GEOTHERMAL VALVES

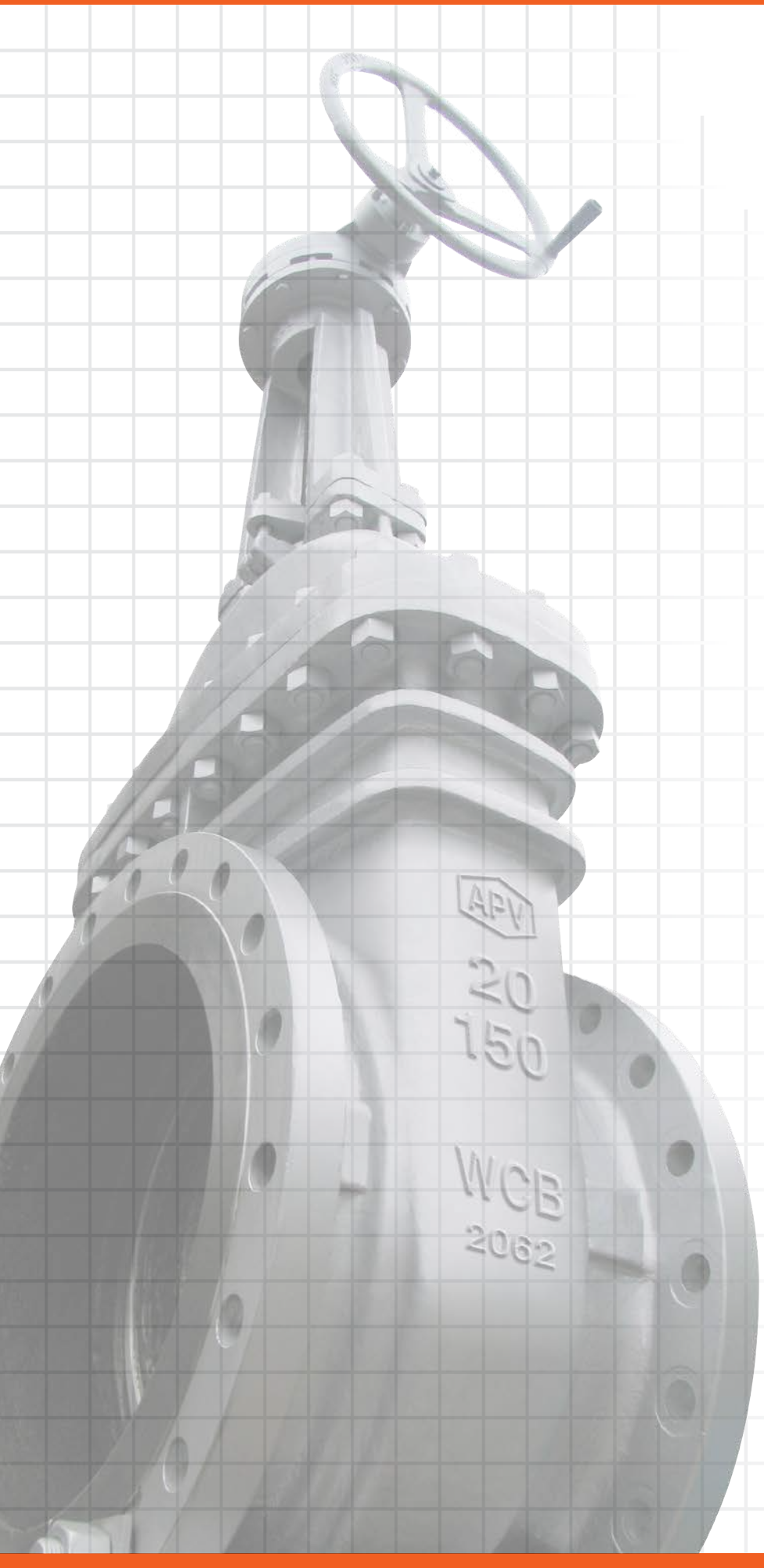
OVERVIEW CATALOGUE

APV
AUSTRALIAN PIPELINE VALVE®

WEDGE & PARALLEL SLIDE GATE VALVES
EXPANDING & SLAB GATE VALVES
METAL SEATED BALL VALVES

CLEAN ENERGY

QUALITY VALVE MANUFACTURER



GEOTHERMAL VALVES

The controlled capture and processing of high-heat, pressurised steam requires precision engineering and equipment.

APV valves are available for all types of Geothermal plants which includes dry steam, flash steam and binary cycle. APV manufactures high-quality, high-performance geothermal valves. Geothermal power plants utilise heat in the form of steam, brine and/or heat transfer fluids to activate steam turbines to produce electricity.

APV manufactures a complete line of low-maintenance, dependable Thru Conduit Expanding & Slab Gate valves, Parallel Slide & Wedge Gate valves as well as metal to metal seated Ball valves designed specifically for geothermal service. Made of materials that resist the impurities contained in the different geothermal processes.

Silica scaling can cause build-up, valve leakage and complete valve failure. Hence, APV valves are designed and proven to operate reliably in demanding geothermal service to 370°C.

Trim Configuration Options:
Inconel stem/gate
316 SS stem/gate
17-4 PH stem/gate
Inconel lined bore & seal area
Stellite overlay ST #21/ ST #6

APV

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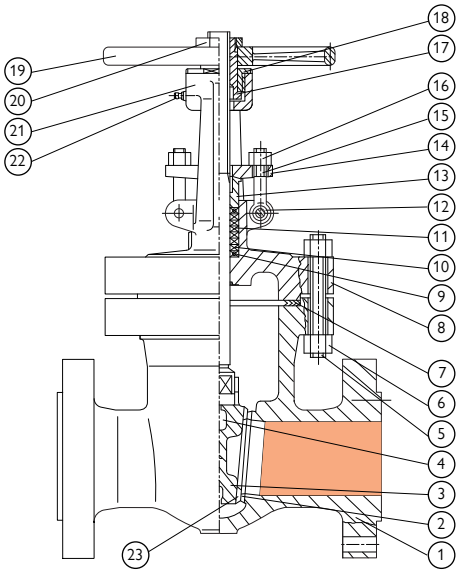
CONTENTS

This catalogue is an overview only. For full sizes, dimensions & materials please refer to the complete catalogues at the APV website. Click here. As-built drawing can be supplied in accordance with specification requirements.

API 600 WEDGE GATE VALVES - BOLTED BONNET

This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Gate, Globe & Check catalogue. Click here.
As-built drawing can be supplied in accordance with specification requirements.

MATERIAL COMBINATIONS / FEATURES



CAST STEEL GATE VALVES
ANSI CLASS 150 ~ 2500

FEATURES

- Bolted bonnet, OS&Y, Flexible wedge.
- On smaller size valves, the yoke is cast integral with bonnet. Larger size valves have two piece yoke, refer to individual drawing.
- Stem nut is mounted with ball bearings to reduce operating torque for ease of manual operation in larger sizes and higher classes.
- Self aligning two piece gland.

APPLICABLE STANDARDS

- Valves designed to API Std. 600
- Valves tested to API Std. 598
- Face-to-face to ANSI B16.10
- Flanged ends to ANSI B16.5
- Butt-welding ends to ANSI B16.25
- Trim and seating surface as per API 600 standard.
- Stuffing box smoothness ≤Ra 3.2 µm (superior to API 600)
- Stem smoothness to API 600 ≤Ra 0.80 µm

MATERIAL LIST

No.	Part Name	Carbon Steel				Alloy Steel			Stainless Steel			
		WCB	WCC	LCB	LCC	C5	WC6	WC9	CF8	CF8M	CF3	CF3M
	APV Suffix Code		1	2B	2	5	6	7	8	8M	0	4
1	Body	A216 WCB	A216 WCC	A352 LCB	A352 LCC	A217 C5	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	Seat Ring	A105	A105	A350 LF2	A350 LF2	A182 F5	A182 F11	A182 F22	A182 F304	A182 F316	A182 F304L	A182 F316L
3	Wedge	A216 WCB	A216 WCC	A352 LCB	A352 LCC	A217 C5	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
4	Stem	A182 F6	A182 F6	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
5	Bonnet Bolt	A193 B7				A320 L7	A193 B16		A320 B8		A193 B8M	
6	Bonnet Nut	A194 2H					A194 7		A194 8		A194 8M	
7	Gasket	Solid metal serrated gasket		Stainless Steel & Graphite wound			Non-metallic gasket		Stainless Steel or Soft Iron Ring Gasket			
8	Bonnet	A216 WCB	A216 WCC	A352 LCB	A352 LCC	A217 C5	A217 WC6	A217 WC9	A217 CF8	A351 CF8M	A351 CF3	A351 CF3M
9	Back Seat Bushing	A182 F6	A182 F6	A182 F6	A182 F6	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
10	Stem Packing	Braided/Flexible Graphite or PTFE										
11	Lantern*1	A182 F6	A182 F6	A182 F6	A182 F6	A182 F304	A182 F304	A182 F304	A182 F304	A182 F316	A182 304L	A182 F316L
12	Pin	Carbon Steel					Stainless Steel		Alloy Steel			
13	Gland	A182 F6	A182 F6	A182 F6	A182 F6	A182 F304	A182 F304	A182 F304	A182 F304	A182 F316	A182 F304L	A182 F316L
14	Gland Flange	A216 WCB	A216 WCC	A352 LCB	A352 LCC	A217 C5	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
15	Gland Eyebolt	A307 B				A307 L7	A193 B7		A193 B8		A193 B8M	
16	Gland Nut	A194 2H					A194 4		A194 8		A194 8M	
17	Stem Nut	A439D2 (Austenitic DI)					ZCuA110Fe3 (AL-Bronze)					
18	Retaining Nut	Carbon Steel or Alloy Steel										
19	Hand Wheel	Ductile Iron or Carbon Steel										
20	H.W. Lock Nut	Carbon Steel					Stainless Steel		Alloy Steel			
21	Yoke	A216 WCB	A216 WCC	A352 LCB	A352 LCC	A217 C5	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
22	Nipple	Copper Alloy				or	Carbon Steel		or	Stainless Steel		
23	Seat/Wedge Facing	13Cr	or	16Cr-8Ni	or	HF(Co-CrA)	or	316	or	304		

*1 Lantern Ring where applicable

API 622 & ISO 15848-1
Fugitive Emission Certified

API 607 & ISO 10497
Firesafe Certified

This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Gate, Globe & Check catalogue. Click here.
As-built drawing can be supplied in accordance with specification requirements.

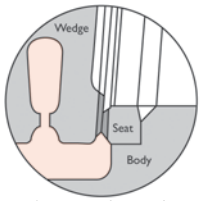
API 600 CAST STEEL VALVES

APV Cast steel valves are designed and manufactured to conform with API, ASTM, ANSI and other applicable internationally recognised standards, to possess all the qualities to meet with stringent requirement criteria of petroleum, petro-chemical and general industrial applications.

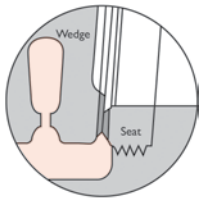
APV Valves are tested in accordance with applicable API standards. Full traceability is maintained.

APV Valves offer the option of hard facing on the wedge (disc) and seating areas.

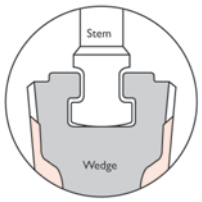
APV Gate Valves are optionally available with lantern rings. These rings along with double packing provide a leak-off connection. Alongside are illustrations of lantern rings as well as disc connection. Fugitive emission packing sets do normally need a lantern ring.



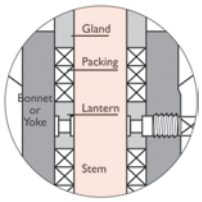
Seat Ring (welded)



Seat Ring (threaded)



Connection of stem to wedge



Lantern ring and packing

FUGITIVE EMISSION SERVICE

APV offers fugitive emission service valves on special request. The valves comply with environmental protection requirements. APV fugitive emission valves are designed, manufactured and tested to meet less than 100ppm with packing conforming to API 622 and valve design tested to API 624 and ISO 15848-1. Furthermore, optional live-loading of packing bolts is available. Two sets of belleville plate springs maintain a permanent packing stress of 24,000-28,000 kPa. Live-loading extends low emission service life especially in service with high pressure/temperature transients.

The stem on all APV fugitive emission service valves is surface finished to ≤Ra 0.80 µm. Straightness and roundness are precisely controlled. The stuffing box has a maximum ≤Ra 3.2 µm surface finish. Cylindricity and verticality are precisely controlled.

GENERAL DESIGN SPECIFICATIONS

	STANDARD
Shell wall thickness and general valve design specifications	API 600 (Gate Valves) API 603 (Gate Valves) API 594 (Check Valves) API 623 (Globe Valves)
Pressure-temperature ratings Face-to-face & End to end dimensions	ANSI B16.34 ANSI B16.10
Flanged end dimensions	ANSI B16.5*
Welding end dimensions	ANSI B16.25

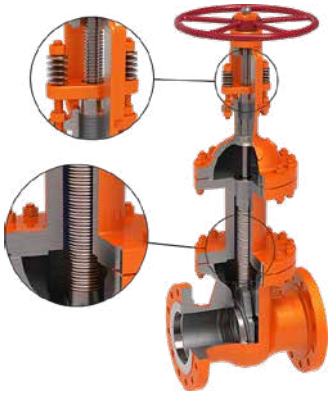
*Valves 700NB (28") and larger according to MSS SP-44 or API 605 are available.

LIVE LOADING

Live Loading is an addition of spring washers to the gland studs to maintain the packing load of the valve over time.

BELLOW SEAL

The bellow seal replaces the dynamic sealing system of a stem packing by a static sealing system between the valve bonnet and the valve stem bottom. It prevents the valve from the risk of leakage from the valve packing for VOC or toxic services.



Bellows Seal Option

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BOLTED BONNET GATE VALVES

FEATURES

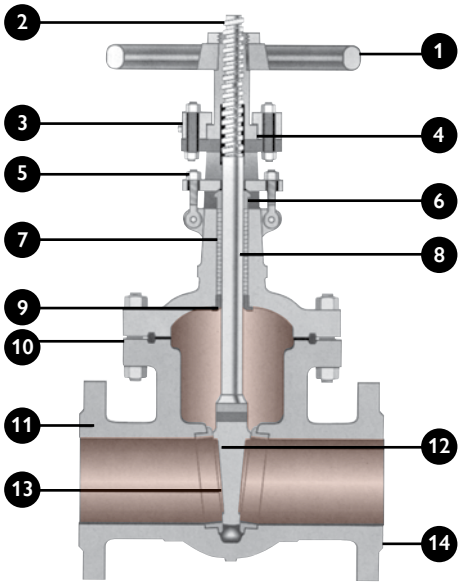
Full body wedge guides allow correct wedge alignment. Yoke sleeve with bearings reduce torque for easy operation. Seat rings allow easy access for maintenance and packing replacement is simple. Seat face 13Cr hardfaced, ground and lapped to a Ra 0.4~0.8 µm finish. Wedge is ground and lapped to a Ra 0.4~0.8 µm finish and tightly guided to prevent dragging and seat damage. Non-rotating stem with precision Acme threads and burnished finish. Rotating stem nut is austenitic ductile iron Gr. D-2C renewable.

STANDARDS

API 600 and ANSI B16.34. Dimensions to ANSI B16.10 and ISO 5727.
Stuffing box smoothness ≤Ra 3.2 µm superior to API 600.
Stem smoothness ≤Ra 0.80 µm as per API 600.

SOFT SEATED TRIM OPTION

All gate valves are available with optional PTFE seat rings. The moulded PTFE ring is bonded into a seat ring groove in the face for maximum service life. This design is excellent for lower temperature service where tight shutoff is required.

