

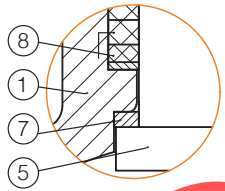
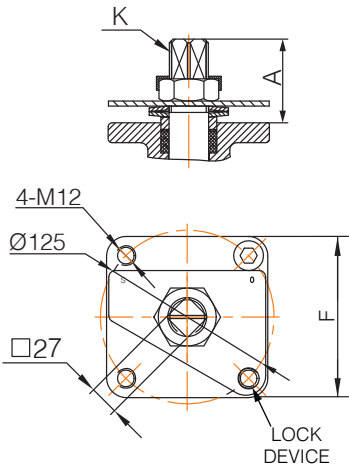


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API607 5th & 6th, ISO 10497  
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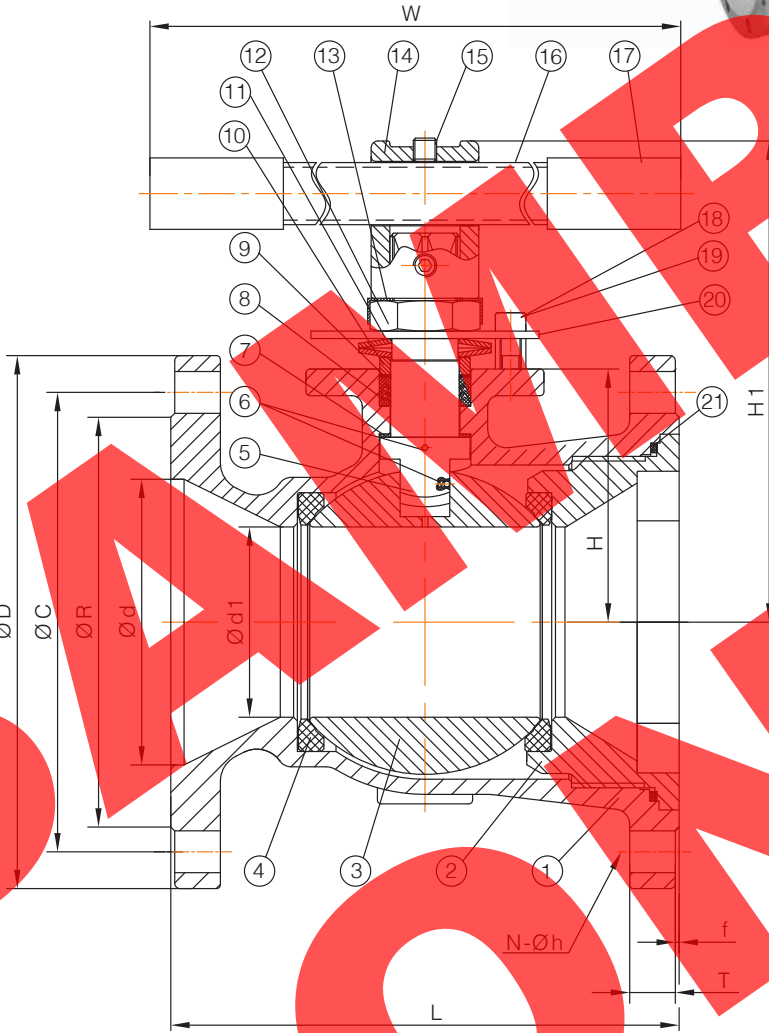
ISO 15848-1 Fugitive  
Emission Prototype Certified



**ELASTOMER FREE STEM DESIGN**  
5 - Stem  
7 - Thrust Washer  
1 - Body  
8 - Additional Stem Packing



**DETAIL B**  
SEAT  
LIVE FLEXIBLE LIP SEAT DESIGN



**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A351 CF8M	(4)
2	END CAP	ASTM A351 CF8M	-
3	BALL	ASTM A351 CF8M	(4) SOLID
4	SEATS	TFM1600 (PTFE)	(5) ENERGISED
5	STEM	ASTM A182 316SS	(1)
6	ANTI-STATIC DEVICE	AISI 316SS	-
7	THRUST WASHER	PTFE	-
8	PACKING (SET)	GRAPHITE+INCONEL WIRE	(2) (5) CHESTERTON 1622 F.E.
9	BUSHING	AISI 304	-
10	GLAND	ASTM A276 316SS	-
11	BELLEVILLE WASHERS	AISI 301SS	-
12	STEM NUT	A194-8	-
13	LOCK CAP	AISI 304SS	-
14	HANDLE ADAPTOR	ASTM A351 CF8 SS	-
15	SET SCREW	ASTM A193 B8	-
16	HANDLE	A53+PLATED ZN	-
17	HANDLE SLEEVE	VINYL PLASTIC	-
18	STOP BOLT	ASTM A193 B8	-
19	STOP WASHER	AISI 304	-
20	STOP PLATE & LOCK DEVICE	AISI 304SS	-
21	BODY GASKET	GRAPHITE	-

