

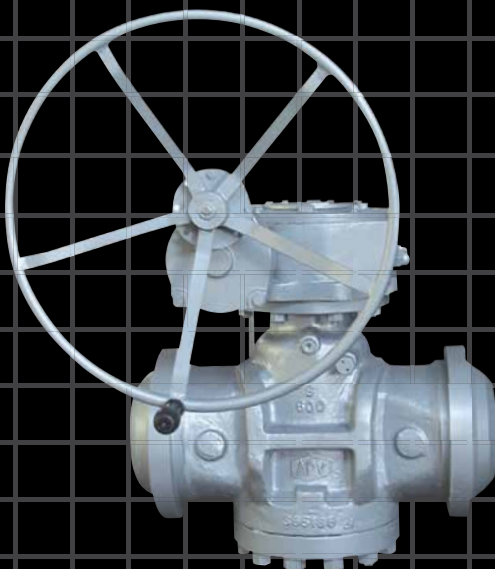
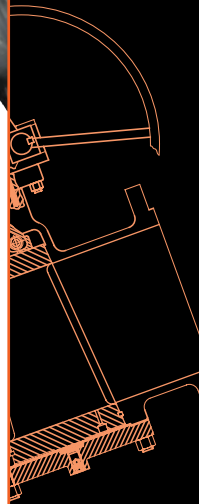
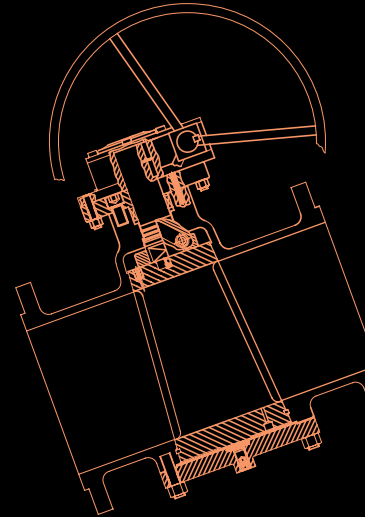
PLUG VALVES - LUBRICATED, SLEEVED, LINED

SHORT VERSION

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**AUSTRALIAN
PIPELINE VALVE®**



API 6FA, API 607
Firesafe Certified

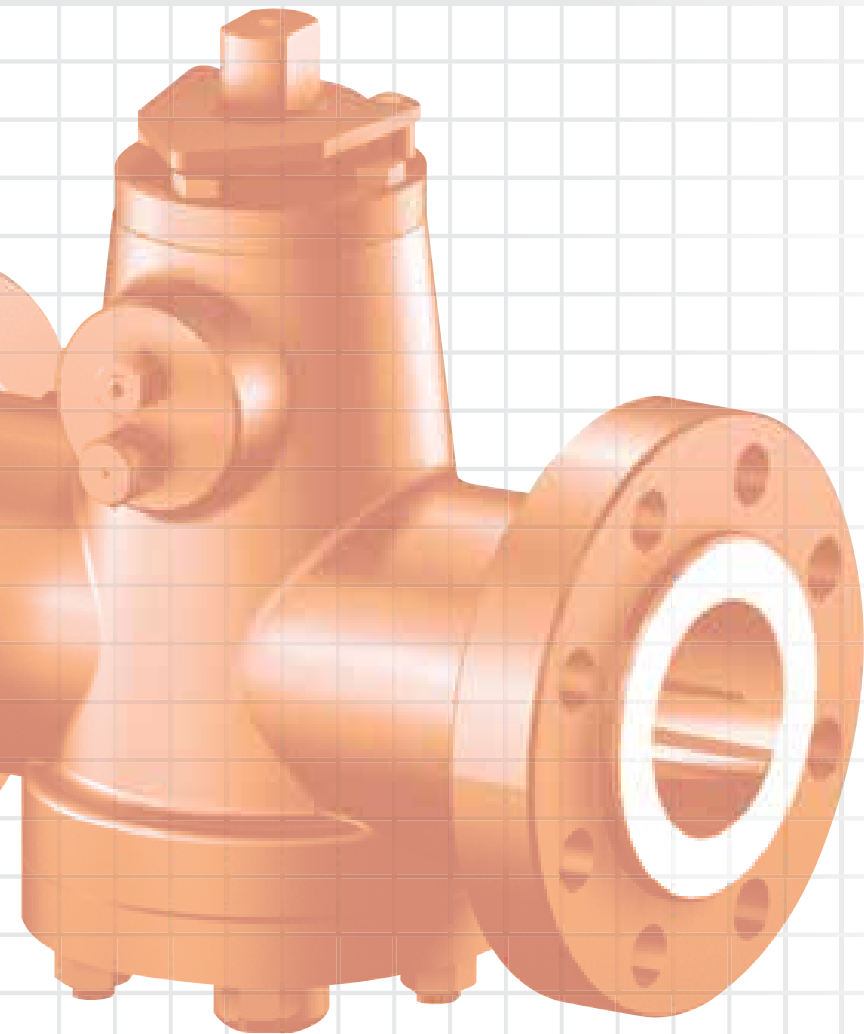
QUALITY VALVE MANUFACTURER

QUALITY COMMITMENT

Quality is Our First Priority.

Consistent product quality and a proven track record makes Australian Pipeline Valve a dependable choice where total reliability is the number one concern.

Since its founding, APV's philosophy has been focused on quality. Our valves are manufactured in full compliance to worldwide standards (such as ASME/ANSI, API, EN, ISO, BS, AS).



**AUSTRALIAN
PIPELINE VALVE®**

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LUBRICATED PLUG VALVES

Australian Pipeline Valve Plug Valves are manufactured to cover a wide range of applications.

APV Quarter Turn Plug Valves are excellent for consistent and accurate flow control of gases and viscous liquids can be designed from corrosion resistant materials to meet the needs of abrasive media, even in high temperature and high pressure applications.

Excellent for gas, but also ideally suited for viscous liquids, APV plug valves regulate fluid flow with the use of conically tapered or cylindrical plugs that can be rotated inside the valve body.

APV plug valves are available in three versions: short, regular and venturi patterns. With a compact face to face dimension, short plug valves are suitable for applications where some flow rate reduction can be accepted. Regular pattern plug valves maintain flow with minimal loss and have a longer face to face dimension. When the flow rate is not critical, venturi pattern plug valves minimise pressure drop with a long lead in and out of the port.

STANDARD

- Lubricated Standard type Plug Valves.
- Lubricated Inverted Taper Pressure Balanced High Performance Plug Valves.
- Class 150 to 2500 and API 2000 to 10,000 psi

SPECIAL

- Class 150-300 & 600 three ways Transflow Pattern Lubricated Plug Valves.
- Class 150 four ways transflow Pattern Lubricated Plug Valves.
- Class 150-300-600 Full Jacketed Lubricated Plug Valves.



MATERIALS

All Australian Pipeline Valve products are normally available in:

A216 WCB, WCC OR ASTM A105N

- Standard Carbon Steel which are supplied in 0.22% Maximum Carbon content and specified for standard service at temperatures from - 20°C up to + 232°C (-20°F + 450°F). Plugs are normally in Carbon Steel, nitrided or hardened or ENP.

ASTM A352 LCB OR LCC

- Low temperature service suitable from - 46°C to + 232°C (-50°F + 450°F) - normally used for below zero temperatures to - 46°C must have a minimum average charpy "V" notch impact strength a / 15 foot / Lb.

NACE MR.01.75.

- In natural gas it is possible to encounter small amounts of Hydrogen Sulphides (H₂S) which may cause corrosion. The phenomenon is normally known as "Hydrogen Sulfide Embrittlement" or "Sulfide Stress Cracking". The absorption of Hydrogen from part of steel causes ductility which, when added to other elements of stress caused by the service itself, may cause failure of the forged or cast component. Steels with yield strengths above 621 Mpa (90,000 PSI) or with hardness over 22 rockwell (235 Brinell) may be subject to "Sulfide Stress Cracking". In Nace MR.01.75 all basic material components are properly treated in order to remain below the hardness of 22 rockwell. In such a case, plugs are electro nickel coated or hardened to prevent galling action.

ASTM A182 F316 - A351 CF8M

- A 18.12 stainless steel material which contains Molybdenum is suitable for service temperature from -232°C to + 371°C (- 450°F to 700°F). Normally used for valves for high temperature service or where high corrosion resistance is needed.

SPECIAL

- Trim in 13% Chr. - 316 - Monel, Stellite No. 6 (coating). Body in WC6, F51, CF8M, ENP etc.
- Optionally available, Xylan™ or LoMu® style (similar) PTFE impregnated anti-friction coating on plug & stem for superior corrosion resistance with the added advantage of reduced torque. Xylan™ is a PTFE based compound frequently used to coat valve components to provide offshore corrosion resistance. F6a/410 Stainless Steel is also available for superior hardness characteristics while being an effective anti-corrosive material.

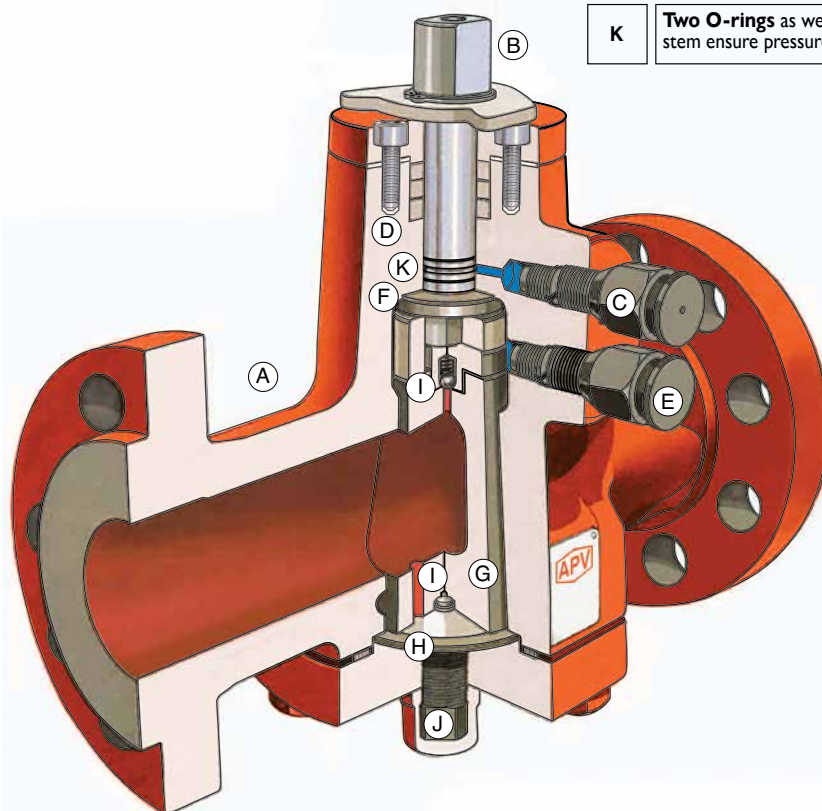
MATERIALS

MAIN MATERIAL TYPES

Category	Body/Bonnet	Plug	Stem	Bolt/Nut
Carbon Steel	A105 A216WCB/WCC Max C 0.25%	A105 A216 WCB/WCC†	A29 Gr. 4140†	A193-B7M A194-2HM
Low temperature carbon steel	A350-LF2 A352LCB/LCC Max C 0.23%	A350-LF2 A352LCB/LCC†	A29 Gr. 4140†	A320-L7M A194 Gr.7M
Duplex steel	UNS S31803 A890 A182 F51 (Duplex 22% Cr)	UNS S31803 A182 F51†	UNS S31803 A182 F51†	A453 Gr. 660A UNS S32760
Super duplex steel	UNS S32750 A890 A182 A182 F55 (Super Duplex 25% Cr)	UNS S32750 A182 F55†	UNS S32750 A182 F55†	UNS S32750
Alloy 20	UNS N08020 A351 CN7M	UNS N08020 A351 CN7M†	UNS S32750 UNS S322760†	A453 Gr. 660A UNS S32760

† Hardened/Nitrided or ENP+PTFE based anti-friction treatment.

A	Body – Heavy duty proven design with no cavities. Wall thickness to ASME B16.34 and API 6D. Sealant system grooves provide a complete sealant system groove around ports. Extra body stiffening (as required according to size & class) prevents the phenomenon of flexing in plug valves which causes seat leakage
B	Stem – Anti blow out + Electroless Nickel Plating (HV500) hardness for low torque, abrasion resistance and Ra 0.8 µm smoothness ensuring low emissions
C	Stem Packing Injector – Emergency stem sealant injection point. Isolated from main line pressure sealant is contained within gland seal area. C/w internal one-way check valve
D	Gland & Stem Sealing – Fugitive emission & firesafe certified Chesterton 1622 graphite packing. The triple barrier stem seal system and pre-loaded packing provides a low maintenance life. Packing can be adjusted if needed. Furthermore, stem smoothness Ra .8µm and stuffing box smoothness Ra 1.6µm ensures ultra low emissions.
E	Body Sealant Injector – Maintains bubble tight shut-off for the life of the valve. C/w internal one-way check valve
F	Equaliser Joint – Prevents side loads for efficient stem to-plug connection
G	Plug – Metal-to-metal wide seating area with Ni-hard or ENP treatment for low torque & abrasion resistance
H	Cover Seals – Metal for long life and increased fire safety + spiral wound body gasket for zero leakage
I	Plug Balancing – designed to pre-load the plug to prevent vibration or thermal recycling from wedging the plug into the body taper regardless of installed position combined with Balance Holes , (as required per size & class) ensuring pressure equalisation between the port and area around plug
J	Plug Loading Screw – Factory set to ensure seat tightness with low torque, with weatherproof cap
K	Two O-rings as well as a Primary Thrust Seal below stem ensure pressure is isolated



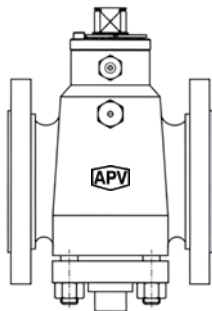
PLUG VALVE PATTERN STYLES



Australian Pipeline Valve plug valves are available in three different patterns to meet the valve needs of most piping systems.

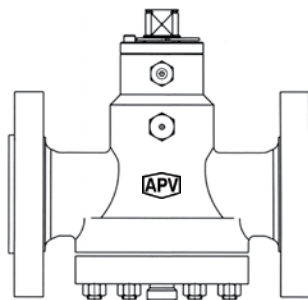
Short Pattern

Same face to face dimensions as gate valves



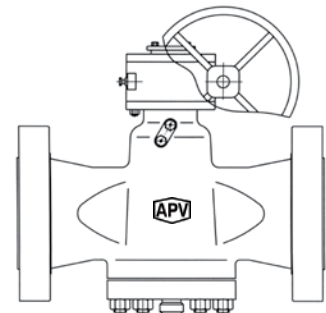
Regular Pattern

Offers the largest port opening in a trapezoidal configuration - close to a full pipe port area



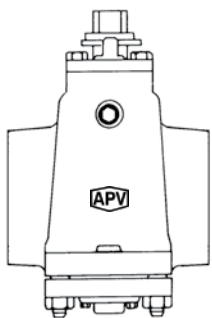
Venturi Pattern

Has a smaller port than the other two patterns. It is lower in cost and flow contours maximise the hydraulic efficiency

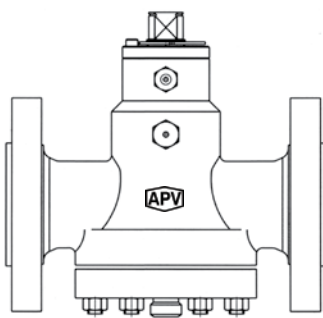


PLUG VALVE END CONFIGURATIONS

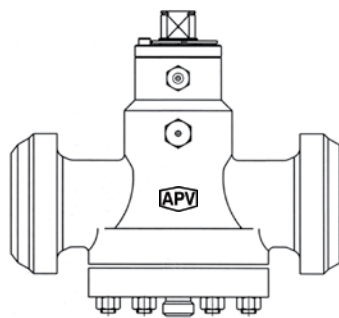
Australian Pipeline Valve plug valves are available with threaded, flanged, butt weld or flanged x butt weld ends. Flanges are provided in either raised face or ring joint ends.