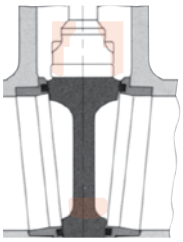


1. **Handwheel**
2. **Rising Stem** - provides open-close indication
3. **Grease Fitting** - to minimise wear and operating torque
4. **Yoke Sleeve** - furnished in ductile Ni-resist or aluminium-bronze for low torque operation
5. **Swing Bolt** - easier maintenance and packing replacement
6. **Gland** - flange is self-aligning to eliminate stem damage
7. **Stuffing Box**
8. **Stem** - upset forge T-head stems to eliminate possibility of a bent stem jamming the valve
9. **Backseat** - provides back-up stem seal
10. **Bonnet Joint**
11. **Body** - full ported, heavy wall body API 600 wall thickness
12. **Wedge** - heavy pattern. Available in solid & flex wedge
13. **Seat Ring** - full ported rings for easy maintenance
14. **End Connections** - flanged or butt weld ends

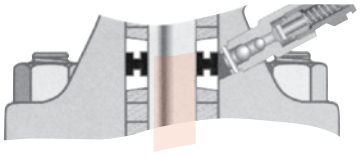
Parallel slide style
also available,
see page 20, 84 - 88
and also see
APV Steamco Catalogue

API 622 & ISO 15848-1
Fugitive Emission Certified

ISO 10497-1 & API 607-7th
Firesafe Certified



Soft seated "ST" trim option



Sealant injector and lantern ring option

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WEDGE GATE VALVE API 600 GEOTHERMAL TRIM CAT 40~1200AP47XGEXXXXXXX-XX CLASS 150

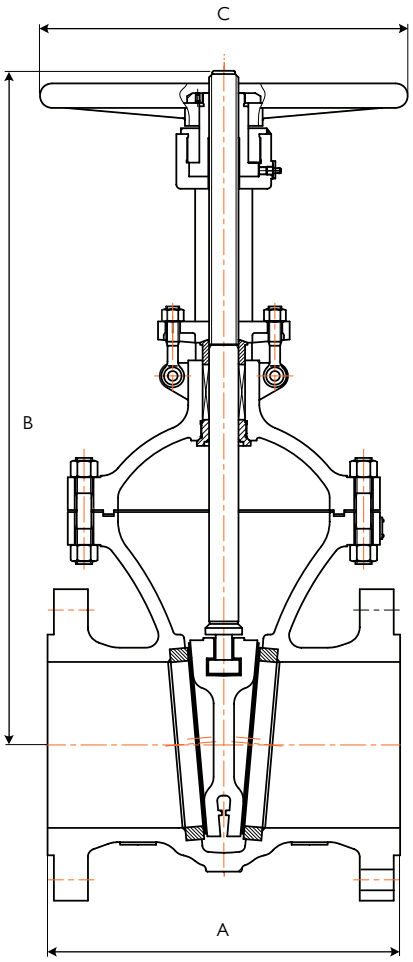
RISING STEM, NON RISING HANDWHEEL OS&Y OUTSIDE SCREW & YOKE FULL PORT DESIGN (SPECIAL LARGE BORE ALSO AVAILABLE) FLEXIBLE WEDGE

FULL PORT DESIGN

Description	Material	Specs.
Body	Carbon Steel	A216 Gr. WCB
Bonnet	Carbon Steel	A216 Gr. WCB
Disc	Carbon Steel + HF	A216 Gr. WCB + Stellite #6
Stem	Stainless Steel	17-4PH
Hand Wheel	Ductile Iron	A536 Gr. 65-45-12
Seat	Carbon Steel + HF	A105 + Stellite #6
Back Seat Ring	Integral	Stellite #6
Yoke Sleeve	Ductile Iron or Bronze	A439 Gr. D2C or B62
Sleeve Gland	Carbon Steel	A216 Gr. WCB
Gland Flange	Carbon Steel	A105
Gland Ring	Stainless Steel	A276 Gr. 420
Wheel Nut	Carbon Steel	A105
Bonnet Bolt	Alloy Steel	A193 Gr. B7/B7M
Bonnet Nut	Alloy Steel	A194 Gr. 2H/2HM
Gland Bolt	Alloy Steel	A193 Gr. B7
Gland Nut	Alloy Steel	A194 Gr. 2H
Gland Bolt Pin	Alloy Steel	A108 Gr. 1020
Bearing	-	Thrust Ball
Grease Nipple	Carbon Steel	A307 Gr. B
Set Screw	Carbon Steel	A307 Gr. B
Name Plate	Stainless Steel	304/AL
Packing	Asbestos Free	Reinf. Graphite/Chesterton 1724*
Gasket	Spiral Wound	316 Graphite filled

*260°C Max.

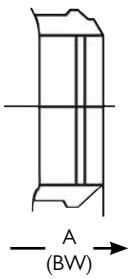
Standards	
Face to Face/End to End	ANSI B16.10
Flange Dimensions	ANSI B16.5/26" & larger MSS SP-44
Basic Design	API 600/ISO 10434
Testing	API 598



DIMENSIONS (MM)

Size (in)	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"
A. Face to Face RF	165	178	190	203	229	268	292	330	356	381	406
A. End to End BW	165	216	241	283	305	403	419	457	502	571	610
B. Valve Open	365	390	435	511	610	765	978	1146	1372	1587	1759
C. Hand Wheel Dia	229	229	229	254	305	356	406	457	508	559	559
Weight (Kg) RF	20	24	28	30	50	85	127	195	283	450	560
Weight (Kg) BW	12	20	22	26	40	77	118	185	270	370	500

For 5" dimensions refer to the overview brochure



DIMENSIONS (MM)

Size (in)	18"	20"	22"	24"	26"	28"	30"	32"	36"	42"	48"
A. Face to Face RF	432	457	508	508	559	610	610	660	711	787	914
A. End to End BW	660	711	762	813	864	914	914	965	1016	1092	-
B. Valve Open	1930	2156	2346	2515	2721	2896	3130	3264	3588	4610	4842
C. Hand Wheel Dia	559	610	660	660	813	813	813	815	813	813	-
Weight (Kg) RF	700	900	1050	1350	2000	2400	2800	3400	3820	5900	7300
Weight (Kg) BW	650	880	1000	1100	1800	2200	2610	3100	3600		

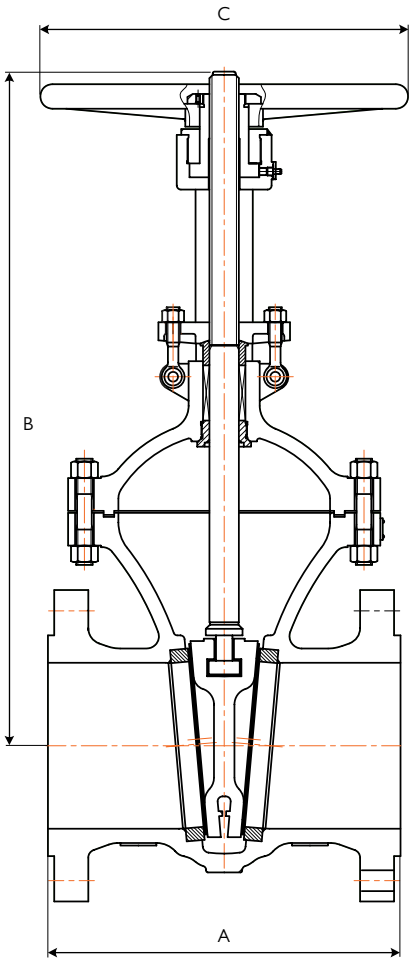
* For Buttweld weights see overview brochure.

WEDGE GATE VALVE API 600 GEOTHERMAL TRIM
CAT 40~600AP33XGEXXXXXXX-XX CLASS 300

RISING STEM, NON RISING HANDWHEEL OS&Y OUTSIDE SCREW & YOKE
FULL PORT DESIGN (SPECIAL LARGE BORE ALSO AVAILABLE) FLEXIBLE WEDGE

FULL PORT DESIGN

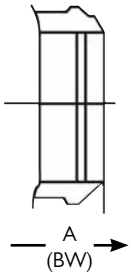
Description	Material	Specs.
Body	Carbon Steel	A216 Gr. WCB
Bonnet	Carbon Steel	A216 Gr. WCB
Disc	Carbon Steel + HF	A216 Gr.WCB + Stellite #6
Stem	Stainless Steel	17-4PH
Hand Wheel	Ductile Iron	A536 Gr. 65-45-12
Seat	Carbon Steel + HF	A105 + Stellite #6
Back Seat Ring	Integral	Stellite #6
Yoke Sleeve	Ductile Iron or Bronze	A439 Gr. D2C or B62
Sleeve Gland	Carbon Steel	A216 Gr. WCB
Gland Flange	Carbon Steel	A105
Gland Ring	Stainless Steel	A276 Gr. 420
Wheel Nut	Carbon Steel	A105
Bonnet Bolt	Alloy Steel	A193 Gr. B7/B7M
Bonnet Nut	Alloy Steel	A194 Gr. 2H/2HM
Gland Bolt	Alloy Steel	A193 Gr. B7
Gland Nut	Alloy Steel	A194 Gr. 2H
Gland Bolt Pin	Alloy Steel	A108 Gr. 1020
Bearing	-	Thrust Ball
Grease Nipple	Carbon Steel	A307 Gr. B
Set Screw	Carbon Steel	A307 Gr. B
Name Plate	Stainless Steel	304/AL
Packing	Asbestos Free	Reinforced Graphite
Gasket	Spiral Wound	316 Graphite filled



Standards	
Face to Face/End to End	ANSI B16.10
Flange Dimensions	ANSI B16.5
Basic Design	API 600/ISO 10434
Testing	API 598

DIMENSIONS (MM)

Size (in)	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
A. Face to Face RF	190	216	241	283	305	381	403	419	457	502	762	838
A. Face to Face RTJ	203	232	257	298	321	397	419	435	473	518	788	854
A. End to End BW	190	216	241	283	305	381	403	419	457	502	762	838
B. Valve Open	365	429	457	527	619	800	829	1025	1213	1473	1289	1784
C. Hand Wheel Dia	229	229	229	254	305	350	406	457	508	559	559	559
Weight (Kg) RF/RTJ	20	24	44	50	74	106	137	217	337	580	715	1050
Weight (Kg) BW	16	20	35	37	54	100	110	174	285	495	615	940



DIMENSIONS (MM)

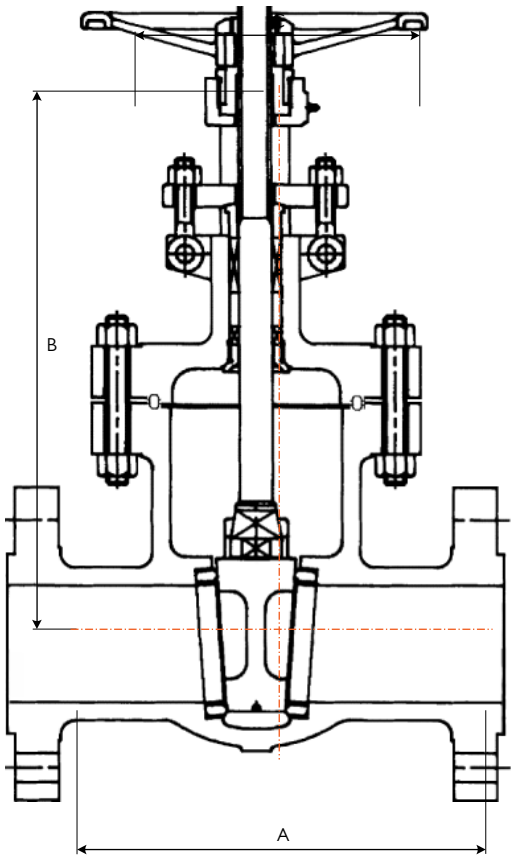
Size (in)	18"	20"	24"
A. Face to Face RF	914	991	1143
A. Face to Face RTJ	930	1010	1165
A. End to End BW	914	991	1143
B. Valve Open	1965	2194	2578
C. Hand Wheel Dia	610	660	660
Weight (Kg) RF/RTJ	1235	1655	2320
Weight (Kg) BW	1090	1500	2100

GATE VALVE GEOTHERMAL TRIM
CAT 40~600AP76-XGEXXXXXXX-XX CLASS 600

RISING STEM, NON RISING HANDWHEEL OS&Y OUTSIDE SCREW & YOKE
FULL PORT DESIGN (SPECIAL LARGE BORE ALSO AVAILABLE) FLEXIBLE WEDGE

FULL PORT DESIGN

Description	Material	Specs.
Body	Carbon Steel	A216 Gr. WCB
Bonnet	Carbon Steel	A216 Gr. WCB
Disc	Carbon Steel	A216 - WCB + Stellite #6
Stem	Stainless Steel	17-4PH
Hand Wheel	Ductile Iron	A536 Gr. 65-45-12
Seat Ring	Carbon Steel	A105 + Stellite #6
Back Seat Ring	Integral	Stellite #6
Yoke Sleeve	Ductile Iron or Bronze	A439 Gr. D2C or B62
Sleeve Gland	Carbon Steel	A216 Gr. WCB
Gland Flange	Carbon Steel	A105
Gland Ring	Stainless Steel	A276 Gr. 420
Wheel Nut	Carbon Steel	A105
Bonnet Bolt	Alloy Steel	A193 Gr. B7/B7M
Bonnet Nut	Alloy Steel	A194 Gr. 2H/2HM
Gland Bolt	Alloy Steel	A193 Gr. B7
Gland Nut	Alloy Steel	A194 Gr. 2H
Gland Bolt Pin	Alloy Steel	A108 Gr. 1020
Bearing	-	Thrust Ball
Grease Nipple	Carbon Steel	A307 Gr. B
Set Screw	Carbon Steel	A307 Gr. B
Name Plate	Stainless Steel	304/AL
Packing	Asbestos Free	Reinforced Graphite
Gasket	Metal Ring Joint or Spiral Wound SS Graphite filled.	



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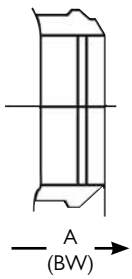
Standards	
Face to Face/End to End	ANSI B16.10
Flange Dimensions	ANSI B16.5
Basic Design	API 600
Testing	API 598

DIMENSIONS (MM)

Size (in)	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"
A. Face to Face RF	241	292	330	356	432	559	660	787	838	889	991
A. Face to Face RTJ	241	390	333	359	435	562	664	790	841	892	994
A. End to End BW	241	292	330	356	432	559	660	787	838	889	991
B. Valve Open	362	387	457	514	638	838	1029	1270	1486	1667	1832
C. Hand Wheel Dia	229	229	254	305	406	508	559	559	610	660	660
Weight (Kg) RF	35	48	60	85	135	325	515	840	1100	1360	1910
Weight (Kg) BW	22	38	45	70	105	265	380	700	925	1240	1580



DIMENSIONS (MM)

Size (in)	18"	20"	24"								
A. Face to Face RF	1092	1194	1397								
A. Face to Face RTJ	1095	1197	1400								
A. End to End BW	1092	1194	1397								
B. Valve Open	2013	2331	2610								
C. Hand Wheel Dia	813	813	813								
Weight (Kg) RF	2335	2750	4450								
Weight (Kg) BW	1900	2150	3660								

For 5" and 26" to 36" dimensions see overview brochure.

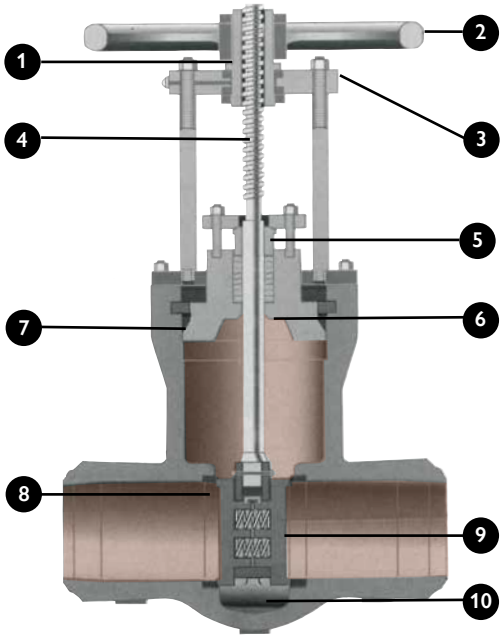
PARALLEL SLIDE GATE VALVES - BOLTED BONNET & PRESSURE SEAL BONNET

This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Gate, Globe & Check catalogue. Click here.
As-built drawing can be supplied in accordance with specification requirements.

PARALLEL SLIDE GATE VALVE - PRESSURE SEAL BONNET DESIGN

PARALLEL SLIDE GATE VALVES

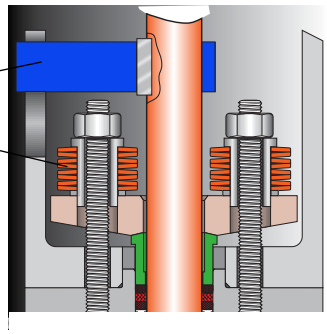
Normally utilised for shut off service but are not recommended for throttling. Gate valves are normally installed in horizontal pipe runs with the valve stem vertically up. They can be installed in horizontal or vertical pipe runs. After closing with sufficient force, the stem should be backed off slightly (1/8 turn) to relieve stem load. Parallel Slide Valves have self aligning discs with no wedging force and react freely to thermal changes. The design also ensures uniform seat wear and ease of maintenance. Parallel Slide Gate Valves are ideal where high differential pressure or thermal expansion may cause sticking of wedge to gate in traditional gate valves.