- (1) STEM SMOOTHNESS Ra 0.80 - 1.4 µm
- (2) STUFFING BOX SMOOTHNESS Ra ≤ 1.6 µm
- (3) BYNEON (3M USA) TFM1600 SEATS
- (4) SILICA SOLUTION LOST WAX PRECISION INVESTMENT CAST
- (5) DIE FORMED SET INCONEL WIRE REINFORCED EXFOLIATED GRAPHITE CHESTERTON 1622 FUGITIVE EMISSION PACKING ISO 15848-1/API 1622 AND FIRESAFE API 624 & API 607 CERTIFIED. CHEVRON TEXACO CERTIFIED (LOW FRICTION DESIGN)

<b>RATING</b>	CL 150	<b>TEST PRESSURE</b>	
<b>DESIGN &amp; MFG.</b>	API608, API6D, ASME B16.34	<b>SHELL HYDRO</b>	<b>SEAT HYDRO</b>
<b>PRESS-TEMP RATING</b>	ASME B16.34	2.9 Mpa 425 Psi	2.2 Mpa 325 Psi
<b>FACE TO FACE DIM.</b>	ASME B16.10 SHORT PATTERN	<b>SEAT AIR</b>	<b>BACKSEAT</b>
<b>END CONNECTION</b>	RF SF 3.2-6.3Ra	5.5 Mpa 80 Psi	0.0 Mpa 000 Psi
<b>END DIMENSION</b>	ASME B16.5	<b>TEMPERATURE</b>	
<b>TEST &amp; INSPECTION</b>	API 598, ISO 5208-A	ASME B16.34 <sub>c</sub>	ASME B16.34 <sub>r</sub>
<b>MARKING &amp; PAINT</b>	MSS SP-25, PICKLED & PASSIVATED	<b>MEDIUM</b>	W.O.G. ETC.
<b>OTHER REQ.</b>	NACE MR-01-75 & MR-01-03		
<b>PORT SIZE</b>	STANDARD PORT (PRESSURE BALANCED)		
<b>TRIM</b>	316SS, ELASTOMER FREE DESIGN, BLOW OUT PROOF STEM		
<b>NOTES</b>	FIRESAFE: ISO 10497, API607 5TH/6TH ANTI STATIC BS5351/ ISO 17292		
<b>OTHER</b>	OPTIONAL HP SEAT TEST PERFORMED TO API598		

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	d	d1	R	D	C	f	T	H	H1	N	h	W	P	K	A	U	E	F	ISO 5211	Weight
6"	150	267	146	100	216	280	241.3	1.6	23.9	133	236	8	22.3	600	27	1-3/8-12UNF	56.0	M12	125	125	F12	45

Dimensions in millimeters

Floating Firesafe Ball Valve, 1PC, Model SLFSBV02-AB6APCABN3Y NPS 6" (DN150) Class 150, RF, CF8M <b>Australian Pipeline Valve</b>	<b>ORDER N° / DWG N°</b>	300	<b>APPROVED</b>	B.T.
	<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
			<b>DRAWN</b>	C.C.