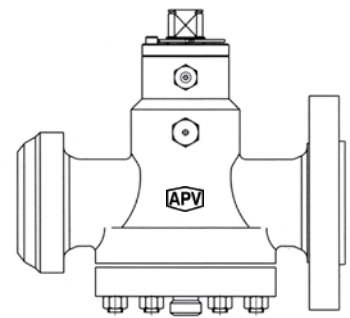
Threaded



Flanged



Welding Ends



Buttweld X RF

MODEL SSCR LUBRICATED STEEL PLUG VALVES PRESSURE BALANCED INVERTED STYLE

ANSI CLASS 150 to 2500

FIRSAFE CERTIFIED API 607 5TH & 6TH EDITION, API 6FA AND ISO 10497

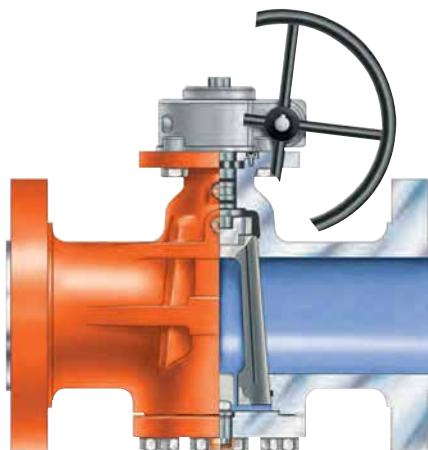
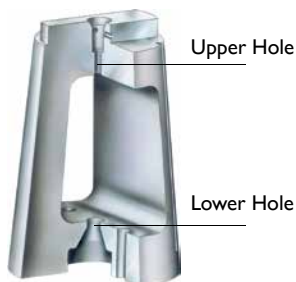
Pressure balanced plug valves are used where pulsating or static high pressures are present. The benefit a dynamic pressure balanced inverted plug gives is that it ensures equalised pressure between the plug and upper and lower body chambers. Pressure is balanced by two holes in the plug which connects the plug port with the lower and upper cavities, as required according to size and class. The hole in the upper end is provided with a check valve so the pressure is always equal to the large end cavity and it is always equal to or greater than the line pressure in the small end cavity.



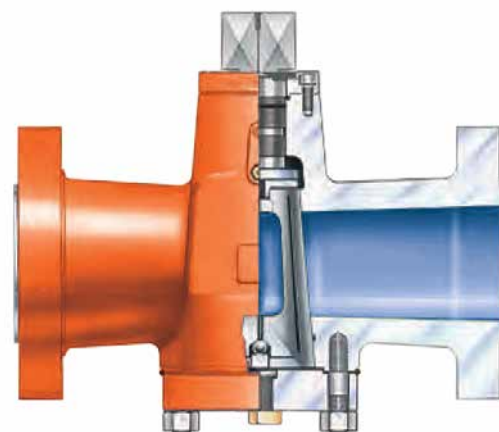
COMPARISON CHART: APV SSCR VS CONVENTIONAL PLUG VALVE

Performance Feature	APV SSCR	Conventional Plug Valve
Pressure balanced low torque design	Yes	No
Fire Safe (API 6FA & API 607)	Yes	Yes
Metal-to-Metal seats	Yes	Yes
Lubricated (APV Sealed Port Sealant System)	Yes	Yes
Low pressure drop*	Yes	No
Low turbulence*	Yes	No
Large port	Yes	No
NACE standard	Yes	No
Mildly abrasive/erosive service	Yes	Yes
Low CO2 service	Yes	No
Low H2S service	Yes	Yes
Anti wedging design	Yes	No
Inverted tapered plug	Yes	No
Unpressurised area at stem	Yes	No
Smooth, Contoured Flow Passages for an unobstructed flow	Yes	No
Ability to adjust the plug-in-line, under pressure	Yes	No
Bi-Directional Flow	Yes	Yes/No

*Applies to regular pattern not Venturi pattern.



Gear Operated



Wrench Operated

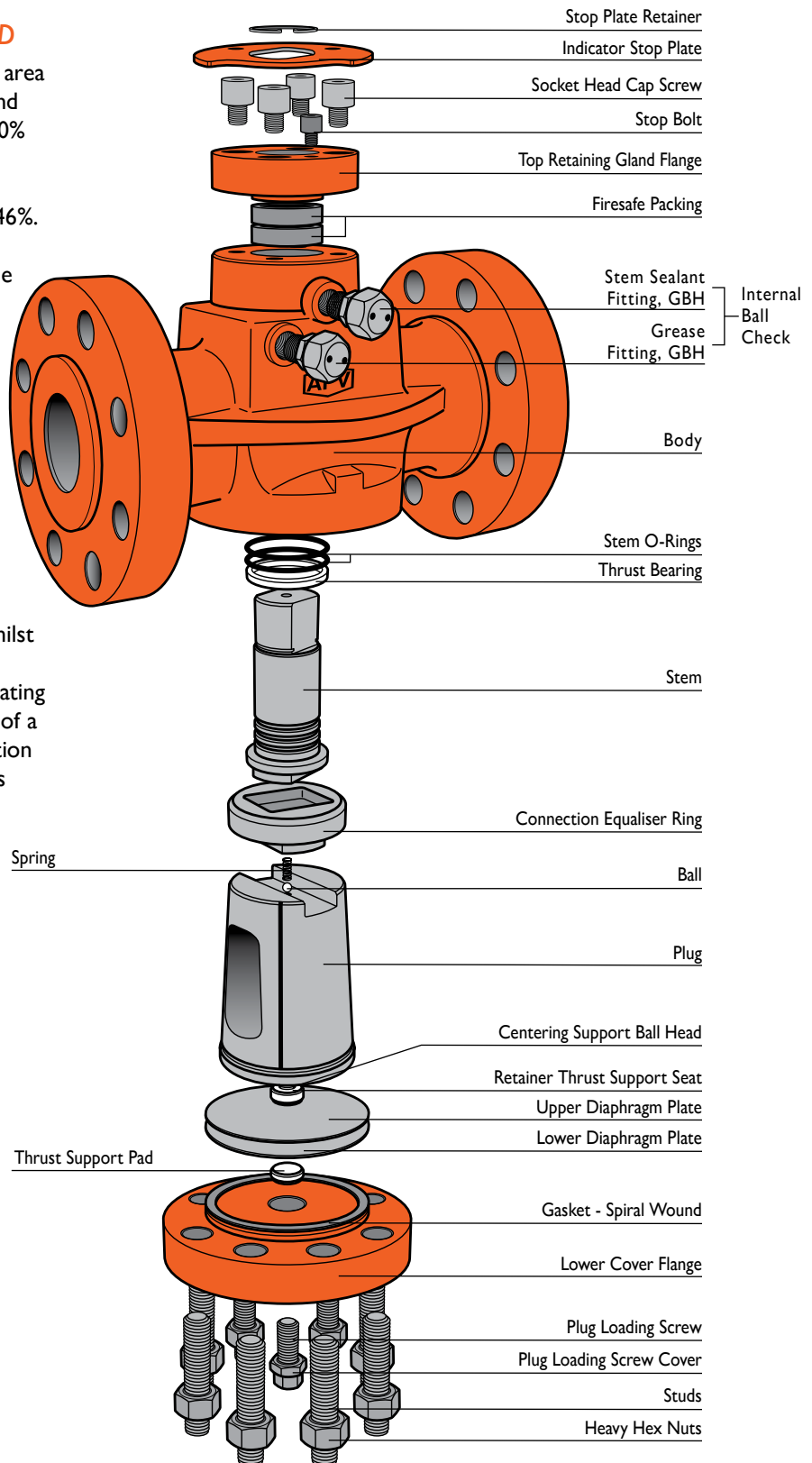
MODEL SSCR STEEL PLUG VALVE PRESSURE BALANCED INVERTED STYLE

BORE AREA PRESSURE BALANCED

- A regular pattern provides an open area / port size conforming to API 6D and API 599 of approximately 60% to 70% (depending on size and class). 150NB and over can have a slightly smaller port size, can be as low as 46%. Venturi pattern is as low as 40%.
- Full Circular 100% port also available on request.

ADVANTAGES

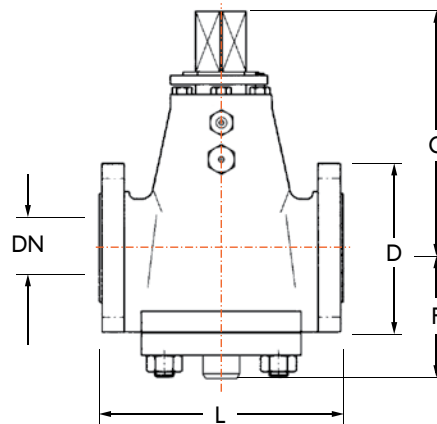
- Ease of maintenance.
- Regular regreasing ensures ease of operation and resists corrosion whilst ensuring no seat leakage.
- Leak tightness & safety of the operating system is assured by the provision of a check valve in the lubrication injection fitting. An additional check valve is installed into the lubrication duct.
- Firesafe API 6FA, API 607.



Typical example only, design varies according to size & class

MODEL SSCR DIMENSION CLASS 150

Pressure balanced, inverted plug
 Valve designed to API 6D & API 599
 Valve tested to API 6D or API 598
 Face to Face to API 6D & ANSI B16.10
 Flanged ends to ANSI B16.5

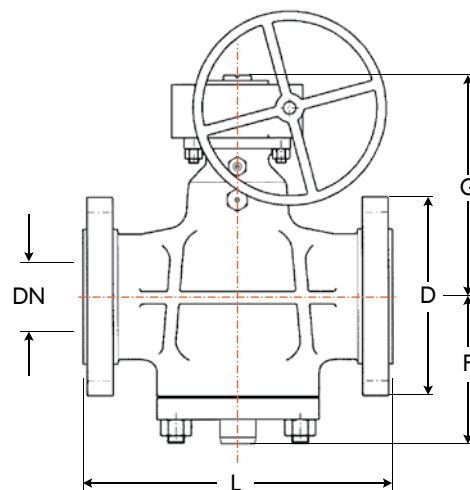


ENDS
 Threaded
 RF
 RTJ
 Butt Welded
 Socket Weld

Short Pattern Class 150 Wrench Operated

Size	Inch	1	1-1/2	2	2-1/2	3	4	6
DN	mm	25	40	50	65	80	100	150
L RF	mm	133/140	165	178	191	203	229	267
L RJ	mm		-	191	203	216	242	280
L BVW	mm		-	267	305	330	356	457
D	mm	108	127	152	178	191	229	280
F	mm	100	120	130	150	170	190	235
G	mm	135	250	290	320	360	380	460
Weight (approx) RF	Kg	12	15	20	30	40	60	110

Refer to as-built drawing for specific detail.



ENDS
 RF
 RTJ
 Butt Welded

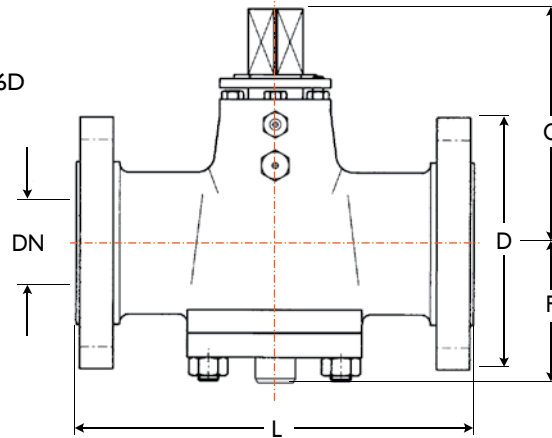
Short Pattern Class 150 Gear Operated

Size	Inch	6	8	10	12
DN	mm	150	200	250	300
L RF	mm	267	292	330	356
L BW	mm	457	521	559	635
D	mm	280	343	406	483
F	mm	240	260	280	300
G	mm	480	510	530	550
Handwheel dia.	mm	500	500	650	650
Weight (approx) RF	Kg	135	170	230	350

Refer to as-built drawing for specific detail.

MODEL SSCR DIMENSION CLASS 300

Pressure balanced, inverted plug
Valve designed to API 6D & API 599
Valve tested to API 6D or API 598
Face to Face to ASME B16.10 & API 6D
Flanged ends to ASME B16.5

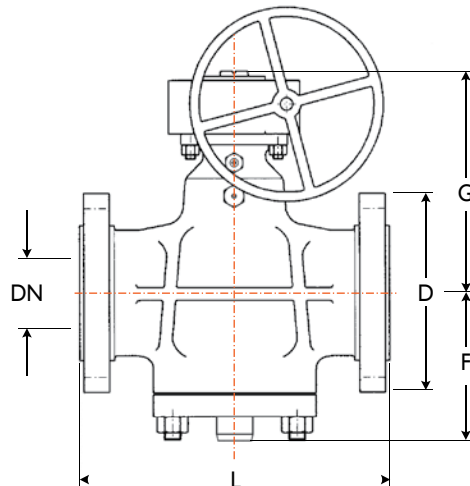


ENDS
Threaded
RF
RTJ
Butt Welded

Short Pattern Class 300 Wrench Operated

Size	Inch	1	1-1/2	2	2-1/2	3	4	6	8	10	12
DN	mm	25	40	50	65	80	100	150	200	250	300
L RF	mm	159/165*	190	216	241	283	305	403	419	457	502
L RJ	mm		203	232	257	299	321	419	435	473	518
L BW	mm		-	267	305	330	356	457	521	559	635
D	mm	124	156	165	191	210	254	318	381	445	521
F	mm	100	115	140	150	170	180	235	260	280	300
G	mm	140	230	280	310	360	380	460	530	550	570
Weight (approx) RF	Kg	15	20	25	35	50	76	140	250	285	385

* 159mm is short pattern, 165mm is 300lb ball valve and 250lb plug valve face to face. Refer to as-built drawing for specific detail.



ENDS
RF
RTJ
Butt Welded

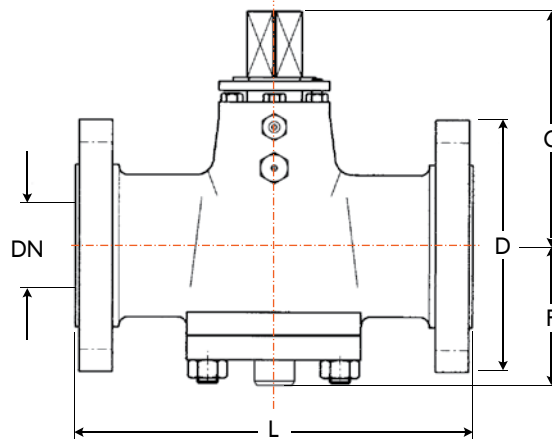
Regular Pattern Class 300 Gear Operated

Size	Inch	6	8	10	12
DN	mm	150	200	250	300
L RF	mm	403	502	568	711
D	mm	318	381	445	521
F	mm	240	260	280	325
G	mm	500	510	550	584
Handwheel dia.	mm	650	650	700	787
Weight (approx)	Kg	190	272	385	550

Refer to as-built drawing for specific detail.