1. **Yoke Sleeve** - aluminium-bronze yoke sleeve with thrust bearings for ease of opening
2. **Actuation** - Low torque seating design reduces actuation costs
3. **Yoke** - designed to offer ease of maintenance
4. **Stem** - Threaded into disc housing and also pinned
5. **Gland** - two piece, self-aligning gland eliminates cocking. Swing out bolting facilitates maintenance
6. **Back Seat** - Integral, hardfaced
7. **Pressure Seal** - retaining ring and mild steel silver plated/SS/SS+GRP gasket to aid disassembly and provide maximum seal
8. **Seat Ring** - hardfaced seat rings are welded to body and are designed for ease of maintenance
9. **Discs** - Spring loaded discs are self-aligning and reduce actuator torque requirements
10. **Integral Stop** - Integral stop positions for reliable seating

Pressure Seal Bonnet Non Rotating Stem & Live Loaded Packing

The torque arm design guides and centralises the stem and prevents stem movement which reduces wear on packing rings & enables better sealing as well as reducing torque. Only the stem nut rotates. The arm also provides visual stem position indication & can be interfaced with position switches. Optional live loaded packing system is shown.



This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Gate, Globe & Check catalogue. Click here.
As-built drawing can be supplied in accordance with specification requirements.

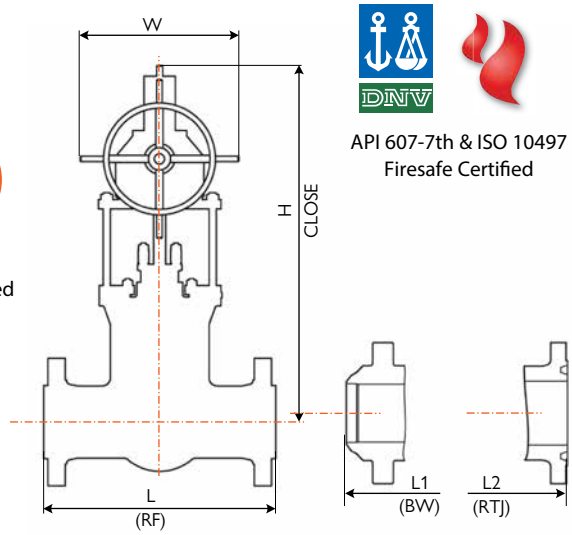
PARALLEL SLIDE GATE VALVE

CAT 50~600AP25SXXXX-M/N~50~600AP76SXXXX-M/N 600~2500 CLASS PRESSURE SEAL BONNET DESIGN

FEATURES

Pressure seal bonnet
Complete flow isolation in either direction
Minimum pressure drop
Inherent self cleaning action
Freedom from leakage, resistant to temperature or pressure changes
In line maintenance
By pass available upon request

API 622 & ISO 15848-1
Fugitive Emission Certified



API 607-7th & ISO 10497
Firesafe Certified

SPECIFICATIONS

Basic Design API 600, ASME B16.34 & MSS SP-144
Face to Face ASME B16.10
End Flange ASME B16.5
B.W End ASME B16.25
Test and Inspection API 598

AP76S-P 600LB

MM, INCH & KG

Description			Valve Size - Inch											
			2	3	4	6	8	10	12	14	16	18	20	24
Flanged End L		in	11.50	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00
		mm	292	356	432	559	660	787	838	889	991	1092	1194	1397
Weld End L1		in	11.50	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00
		mm	292	356	432	559	660	787	838	889	991	1092	1194	1397
RTJ L2		in	11.61	14.13	17.13	22.13	26.10	31.10	33.11	35.12	39.13	43.11	47.24	55.39
		mm	295	359	435	562	663	790	841	892	994	1095	1200	1407
Height H		in	18.50	25.63	27.95	43.50	48.31	51.93	68.54	68.54	74.21	88.39	97.24	117.44
		mm	470	651	710	1105	1227	1319	1741	1741	1885	2245	2470	2983
Handwheel Dia W		in	13.78	13.78	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50
		mm	350	350	800	800	800	800	800	800	800	800	800	800
Weight	RF	Kg	27	91	113	363	590	900	1497	1497	1769	2268	3447	4536
	BW	Kg	21	75	80	289	485	738	1300	1300	1434	1838	2892	3741

AP83S-P 900LB

MM, INCH & KG

Description			Valve Size - Inch											
			2	3	4	6	8	10	12	14	16	18	20	24
Flanged End L		in	14.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00
		mm	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
Weld End L1		in	14.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00
		mm	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
RTJ L2		in	14.61	15.12	18.11	24.13	29.13	33.11	38.11	40.87	44.88	48.50	52.52	61.73
		mm	371	384	460	613	740	841	968	1038	1140	132	1334	1568
Height H		in	18.50	24.84	27.95	43.50	48.31	51.89	68.54	68.54	78.54	89.45	97.24	117.44
		mm	470	631	710	1105	1227	1318	1741	1741	1995	2272	2470	2983
Handwheel Dia W		in	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50
		mm	800	800	800	800	800	800	800	800	800	800	800	800
Weight	RF	Kg	27	91	113	363	590	900	1497	1497	1769	2268	3447	4536
	BW	Kg	21	75	80	289	485	738	1300	1300	1434	1838	2892	3741

AP87S-P / AP25S-P

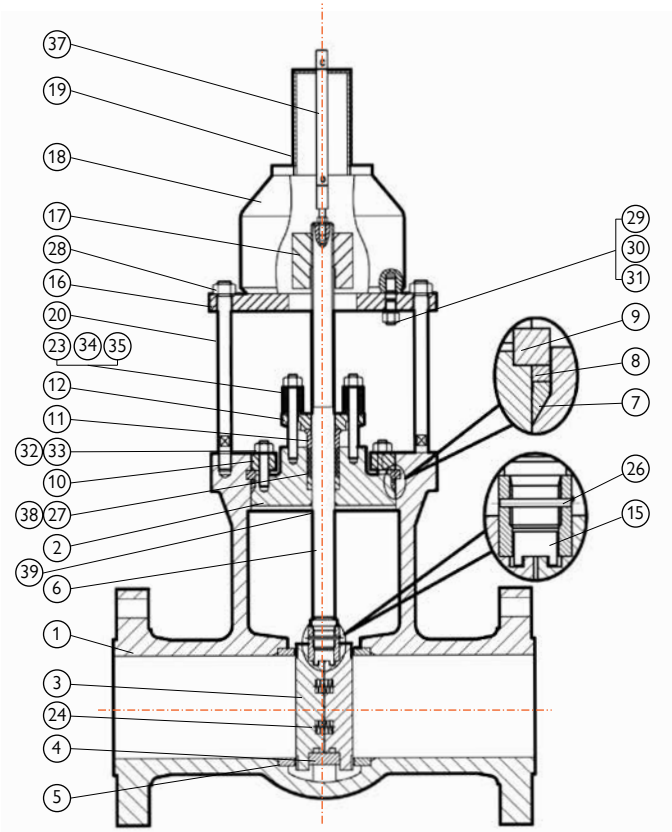
MM, INCH & KG

Description			1500LB AP87S-M									2500LB AP25S-M						
			Valve Size															
			2	3	4	6	8	10	12	14	16	2	3	4	6	8	10	12
Flanged End L		in	14.50	18.50	21.50	27.75	32.75	39.00	44.50	49.50	54.50	17.75	22.75	26.50	36.00	40.25	50.00	56.00
		mm	368	470	546	705	832	991	1130	1257	1364	451	578	673	914	1022	1270	1422
Weld End L1		in	14.50	18.50	21.50	27.75	32.75	39.00	44.50	49.50	54.50	17.75	22.75	26.50	36.00	4025	50.00	56.00
		mm	368	470	546	705	832	991	1130	1257	1364	451	578	673	914	1022	1270	1422
RTJ L2		in	14.61	18.62	21.61	27.99	33.11	39.37	45.12	50.24	55.39	17.87	22.99	26.89	36.50	40.87	50.87	56.89
		mm	371	473	549	711	841	1000	1146	1276	1407	454	584	683	927	1038	1292	1445
Height H		in	18.50	25.63	27.95	43.50	48.31	51.93	57.91	57.91	71.50	25.24	27.05	27.05	40.94	49.37	51.85	62.76
		mm	470	651	710	1105	1227	1319	1471	1471	1816	641	687	687	1040	1254	1317	1594
Handwheel Dia W		in	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50
		mm	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
Weight	RF	Kg	27	91	113	363	590	900	1497	1497	1769	99	102	136	386	680	909	1587
	BW	Kg	21	75	80	289	485	738	1300	1300	1434	63	86	103	315	580	750	1400

PARALLEL SLIDE GATE VALVE

CAT 50~600AP25SXXXX-P~50~600AP76SXXXX-P

PRESSURE SEAL BONNET DESIGN



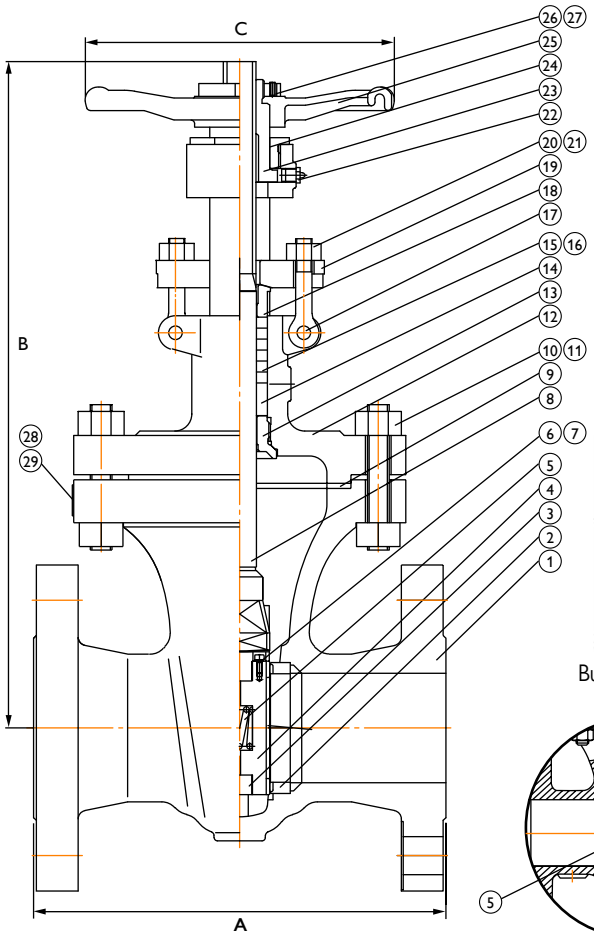
Pressure Seal (Pillar & Bridge Pressure Seal Bonnet Style shown.)

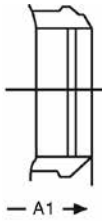
MATERIALS LIST

	Part Name	Carbon Steel to ASTM			Alloy Steel to ASTM			Stainless Steel to ASTM		
1	Body	A216 WCB	A352 LCB	A352 LCC	A217 WC6	A217 C5	A105	A351 CF8	A351 CF8M	A890 4A
2	Bonnet	A105	A350 LF2	A350 LF2	A105	A105	A182 F316	A182 F304	A182 F316	A182 F51
3	Gate*	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F51
4	Gate Retainer	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F51
5	Seat*	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F51
6	Stem	A564 S17400								
7	Silver Plated-Gasket	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F51
8	Thrust Ring	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F51
9	Pressure Collar	A105 +ENP	A350 LF2 +ENP	A350 LF2 +ENP	A105 +ENP	A105 +ENP	A105 +ENP	A182 F304	A182 F316	A182 F51
10	Pressure Plate	A105 +ENP	A350 LF2 +ENP	A350 LF2 +ENP	A105 +ENP	A105 +ENP	A105 +ENP	A182 F304	A182 F316	A182 F51
11	Gland	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F304	A182 F316	A182 F51
12	Gland Flange	A216 WCB	A352 LCB	A352 LCC	A217 WC6	A217 C5	A217 C12	A351 CF8	A351 CF8M	A890 4A
15	Stop Plate	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F51
16	Gland Adaptor Plate	A105	A350 LF2	A350 LF2	A105	A105	A105	A182 F304	A182 F316	A182 F51
17	Stem Nut	B150 C61900								
18	Gear	Steel								
19	Dust Proof Cover	Steel								
20	Yoke	Steel								
23	Belleville Spring	Steel +ZP/Inconel								
24	Spring	Steel								
26	Pin	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F316	A182 F51
27	Packing	Graphite								
28	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A193 B16	A194 8	A194 8M	A194 8MLCuNa
29	Bolt	A193 B7	A320 L7	A320 L7	A193 B16	A193 B16	A194 4	193 B8	193 B8M	A193 B8MLCuN
30	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A193 B16	A194 8	A194 8M	A194 8MLCuNa
31	Spring Washer	Steel								
32	Bolt	A193 B7	A320 L7	A320 L7	A193 B16	A193 B16	A194 4	A193 B8	A193 B8M	A193 B8MLCuN
33	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A193 B16	A194 8	A194 8M	A194 8MLCuNa
34	Bolt	A193 B7	A320 L7	A320 L7	A193 B16	A193 B16	A194 4	A193 B8	A193 B8M	A193 B8MLCuN
35	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 8MLCuNa
37	Stem Indicator	Steel								
38	Packing Ring	B150 C61900								
39	Backseat	Hard Face	Hard Face	Hard Face	Hard Face	Hard Face	Hard Face	Hard Face	Hard Face	Hard Face

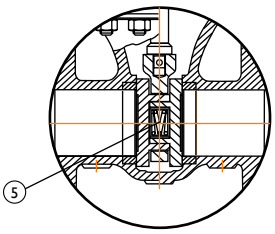
* +Stellite where specified, Inconel & Monel option also available.

PARALLEL SLIDE GATE VALVE - BOLTED BONNET
CAT 50~600AP47SXXXX~50~600AP87SXXXX CLASS 150-1500
SPRING ENERGISED DISCS





Buttweld ends



(Spring Loaded Double Disc Style)

FEATURES

For installation in applications such as industrial, mining and mechanical services. Suitable for super-heated steam, H.T.H.W steam condensate and water.

This design consists of two discs, kept in contact with parallel body seats, using the line pressure and seating action to effect tight closure.

Temperature changes in the line are accommodated by the expanding disc and do not affect the action of the valve. When being opened or closed, the discs slide across the seat faces, dislodging any foreign matter. The valve operating stem is outside screw rising through the handwheel.

These valves are suitable for full bore steam use, where a low pressure drop across the valve is required. Also suitable for water, oil, gas, etc.

PRESSURE/TEMPERATURE WCB BODY

Class	Cat No.	Test Pressure to API 598 (PSIG)			Working Pressure	
		Shell (Hydro)	Seat (Hydro)	Seat (Air)	CWP WOG	Saturated Steam (at 260°C)*
150 (Table D to F)	AP47XUS	450	315	80	280	170
300 (Table H to J)	AP33XUS	1125	815	80	720	600
600	AP76XUS	2225	1628	80	1440	1200
900	AP83XUS	3350	2442	80	2190	1800
1500	AP87XUS	5626	4078	80	3600	3000

For superheated steam etc. consult chart.
WC6 chrome-moly available body for high temperature applications.

STANDARD MATERIAL SPECIFICATIONS

	Part	Material
1	Body	ASTM A216 Gr. WCB
2	Seat Ring	A105+STL 6#
3	Disc Support	ASTM A216 Gr. WCB
4	Disc*	A105+410
5	Spring*	Inconel X-750
6	Washer	304 SS
7	Screw	B8
8	Stem	ASTM A182 F6A/17-4PH
9	Gasket	304 S.W. +Graphite
10	Bolt	ASTM A193 Gr. B7
11	Nut	ASTM A194 Gr. 2H
12	Bonnet	ASTM A216 Gr. WCB
13	Back Seat Ring	ASTM A182 Gr. F6
14	Packing Spacer	ASTM A182 Gr. F6
15	Packing	Flexible Graphite
16	Packing	Braided Graphite
17	Pin	1035
18	Gland	AISI 410
19	Gland Flange	ASTM A216 Gr. WCB
20	Eyebolt	ASTM A193 Gr. B7
21	Nut	ASTM A194 Gr. 2H
22	Grease Nipple	304 SS
23	Stem Nut	ASTM A439 Gr. D2
24	Retaining Nut	1025
25	Handwheel	A536
26	Handwheel Nut	1025
27	Screw	1035
28	Nameplate	304 SS
29	Rivet	304 SS

* Also available with expanding wedge energiser (no spring) style - refer to drawing.