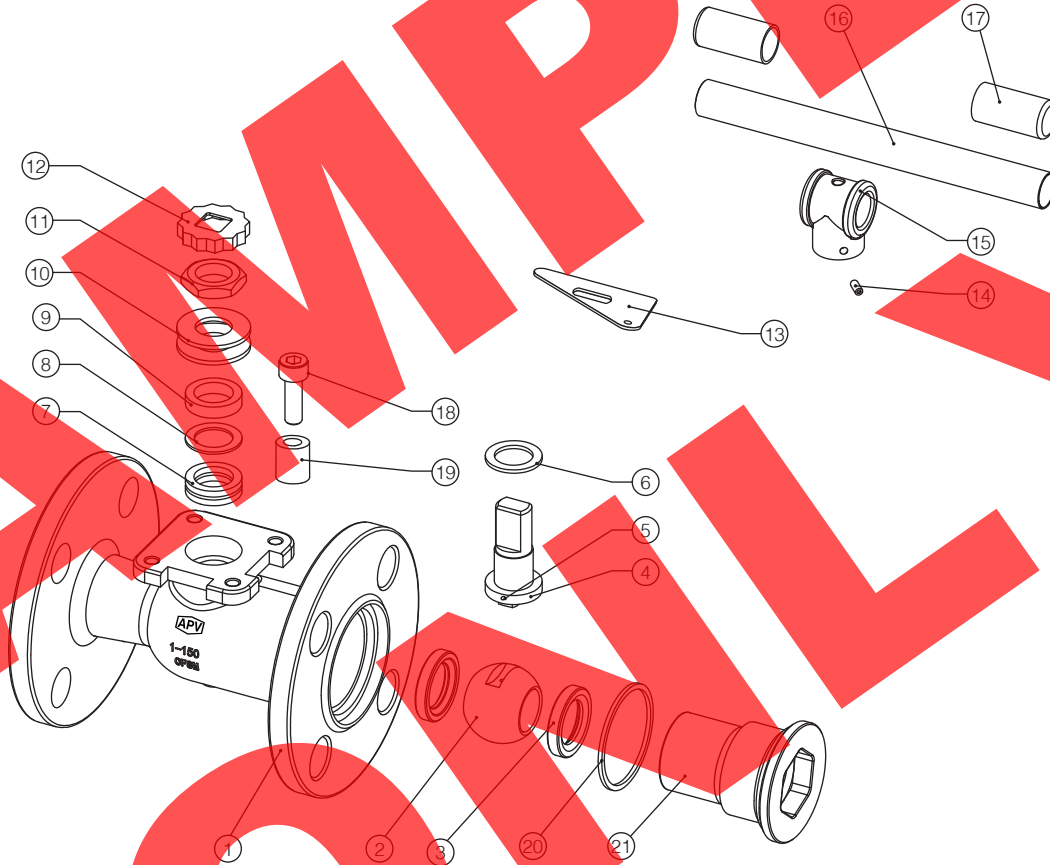


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## SLFSBV02 SERIES DESIGN FEATURES