MODEL SSCR DIMENSION CLASS 600

Pressure balanced, inverted plug
 Valve designed to API 6D & API 599
 Valve tested to API 6D or API 598
 Face to Face to API 6D & ANSI B16.10
 Flanged ends to ANSI B16.5

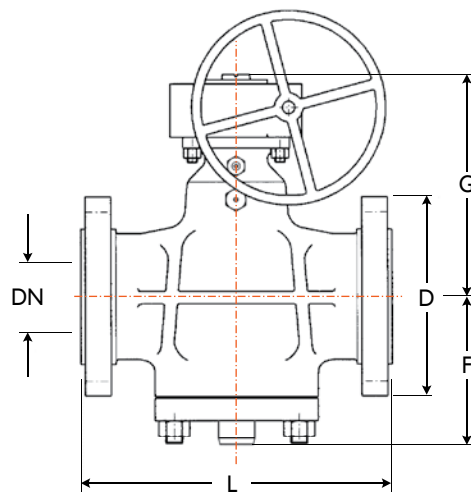


ENDS
 RF
 RTJ
 Butt Welded

*Regular Pattern Class 600
 Wrench Operated*

Size	Inch	1/2	3/4	1	1-1/2	2	2-1/2	3	4
DN	mm	15	20	25	40	50	65	80	100
L RF	mm	159	191	216	241	292	330	356	432
L RJ	mm	159	191	216	241	295	333	359	435
L BW	mm	-	-	216	241	292	330	356	432
D	mm	95	118	121	156	165	191	210	273
F	mm	100	120	120	140	140	150	160	185
G	mm	22	27	27	40	45	50	50	50
J	mm	160	200	200	270	290	320	360	380
Weight (approx RF)	Kg	7	11	13	26	30	45	65	90

Refer to as-built drawing for specific detail.



ENDS
 RF
 RTJ
 Welded

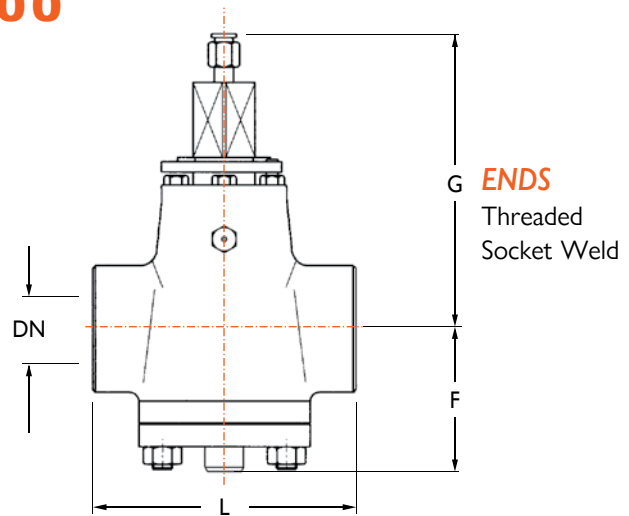
*Regular & Venturi Pattern Class 600
 Gear Operated*

Size	Inch	4	6	8	10	12	14	16	18	20	22	24
DN	mm	100	150	200	250	300	350	400	450	500	550	600
L RF	mm	432	559	660	787	838	889	991	1092	1194	1296	1397
L RJ	mm	435	562	663	790	841	892	994	1095	1200	1305	1407
L BW	mm	432	559	660	787	838	889	991	1092	1194	1296	1397
D	mm	273	356	419	508	559	603	686	743	813	870	940
F	mm	185	243	260	280	300	350	370	400	430	500	521
G	mm	380	520	550	570	580	610	625	700	750	830	900
Handwheel dia.	mm	500	500	650	650	650	650	650	800	800	800	800
Weight (approx RF)	Kg	135	210	390	550	680	860	1100	1550	2000	2500	3200

Refer to as-built drawing for specific detail.

MODEL SSCR DIMENSION CLASS 600

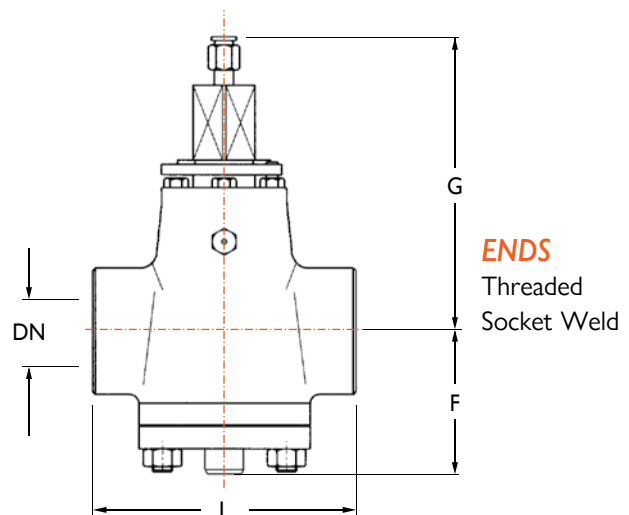
Pressure balanced, inverted plug
 Valve designed to API 6D & API 599
 Valve tested to API 6D or API 598
 Face to Face to API 6D & ANSI B16.10
 Screwed ends to ANSI B 1.20.1



*Screwed or Socket Weld Ends Class 600
 Wrench Operated*

Size	Inch	1/4	3/8	1/2	3/4	1	1-1/2	2
DN	mm	8	10	15	20	25	40	50
L	mm	89	89	89/116	114	133/149	187/175	229/190
F	mm	90	90	95	95	100	118	132
G	mm	145	145	145	145	210	280	300
J	mm	22	22	22	22	27	40	45
Weight (approx)	Kg	4	4	5	5	9	17	26

MODEL SSCR CLASS 800

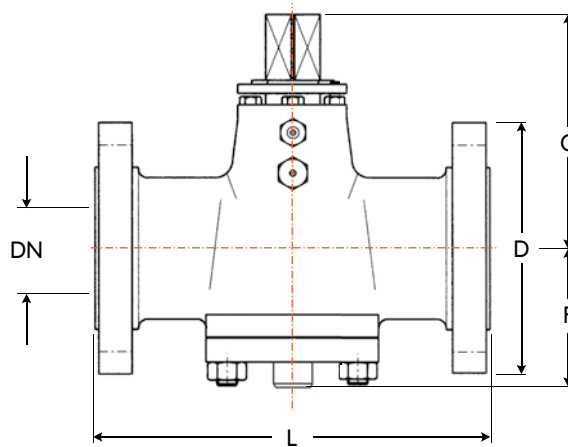


*Screwed or Socket Weld Ends Class 800
 Wrench Operated*

Size	Inch	1/4	3/8	1/2	3/4	1	1-1/2	2
DN	mm	8	10	15	20	25	40	50
L	mm	89	89	89/116	114	133/149	187/175	229/190
F	mm	90	90	95	95	100	118	132
G	mm	145	145	145	145	210	280	300
J	mm	22	22	22	22	27	40	45
Weight (approx)	Kg	4	4	5	5	9	17	26

MODEL SSCR DIMENSION CLASS 900

Pressure balanced, inverted plug
 Valve designed to API 6D & API 599
 Valve tested to API 6D or API 598
 Face to Face to API 6D & ANSI B16.10
 Flanged ends to ANSI B16.5

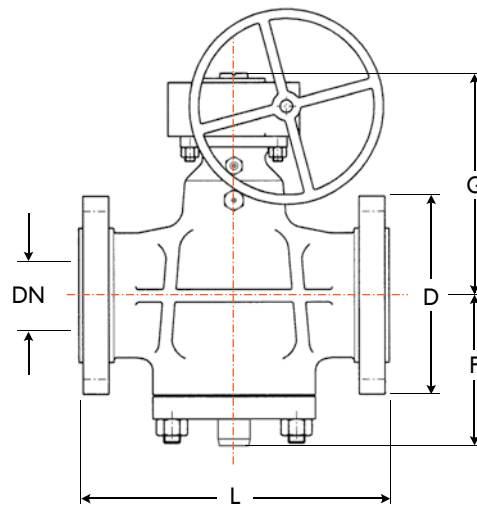


ENDS
 RF
 RTJ
 Butt Weld

*Regular Pattern Class 900
 Wrench Operated*

Size	Inch	1/2	3/4	1	1-1/2	2	3	4
DN	mm	15	20	25	40	50	80	100
L RF	mm	222	248	254	305	368	381	457
L RJ	mm	222	248	254	305	372	384	460
L BW	mm	-	-	-	-	-	381	457
D	mm	121	130	149	178	216	241	292
F	mm	100	100	100	140	140	150	200
G	mm	150	180	200	280	300	360	380
J	mm	22	27	27	40	45	50	50
Weight (approx) RF	Kg	10	15	20	34	65	90	120

Refer to as-built drawing for specific detail.



ENDS
 RF
 RTJ
 Butt Weld

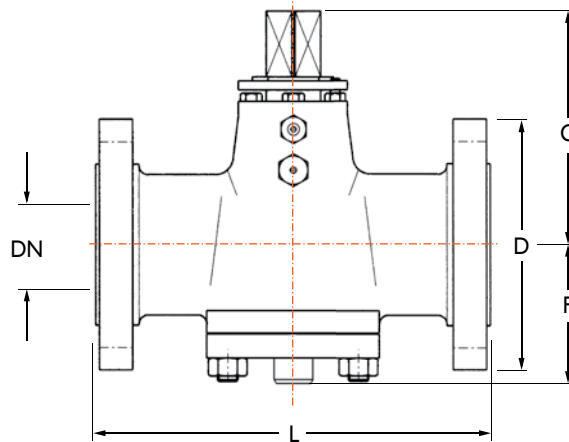
*Regular and Venturi Pattern Class 900
 Gear Operated*

Size	Inch	4	6	8	10	12	14	16	20
DN	mm	100	150	200	250	300	350	400	500
L RF	mm	457	610	737	838	965	1028	1130	1321
L RJ	mm	460	613	740	841	968	1038	1140	1324
L BW	mm	452	610	737	838	965	1028	1130	1321
D	mm	292	381	470	546	610	641	705	857
F	mm	200	250	300	320	355	370	380	400
G	mm	410	510	540	580	660	660	680	700
Handwheel dia.	mm	500	600	650	650	800	800	800	800
Weight (approx) RF	Kg	145	320	480	760	1280	1500	1650	2500

Refer to as-built drawing for specific detail.

MODEL SSCR DIMENSION CLASS 1500

Pressure balanced, inverted plug
 Valve designed to API 6D & API 599
 Valve tested to API 6D or API 598
 Face to Face to API 6D & ANSI B16.10
 Flanged ends to ANSI B16.5

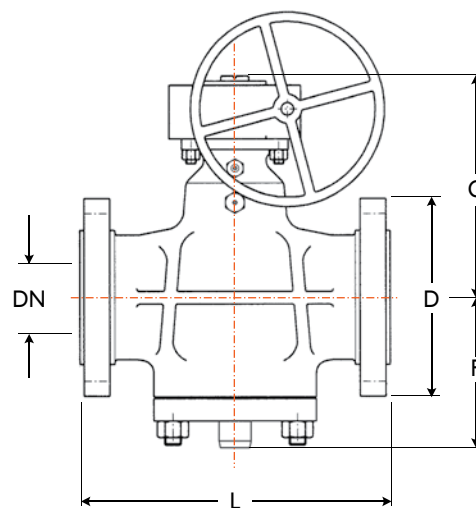


ENDS
 RF
 RTJ
 Butt Weld

*Regular Pattern Class 1500
 Wrench Operated*

Size	Inch	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3
DN	mm	15	20	25	32	40	50	65	80
L RF	mm	222	248	254	279	305	368	419	470
L RJ	mm	222	248	254	279	305	371	422	473
L BW	mm	-	-	-	-	-	-	-	470
D	mm	121	130	149	159	178	216	245	267
F	mm	100	100	100	120	130	150	160	170
G	mm	160	200	200	250	270	390	320	360
J	mm	22	27	27	35	40	45	50	50
Weight (approx) RF	Kg	11	15	20	24	36	55	80	100

Refer to as-built drawing for specific detail.



ENDS
 RF
 RTJ
 Butt Weld

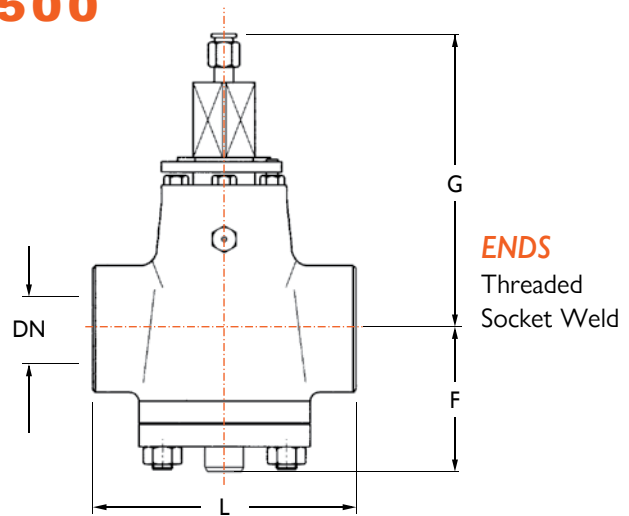
*Regular and Venturi Pattern Class 1500
 Gear Operated*

Size	Inch	3	4	6	8	10	12
DN	mm	80	100	50	200	250	300
L RF	mm	470	546	705	832	991	1130
L RJ	mm	473	549	711	842	1001	1146
L BW	mm	470	546	705	832	991	1130
D	mm	267	311	394	483	584	673
F	mm	150	210	260	300	360	460
G	mm	390	400	500	540	580	650
Handwheel Dia.	mm	500	500	650	650	800	800
Weight (approx) RF	Kg	130	220	550	1100	1350	1900

Refer to as-built drawing for specific detail.