SPECIFICATIONS

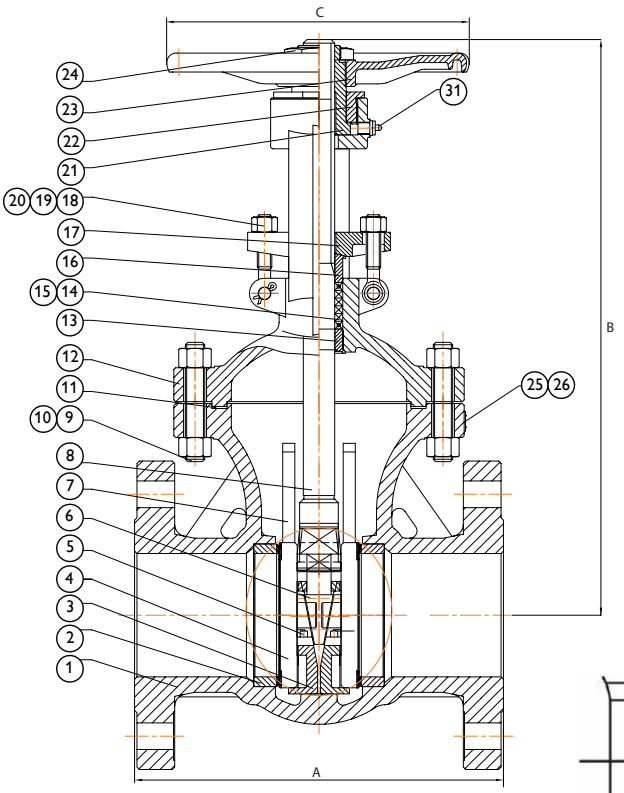
Basic Design API 600, ANSI B16.34
Face to Face Dimension ANSI B16.10
End to End Dimension ANSI B16.10
Flanged Ends - ANSI 16.5
B.W. Ends ANSI B16.25
Drilling to ANSI or BS/AS 2129 Table D to H or AS 4087 / AS 4331 / ISO 7005-1 PN 10 to 250
Pressure/Temperature ratings to ANSI B16.5

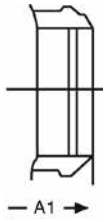
O.S. & Y. Rising Stem Full Port, Expanded Parallel Slide Gate Valve, Double Disc, Pressure Seal or Bolted Bonnet, Welded-in or Threaded Seat Rings. Mechanically loaded seating for low and high pressure sealing.

Parallel slide dual loaded discs ensure superior shut off and allow by-pass/bleed fitment (double block and bleed requires soft seat inserts).

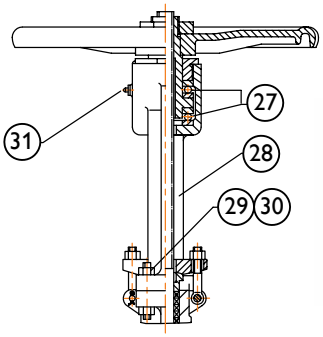
Pressure/temperature charts available on request.

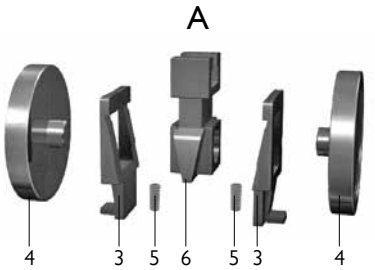
PARALLEL SLIDE GATE VALVE - BOLTED BONNET
CAT 50~600AP47XXXXKS~50~600AP87XXXXKS CLASS 150-1500
EXPANDING PARALLEL SLIDE





Buttweld ends





PRESSURE/TEMPERATURE WCB BODY

Class	Cat No.	Test Pressure to API 598 (PSIG)			Working Pressure	
		Shell (Hydro)	Seat (Hydro)	Seat (Air)	CWP WOG	Saturated Steam (at 260°C)*
150 (AS/BST D to F)	AP47XUKS	450	315	80	280	170
300 (AS/BST H to J)	AP33XUKS	1125	815	80	720	600
600	AP76XUKS	2225	1628	80	1440	1200
900	AP83XUKS	3350	2442	80	2190	1800
1500	AP83XUKS	5626	4078	80	3600	3000

For superheated steam etc. consult chart.
WC6 chrome-moly available body for high temperature applications.

FEATURES

Suitable for super-heated steam, H.T.H.W steam condensate and water.

Temperature changes in the line are accommodated by the expanding disc and do not affect the action of the valve. When being opened or closed, the discs slide across the seat faces, dislodging any foreign matter.

These valves are suitable for full bore steam use, where a low pressure drop across the valve is required. Also suitable for water, oil, gas, etc.

O.S. & Y. Rising Stem Full Port, Expanded Parallel Slide Gate Valve, Double Disc, Pressure Seal or Bolted Bonnet, Welded-in or Threaded Seat Rings. Mechanically loaded seating for low and high pressure sealing.

Parallel slide dual loaded discs ensure superior shut off and allow by-pass/bleed fitment (double block and bleed requires soft seat inserts).

Pressure/temperature charts available on request.

STANDARD MATERIAL SPECIFICATIONS

	Part	Material
1	Body	ASTM A217 WCB
2	Seat Ring	ASTM A105+STL.6
3	Wedge Blocks	ASTM A743 CA40
4	Discs	ASTM A105+STL.12
5	Springs	Inconel X-750
6	Disc Yoke	ASTM A743 C40
7	Guides	C.S.
8	Stem	ASTM A182 F6A/17-4PH
9	Studs	ASTM A193 B7
10	Nuts	ASTM A194 2H
11	Gasket	304SS+GRAPHITE
12	Bonnet	ASTM A216 WCB
13	Back Seat	ASTM A276 410
14	Packing	FLEXIBLE GRAPHITE
15	Packing	316+BRAIDED GRAPHITE
16	Gland	ASTM A276 410
17	Gland Flange	ASTM A217 WCB
18	Pins	AISI 1035
19	Eyebolts	ASTM A193 B7
20	Nuts	ASTM A194 2H
21	Stem Nut	ALUMINIUM BRONZE
22	Retaining Nut	AISI 1035
23	Handwheel	MALLEABLE IRON
24	Nuts	AISI 1035
25	Nameplate	316SS
26	Rivets	316SS
27	Bearings	SUB-ASSEMBLY
28	Yoke	ASTM A216 WCB
29	Studs	ASTM A193 B7
30	Nuts	ASTM A194 2H
31	Grease Nipple	BRASS

* Also available with expanding wedge energiser (no spring) style - refer to drawing.

PARALLEL SLIDE GATE VALVE - BOLTED BONNET
CAT 50~600AP47KSXXXX~50~600AP87KSXXXX CLASS 150-1500
EXPANDING PARALLEL SLIDE

SPECIFICATIONS

Basic Design API 600, ANSI B16.34
Face to Face Dimension ANSI B16.10
End to End Dimension ANSI B16.10
Flanged Ends ANSI 16.5
B.W. Ends ANSI B16.25
Drilling to ANSI or BS/AS 2129 Table D to H or AS 4087 / AS 4331.1 / ISO 7005-1 PN 10 to 250
Pressure/Temperature ratings to ANSI B16.5

TRIM MATERIAL CODES (TO API 600)

Seating Code	Body Seat Surface Part No. 3	Double Disc Surface Part No. 4	Stem Part No. 5	Back Seat (Stuffing Box) Part No. 10
X	F6	F6	F6	F6
U	Stellite	Stellite	F6	F6
XU	Stellite	F6	F6	F6
P*	F304	F304	F304	F304
R*	F316	F316	F316	F316
M*	Monel	Monel	Monel	Monel
N*	Alloy 20	Alloy 20	Alloy 20	Alloy 20
H*	Hastelloy B	Hastelloy B	Hastelloy B	Hastelloy B

* Add XU modifier to end of model suffix if stellite seat, if stellite seat & disc add U modifier to end.

OVERALL DIMENSIONS (MM) & WEIGHT (KG)

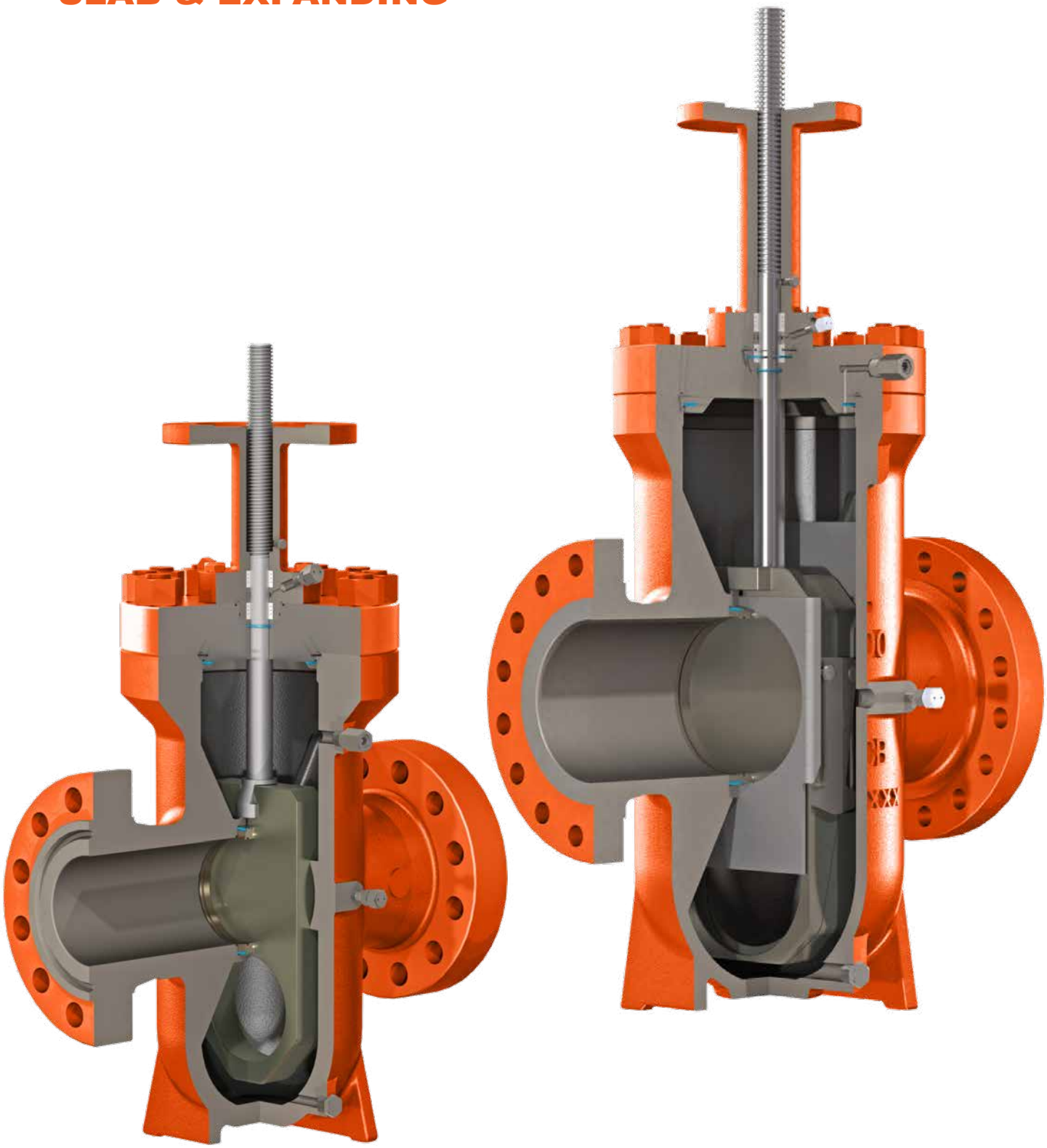
VALVE SIZE (NPS)		inch	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
CLASS 150 (Table D to F)	D	mm	51	64	76	102	125	152	203	254	305	337	387	438	489	591
	A	mm	178	190	203	229	254	267	292	330	356	381	406	432	457	508
	B (Open)	mm	409	472	490	612	720	806	990	1186	1415	1583	1771	1955	2210	2698
	C	mm	200	200	250	250	350	350	350	450	500	560	640	720	800	900
	Weight (kg)	RF	20	25	38	55	75	85	134	198	320	400	524	690	900	1350
CLASS 300 (Table F to H)	D	mm	51	64	76	102	125	152	203	254	305	337	387	438	489	591
	A-A1	mm	216	241	283	305	354	403	419	457	502	760	838	914	991	1143
	B (Open)	mm	428	477	543	650	720	850	1037	1276	1438	1585	1960	2155	2350	2720
	C	mm	200	250	250	300	300	350	450	500	560	640	720	800	900	1118
	Weight (kg)	RF	25	44	50	74	124	137	217	337	580	715	1050	1235	1655	2320
CLASS 600	D	mm	51	64	76	102	125	152	203	254	305	337	387	438	489	
	A-A1	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1192	
	B (Open)	mm	474	553	593	654	857	970	1122	1330	1519	1716	2110	2400	2461	
	C	mm	250	250	300	350	400	500	560	720	720	720	900	1000	1000	
	Weight (kg)	RF	50	60	85	135	260	345	515	845	1120	1360	1910	2335	2700	
CLASS 900	D	mm	51	60	76	102	120	152	203	254	305	324	375	438		
	A-A1	mm	372	419	384	460	559	613	740	841	968	1039	1140	1219		
	B (Open)	mm	590	702	740	870	1051	1078	1318	1581	1867	2004	2178	2526		
	C	mm	250	300	300	350	450	560	640	800	800	900	900	900		
	Weight (kg)	RF	110	140	150	220	355	460	800	1050	1600	2220	3000	3870		

Note: 15mm to 40mm NB 150 ~ 2500 Class also available refer to individual drawings.

Open

Closed

API 6D THROUGH CONDUIT GATE VALVES - SLAB & EXPANDING



This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Gate, Globe & Check catalogue. Click here.
As-built drawing can be supplied in accordance with specification requirements.

API 6D SLAB GATE VALVE
CAT AP400~405XJXX-XX

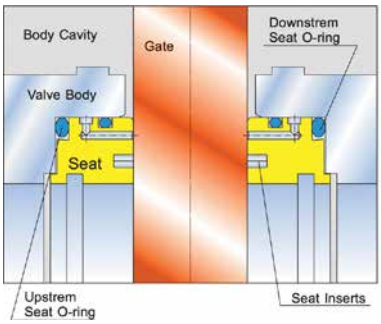
OVERVIEW SLAB GATE VALVE

Double block and bleed (DBB)
Double sealing established by initial plastic-to-metal contact in addition to metal-to-metal contact, both upstream, downstream. In the closed position, both upstream and downstream pressures energize the seats to form a tight seal on both seats simultaneously. This allows the body cavity to be manually bled.

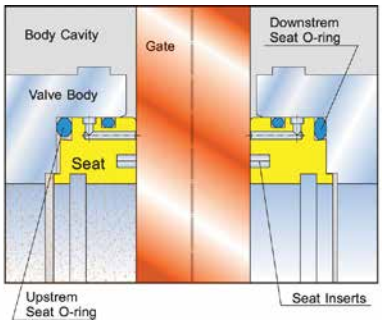
Pressure energised seats
As the upstream pressure increases, the upstream seat is pushed against the slab gate (piston effect), and subsequently the slab gate pushes against the downstream seat, creating a tight seal between both seats and the slab gate. In the absence of line pressure, the energized O-rings behind the seats provide the seating force on the slab gate to maintain a tight effective seal.
A soft seat insert in each seat is protected by the metal sealing surfaces in full contact with the gate, in both open and closed positions, completely isolated from the flow stream, greatly extending the seat life.

Cavity over pressure self-relieving
When the medium trapped in the body cavity expands as a result of the thermal expansion, the pressure buildup will push the upstream seat back into its recess and relieves to the upstream through the gap between the seat and the slab gate.

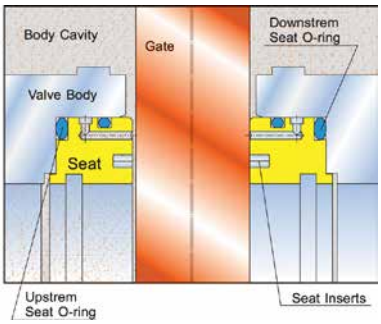
Protection of seat faces
Seat faces are not exposed to the flow stream and in full contact with the gate, in both open and close position, greatly extending seat life.



