nuts and retighten with torque of approximately one half of that used to originally compress packing. If possible, pressurize the valve and packing for several minutes, then depressurize. Valve shall not be backseated at this time. Cycle the valve several times. Adjust torque if required for tightness. If valve is to be stored, loosen the packing gland until it just contacts the packing with no loading or bolting. Tag the valve to indicate that the gland has been loosened.

VIII. RECOMMENDED SPARE PARTS

Upon completion of installation and testing of the piping and valve system, it is recommended that one (1) bonnet/cap gasket and one (1) set of stuffing box packing be stocked as spares for each valve. When ordering spares, reference valve size, catalog number, assembly drawing number and piece numbers shown on the bill of materials in the assembly drawing section of this manual.

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