MODEL SSCR DIMENSION CLASS 1500

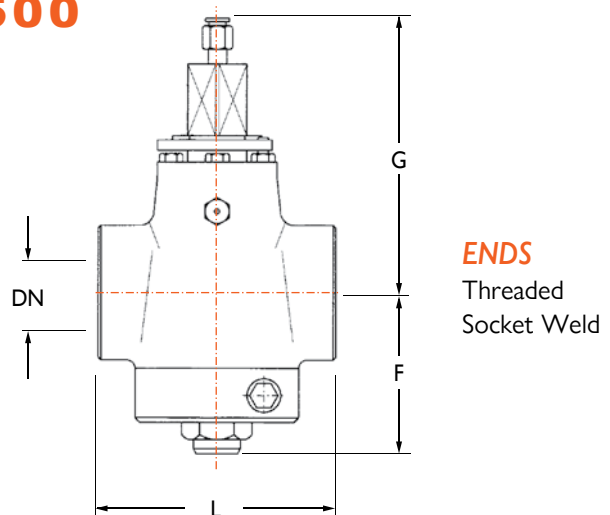
Pressure balanced, inverted plug
 Valve designed to API 6D & API 599
 Valve tested to API 6D or API 598
 Face to Face to API 6D & ANSI B16.10
 Screwed ends to ANSI B 1.20.1



*Screwed or Socket Weld Ends Class 1500
 Wrench Operated*

Size	Inch	3/8	1/2	3/4	1	1-1/2	2
DN	mm	10	15	20	25	40	50
L	mm	89	89	114	133	229	229
F	mm	95	95	95	100	125	135
G	mm	145	145	145	210	280	300
J	mm	22	22	22	27	40	45
Weight (approx)	Kg	5	5	5	9	21	30

MODEL SSCR DIMENSION CLASS 2500

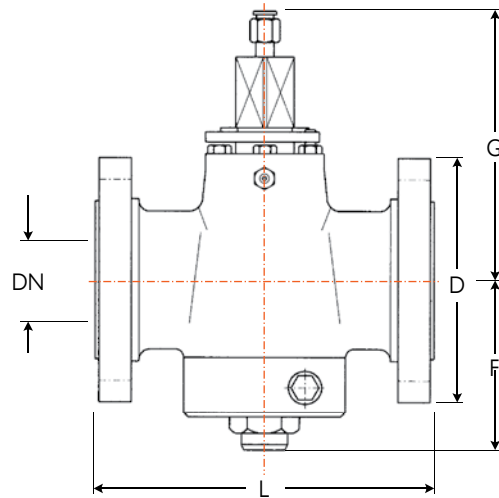


*Screwed or Socket Weld Ends Class 2500
 Wrench Operated*

Size	Inch	1/2	3/4	1
DN	mm	15	20	25
L	mm	133	133	133
H	mm	150	150	150
G	mm	240	240	240
J	mm	32	32	32
Weight (approx)	Kg	16	18	18

MODEL SSCR DIMENSION CLASS 2500

Pressure balanced, inverted plug
 Valve designed to API 6D & API 599
 Valve tested to API 6D or API 598
 Face to Face to API 6D & ANSI B16.10
 Flanged ends to ANSI B16.5

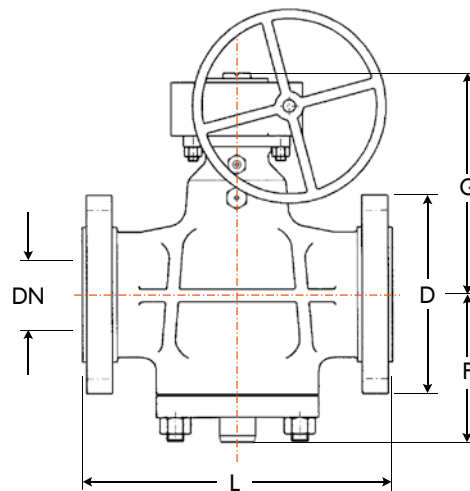


ENDS
 RF
 RTJ
 Butt Weld

*Regular Pattern Class 2500
 Wrench Operated*

Size	Inch	1	1-1/2	2	2-1/2
DN	mm	25	40	50	65
L RF	mm	308	384	451	508
L RJ	mm	308	387	454	514
L BW	mm	308	384	451	508
D	mm	159	203	235	267
F	mm	150	165	175	190
G	mm	240	240	260	280
J	mm	32	45	50	50
Weight (approx) RF	Kg	32	68	85	110

Refer to as-built drawing for specific detail.



ENDS
 RF
 RTJ
 Butt Weld

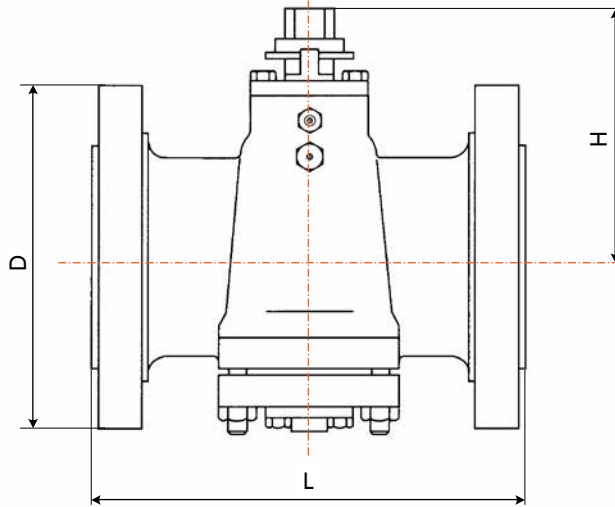
*Regular Pattern Class 2500
 Gear Operated*

Size	Inch	3	4	6	8
DN	mm	80	100	150	200
L RF	mm	-	673	914	1022
L RJ	mm	-	683	927	1038
L BW	mm	578	673	914	1022
D	mm	305	356	483	552
F	mm	200	220	260	310
G	mm	410	425	470	510
Handwheel Dia.	mm	500	650	800	800
Weight (approx) RF	Kg	165	230	660	1250

Refer to as-built drawing for specific detail.

MODEL SSCR DIMENSION API 6A 2000, 3000, 5000 PSI

Valve designed to API 6A
Valve tested to API 6A
Dimensions to API 6A



2000 PSI

Size	Inch	2-1/16	2-9/16	3-1/8	4-1/16
DN	mm	50	65	80	100
L (RTJ)	mm	295	333	359	435
H	mm	152	163	174	187
D	mm	165	190.5	210	273

3000 PSI

Size	Inch	2-1/16	2-9/16	3-1/8	4-1/16
DN	mm	50	65	80	100
L (RTJ)	mm	371	422	384	460
H	mm	152	174	201	220
D	mm	216	244	241	292

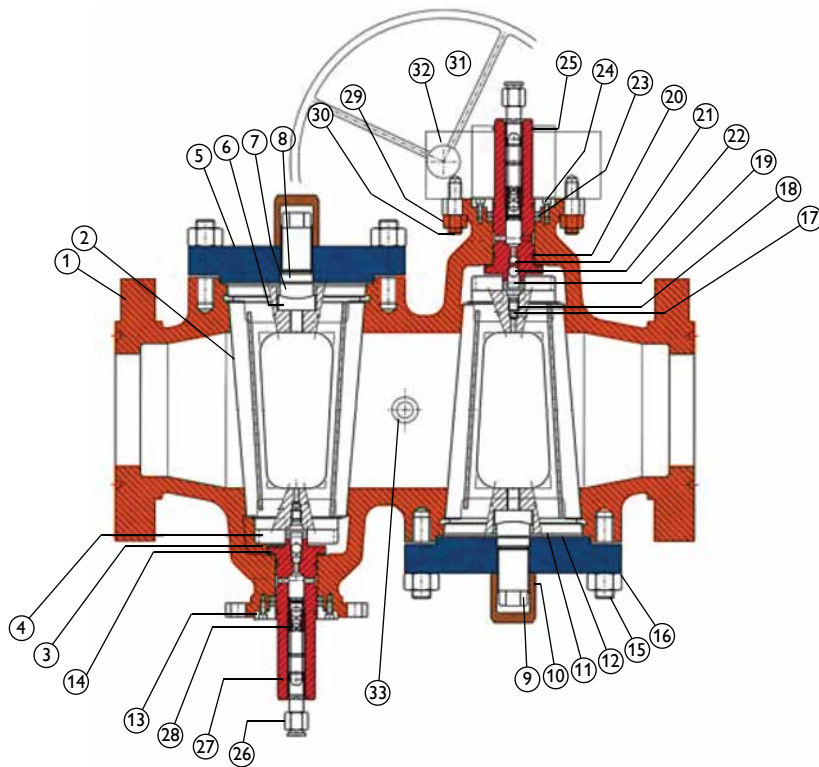
5000 PSI

Size	Inch	2-1/16	2-9/16	3-1/8	4-1/16
DN	mm	50	65	80	100
L (RTJ)	mm	371	-	473	549
H	mm	152	-	201	217
D	mm	216	-	267	311

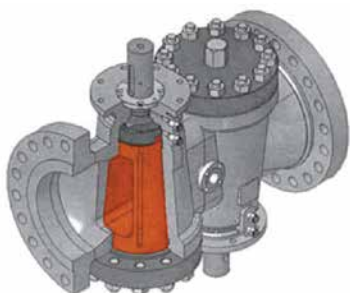


SSCR-DB&B TWIN LUBRICATED PLUG VALVES 150 TO 2500 CLASS & API 2000 TO 5000

- APV SSCR-DBB double block and bleed twin seal pressure balanced plug valves are perfectly designed for the most demanding service conditions & manufactured according to API 6D.
- This compact design within the standard API 6D end to end dimensions offers both space and weight saving.
- The taper plug is pressure balanced, metal to metal seating with lubrication as a secondary back up seal.
- The double plug internals offer a double block and bleed feature which is intrinsically fire safe.
- End connections are offered in line with the customers requirements and can be flanged, weld ends or clamp ends.
- All material types are available as per the specifications requirements.
- The stem is anti blow-out design with quarter turn manoeuvrability and low operating torque. The valve can be installed in any position.

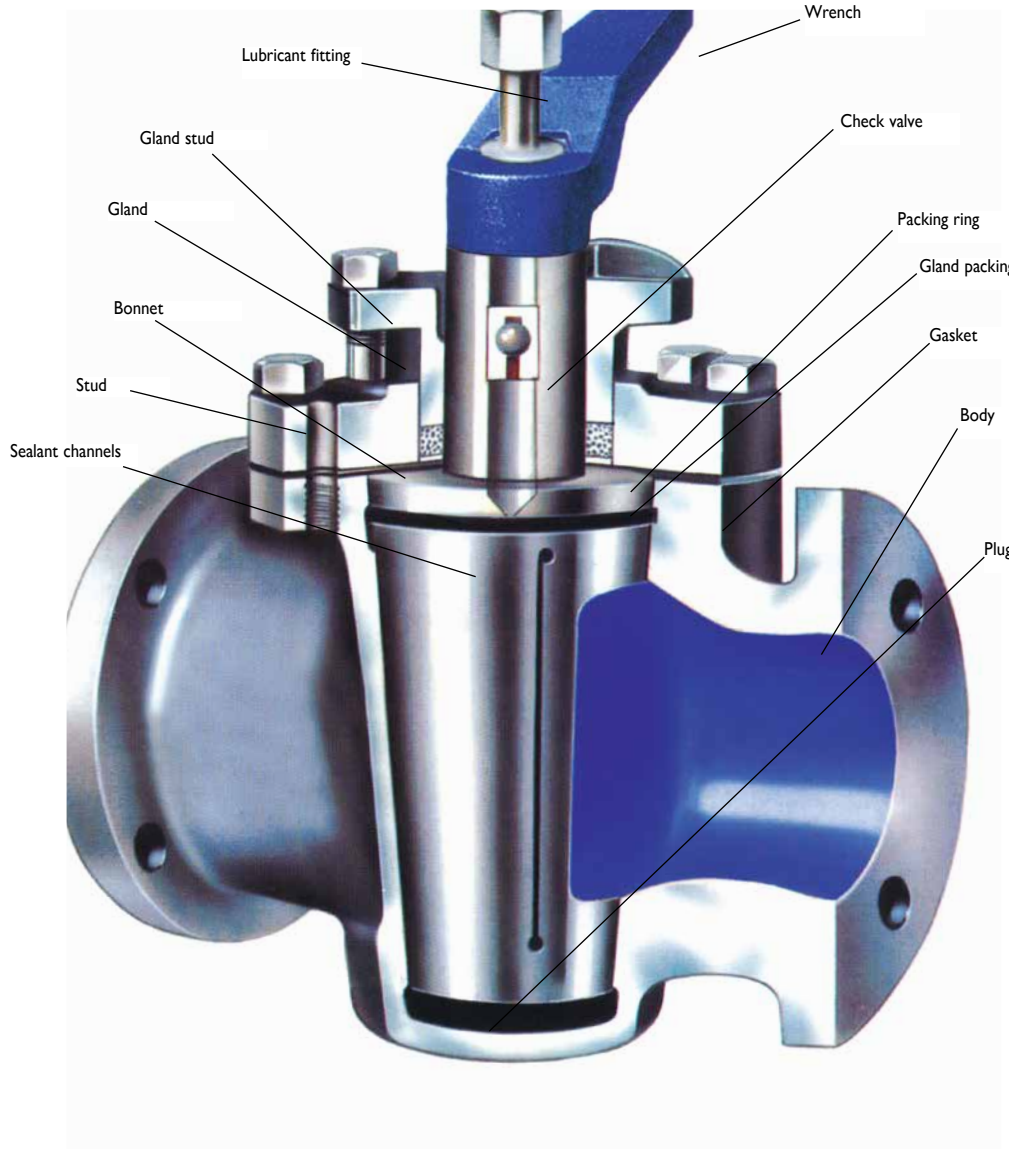


Item	Description
1	Body
2	Plug
3	Stem
4	Equaliser Ring
5	Cover
6	Thrust Seat
7	Thrust Seat
8	Thrust Seat
9	Plug Loading Screw
10	Screw Cap
11	Diaphragm "A"
12	Diaphragm "B"
13	Gland Plate
14	Thrust Bearing
15	Stud
16	Nut
17	Ball Up Plug
18	Grain
19	Elastic Pin
20	O-Ring
21	Ball "A"
22	Ball "B"
23	Packing
24	Gland Plate Screw
25	O-Ring
26	Lubricant Screw
27	Stem Lip
28	Check Valve
29	Gear Nut
30	Gear Stud
31	Handwheel
32	Gear
33	Drain Plug
34	Name Plate
35	Rivet
36	Grease



LUBRICATED TAPER PLUG VALVES STANDARD TYPE (MODEL SAPM/SAPL)

STAINLESS, CARBON STEEL AND IRON 125/150/300 CLASS FLANGED ENDS TO ANSI B16.5



RANGE & TYPES

mm inches	15 1/2	20 3/4	25 1	40 1 1/2	50 2	80 3	100 4	150 6	200 8	250 10	300 12	350 14	400 16
ANSI 150	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
ANSI 150				⊖	⊖	⊖	⊖	⊖	⊖	⊖			
ANSI 150					⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
ANSI 300	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖		
ANSI 300			⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖			

Regular Pattern, Standard Type
 Short Pattern, Standard Type
 Venturi Pattern, Standard Type
 Jacketed

MODEL SAPM/SAPL STANDARD TYPE LUBRICATED STEEL PLUG VALVE

The standard style plug valve has the stem extended from the top of the valve.

The valves have a bolted cover which retains the plug in case the gland is removed. The gland maintains the pressure in the cover and prevents any leakage through the stem as well as retaining the plug in position. The gland supports the packing and acts as an anti-friction bearing to prevent stem packing rotation. Plug lubrication grease is injected through a nipple (fitted with a check valve). Greasing can be done when the valve is under pressure. The plug grooves avoid grease leakage into the line as during rotation each groove is isolated from the other grooves.