When the valve in the closed position with equal pressure in the valve, the energized seat O-Ring on both seats will push the seat rings against the gate to provide an initial soft-to-metal sealing.



When the line pressure is applied to the valve, the gate will be pushed against the downstream seat until the gate compresses the soft seat insert and forms soft-to-metal and metal-to-metal double seal.
The downstream O-ring provides the seal between the downstream seat and body.
The force of line pressure acting on the upstream seat against the gate provides a soft-to-metal seal, and the upstream seat O-ring provides the seal between the upstream seat and body.



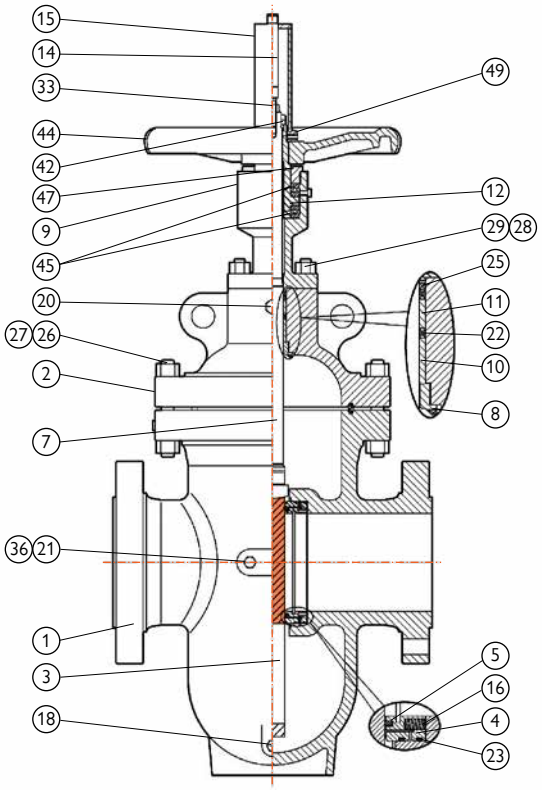
When the valve cavity pressure exceeds line pressure due to thermal expansion, the upstream seat is forced back into its recess and the excess pressure in the body cavity is relieved between the seat and the gate into the line.

This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Gate, Globe & Check catalogue. Click here.
As-built drawing can be supplied in accordance with specification requirements.

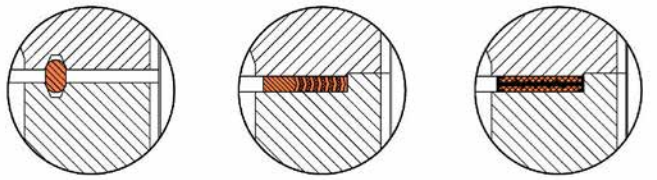
API 6D SLAB GATE VALVE
CAT AP400~405XJXX-XX

FEATURES

Saf-T-Seal®* style
Through conduit design with minimum flow resistance
Double sealing replaceable seat
Locking device
Backseated Stem
Body thermal relief system upon request
Stem extension upon request
Double block and bleed upon request
Soft seat or 'Metal to Metal'



FLANGE GASKET



Ring Type Joint
≥ 600lb

Spiral Wound Gasket
300lb

Metal Backup
Graphite Gasket 150lb

MATERIALS

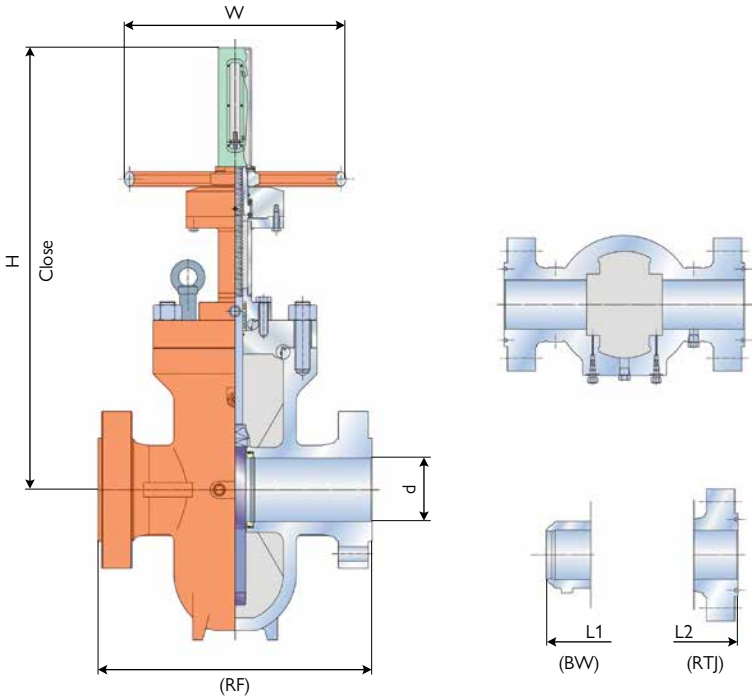
	Part Name	Carbon Steel to ASTM			Alloy Steel to ASTM			Stainless Steel to ASTM		
1	Body	A216 WCB	A352 LCB	A352 LCC	A217 WC6	A217 C5	A217 C12	A351 CF8	A351 CF8M	A890 4A
2	Bonnet	A216 WCB	A352 LCB	A352 LCC	A217 WC6	A217 C5	A217 C12	A351 CF8	A351 CF8M	A890 4A
3	Gate	A105	A350 LF2	A350 LF2	A105	A105	A105	A182 F304	A182 F316	A182 F51
4	Seat	A105	A350 LF2	A350 LF2	A105	A105	A105	A182 F304	A182 F316	A182 F51
5	Seat Insert	RPTFE / PTFE / Nylon M / Devlon / Viton / Peek or Metal to Metal								
7	Stem	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A182 F304	A182 F316	A182 F51
8	Backseat	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A182 F304	A182 F316	A182 F51
9	Yoke	A216 WCB	A352 LCB	A352 LCC	A217 WC6	A217 C5	A217 C12	A351 CF8	A351 CF8M	A890 4A
10	Packing Plate	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A182 F304	A182 F316	A182 F51
11	Lantern Ring	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A182 F304	A182 F316	A182 F51
12	Stem Nut	A439 D2						B150 C61900		
14	Indicator	Steel								
15	Dustproof Cover	Steel								
16	Spring	Steel								
18	Drain Fitting	316SS	316SS	316SS	316SS	316SS	316SS	316SS	316SS	A182 F51
20	Stem Sealant Injection	Assembly								
21	Seat Sealant Injection	Assembly								
22	Packing	Non-metal								
23	O-Ring	Viton								
25	Graphite Packing	Flexible Graphite								
26	Stud	A193 B7	A320 L7	A320 L7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8M	A194 B8MLCuNa
27	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 8MLCuNa
28	Stud	A193 B7	A320 L7	A320 L7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8M	A194 B8MLCuNa
29	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 8MLCuNa
33	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 8MLCuNa
36	Injection Check Valve	Assembly								
42	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 8MLCuNa
44	Handwheel	Ductile Iron								
45	Bearing	Steel								
47	Gland	Steel								
49	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 8MLCuNa

*Saf-T-Seal® is a registered trademark of Cameron®. APV is not associated, endorsed or affiliated with Cameron® in any way

API 6D SLAB GATE VALVE
CAT AP400~405XJXX-XX

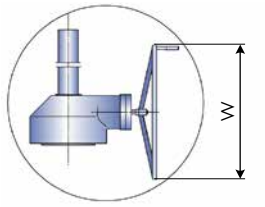
SPECIFICATIONS

Basic Design API 6D ASME B16.34
Face to Face API 6D
End Flange 2"-24" ASME B16.5
26"- 40" ASME B16.47
B.W End ASME B16.25
Test and Inspection API 6D & API 598
Manufacturing to NACE MR0175 on request



GEAR OPERATOR

150LB	≥ 20"
300LB	≥ 16"
600LB	≥ 12"
900LB	≥ 10"
1500LB	≥ 8"
2500LB	≥ 4"



AP400 150LB

MM, INCH & KG

Description			Valve Size - Inch															
			2	3	4	6	8	10	12	14	16	18	20	24	28	30	32	36
Flanged End L		in	7.00	8.00	9.00	10.50	11.50	13.00	14.00	15.00	16.00	17.00	18.00	20.00	24.00	26.00	28.00	32.00
		mm	178	203	229	267	292	330	356	381	406	432	457	508	610	660	711	813
Weld End L1		in	8.50	11.10	12.00	15.90	16.50	18.00	19.80	23.00	24.00	26.00	28.00	32.00	36.00	36.00	38.00	40.00
		mm	216	283	305	403	419	457	502	572	610	660	711	813	914	914	965	1016
Height H		in	19.21	27.48	27.99	38.15	45.35	55.28	62.60	69.88	77.56	82.87	93.31	107.80	120.59	131.57	135.51	148.82
		mm	488	698	711	969	1152	1404	1590	1775	1970	2105	2370	2738	3063	3342	3442	3780
Handwheel Dia W		in	5.90	7.90	9.80	9.80	9.80	13.80	15.80	17.70	18.10	18.10	18.10	18.10	18.10	24.00	24.00	24.00
		mm	150	200	250	250	250	350	400	450	460	460	460	460	460	610	610	610
Weight	RF	Kg	35	58	78	90	246	341	430	570	712	845	1080	1740	2520	2820	3400	5105
	BW	Kg	31	49	70	80	227	293	387	535	708	822	1044	1706	2458	2640	2932	5035

AP401 300LB

MM, INCH & KG

Description			Valve Size - Inch															
			2	3	4	6	8	10	12	14	16	18	20	24	28	30	32	36
Flanged End L		in	8.50	11.10	12.00	15.90	16.50	18.00	19.80	30.00	33.00	36.00	39.00	45.00	53.00	55.00	60.00	68.00
		mm	216	283	305	403	419	457	502	762	838	914	991	1143	1346	1397	1524	1727
Weld End L1		in	8.50	11.10	12.00	15.90	16.50	18.00	19.80	30.00	33.00	36.00	39.00	45.00	53.00	55.00	60.00	68.00
		mm	216	283	305	403	419	457	502	762	838	914	991	1143	1346	1397	1524	1727
Height H		in	19.49	27.76	28.62	38.78	45.67	55.91	63.23	70.67	77.95	83.70	93.70	109.88	122.05	132.87	136.87	150.39
		mm	495	705	727	985	1160	1420	1606	1795	1980	2126	2380	2791	3100	3375	3476	3820
Handwheel Dia W		in	7.90	9.80	11.80	13.80	15.80	17.70	19.70	19.70	18.10	18.10	18.10	24.00	24.00	24.00	24.00	27.60
		mm	200	250	300	350	400	450	500	500	460	460	460	610	610	610	610	700
Weight	RF	Kg	56	90	104	260	375	525	720	990	1350	2110	2520	4050	5246	6110	6666	8345
	BW	Kg	47	90	103	226	304	519	628	872	1205	2023	2298	3695	4659	5570	5938	6485

API 6D SLAB GATE VALVE
CAT AP400~405XJXX-XX

AP402 600LB

MM, INCH & KG

Description			Valve Size - Inch															
			2	3	4	6	8	10	12	14	16	18	20	24	28	30	32	36
Flanged End L		in	11.50	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	65.00	82.00
		mm	292	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651	2083
Weld End L1		in	11.50	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	65.00	82.00
		mm	292	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651	2083
RTJ L2		in	11.62	14.12	17.12	22.12	26.14	31.14	33.12	35.12	39.12	43.12	47.24	55.40	57.52	61.50	65.50	82.64
		mm	295	359	435	562	664	791	841	892	994	1095	1200	1407	1461	1562	1664	2099
Height H		in	20.47	29.13	30.51	40.79	47.64	58.86	67.01	74.21	80.31	87.99	97.17	115.35	128.15	139.57	143.70	158.07
		mm	520	740	775	1036	1210	1495	1702	1885	2040	2235	2468	2930	3255	3545	3650	4015
Handwheel Dia W		in	9.80	11.80	13.80	17.70	19.70	25.60	18.10	24.00	24.00	24.00	24.00	24.00	27.60	27.60	27.60	27.60
		mm	250	300	350	450	500	650	460	610	610	610	610	610	700	700	700	700
Weight	RF	Kg	72	127	152	315	652	875	1080	1605	2150	2557	4000	4736	5965	7825	9265	14620
	BW	Kg	61	114	116	246	587	813	990	1334	1965	2257	3680	4133	5040	6590	8195	12840

AP403 900LB

MM, INCH & KG

Description			Valve Size - Inch										
			2	3	4	6	8	10	12	14	16	18	20	24
Flanged End L		in	14.50	15.00	18.00	24.02	29.02	33.00	38.00	40.51	44.48	48.00	52.00	60.98
		mm	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
Weld End L1		in	14.50	15.00	18.00	24.02	29.02	33.00	38.00	40.51	44.48	48.00	52.00	60.98
		mm	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
RTJ L2		in	14.60	15.12	18.12	24.14	29.14	33.12	38.12	40.86	44.88	48.50	52.52	61.73
		mm	371	384	460	613	740	841	968	1038	1140	1232	1334	1568
Height H		in	21.26	30.31	31.73	42.40	49.61	61.22	69.53	77.17	83.66	91.54	101.18	120.08
		mm	540	770	806	1077	1260	1555	1766	1960	2125	2325	2570	3050
Handwheel Dia W		in	9.80	11.80	15.80	19.70	23.60	24.00	24.00	24.00	27.60	27.60	27.60	27.60
		mm	250	300	400	500	600	610	610	610	700	700	700	700
Weight	RF	Kg	80	170	286	540	960	1210	1870	2500	2900	3420	4500	7500
	BW	Kg	65	139	224	463	818	920	1738	2260	2615	2850	3690	7400

AP404 1500LB

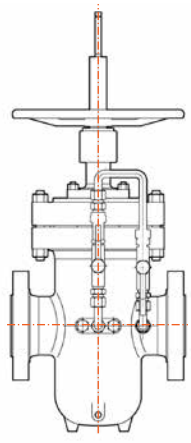
MM, INCH & KG

Description			Valve Size - Inch										
			2	3	4	6	8	10	12	14	16	18	20	24
Flanged End L		in	14.50	18.50	21.50	27.80	32.80	39.00	44.50	49.50	54.50	60.50	65.50	76.50
		mm	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943
Weld End L1		in	14.50	18.50	21.50	27.80	32.80	39.00	44.50	49.50	54.50	60.50	65.50	76.50
		mm	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943
RTJ L2		in	14.61	18.62	21.61	27.99	33.11	39.37	45.12	50.24	55.39	61.38	66.38	77.64
		mm	371	473	549	711	841	1000	1146	1276	1407	1559	1686	1972
Height H		in	22.05	31.50	32.99	44.09	51.57	63.66	72.32	80.24	87.01	95.20	105.20	124.88
		mm	560	800	838	1120	1310	1617	1837	2038	2210	2418	2672	3172
Handwheel Dia W		in	15.80	19.70	23.60	31.50	24.00	27.60	27.60	27.60	27.60	39.40	39.40	39.40
		mm	400	500	600	800	610	700	700	700	700	1000	1000	1000
Weight	RF	Kg	100	265	380	880	1310	2100	3325	4380	5500	6550	8500	13800
	BW	Kg	80	229	329	728	1031	1830	3255	3480	4600	5550	7470	13400

AP405 2500LB

MM, INCH & KG

Description			Valve Size - Inch						
			2	3	4	6	8	10	12
Flanged End L		in	17.80	22.80	26.50	36.00	40.20	50.00	56.00
		mm	451	578	673	914	1022	1270	1422
Weld End L1		in	17.80	22.80	26.50	36.00	40.20	50.00	56.00
		mm	451	578	673	914	1022	1270	1422
RTJ L2		in	17.87	22.99	26.89	36.50	40.87	50.87	56.89
		mm	454	584	683	927	1038	1292	1445
Height H		in	22.68	32.44	33.86	45.28	53.15	65.55	74.49
		mm	576	824	860	1150	1350	1665	1892
Handwheel Dia W		in	15.80	19.70	24.00	24.00	24.00	24.00	27.60
		mm	400	500	610	610	610	610	700
Weight	RF	Kg	146	370	545	1215	2145	3900	5660
	BW	Kg	111	300	430	925	1705	3130	4760



Bypass Option

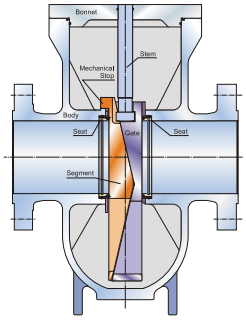
API 6D EXPANDING GATE VALVE
CAT AP410~414XKXX-XX

OVERVIEW EXPANDING GATE VALVE

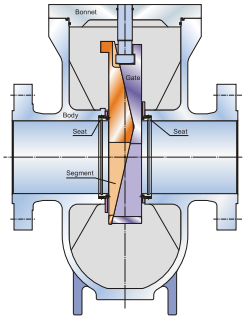
Double isolation and bleed DIB-1 (both seats bi-directional)
Double sealing established on each seat bi-directionally by initial plastic-to metal contact in addition to metal-to-metal contact, both upstream, downstream and body cavity. In the closed position, the gate forms a tight seal simultaneously on both seats bi-directionally. This allows the body cavity to be manually bled. An automatic cavity pressure relief device is provided to relieve the build-up of over pressure in the body cavity.