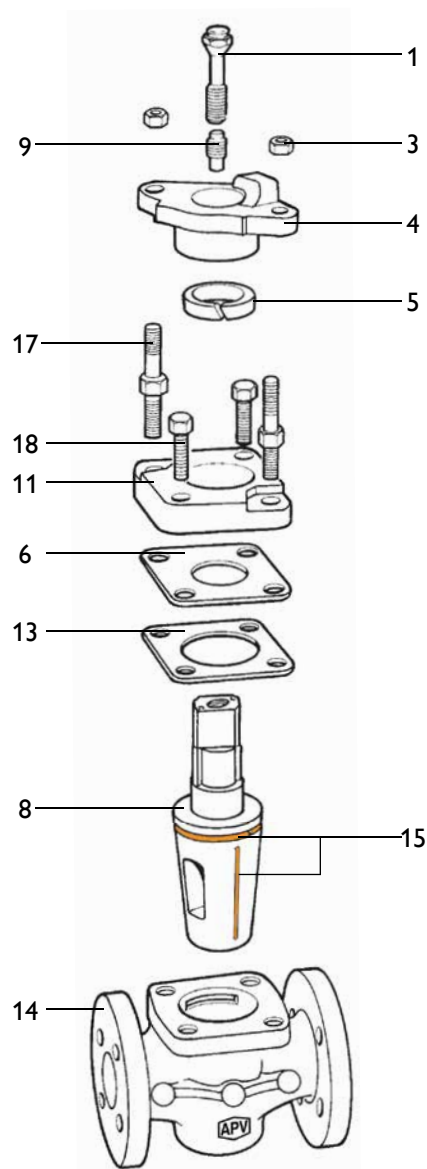
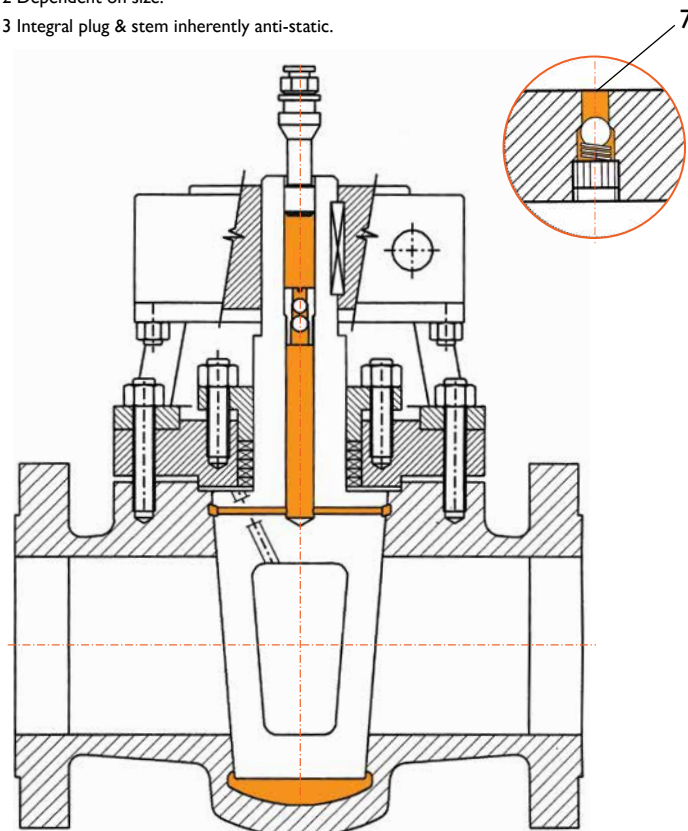


1	Sealant Injector ¹	7	Sealant Duct	13	Gasket
2	Indicator	8	Plug & Stem ³	14	Body
3	Gland Nuts	9	Check Valve	15	Sealant Grooves
4	Gland	10	Stop	17	Gland Studs
5	Gland Packings	11	Cover	18	Cover Bolts
6	Retainer Gasket	12	Stop Plate/Lock Device	19	Ball & Spring ²

1 Combination button head fitting & plunger for packing sticks.

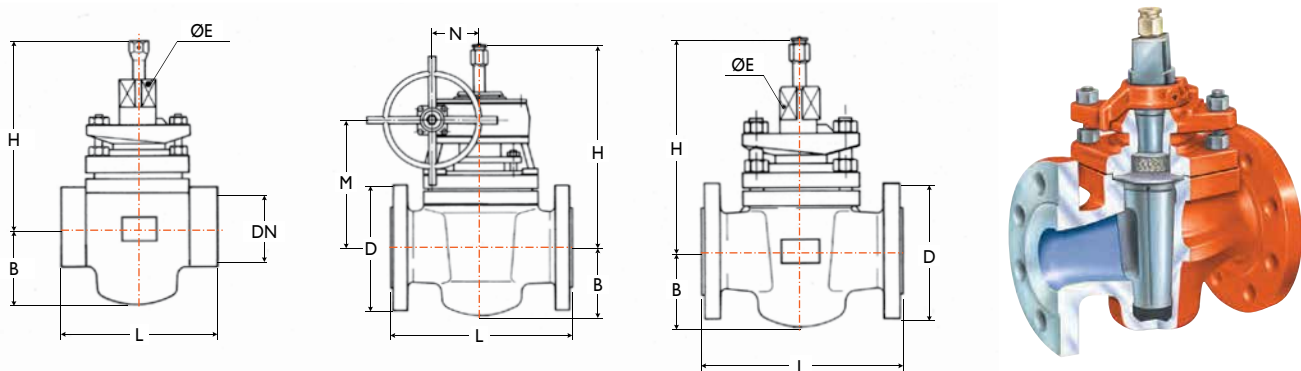
2 Dependent on size.

3 Integral plug & stem inherently anti-static.



MODEL SAPM/SAPL

DIMENSIONS REGULAR PATTERN PLUG VALVES STANDARD TYPE



ANSI 150 SCREWED OR SOCKET ENDS WRENCH OPERATED

Size DN	Inch mm	1/2" 15	3/4" 20	1" 25	1-1/4" 30	1-1/2" 40	2" 50
L	mm	90	95	110	130	135	165
H	mm	140	150	170	200	200	250
B	mm	50	50	60	65	65	80
E	mm	22	22	25	25	25	28
Plug port area	%	80	80	80	80	95	90
Weight (approx)	Kg	4	5	8	10	12	14

REGULAR PATTERN ANSI 150* & 125* WRENCH OPERATED

Size DN	Inch mm	1/2" 15	3/4" 20	1" 25	1-1/4" 32	1-1/2" 40	2" 50	2-1/2" 65	3" 80	4" 100	5" 125	6" 150
D	mm	89	98	108	118	127	152	178	191	229	254	280
L Butt Welding	mm	-	-	-	-	-	216/267	241/305	283/330	305/356	-	403/457
L Flange Raised Face	mm	130	130	140	150	165	200	220	241	300	350	394
B	mm	40	45	50	50	60	70	80	90	110	140	160
H	mm	150	165	170	180	210	250	280	300	340	390	420
E	mm	20	20	22	22	25	28	35	38	44	50	50
Plug port area	%	100	100	100	100	100	85	85	85	80	80	75
Weight (approx) BW	Kg	3	4	6	9	13	18	24	35	50	75	110

REGULAR PATTERN ANSI 150 & 125* GEAR OPERATED

Size DN	Inch mm	6" 150	8" 200	10" 250	12" 300
D	mm	280	343	406	483
L Butt Welding	mm	457	521	559	635
L Flange Raised Face	mm	394	457	533	610
B	mm	160	190	210	225
H	mm	520	560	570	585
M	mm	320	360	370	390
N	mm	120	150	150	170
Handwheel Diameter	mm	500	650	650	650
Plug port area	%	75	60	50	40
Weight (approx) BW	Kg	150	220	270	340

* AS/BS Table D, E, F also available

Refer to as-built drawing for specific detail.

MODEL SAPM/SAPL

DIMENSIONS SHORT PATTERN PLUG VALVES STANDARD TYPE

SHORT PATTERN ANSI 150 & 125 WRENCH OPERATED

Size DN	Inch mm	1" 25	1-1/2" 40	2" 50	2-1/2" 65	3" 80	4" 100	6" 150
D	mm	108	127	152	178	191	229	280
L Butt Welding	mm	-	-	216/267	241/305	283/330	305/356	405/457
L Flanged Raised Face	mm	140	165	178	190	203	229	267
B	mm	60	60	70	80	90	110	155
H	mm	170	210	250	280	300	340	420
E	mm	25	25	28	35	38	44	50
Plug port area	%	80	100	85	85	85	80	75
Weight (approx) BW	Kg	7	13	16	22	28	45	86

SHORT PATTERN ANSI 150 & 125 GEAR OPERATED

Size DN	Inch mm	6" 150	8" 200	10" 250	12" 300
D	mm	280	343	406	483
L Flanged Raised Face	mm	267	292	330	356
B	mm	155	190	240	270
H	mm	510	540	590	620
M	mm	320	350	400	430
N	mm	120	120	150	150
Handwheel diameter	mm	500	500	650	650
Plug port area	%	75	60	50	40
Weight (approx)	Kg	110	150	215	295

350NB to 400NB refer to drawing. (Venturi pattern)

ANSI 300 SCREWED OR SOCKET ENDS WRENCH OPERATED

Size DN	Inch mm	1/2" 40	3/4" 50	1" 65	1-1/4" 80	1-1/2" 40	2" 50
L	mm	90	95	110	130	135	165
H	mm	140	150	170	200	200	250
B	mm	50	50	60	65	65	80
E	mm	22	22	25	25	25	28
Plug port area	%	80	80	80	80	95	90
Weight (approx)	Kg	4	5	8	10	12	14

SHORT PATTERN ANSI 300 WRENCH OPERATED

Size DN	Inch mm	3/4" 20	1" 25	1-1/2" 40	2" 50	2-1/2" 65	3" 80	4" 100	6" 150
D	mm	118	124	156	165	191	210	254	318
L Butt Welding	mm	-	-	-	267	305	330	356	457
L Flange Raised Face	mm	140	159	190	216	241	283	305	403
L	mm	152	172	203	232	257	299	321	419
B	mm	50	60	60	70	80	90	115	160
H	mm	156	170	210	250	280	300	340	420
N	mm	-	-	-	-	-	-	-	-
E	mm	22	25	28	32	35	38	44	50
Plug port area	%	100	100	100	85	85	80	80	80
Weight (approx) BW	Kg	8	12	15	20	35	45	60	130

SHORT PATTERN ANSI 300 GEAR OPERATED

Size DN	Inch mm	6" 150	8" 200	10" 250	12" 300
D	mm	318	381	445	521
L Butt Welding	mm	457	521	559	635
L Flange Raised Face	mm	403	419	457	502
L Flange Ring Joint	mm	419	435	473	518
B	mm	160	190	215	235
H	mm	510	550	570	585
M	mm	330	360	390	400
N	mm	120	150	150	170
Handwheel diameter	mm	500	650	650	650
Plug port area	%	80	65	50	40
Weight (approx) BW	Kg	170	250	300	400

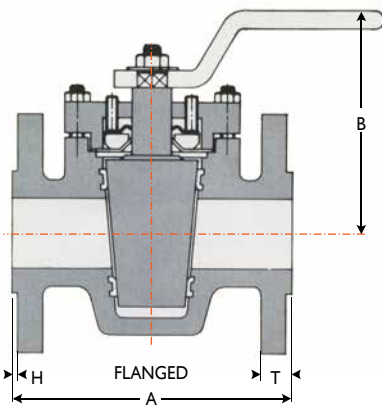
350NB to 400NB refer to drawing. (Venturi pattern)

Refer to as-built drawing for specific detail.

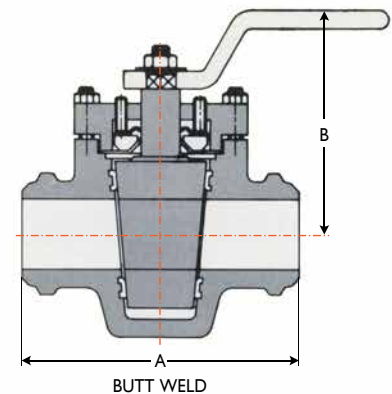
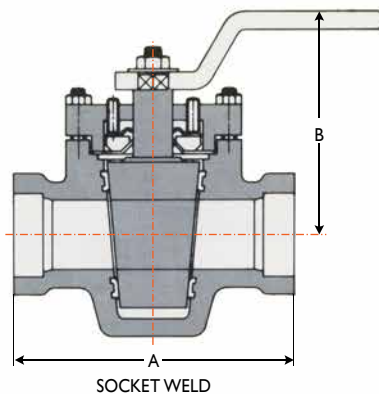
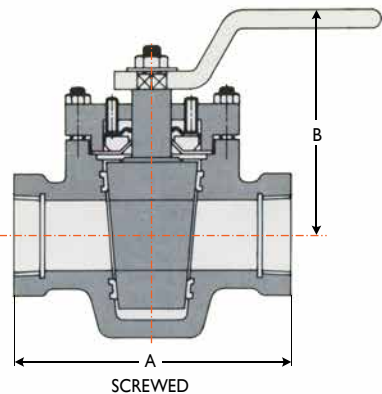
MODEL APSL PTFE SLEEVED PLUG VALVES

APV's sleeved plug valves feature state-of-the-art in PTFE fluorocarbon seat design. With the structure of double sealing grooves with sealing rings, the high integrity bubble tight seal is provided both inline and to atmosphere. The sleeved plug valve, with working pressure ranges between -29°C to 180°C (-20°F and 356°F), are suitable for use in various kinds of pipeline application such as petrochemical, chemistry, pharmacy and chemical fertiliser.

Sleeved Plug Valves are designed for high standard of performance. These tight shut-off, bi-directional valves with cavity-free passage can be used on high pressure and vacuum services. APSL valves ensure long-term reliable operations with simplified in-line maintenance.



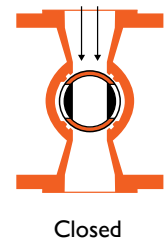
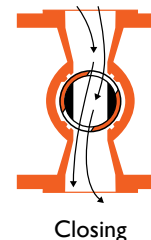
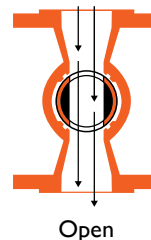
Size & Rating for Flanged End:	15NB ~ 300NB (1/2" - 12") - Class 150, 300, PN10, PN16 350 ~ 400NB (14" - 16") - Class 150
Size & Rating for SE, BWE, SWE :	15NB ~ 80NB (1/2" - 3") - Class 150, 300, 600
Body Material	DI, WCB, CF8, CF8M & CN7M, etc
Plug Material	CA15, CF8, CF8M & CN7M etc
Sleeve	PTFE/CFT/GFT
End Connection	Flanged, Screwed, Butt Weld & Socket Weld.
Design Std.	API-599, BS 5353
Face to Face (for Flanged End Only)	ASME B16.10, EN 558-2, Series 1,3,4 & 12
Testing Std.	API 598, EN 12266-1 (BS: 6755-1)



Valve Size mm	15	20	25	40	50	80	100	150	200	250	300	350
ANSI CLASS - 150	108	117	127	165	178	203	229	267	292	330	356	
ANSI CLASS - 300	140	152	165	190	216	283	305	403	419	457	502	762
Screwed	A											
Socket Weld		83	83	117	140	165	203	-	-	-	-	-
Butt Weld												

Refer to drawing for all dimensions

- Raised face dimensions for class-150 and class-300 as per ANSI B-16.5
- Valve up to size 100mm are lever operated.
- Valve size 150mm and above are supplied with Gear operator.
- AS/BS Table D, E, F, H also available.



MODEL APSL MATERIALS

Adjusting bolts (4)



Bonnet (5)
& Bolts (6)

Static eliminator (7)



Thrust collar (8)



Metal diaphragm (9)



PTFE diaphragm (10)



Seal ring (11)



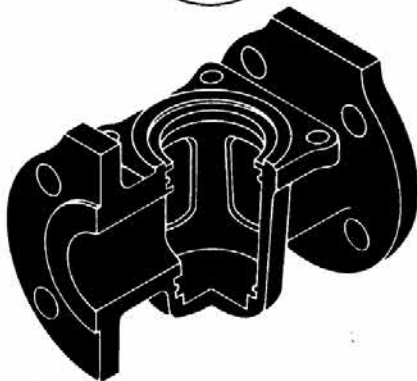
Plug (2)



Sleeve (3)



Body (1)



WETTED PARTS

Body (1) & plug (2)	316SS	Carbon Steel	Ductile Iron	Monel
	Alloy 20			Nickel
	Hastelloy			

Sleeve (3)	PTFE	PTFE	PTFE	PTFE
------------	------	------	------	------

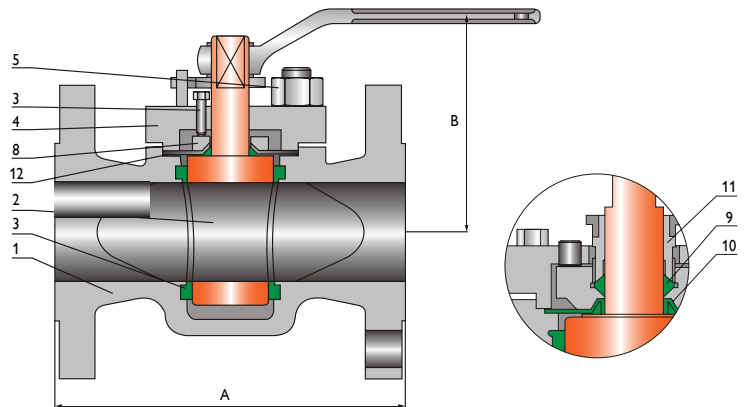
NON WETTED PARTS

Adjusting bolts (4)	304SS	304SS	304SS	304SS
Cover (5)	CF8	Carbon Steel	Ductile Iron	CF8
Cover bolts (6)	304SS	Steel	Steel	304SS
Static eliminator (7)	304SS	304SS	304SS	304SS
Thrust collar (8)	304SS	304SS	304SS	304SS
Metal diaphragm (9)	304SS	304SS	304SS	Monel
Formed diaphragm (10)	PTFE	PTFE	PTFE	PTFE
Wedge ring (11)	Glass filled PTFE	Glass filled PTFE	Glass filled PTFE	Glass filled PTFE
Gland Flange (12)	304SS	Carbon Steel	Carbon Steel	304SS
Bonnet Gasket (13)	PTFE	PTFE	PTFE	PTFE

Indicative only, refer as built drawing.