Mechanically induced bubble tight seal
When closing, the segment is positioned by a mechanical stop while the gate continues going downward, expanding the segment and gate against their opposite seats. This action forms a bubble tight seal on both the upstream and downstream seat to reach a double isolation sealing function.

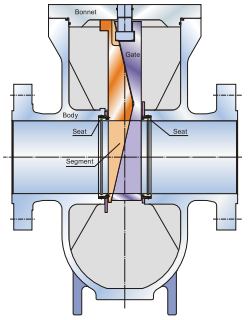
Wear and tear reduction
When the valve is completely closed, the gate and segment are wedged tightly against each seat. During operation, the gate and segment retract from the seats prior to stroking; this retraction provides an operating clearance to reduce rubbing of the resilient seat material and protects the sealing surfaces. Additionally this reduces the operating torque and allows a smaller and more economical operator for smooth operation.



In the fully closed position, the segment is positioned by the mechanical stop and the gate is wedged downward under stem thrust force, expanding the segment and gate to form a tight seal on each seat bi-directionally between upstream and downstream.

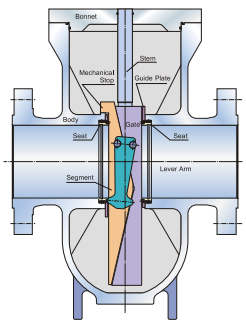


During travel between fully open or close position, the gate and segment retract from the seats prior to travel; this retraction provides an operating clearance to reduce wear on the sealing surface and operating torque.



When the bore of the segment is aligned with the body bore, the segment is positioned by the mechanical stop and the gate continues to move upwards, expanding the gate and the segment to form a through conduit bore and protect the sealing surface from flow erosion.

Lever lock mechanism - Size 150NB (6") and above
The lever arm maintains the gate & segment surfaces parallel by guide plates, while the expanding gate assembly is moving through its stroke. Near the end of stroke, the guide plate allows the lever arm to tilt. The gate and segment slide against their angled faces under stem provided thrust force, creating the expanding seal action. In their final position, the gate and segment are mechanically secured in place. The guide plates forms a rail at both sides of the expanding gate assembly to guide its movements and align it with the seats.

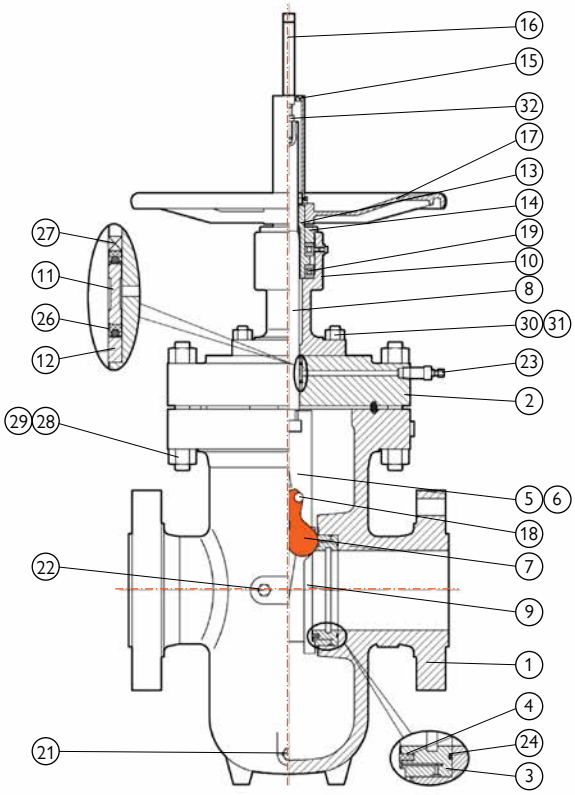


This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Gate, Globe & Check catalogue. Click here.
As-built drawing can be supplied in accordance with specification requirements.

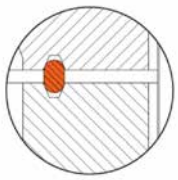
API 6D EXPANDING GATE VALVE
CAT AP410~414XKXX-XX

FEATURES

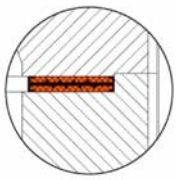
Pow-R-Seal®* Style
Through conduit design with minimum flow resistance
Double-sealing replaceable seat
Locking device
Body thermal relief system
Stem extension upon request
Soft Seat or 'Metal to Metal'



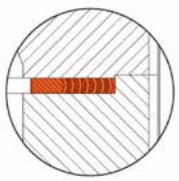
FLANGE GASKET



Ring Type Joint
≥ 600lb



Metal Backup
Graphite Gasket 150lb



Spiral Wound Gasket
300lb

MATERIALS LIST

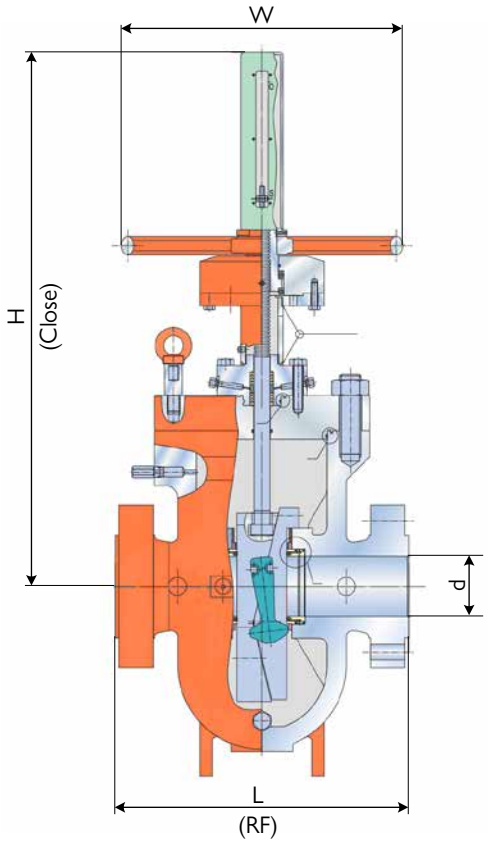
	Part Name	Carbon Steel to ASTM			Alloy Steel to ASTM			Stainless Steel to ASTM		
1	Body	A216 WCB	A352 LB	A352 LCC	A217 WC6	A217 C5	A217 C12	A351 CF8	A351 CF8M	A890 4A
2	Bonnet	A105	A350 LF2	A350 LF2	A105	A105	A105	A182 F304	A182 F316	A182 F51
3	Seat	A105	A350 LF2	A350 LF2	A105	A105	A105	A182 F304	A182 F316	A182 F51
4	Seat insert	RPTFE/PTFE/Nylon M/Devlon/Viton/Peek or Metal to Metal								
5	Gate	A105	A350 LF2	A350 LF2	A105	A105	A105	A182 F304	A182 F316	A182 F51
6	Segment	A105	A350 LF2	A350 LF2	A105	A105	A105	A182 F304	A182 F316	A182 F51
7	Lever	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A182 F304	A182 F316	A182 F51
8	Stem	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A182 F304	A182 F316	A182 F51
9	Skirt	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A182 F304	A182 F316	A182 F51
10	Yoke	A216 WCB	A352 LCB	A352 LCC	A217 WC6	A217 C5	A217 C12	A351 CF8	A351 CF8M	A890 4A
11	Lantern Ring	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A182 F304	A182 F316	A182 F51
12	Packing Plate	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A182 F304	A182 F316	A182 F51
13	Stem Nut	A439 D2						B150 C61900		
14	Washer	Steel								
15	Dustproof Cover	Steel								
16	Indicator	Steel								
17	Handwheel	Ductile Iron								
18	Rivet	Steel								
19	Bearing	Steel								
21	Drain Fitting	316SS	316SS	316SS	316SS	316SS	316SS	316SS	316SS	A182 F51
22	Seat Sealant Injection	Assembly								
23	Stem Sealant Injection	Assembly								
24	O-Ring	Viton								
26	Packing	Non-metal								
27	Graphite Packing	Flexible Graphite								
28	Stud	A193 B7	A320 L7	A320 L7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8M	A193 B8MLCuN
29	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 B8MLCuN
30	Stud	A193 B7	A320 L7	A320 L7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8M	A193 B8MLCuN
31	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 B8MLCuN
32	Nut	A194 2H	A194 7	A194 7	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 B8MLCuN

Sample only, varies according to size & class.
*Pow-R-Seal® is a registered trademark of Cameron®. APV is not associated, endorsed or affiliated with Cameron® in any way

API 6D EXPANDING GATE VALVE
CAT AP410~414XKXX-XX

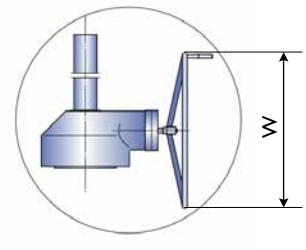
SPECIFICATIONS

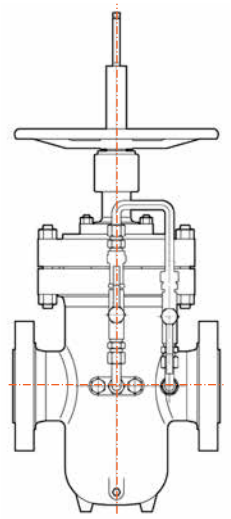
Basic Design API 6D ASME B16.34
Face to Face API 6D
End Flange 2"-24" ASME B16.5
B.W. End ASME B16.25
Test and Inspection API 6D & API 598
Manufacturing to NACE MR0175 on request



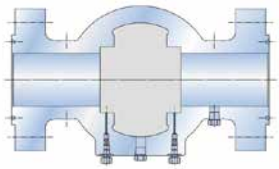
GEAR OPERATOR

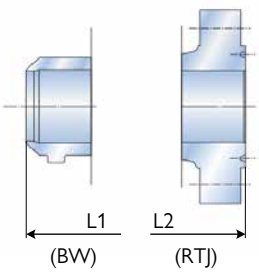
300LB	≥ 14"
600LB	≥ 14"
900LB	≥ 12"
1500LB	≥ 6"





Bypass Option





AP410 / AP411

MM, INCH & KG

Description			150LB - AP410					300LB - AP411											
			Valve Size - Inch					Valve Size - Inch											
			20	24	30	32	36	6	8	10	12	14	16	18	20	24	30	32	36
Flange End L		in	18.00	20.00	26.00	28.00	32.00	15.90	16.50	18.00	19.80	30.00	33.00	36.00	39.00	48.50	55.00	60.00	68.00
		mm	457	508	660	711	813	403	419	457	502	762	838	914	991	1232	1397	1524	1727
Weld End L1		in	28.00	32.00	36.00	38.00	40.00	15.90	16.50	18.00	19.80	30.00	33.00	36.00	39.00	48.50	55.00	60.00	68.00
		mm	711	813	914	965	1016	403	419	457	502	762	838	914	991	1232	1397	1524	1727
Height H		in	99.02	114.57	138.98	145.08	160.63	36.64	46.37	52.55	59.44	71.26	82.68	87.01	99.02	114.57	138.98	145.08	160.63
		mm	2515	2910	3530	3685	4080	931	1178	1335	1510	1810	2100	2210	2515	2910	3530	3685	4080
Handwheel Dia W		in	18.11	24.02	24.02	24.02	24.02	15.75	23.62	23.62	29.53	18.11	18.11	18.11	18.11	24.02	24.02	24.02	24.02
		mm	460	610	610	610	610	400	600	600	750	460	460	460	460	610	610	610	610
Weight	RF	Kg	1500	3780	4700	5780	8680	277	418	549	804	1075	1409	2278	2551	4359	7332	8000	10014
	BW	Kg	1464	3740	4520	5300	8500	243	347	490	751	911	1231	2191	2360	3899	6792	7270	8154

API 6D EXPANDING GATE VALVE
CAT AP410~414XKXX-XX

AP412 600LB

MM, INCH & KG

Description			Valve Size - Inch													
			2	3	4	6	8	10	12	14	16	18	20	24	30	32	36
Flanged End L		in	11.50	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	65.00	70.00	82.00
		mm	292	356	432	559	660	787	838	889	991	1092	1194	1397	1651	1778	2083
Weld End L1		in	11.50	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	65.00	70.00	82.00
		mm	292	356	432	559	660	787	838	889	991	1092	1194	1397	1651	1778	2083
RTJ L2		in	11.62	14.12	17.12	22.12	26.14	31.14	33.12	35.12	39.12	43.12	47.24	55.40	65.50	70.62	82.63
		mm	295	359	435	562	664	791	841	892	994	1095	1200	1407	1664	1794	2099
Height H		in	14.38	19.33	21.88	36.64	46.37	52.55	59.44	71.26	82.68	87.01	99.02	114.57	138.98	145.08	160.63
		mm	365	491	556	931	1178	1335	1510	1810	2100	2210	2515	2910	3530	3685	4080
Handwheel Dia W		in	11.81	11.81	13.78	15.75	23.62	23.62	29.53	24.02	24.02	24.02	24.02	24.02	27.56	27.56	27.56
		mm	300	300	350	400	600	600	750	610	610	610	610	610	700	700	700
Weight	RF	Kg	75	132	160	323	671	921	1100	1654	2286	2684	4101	535	9728	11200	14910
	BW	Kg	64	119	124	254	606	859	1010	1383	2100	2384	3781	4646	8658	10500	13132

AP413 900LB

MM, INCH & KG

Description			Valve Size - Inch										
			2	3	4	6	8	10	12	14	16	18	20	24
Flanged End L		in	14.50	15.00	18.00	24.02	29.02	33.00	38.00	40.50	44.48	48.00	52.00	61.00
		mm	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
Weld End L1		in	14.50	15.00	18.00	24.02	29.02	33.00	38.00	40.50	44.48	48.00	52.00	61.00
		mm	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
RTJ L2		in	14.60	15.12	18.12	24.14	29.14	33.12	38.12	40.86	44.88	48.5	52.52	61.73
		mm	371	384	460	613	740	841	968	1038	1140	1232	1334	1568
Height H		in	15.98	21.47	25.65	40.20	51.52	58.39	66.37	78.39	90.94	95.71	108.92	126.02
		mm	406	545	652	1021	1309	1483	1686	1991	2310	2431	2767	3201
Handwheel Dia W		in	11.81	11.81	15.75	17.72	23.62	29.53	24.02	24.02	27.56	27.56	27.56	27.56
		mm	300	300	400	450	600	750	610	610	700	700	700	700
Weight	RF	Kg	83	178	311	583	1002	1319	1970	2623	2999	4823	6360	8356
	BW	Kg	68	149	259	506	860	1029	1838	2383	2627	4174	5823	7577

AP414 1500LB

MM, INCH & KG

Description			Valve Size - Inch						
			2	3	4	6	8	10	12
Flanged End L		in	14.50	18.50	21.50	27.75	32.75	39.00	44.50
		mm	368	470	546	705	832	991	1130
Weld End L1		in	14.50	18.50	21.50	27.75	32.75	39.00	44.50
		mm	368	470	546	705	832	991	1130
RTJ L2		in	14.60	18.62	21.62	28.00	33.11	39.37	45.12
		mm	371	473	549	711	841	1000	1146
Height H		in	15.98	21.47	25.65	54.89	59.85	71.11	81.00
		mm	406	545	652	1394	1520	1806	2057
Handwheel Dia W		in	11.81	11.81	17.72	24.02	24.02	27.56	27.56
		mm	300	300	450	610	610	700	700
Weight	RF	Kg	105	270	416	909	1331	2275	3410
	BW	Kg	85	234	365	757	1249	2005	2936

METAL TO METAL SEATED BALL VALVES - FLOATING & TRUNNION

This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Ball Valve catalogue & APV Special Service Ball Valve catalogue. Click here. As-built drawing can be supplied in accordance with specification requirements.

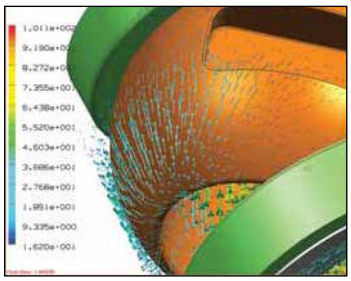
METAL TO METAL SEATED BALL VALVES - TRUNNION & FLOATING

OVERVIEW

API 622 2011 2nd Edition
Fugitive Emission Certified

API 607 6th Ed. & ISO 10497
Firesafe Certified

Australian Pipeline Valve manufacture severe and critical service ball valves. Valves can be manufactured in class IV, V and VI shut off as well as API 598 and MSS-SP61. Special resilient and metal seated high performance ball valves with 'cam action seats' are also available. This seat design lifts off the ball/disc during opening and closing to avoid seat damage. The design also protects the seat from high velocity and abrasion damage during initial opening. Trunnion Mounted Ball Valves designed for abrasive service, feature a metal to metal sealing between the ball and seat rings, while the sealing between the seat and the seat housing shoulders is achieved by means of o-rings, graphite gaskets or lip seal o-rings or bellows seals depending on service conditions.

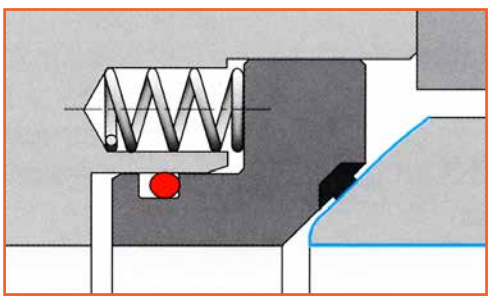


The ball and the seat rings are hard-faced using different coating mediums such as Electro-less Nickel, Chrome Carbide, Tungsten Carbide, Chromium Carbide and Stellite depending on media, temperature & service to be handled.
A specially designed seat ring avoids the inclusion of sand or other debris in the spring recess.

Special flushing systems for the seat pocket area are available on request for valves to be used in extremely "dirty" services. Valves can be bi-directional or uni-directional

MATE LAPPING

Proprietary mate-lapping is available which produces the tightest, most reliable seal available. All metal seated ball valves rely on continuous, unbroken contact between the ball and metal seat to create an isolating seal. 360° mate-lapping of the entire ball and seat produces optimal roundness, producing 100% ball to seat contact, regardless of the positioning. Traditional cup-lapping methods mate only the sealing band of the ball to seat surfaces creating ridges that distort the balls roundness and compromise the coating thickness. The sealing "sweet spot" is much smaller and a leak path may develop if even slightly misaligned resulting in reduced valve life, more maintenance and higher actuation costs.



Seat area on Trunnion Mounted Style

This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Special Service Ball Valve catalogue. Click here.
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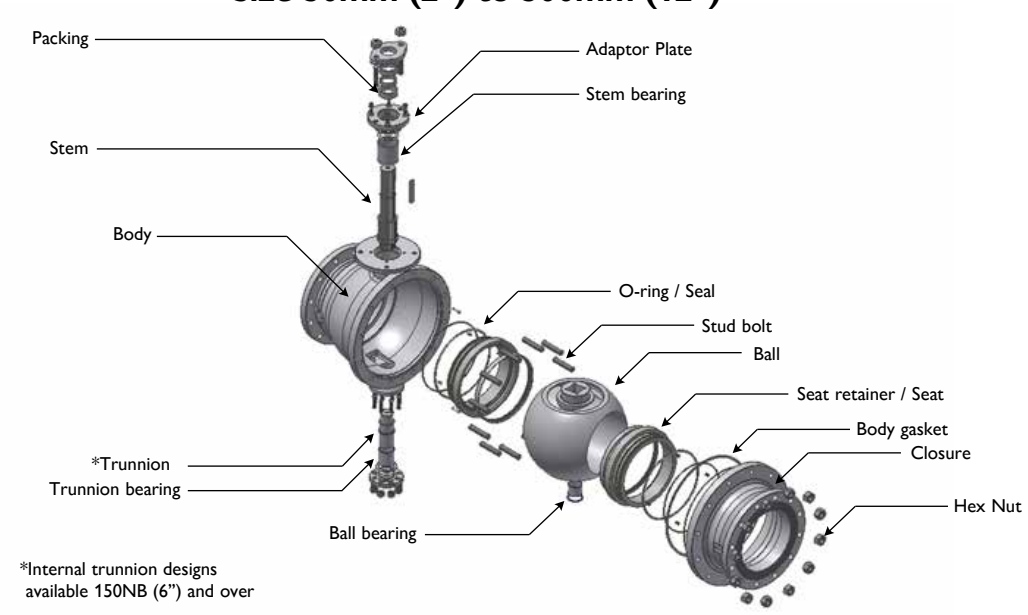
METAL TO METAL SEATED BALL VALVES - FS9000-MS - EXPLODED VIEW

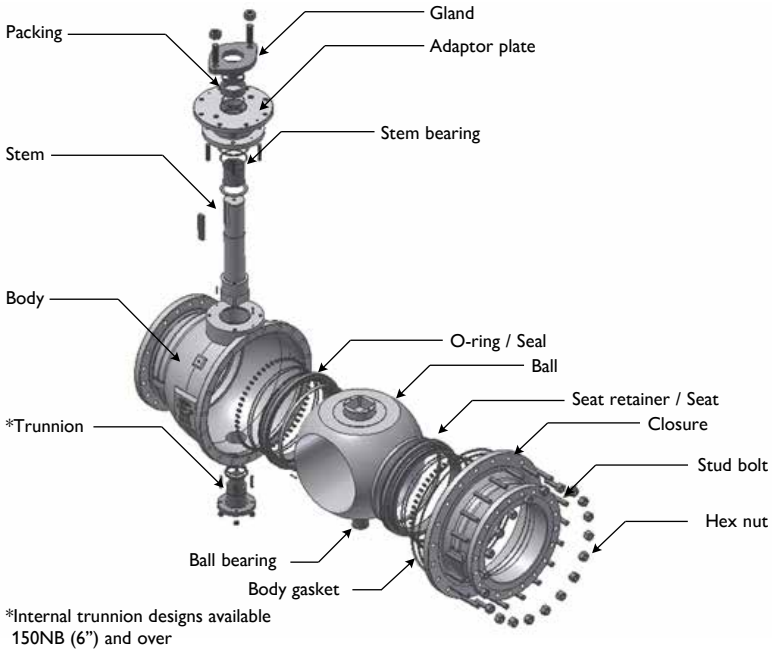
Size 50mm (2”) to 300mm (12”)



SAMPLE BILL OF MATERIAL

Part Name	Material
Body	ASTM A216 WCB
Body (Adaptor)	ASTM A216 WCB
Ball*	ASTM A182 F6A HF/HC
Stem*	ASTM A182 F6A HF
Seat Ring*	ASTM A182 F6A + STL
Spring	ANSI 6150 / Inconel
Gasket	Graphite + 304
Stem Bearing	Cu PB Alloy
Gland Nut	ASTM A194 2H
O-Ring	Viton / Graphite
Plug	Carbon Steel
Gland Eyebolt	ASTM A193 B7
Yoke	ASTM A216 WCB
Gland Flange	ASTM A216 WCB
Gland Stem	ASTM A105/ENP
Packing Stem	Graphite
Seat Gasket	Graphite
Seat Ring	ASTM A105/ENP
Bonnet Nut	ASTM A194 2H
Bonnet Bolt	ASTM A193 B7
Trunnion**	A182 F6A + HF
Design and Manufacture	ANSI B16.10 / API 6D
Face to Face Dimensions	ANSI B16.5
Pressure Test	API 598

Size 350mm (14”) to 600mm (24”)



* Can be Tungsten carbide, stellite, hard chrome, nitrided 900 Hv 0.3mm etc.
**Internal trunnion design depends on sizes/class

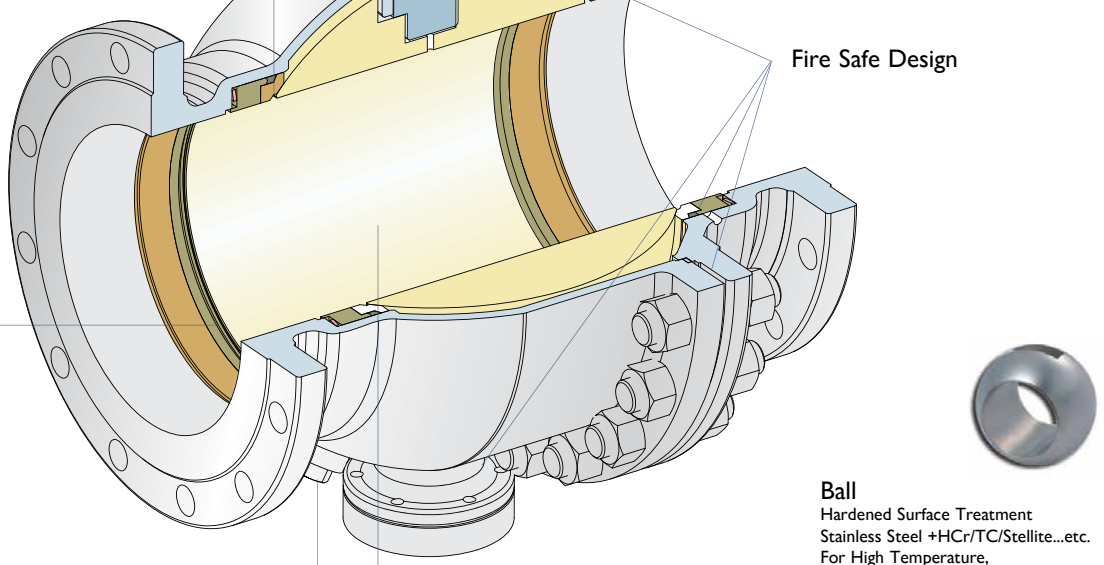
This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Special Service Ball Valve catalogue. Click here. As-built drawing can be supplied in accordance with specification requirements.

METAL TO METAL SEATED BALL VALVES - FS9000-MS - DESIGN FEATURES

Stem
Hard Surfaced
Multi-Packing Design
Anti-Blow-Out
Anti-Static

Seat Design
Designed to 'scrape off' and resist slurries, muds or other viscous fluids & solid mediums. Special Hardened Surface Treatment: Stainless Steel + HCr/TC/Stellite etc.

Flexible Graphite Stem Packing
For Severe Services &
High Temperature



Fire Safe Design

Ball
Hardened Surface Treatment
Stainless Steel +HCr/TC/Stellite...etc.
For High Temperature,
Abrasive Services

Seat Spring Design
Metallic energised design provides flexibility to stress and thermal expansion. Elastomer free for high temperatures will not jam like conventional coil springs.

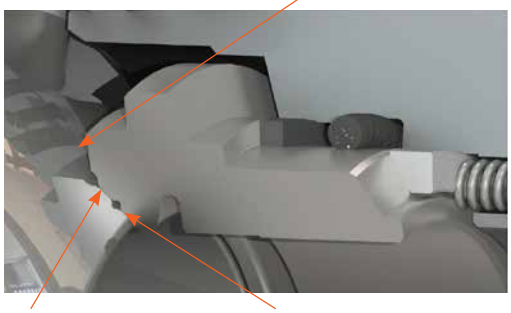
Drain
For drain or DB&B

Double Contact Metal Seat Design

Indicative design only. Numerous design configurations available depending on size class etc.

Profiled Metal Seat Design

Slight roundness of the seat ensures continuity of contact.



Rigid metal permanent contact absorbs seat thrust due to differential pressure.

Flexible metal permanent contact provides seal irrespective of non-uniform deformation of the sphere.

This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Special Service Ball Valve catalogue. Click here.
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METAL TO METAL SEATED TRUNNION BALL VALVES - BVF100 SERIES API 6D FORGED 3 PIECE BODY

1/2" - 36" ANSI CLASS - 150/300/600/900/1500/2500

Endurance Test Certified

API 607 6th & 7th Ed. & ISO 10497 Firesafe Certified

ISO 15848-1 Class CO2 Fugitive Emission Certified

Design and construction conforms to API 6D specifications, tested to API 607 & 6D standards.

Independent loaded upstream and downstream seats provide a tight shut-off and allow the valves to be used for bi-directional flow. Spring loaded seat design provides low and high pressure sealing and body cavity pressure relief due to self relieving seat design.

Suitable for single or double block and bleed applications.

BVF100 Series 3 Piece Ball Valves have an emergency seal facility, blow-out proof stem, full through-conduit bore, electroless nickel plated or stainless trim and are anti-static. Stem and gland seals can be replaced in-line for ease of maintenance.

Available with locking devices, stem extensions, pipe pups, and actuation.

The full range of APV valves can meet NACE standard MR-10-75, latest edition if necessary.

APV was one of the first brands in the world to have firesafe certification to API 607 6th and 7th Edition, as well as being Firesafe Certified (DNV witnessed) to API 6FA 3rd Edition & ISO 10497-2010.

FEATURES

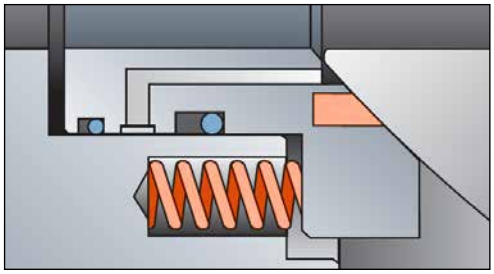
- Forged Construction
- Rugged Anti-Corrosive Gear Design
- Seat Lubrication Facility
- Body Bleed and Drain Ports
- Enclosed, Encapsulated Triple Barrier Stem Seals
- Blowout Proof Stem Design
- Emergency Stem Lubrication Fitting
- Self Lubricating PTFE coated Trunnion Bearings

This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Special Service Ball Valve catalogue. Click here. As-built drawing can be supplied in accordance with specification requirements.

BVF100 SERIES DESIGN FEATURES - SEATING TYPES

APV CONVENTIONAL SOFT SEAT INSERT

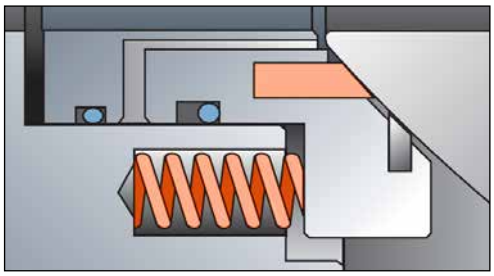
APV seat inserts can be ordered in a variety of materials whilst still complying to API seat test requirements for "bubble-tight shut off" for oil & gas applications as well as specialised fluid transmission applications in chemical and mining sectors.



Conventional Seat

APV CONVENTIONAL SOFT SEAT INSERT + SCRAPER

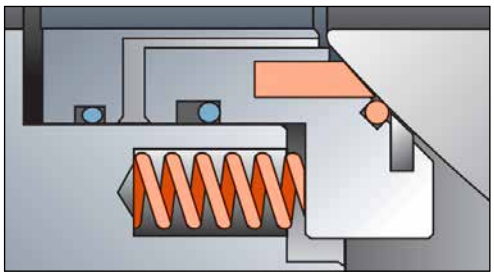
The A-PMSS+S® design is the same as the A-PMSS® above except for the addition of a scraper. On conventional trunnion ball valve seating systems, APV offers the PR-A-PMSS+S® seat design option (8" and above). A protective scraper ring is inserted in front of the soft seat insert to remove solid particles, dirt or debris that could damage or clog the contact area between ball and soft seat insert ring. This feature assures that the working area of the seat will be clean allowing the seats to work effectively. This design prolongs seat life whilst only minimally increasing cost & is particularly advantageous for valves that cannot be removed from the line for repair such as buttweld valves, welded body valves, buried service valves as well as known non clean service applications.



A-PMSS+S®

APV COMPOSITE SEAL SEAT SYSTEM

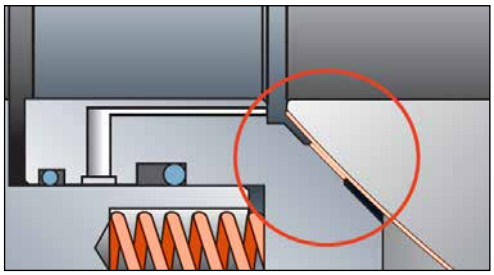
APV Double or Triple seal seat design is ideal for applications that require redundant sealing when start up conditions are known to have debris in the line and where removing the valve is not possible. This design offers lower torque and superior low pressure shut-off whilst providing zero leakage reliability at an affordable price compared to metal seated. Multiple material types are employed for each seal providing a combination of resilient and superhard properties to deal with a wide range of entrained particulates and debris. Even if one or even two of the seals are damaged an effective seal can usually be maintained.