Available body & trim materials

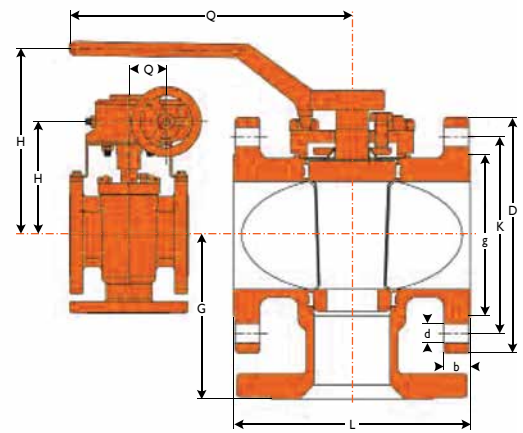
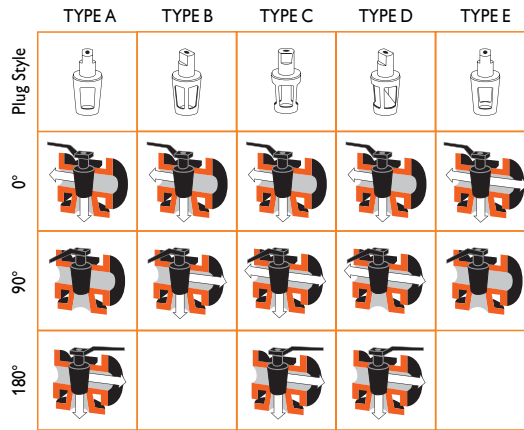
Carbon Steel	Alloy 20
Ductile Iron	Hastelloy B
304L	Hastelloy C
316L	Nickel
304	Monel
316	
Duplex	



MODEL APMM/APMN MULTIPORT SLEEVED PLUG VALVES

Flow Configurations

Only position 90° in plugs Type A & Type B will provide a complete shutoff condition. 90 degree turn is standard, 180 degree turn is optional.



ANSI CLASS 150 LBS FLANGED - DIMENSIONS TO ANSI B16.5 & B16.10

SIZE (NB)		L		H		D		K		g		b		f		d		Q		G		Weight		
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	kg	lbs	in
1/2"	15	4.25	108.00	3.38	86.00	3.50	88.90	2.38	60.50	1.38	35.00	0.37	9.50	0.06	1.60	0.63	16.00	8.00	203.00	2.75	69.85	2.5	6.0	
3/4"	20	4.63	117.50	3.38	86.00	3.88	98.50	2.75	69.90	1.68	42.90	0.37	9.50	0.06	1.60	0.63	16.00	8.00	203.00	2.88	73.15	3.2	7.0	
1"	25	5.00	127.00	4.50	114.00	4.25	108.00	3.13	79.50	2.00	50.80	0.44	11.20	0.06	1.60	0.63	16.00	9.00	229.00	3.50	88.90	5.0	11.0	
1 1/2"	40	6.50	165.10	5.31	135.00	5.00	127.00	3.88	98.60	2.88	73.20	0.56	14.20	0.06	1.60	0.63	16.00	14.25	362.00	4.13	104.90	8.2	18.0	
2"	50	7.00	177.80	6.25	159.00	6.00	152.40	4.75	120.70	3.63	92.00	0.63	16.00	0.06	1.60	0.75	19.00	16.50	419.00	4.50	114.30	13.6	30.0	
*2 1/2"	65	8.00	203.20	6.56	167.00	7.50	190.50	5.50	139.70	4.13	104.60	0.75	19.00	0.06	1.60	0.75	19.00	16.50	419.00	5.13	130.30	18.2	40.0	
3"	80	8.00	203.20	6.56	167.00	7.50	190.50	6.00	152.40	5.00	127.00	0.75	19.00	0.06	1.60	0.75	19.00	16.50	419.00	5.13	130.30	19.1	42.0	
4"	100	9.00	228.60	7.63	194.00	9.00	228.60	7.50	190.50	6.19	157.20	0.94	23.90	0.06	1.60	0.75	19.00	23.63	600.00	6.00	152.40	32.7	72.0	
*4"	100	9.00	228.60	9.10	231.00	9.00	228.60	7.50	190.50	6.19	157.20	0.94	23.90	0.06	1.60	0.75	19.00	7.25	184.00	6.00	152.40	41.4	91.0	
*6"	150	10.50	266.70	10.80	274.00	11.00	279.40	9.50	241.30	8.50	215.90	1.00	25.40	0.06	1.60	0.88	22.40	7.25	184.00	7.50	190.50	70.8	148.0	
*8"	200	11.50	292.10	12.75	324.00	13.50	342.90	11.75	298.50	10.63	269.80	1.13	28.70	0.06	1.60	0.88	22.40	9.75	248.00	9.00	228.60	117.5	259.0	
*10"	250	13.00	330.20	14.68	373.00	16.00	406.40	14.25	362.00	12.75	323.90	1.19	30.20	0.06	1.60	1.00	25.40	9.75	248.00	11.00	279.40	181.9	401.0	
*12"	300	14.00	355.60	16.40	417.00	19.00	482.60	17.00	431.80	15.00	381.00	1.25	31.80	0.06	1.60	1.00	25.40	13.75	349.25	13.75	349.25	-	-	
*14"	350	15.00	381.00	17.40	442.00	21.00	533.40	18.75	476.30	16.25	412.80	1.38	35.10	0.06	1.60	1.12	28.40	13.75	349.25	15.00	381.00	-	-	

*Gear Operated

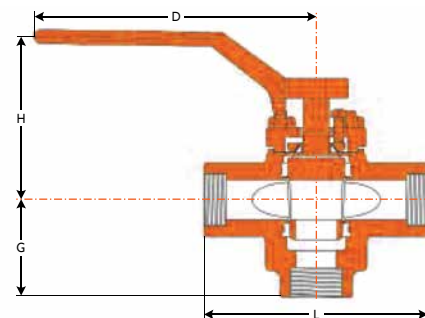
ANSI CLASS 300 LBS FLANGED - DIMENSIONS TO ANSI B16.5 & B16.10

SIZE (NB)		L		H		D		K		g		b		f		d		Q		G		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	kg	lbs
1/2"	15	5.50	139.70	3.38	86.00	3.75	95.30	2.63	66.80	1.38	35.00	0.56	14.20	0.06	1.60	0.63	16.00	8.00	203.00	2.88	73.20	3.2	7.0
3/4"	20	6.00	152.40	3.38	86.00	4.63	117.60	3.25	82.60	1.69	42.70	0.63	16.00	0.06	1.60	0.75	19.00	8.00	203.00	3.00	76.20	4.1	9.0
1"	25	6.50	165.10	4.50	114.00	4.88	124.00	3.50	88.90	2.00	50.80	0.69	17.50	0.06	1.60	0.75	19.00	9.00	229.00	3.75	95.30	5.5	12.0
1 1/2"	40	7.50	190.50	5.31	135.00	6.13	155.70	4.50	114.30	2.88	73.20	0.81	20.60	0.06	1.60	0.88	22.40	14.25	362.00	4.38	111.30	9.5	21.0
2"	50	8.50	215.90	6.25	159.00	6.50	165.10	5.00	127.00	3.63	92.00	0.88	22.40	0.06	1.60	0.75	19.00	16.50	419.00	4.75	120.70	13.2	29.0
*2 1/2"	65	11.13	282.70	6.56	167.00	8.25	209.60	5.88	149.40	4.13	104.60	1.13	28.70	0.06	1.60	0.88	22.40	16.50	419.00	5.56	141.20	21.8	48.0
3"	80	11.13	282.70	6.56	167.00	8.25	209.60	6.63	168.40	5.00	127.00	1.13	28.70	0.06	1.60	0.88	22.40	16.50	419.00	5.56	141.20	21.8	48.0
4"	100	12.00	304.80	7.63	194.00	10.00	254.00	7.88	200.20	6.19	157.20	1.25	31.80	0.06	1.60	0.88	22.40	23.63	600.00	6.75	171.50	42.0	92.0
*4"	100	12.00	304.80	9.10	231.00	10.00	254.00	7.88	200.20	6.19	157.20	1.25	31.80	0.06	1.60	0.88	22.40	7.25	184.00	6.75	171.50	54.0	119.0
*6"	150	15.88	403.40	10.80	274.00	12.50	317.50	10.63	270.00	8.50	215.90	1.44	36.60	0.06	1.60	0.88	22.40	7.25	184.00	8.50	215.90	91.4	201.0
*8"	200	16.50	419.10	12.75	324.00	15.00	381.00	13.00	330.20	10.63	269.80	1.63	41.40	0.06	1.60	1.00	25.40	9.75	248.00	10.00	254.00	141.4	311.0
*10"	250	18.00	457.20	14.68	373.00	17.50	444.50	15.25	387.40	12.75	323.90	1.88	47.80	0.06	1.60	1.13	28.70	9.75	248.00	-	-	210.9	464.0
*12"	300	19.75	501.70	16.40	417.00	20.50	520.70	17.75	450.90	15.00	381.00	2.00	50.80	0.06	1.60	1.25	31.80	13.75	349.25	14.00	355.60	279.0	614.0
*14"	350	30.00	762.00	17.40	442.00	23.00	584.20	20.25	514.40	16.25	412.80	2.12	53.80	0.06	1.60	1.25	31.80	13.75	349.25	-	-	363.0	800.0

*Gear Operated

ANSI CLASS 150/300/600 LBS SCREWED OR SW ENDS

SIZE (NB)		L		H		G		Q		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	kg	lbs
1/2"	15	3.93	100.00	3.38	85.90	1.69	42.90	8.00	203.00	2.1	4.7
3/4"	20	3.93	100.00	3.38	85.50	1.80	45.70	8.00	203.00	2.1	4.7
1"	25	5.50	140.00	4.50	114.00	2.38	60.50	9.00	229.00	3.2	7.1
1 1/2"	40	6.30	160.00	5.31	135.00	2.88	73.20	14.25	362.00	6.4	14.2
2"	50	7.87	200.00	6.25	159.00	3.38	85.90	16.50	419.00	10.4	23.0

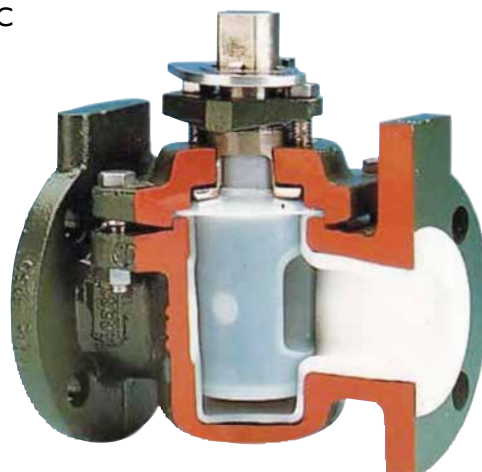


MODEL APFL LINED PLUG VALVES

APV's lined plug valves feature state-of-the-art in PTFE fluorocarbon lining design. With the structure of double sealing grooves with sealing rings, the high integrity bubble tight seal is provided both inline and to atmosphere.

The lined plug valve, with working pressure ranges between -29°C and 180°C (-20°F to 356°F), are suitable for use in various kinds of pipeline application such as petrochemical, chemistry, pharmacy and chemical fertilizer.

- Bi-directional flow**
 Bi-directional inline bubble-tight seal is independent of line pressure, hence more convenient for valve installation and usage.
- Fluorocarbon seat design**
 The PTFE sleeve retained by the special 360° metal lips around the ports.
- No body cavities**
 There is no cavity in the plug valve for accumulating the medium.



Maximum corrosion resistance and eliminates product contamination.

Complete PTFE lining in the body and on the flange faces with PFA covered plug and PFA reverse lip diaphragm-type stem seal.

Features include: self-adjusting stem seal; non lubricated; positive shutoff; in-line adjustment.

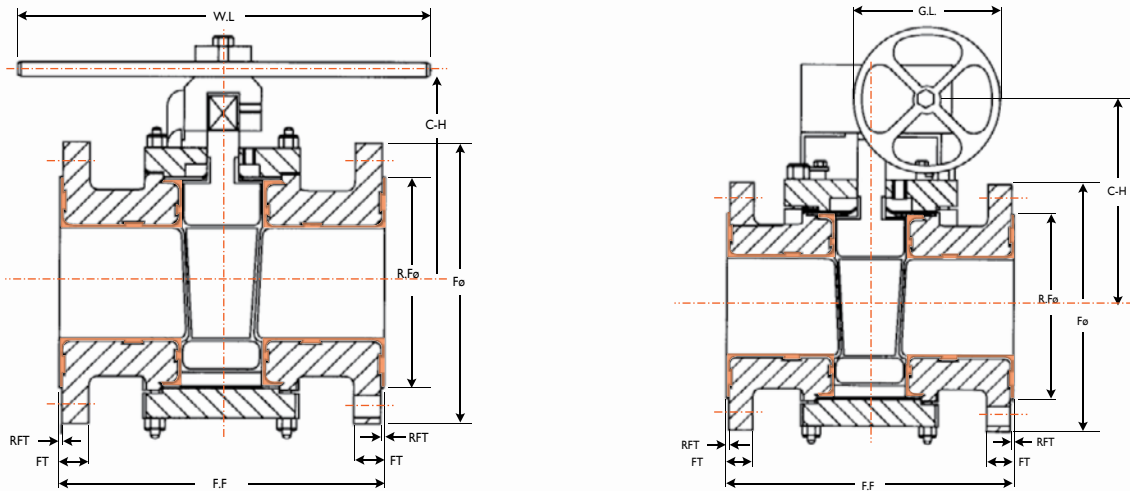
(ANSI Class 150) rated at 180 psi (1,240 kPa) @ 400°F, 285 psi (1963kPa) @ 100°F

(ANSI Class 300) rated at 300 psi (2,206 kPa) @ 400°F; 750psi (5,102 kPa) @ 100°F.