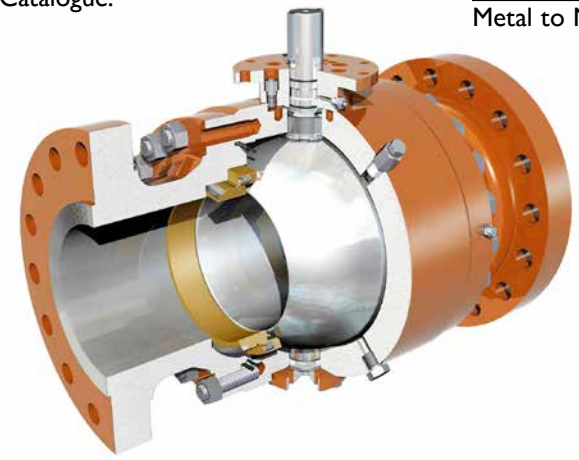
A-TRS®

APV METAL TO METAL SEATS

APV has extensive experience in the supply of valves for applications such as high temperature corrosive and/or erosive/abrasive environments. Various hard face material can be employed on the ball and seat face. Refer to the APV Special Service Ball Valve Catalogue.



Metal to Metal



This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Special Service Ball Valve catalogue. Click here. As-built drawing can be supplied in accordance with specification requirements.

BVF100 SERIES DESIGN FEATURES - SEAT & STEM SEALING

FLANGED / BW ENDS API 6D

- API 6D
- Flanged & Butt weld ends
- 3P split body, side entry
- Trunnion mounted ball, low operating torque
- Fire safe API 607, ISO 10497
- Anti-static device, BS 5351
- Double block & bleed
- Pressure self relieving seats

This is a general overview and design varies depending on size and class. (Refer to actual as built drawing.)

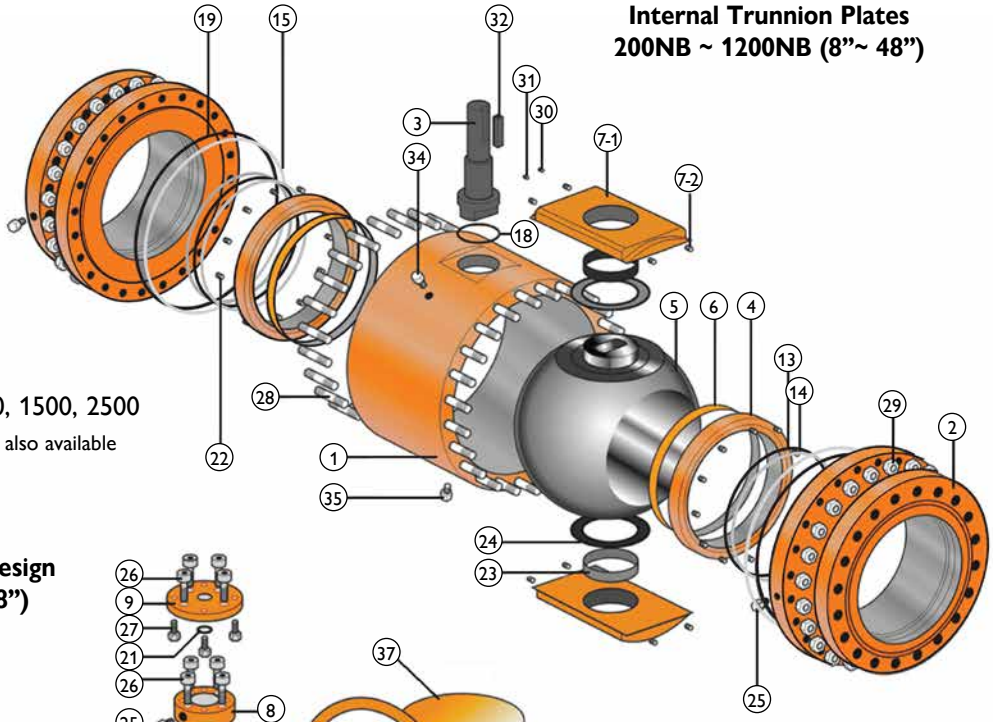
OPERATING CONDITION

Operating Temperature
-29°C~+185°C*

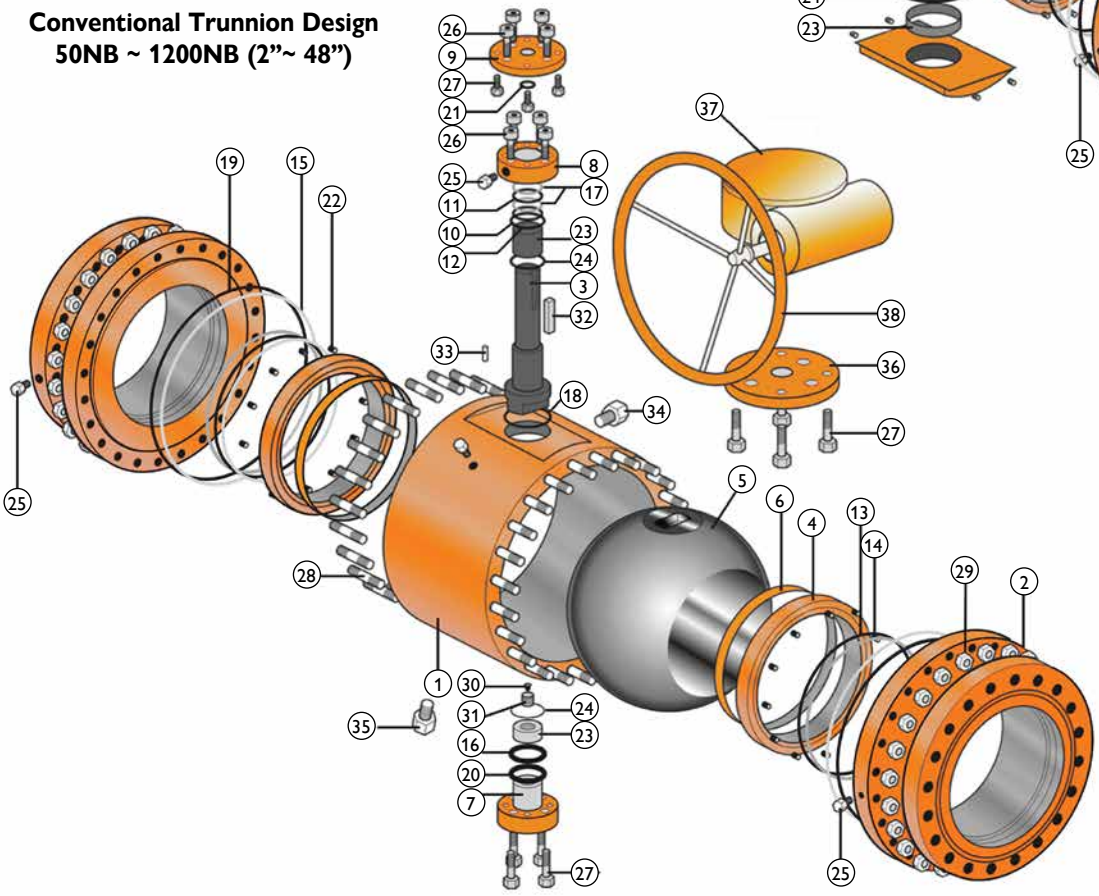
Pressure Rating
PN 20, 50, 64, 100, 150
Class 150, 300, 400, 600, 900, 1500, 2500

* Low and high temperature service also available

Internal Trunnion Plates
200NB ~ 1200NB (8"~ 48")



Conventional Trunnion Design
50NB ~ 1200NB (2"~ 48")



This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Special Service Ball Valve catalogue. Click here. As-built drawing can be supplied in accordance with specification requirements.

METAL TO METAL SEATED FLOATING BALL VALVES - SLFSBV01-MS SERIES FLANGED STYLE

FIRESAFE CERTIFIED API 607 6TH EDITION AND API 6FA 3RD EDITION

Body materials	Cast Steel (WCB), Stainless steel (CF8M) etc
Pressure rating	ANSI 150, 300 & 600
Temperature	10°C ~ 500°C
Size	15mm ~ 300mm (1/2" ~ 8")
Applications	High temperature, Abrasive & corrosive Services
Construction	Stainless steel seat & ball, graphite gasket for body sealing, anti blow-out stem. Both seats are 304SS or 316SS stellited, nitrided or hard chrome. The ball is 304SS or 316SS stellited or hard chrome/nitrided. The stem is 304SS or 316SS or 17-4PH hardened/nitrided or stellited.

FEATURES

- Same face to face dimensions as API 6D standard teflon seated ball valves for easy changeover and replacement
- Quick 90° operation
- Full through flow - no obstruction to fluid, minimum pressure drop
- Long service life

1. **Durability**
   The metal contact mechanism between ball and seat is ensured by spring energised seat and provides long life.
2. **Half opening control**
   The metal mechanism enables the possibility of half opening the valve to control flow. Consult us, as options like V-Port may need to be considered. Also extreme wear through cavitation can occur when valve is in half open position.
3. **Low torque operation**
   Small friction coefficient between ball and seat, and spring energised seats make manual operation easy.
4. **Leakage**
   The seat is spring energised against the ball to maximise the effectiveness of the seat sealing process. Design is class V or VI and ISO 5208 rate A & AA shut off, uni-directional (also available bi-directional)

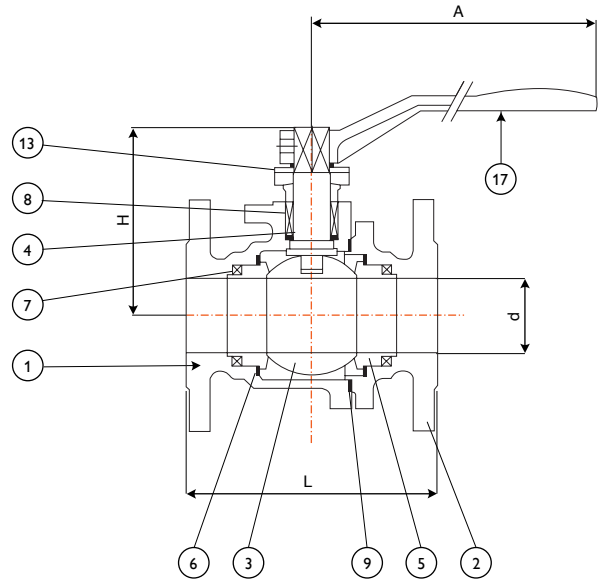
API 622 & ISO 15848-1
Fugitive Emission Certified

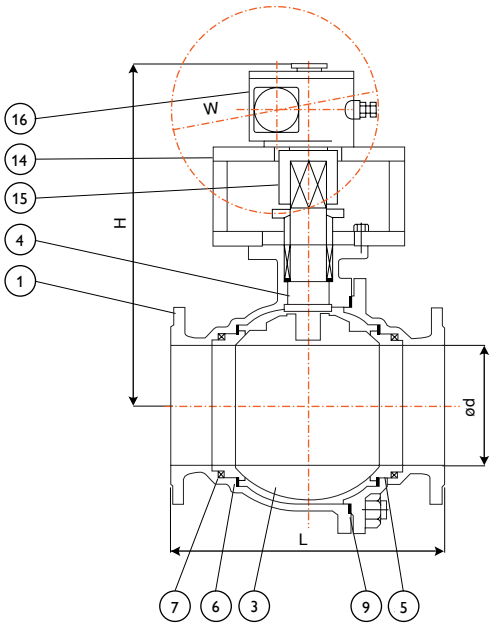
API 607 6th Ed. & ISO 10497
Firesafe Certified

AS 4617, AS 4629

This catalogue is an overview only. For full sizes, dimensions & materials please refer to the APV Special Service Ball Valve catalogue. Click here.
As-built drawing can be supplied in accordance with specification requirements.

SLFSBV01-MS SERIES DIMENSIONS/ MATERIALS



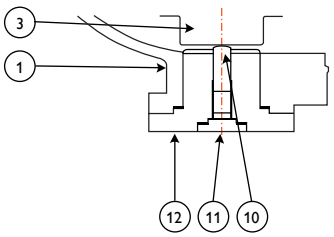


No.	Description	Material
1	Body	
2	Adaptor (Tail)	
3	Ball	
4	Stem*	
5	Seat*	
6	Spring*	
7	Spring	
8	Packing	
9	Gasket	
10	Trunnion	
11	Seal	
12	Cap	
13	Flange	
14	Bracket	
15	Adaptor	
16	Gearbox	
17	Lever	

* Can be overlaid:- stellite, hardened chrome, tungsten carbide, nitrided to 900Hv 0.3mm etc.

TRUNNION STYLE

(Usually 10" or 12" size only)



LEVER OPERATED DIMENSIONS

Size	150 CLASS				300 CLASS				600 CLASS			
	d	L	H	A	d	L	H	A	d	L	H	A
15A-1/2B	15	108	73	130	15	140	73	130	15	165	90	180
20A-3/4B	20	118	75	130	20	152	75	130	20	191	95	200
25A-1B	25	127	85	160	25	165	85	160	25	216	100	230
40A-1-1/2B	40	165	120	230	40	190	120	230	40	241	119	350
50A-2B	50	178	126	230	50	216	126	230	50	292	108	400
65A-2-1/2B	65	190	163	350	65	241	163	350	-	-	-	-
80A-3B	75	203	170	350	75	283	170	350	-	-	-	-
100A-4B	100	229	205	400	100	305	205	400	-	-	-	-
125A-5B	125	356	277	500	125	381	277	500	-	-	-	-
150A-6B	150	394	297	500	150	403	297	500	-	-	-	-

GEAR OPERATED DIMENSIONS

Size	150 CLASS				300 CLASS			
	d	L	H	W	d	L	H	W
125A-5B	125	356	444	315	125	381	475	450
150A-6B	150	394	495	450	150	403	495	450
200A-8B	200	457	600	450	200	502	664	560
250A-10B	250	533	762	560	250	568	767	710
300A-12B	300	610	844	710	300	648	844	710

FOR 600 CLASS & ABOVE REFER CONVENTIONAL SOFT SEATED MATERIAL & DIMENSIONAL TABLES.

APV

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."

FLOWTURN®

STEAMCO®

SUPER·CHECK®

SUPERSEAL®

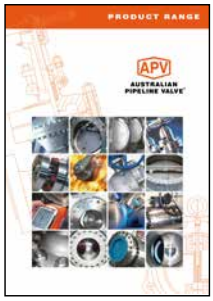
TORQTURN®

TWIN-LOK®

UNIFLO®

DIAMOND GEAR®

AUSTRALIAN PIPELINE VALVE BRAND RANGE - CATALOGUES



Product Brochure

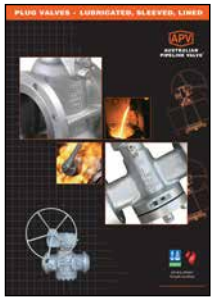
Ball Valves Floating & Trunnion Mounted

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

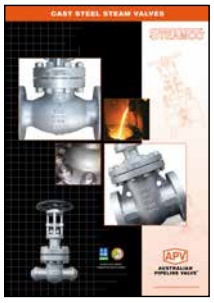
Diamond Gear Gearboxes

Flowturn Ball Valves Multiway & Deadman

Flowturn Gate, Globe & Check Valves

Flowturn Instrument Valves

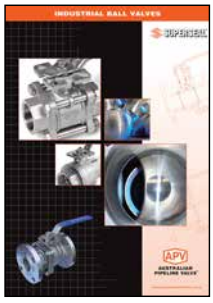
Flowturn Strainers & Sight Glasses



Steamco Steam Valves

Supercheck Wafer Check Valves

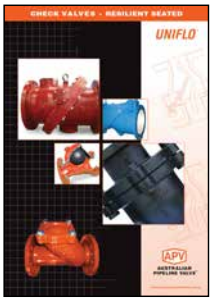
Superseal Butterfly Valves



Superseal Industrial Ball Valves

Torqturn Actuators

TwinLok Tube Fittings



Uniflo Check Valves

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LOCAL DISTRIBUTOR

Achilles

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.

Thousands of Successful Installations World-Wide since 1989