AVAILABLE LININGS

Designation	Description	Max. Service Temperature
PTFE	Tetrafluoroethylene polymer	400°F (204°C)
PFA	Perfluoroalkoxy polymer	400°F (204°C)
FEP	Fluorinated ethylene propylene	300°F (149°C)
ETFE	Ethylene/tetrafluoroethylene copolymer	300°F (149°C)
	Silica filled epoxy	215°F (102°C)
UHMWPE	Ultra high molecular weight polyethylene	200°F (93°C)
PP	Polypropylene	185°F (85°C)
PSZ	Partially stabilised zirconia	662°F (350°C)

MODEL APFL DRAWING & DIMENSIONS



DIMENSIONS (INCHES)

all dimensions in Inches

Size	F-F		Fø		F.T.		RFø	RFT	P.C.D.		NOH		SOH		C-H	
	CLASS		CLASS		CLASS				CLASS		CLASS		CLASS		CLASS	
	150#	300#	150#	300#	150#	300#			150#	300#	150#	300#	150#	300#	150#	300#
1/2	4.25	5.50	3.50	3.75	.47	.56	1.38	.06	2.38	2.63	4	4	.63	.63	2.92	2.92
3/4	4.63	6.00	3.88	4.63	.5	.63	1.89	.06	2.75	3.25	4	4	.63	.75	2.92	2.92
1	5.00	6.50	4.25	4.88	.63	.69	2.00	.12	3.13	3.50	4	4	.63	.75	3.25	3.25
1-1/2	6.50	7.50	5.00	6.13	.75	.81	2.88	.12	3.88	4.50	4	4	.63	.88	3.75	3.75
2	7.00	8.50	6.00	6.50	.82	.88	3.63	.12	4.75	5.00	4	8	.75	.75	4.50	4.50
3	8.00	11.13	7.50	8.25	.97	1.13	4.75	.12	6.00	6.63	4	8	.75	.88	5.00	5.00
4	9.00	12.00	9.00	10.00	1.16	1.25	6.19	.12	7.50	7.88	8	8	.75	.88	6.10	6.10
6	10.50	15.88	11.00	12.50	1.16	1.40	8.13	.12	9.50	10.63	8	12	.88	.88	7.75	7.75

8" to 12" refer to drawing.

DIMENSIONS (MM)

all dimensions in Millimetres

Size	F-F		Fø		F.T.		RFø	RFT	P.C.D.		NOH		SOH		C-H	
	CLASS		CLASS		CLASS				CLASS		CLASS		CLASS		CLASS	
	150#	300#	150#	300#	150#	300#			150#	300#	150#	300#	150#	300#	150#	300#
15	108	139	89	95	12	14	35	1.5	60	67	4	4	16	16	74	74
20	117	152	98	117	13	16	48	1.5	70	82	4	4	16	19	74	74
25	127	165	108	124	16	17.5	51	3	79	89	4	4	16	19	82	82
40	165	190	127	155	19	20.5	73	3	98	114	4	4	16	22	95	95
50	178	215	152	165	21	22.3	92	3	120	127	4	8	19	19	114	114
80	203	282	190	209	24	28.7	120	3	152	168	4	8	19	22	127	127
100	228	305	229	254	29	31.7	157	3	190	200	8	8	19	22	155	155
150	266	403	279	317	29	35	206	3	241	270	8	12	22	22	197	197

200NB to 300NB refer to drawing.

LEGEND

F-F	Face to Face	NOH	Number of Holes
Fø	Flange Diameter	SOH	Size of Hole
F-T	Flange Thickness	C-H	Centre of Flange to Height of Body
RFO	Raised Face Diameter	-	-
RFT	Raised Face Thickness	-	-
P.C.D.	Pitch Circle Diameter	-	-

MODEL TWIN-EXPANDING SEAL PLUG VALVE NON LUBRICATED DOUBLE BLOCK & BLEED

DOUBLE BLOCK AND BLEED SOLUTIONS

- Permanent integral thermal relief and bleed function
- In-line maintenance in case of seal replacement
- Very short installation space required
- Double isolation function, according API-6D/ISO 14313
- Only 1 actuator required to operate the valve

Unlike other valve types, the APV TWIN Dual Expanding Twinseal style plug valve creates an optimum seal without causing any abrasion and wear, providing a ‘zero-leakage’ solution, upstream and downstream ensuring a long life-time of the seals and valve, as well as a low opening and closing torque. This unique design is combined with a bleed function, all in one valve, saving space as well as providing a reliable, safe and economical solution.

PRODUCT STRUCTURAL FEATURES

Used in various industries such as petroleum, chemical industry, chemical fertiliser, power industry etc. Class 150 - 1500LBS and working temperature of -29~180°C.

MAIN STRUCTURAL FEATURES

- The Twinseal style double expanding plug valve has a rugged structure, reliable sealing, excellent performance and exact tolerances.
- Sealing rings around the valve plug provide the seal. It has a unique design incorporating machined and pressed sealing rings.
- Bi-directional, double block and bleed.

OPERATION PRINCIPLE

When the hand wheel is turned, the plug will rotate toward the closing direction for 90 degree turn closing, the plug will then be firmly seated after moving downward into its closing position.

When the hand wheel is turned inversely, first of all the plug will move upward and the valve plug and valve seat will be separated till the valve plug is turned 90 degree driven by the plug and finally the bore of the plug will be in alignment with the channel of valve body.

The advantage of this type of valve is during the opening and closing of the valve, the plug and valve seat are separated and there is no friction, thus the sealing face experiences no abrasion in the process, at the same time the soft seal is applied for sealing so that there will be no leakage in the process of closing.



PERFORMANCE SPECIFICATION

Class	(MPa) Shell Test	(MPa) Seating Test	Suitable Temp.	Suitable Medium
150	3.0	2.2	180°C*	Water oil and gas
300	7.5	5.5		
600	15.0	11.0		
900	22.5	16.5		

* High / low temperature available up to 2500 Class.

TECHNICAL SPECIFICATION

Operator	Handwheel, bevel gear, electric-actuated
Design Standard	API 599, API 6D
Face to Face	ASME B16.10
Flange End	ASME B16.5
Test & Inspection	API 598, API 6D

FEATURES

Non-slam

The operator is self locking so that line pressure cannot force the plug to rotate. This prevents slamming and risk of injury.

Tight shut off

When the valve is closed, the seating segments are wedged tightly between the plug & body metal to metal. The soft seat material is compressed into the recessed groove. The design does not require springs or pressure to effect a seal.

Double block and bleed and zero leakage

The Twinseal valve provides upstream and downstream seal in both directions and a bleed point is then provided between the two seats, to prove no leakage.

Zero-leakage

The Twinseal meets the demands of frequent cycling & verifiable, reliable zero leakage with positive shut-off upstream & downstream.

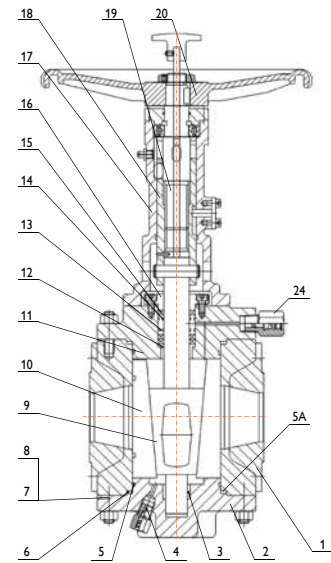
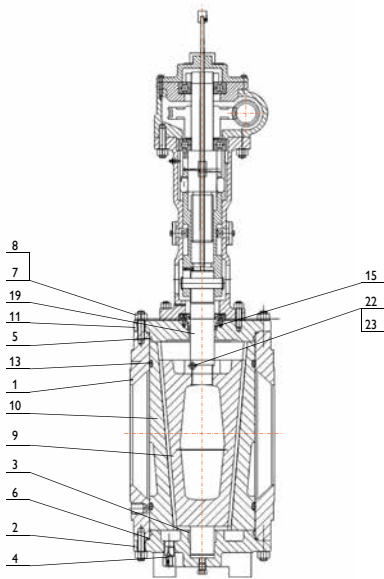
Zero wear

Twinseal valves provide positive shut-off with zero leakage. The design of the valve ensures that during opening & closing the seals are not in contact with the body. Only at the last stage of closing does the seal contact the body - and then the force is compression only. Every turn of the handwheel retracts the seals from the body. That means no wear to the seals & long life.

Large port

Twinseal valves have a nominal plug port of 60 - 70% thus effecting minimum pressure drop. True circular full port also available.

MODEL TWIN MATERIALS

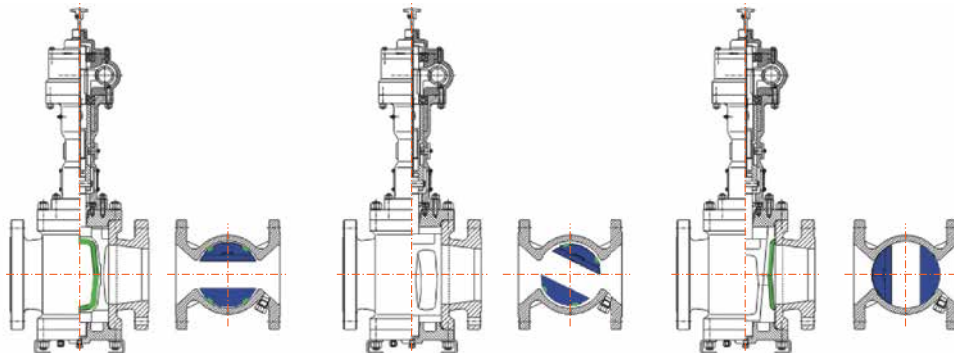


MAIN PARTS MATERIALS

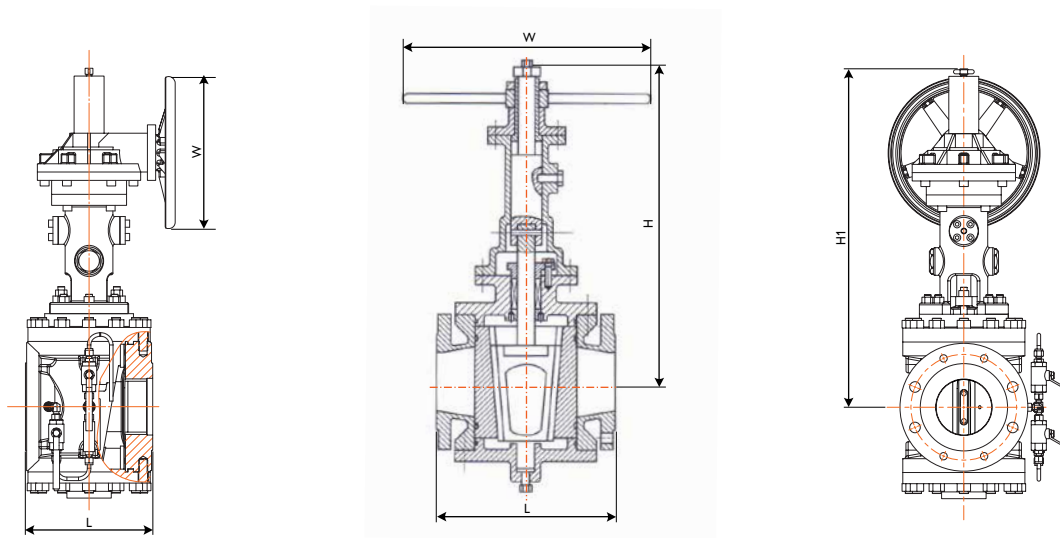
No.	Part Name	Material
1	Body	ASTM A216 - WCB, ASTM A351 - CF8, CF8M, CF3, CF3M
2	Lower Bonnet	ASTM A216 - WCB, ASTM A105, ASTM A351 - CF8, CF8M, CF3, CF3M
3	Bearing	Assembly
4	Drain Valve	Assembly
5	O-Rings	NBR, PTFE, VITON
5A	Gasket	SW316 + Graphite
6	Gasket	Spiral Wound
7	Bolt	ASTM A193 - B7, A320 - B8, A193 - B8M
8	Nut	ASTM A194 - 2H, A194 - 9, A194 - 8M
9	Plug	ASTM A216 WCC+ENP, ASTM A182 - Gr. F6a, ASTM A182 - F22, ASTM A351 - CF8, CF8M, CF3, CF3M
10	Disc	ASTM A182 - Gr. F6a, ASTM A182 - F22, ASTM A351 - CF8, CF8M, CF3, CF3M
11	Cover	ASTM A216 - WCB, ASTM A351 - CF8, CF8M, CF3, CF3M
12	Bearing	Assembly
13	Slip Sealing Ring	Viton, PTFE
14	O-Rings	NBR, PTFE, VITON
15	Packing	Flexible graphite + stainless steel, PTFE
16	Gland	ASTM A216 - WCB, ASTM A351 - CF8, CF8M, CF3, CF3M
17	Yoke	ASTM A216 - WCB, ASTM A351 - CF8, CF8M, CF3, CF3M
18	Slide Bushing	ASTM A216 - WCB, ASTM A105, ASTM A351 - CF8, CF8M, CF3, CF3M
19	Stem/Back Stem	ASTM A182 - Gr. F6a, ASTM A182 - 316
20	Handwheel	ASTM A436 Gr. 60 - 40 - 18, A216 - WCB
21	Yoke Nut	ZQA 19 - 4
22	Guiding Stud	ASTM A182 - Gr. F6a, ASTM A182 - F22, ASTM A351 - CF8, CF8M, CF3, CF3M
23	Pin	ASTM A182 - Gr. F6a, ASTM A182 - F22, ASTM B637-718 Inconel, ASTM A351 - CF8, CF8M, CF3, CF3M
24	Sealant Nipple	Assembly

General guide refer as built drawings.

Closing Operation



MODEL TWIN DIMENSIONS



DIMENSIONS SHORT PATTERN REGULAR PORT

Class		150LB															
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	
	in	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	
L		108	117	127	140	165	178	190	203	229	254	267	292	330	305	381	
H/H1		230	260	300	340	380	435	460	490	525	570	625	700	780	870	980	
W		120	140	140	180	200	220	260	280	300	340	400	450	450	500	500	
Weight (Kg)		10	12	18	25	29	34	39	50	65	95	135	210	275	350	605	
Class		300LB															
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	
	in	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	
L		140	152	165	178	190	216	241	283	305	381	403	419	457	502	762	
H/H1		230	260	300	340	380	435	460	490	525	570	625	700	780	870	980	
W		120	140	140	180	200	220	260	280	300	340	400	450	450	500	500	
Weight (Kg)		11	13	20	27	31	37	44	60	82	115	165	225	305	405	650	
Class		600LB															
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	
	in	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	
L		165	190	216	229	241	292	330	356	432	508	559	660	787	838	889	
H/H1		230	260	300	340	380	435	460	490	525	570	625	700	780	870	980	
W		120	140	140	180	200	220	260	280	300	340	400	450	450	500	500	
Weight (Kg)		13	15	22	29	34	41	54	68	99	128	191	258	430	650	870	
Class		900LB															
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	
	in	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	
L		229	229	254	279	305	368	419	381	457	559	610	737	838	965	1029	
H		230	260	300	340	380	435	460	490	525	570	625	700	780	870	980	
W		120	140	140	180	200	220	260	280	300	340	400	450	450	500	500	
Weight (Kg)		15	19	24	32	38	47	62	75	115	147	220	379	490	720	1020	

MODEL TWIN-F FULL BORE ROUND PORT VERSION

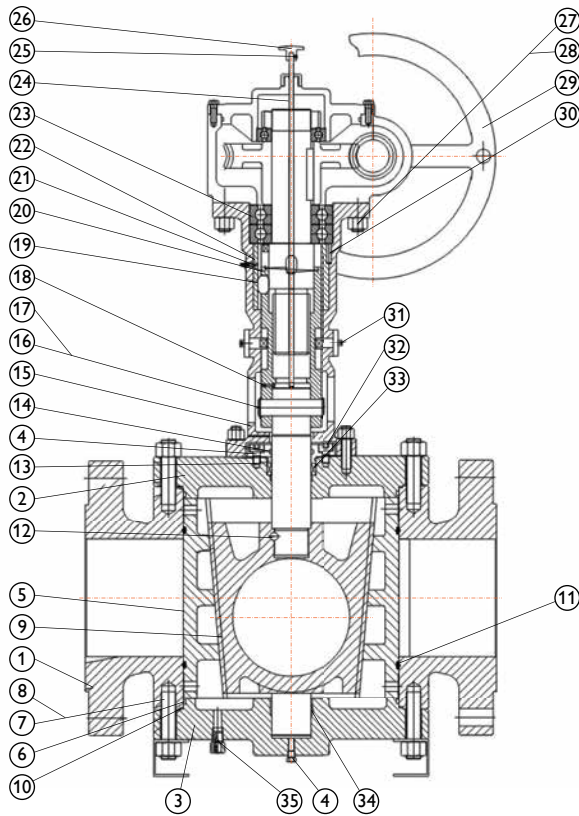
COMMON APPLICATIONS

Metering Stations

Dual Expanding API 6D Plug Valves are exceptional for critical applications where 'zero-leakage' is required. In highly critical applications such as Metering Stations even a small leak will cause an error in the calibration of the flow-meter, resulting in an incorrect flow measurement which can have a major financial impact.

Aviation & Marine Fueling Stations

Dual Expanding Plug Valves provide a 'zero-leakage' solution, making the valve highly suitable for fueling stations in the aviation and marine industries. They are used on the truck loading racks, as a tank shut off valve and on the Jetty loading and unloading docking stations.



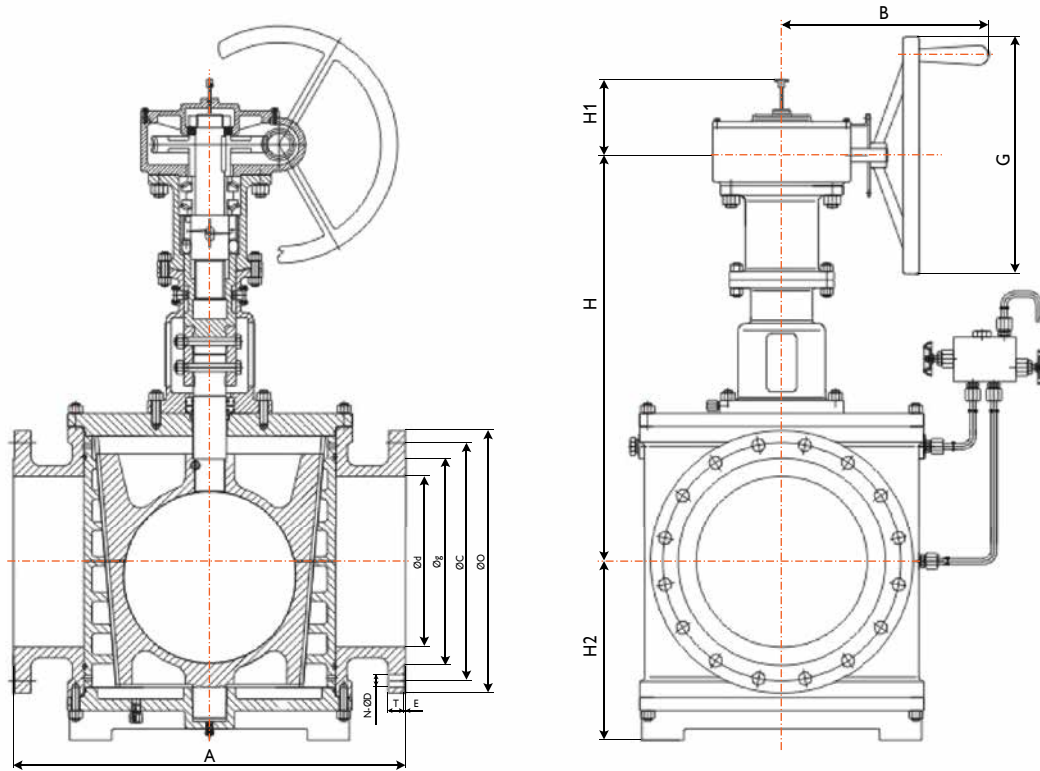
MAIN PARTS

1	Body
2	Upper Cover
3	Lower Cover
4	Drain
5	Guide Disc
6	FS Gasket
7	Stud
8	Nut
9	Plug
10	O-Ring
11	O-Ring
12	Stem

13	Firesafe Packing
14	Pin
15	Inner Hex Screw
16	Emergency Seal Dev
17	Plug
18	Non-lubricated Bearing
19	Nut
20	Driving Sleeve
21	Seal Ring
22	Guiding Bush
23	Bearing
24	Open/closed indicator

25	Set Screw
26	Open/closed Indicator Cap
27	Nut
28	Bolt
29	Handwheel
30	Pin
31	Inner Hex Screw
32	Inner Hex Bolt
33	Firesafe Packing
34	Bearing
35	Drain Valve

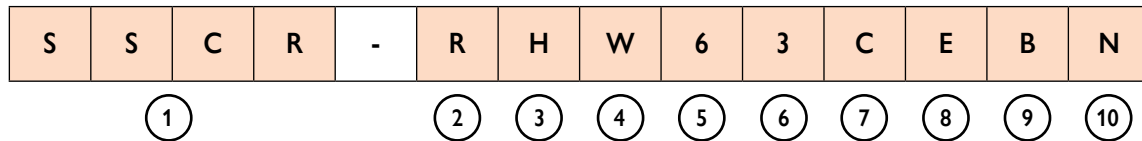
MODEL TWIN-F DIMENSIONS



DIMENSIONS FULL BORE ROUND PORT VERSION

Class	NPS	A	d	g	c	o	T	E	N-ØD	H	H1	H2	G	B	Wt	Cv
150	2	267	50	92	120.7	150	14.3	2	4-19	424	155	158	320	265	114	525
	3	343	76	127	152.4	190	17.5	2	4-19	516	175	186	320	280	171	1280
	4	432	100	157.2	190.5	230	22.3	2	8-19	535	175	218	320	280	218	2330
	6	546	150	215.9	241.3	280	23.9	2	8-22	662	185	258	460	330	284	5250
	8	622	201	269.9	298.5	345	27	2	8-22	732	194	290	460	372	468	10800
	10	660	252	323.8	362	405	28.6	2	12-26	761	194	323	460	372	693	17500
	12	762	303	381	431.8	485	30.2	2	12-26	900	210	377	600	463	908	25600
	14	686	334	412.8	476.3	535	33.4	2	12-29	923	210	393	600	463	1308	31400
	16	762	385	469.9	539.8	595	35	2	16-29	958	210	436	600	463	1634	42500
	18	864	436	533.4	577.9	635	38.1	2	16-32	1042	230	484	720	488	3098	54700
300	20	914	487	584.2	635	700	41.3	2	20-32	1067	230	507	752	488	3351	70900
	24	1067	589	692.2	749.3	815	46.1	2	20-35	1269	250	590	860	770	6958	106000
	2	283	50	92	127	165	20.7	2	8-19	500	175	159	320	280	142	520
	3	387	76	127	168.3	210	27	2	8-22	516	175	195	320	280	215	1250
	4	457	100	157.2	200	255	30.2	2	8-22	539	175	218	320	280	238	2280
	6	559	150	215.9	369.9	320	35	2	12-22	668	185	260	460	330	334	5140
	8	686	201	269.9	330.2	380	39.7	2	12-26	844	210	295	600	463	682	10580
	10	826	252	323.8	387.4	445	46.1	2	16-29	872	210	332	600	463	978	17100
	12	965	303	381	450.8	520	49.3	2	16-32	964	230	378	720	488	1359	25000
	14	762	334	412.8	514.4	585	52.4	2	20-32	982	230	408	720	488	1856	30700
600	16	838	385	469.9	571.5	650	55.6	2	20-35	1154	250	460	860	770	2174	41600
	18	914	436	533.4	628.6	710	58.8	2	24-35	1185	250	501	860	770	3238	53600
	20	991	487	584.2	685.8	775	62	2	24-35	1216	250	532	860	815	3805	69400
	2	330	50	92	127	165	25.4	7	8-19	510	175	171	320	280	217	510
	3	445	76	127	168.3	210	31.8	7	8-22	607	185	195	320	330	297	1240
	4	508	100	157.2	215.9	275	38.1	7	8-26	632	185	223	320	330	331	2260
	6	660	150	215.9	292.1	355	47.7	7	12-29	736	210	284	500	400	598	4640
	8	794	201	269.9	349.2	420	55.6	7	12-32	919	230	336	720	488	1185	9030
	10	940	252	323.8	431.8	510	63.5	7	16-35	956	230	375	720	488	1924	14790
	12	1067	303	381	489	560	66.7	7	20-35	1132	250	413	860	770	2663	23080
14	889	334	412.8	527	605	69.9	7	20-39	1157	250	442	860	815	4305	29020	
16	991	436	469.9	603.2	685	76.2	7	20-42	1346	250	484	860	815	5164	39300	

PART NUMBER SYSTEM FOR PLUG VALVES



① Model Number

SSCR	Steel body pressure balanced, inverted style, firesafe
SSCR-DBB	Steel body pressure balanced, inverted style, firesafe
SAPM	Steel body, standard type, taper style, firesafe
APFP	Steel body, full port, circular port, firesafe
SAPL	Iron body, standard type, taper style
APBR	Iron body, standard type, inverted style
APMM	Multiway 3 way L port
APMN	Multiway 3 way T port
APMW	Multiway 4 way
APFL	Steel or iron body, fully lined, taper style
APSL	Steel or iron body, sleeved, taper style
APEC	Steel or iron body, eccentric plug
TWIN	Expanding Double Block & Bleed

② Pattern

R	Regular
S	Short
V	Venturi
Blank	Multiway/Other

③ Style

F	Full port
H	Pressure balanced (Inverted Plug)
S	Standard taper type
R	Round type
Z	Other

④ Operator

J	Electric operator
W	Wrench
G	Gear operated horizontal spindle
GV	Gear operated vertical spindle
LG	Extension with gear
LW	Extension with wrench
P	Pneumatic operator

⑤ Pressure Class

1	125LB
2	150LB
3	300LB
6	600LB
8	800LB
9	900LB
A	1500LB
B	2500LB
C	API 2000
D	API 3000
E	API 5000
F	API 10000
G	API 15000

⑥ End Connection

2	Screwed BSP taper
3	ANSI flanged RF
4	Screwed NPT (API 5L)
5	ANSI flanged RTJ
6	Buttweld end
7	Screwed BSP parallel
8	ANSI flanged unmachined
9	Socketweld female
D	Flanged AS/PN/BS table D
F	Flanged AS/PN/BS table F
H	Flanged AS/PN/BS table H
K	Flanged PN10 RF
I	Flanged PN16 RF
J	ANSI RF x Buttweld
X	Weco Unions
Y	Weco Unions X LP
Z	Special

⑦ Body Material

A	Cast Iron
B	Alloy steel (API 6A)
C	Steel WCB / A105 (N)
D	Steel LCB/LF2
L	Steel LCC
S	Stainless CF8M/316
T	Stainless CF8/304
W	Steel WCC
Z	Special

⑧ Plug Material

C	Case hardened carbon steel
E	Electroless nickel plated plug
F	Ni-hard treated plug
G	316SS/CF8M
H	304SS/CF8
I	CR13/F6/F6A/CA15
J	PTFE/PFA/XYLAN bonded
K	CR13/F6/F6A + Ni Hard/ENP
L	Chrome Carbide Coated
M	Tungsten Carbide Coated
N	SG (nodular)
Z	Special

⑨ Seat/Lining Type

A	Sleeved PTFE/PFA
B	Metal seat lubricated
C	Fully lined PTFE/PFA
D	Metal seat non lubricated
V	Viton Inserts
Z	Special

⑩ Special Features

J	Jacketed
E	Extended Stem
N	NACE



AUSTRALIAN PIPELINE VALVE®

COMPLETE PRODUCT LINE

“Australian Pipeline Valve produces isolation, control and flow reversal protection products for severe and critical service media in utility, steam, pipelines, oil & gas and process industries. APV valves and pipeline products form the most competitive portfolio in the market.”



SUPER-CHECK®



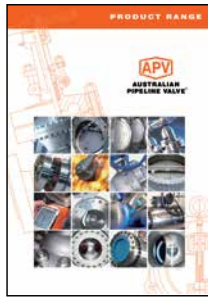
TORQTURN®

TWIN-LOK®

UNIFLO®



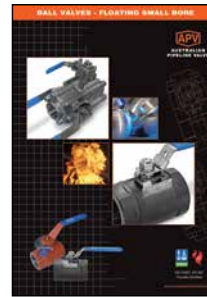
AUSTRALIAN PIPELINE VALVE BRAND RANGE - CATALOGUES



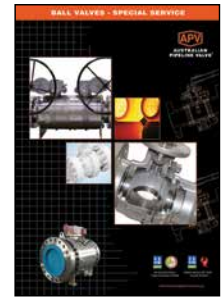
Product Brochure



Ball Valves Floating & Trunnion Mounted



Ball Valves Floating Small Bore



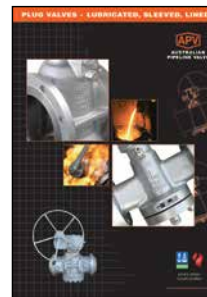
Ball Valves Special Service



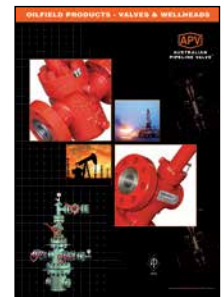
Gate, Globe & Check Valves - Cast Steel



Gate, Globe & Check Valves - Forged Steel



Plug Valves Lubricated, Sleeved & Lined



Oilfield Products - Valves & Wellheads

APV FAMILY OF BRANDS RANGE - CATALOGUES



Diamond Gear Gearboxes



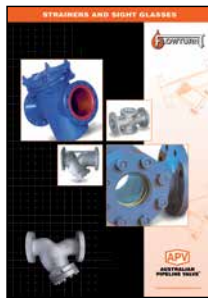
Flowturn Ball Valves Multiway & Deadman



Flowturn Gate, Globe & Check Valves



Flowturn Instrument Valves



Flowturn Strainers & Sight Glasses



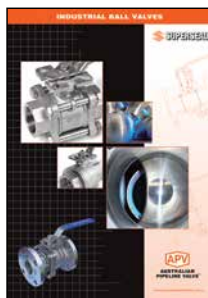
Steamco Steam Valves



Supercheck Wafer Check Valves



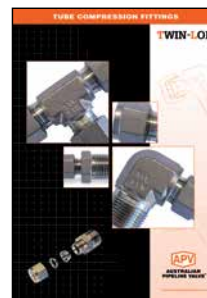
Superseal Butterfly Valves



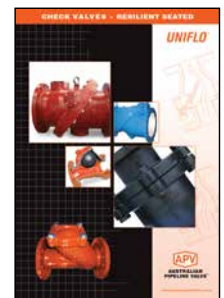
Superseal Industrial Ball Valves



Torqturn Actuators



TwinLok Tube Fittings



Uniflo Check Valves

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LOCAL DISTRIBUTOR



QUALITY ASSURANCE AND CERTIFICATION

We are continually improving all facets of quality assurance. Full metallurgical and test certificates are always supplied for all pressure retaining parts, we also provide it on all major trim components.

We have endeavoured to provide a broad outline of our range and capabilities. Because we are continually developing new products for our customers this catalogue will, to some extent be incomplete. This catalogue is a general overview only, individual drawings and data sheets can be furnished on request.

If you have any requirement in the field of valves, please contact us for a prompt response. Continuous development of Australian Pipeline Valve products may necessitate changes in the design or manufacturing processes. Australian Pipeline Valve reserves the right to effect any such changes without prior notice.