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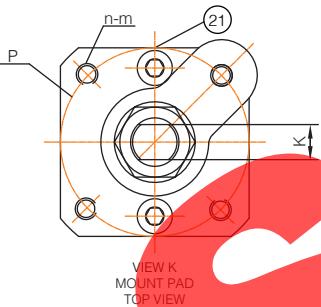
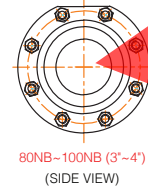
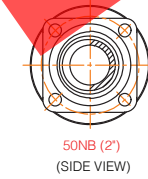
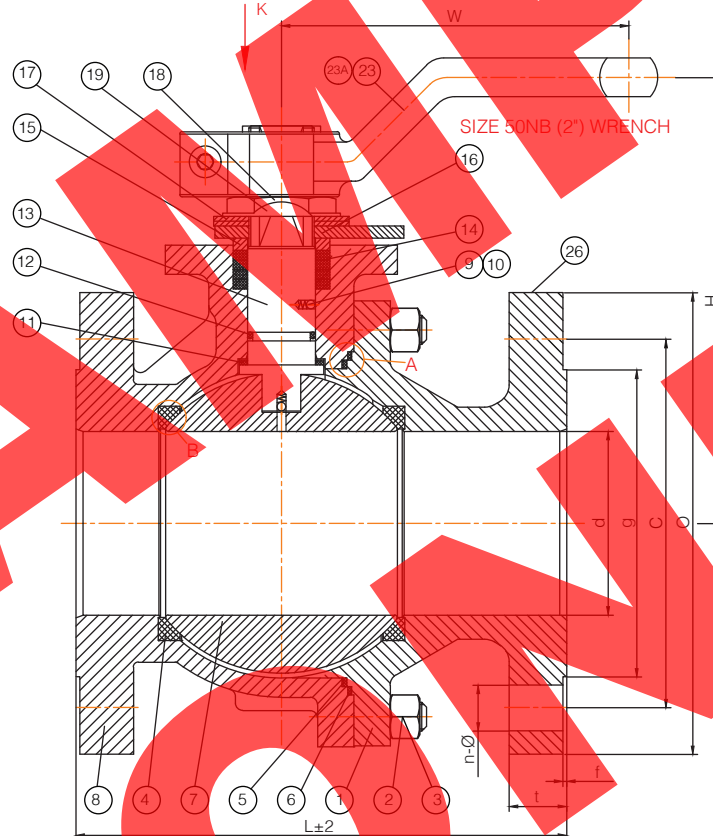
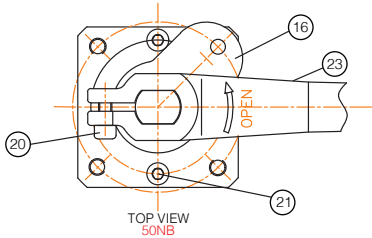
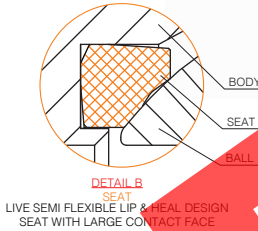
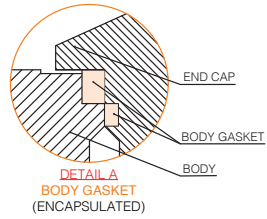
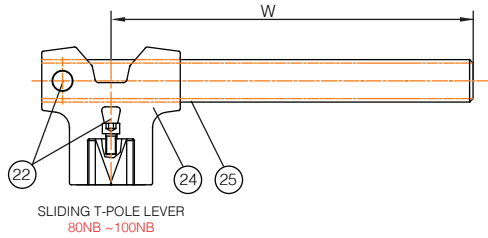
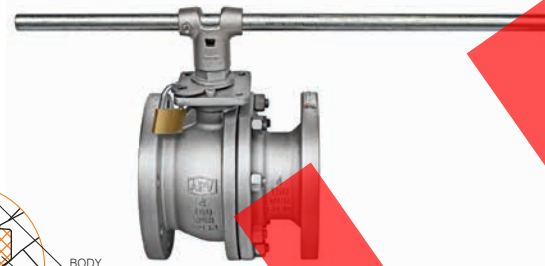
API607 5th & 6th Ed. ISO 10497  
Firesafe Certified



ISO 15848-1 & API 622 Fugitive  
Emission Prototype Certified



AS 4617, AS 4629



**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY CAP	ASTM A216 WCB	-
2	STUD	ASTM A193 B7M	-
3	NUT	ASTM A194 2HM	-
4	SEAT	TFM1600+GF	(5) GLASS REINFORCED
5	GASKET	PTFE	INNER
6	GASKET	GRAPHITE	OUTER
7	BALL	SS316	SOLID FORGED
8	BODY	ASTM A216 WCB	-
9	ANTI STATIC SPRING	SS316	-
10	ANTI STATIC BALL	SS316	-
11	THRUST WASHER	PTFE	-
12	O-RING	VITON AED	(4)
13	STEM	ASTM A276 F316	(1) HEAT TREATED
14	STEM PACKING (SET)	GRAPHITE+INCONEL WIRE	(2) (3) CHESTERTON 1622 L.E.
15	GLAND	SS304	-
16	STOP PLATE/ LOCK DEVICE	SS304	-
17	BELLEVILLE PACKING SPRINGS	SS301	1 SET
18	GLAND NUT	ASTM A194	-
19	LOCKING TAB	SS304	-
20	SCREW	201SS	-
21	STOP BOLTS - ALLEN KEY	ASTM A193 B8	-
22	SCREW	SS304	-
23	WRENCH CLAMP TYPE	STEEL+ZP	(80NB)
23A	WRENCH CLAMP TYPE	AISI SS316	(50NB)
24	HANDLE ADAPTOR	ASTM A351 CF8	(80-100NB)
25	PIPE HANDLE	CS+ZP	(80-100NB)
26	LABEL	SS316	-

(1) STEM SMOOTHNESS Ra 0.2 - 0.7 µm SUPERIOR TO API REQUIREMENTS  
 (2) STUFFING BOX SMOOTHNESS Ra 1.2 - 1.4 µm SUPERIOR TO API REQUIREMENTS  
 (3) DIE FORMED SET INCONEL WIRE REINFORCED EXPLOATED GRAPHITE PACKING (LOW FRICTION) CHESTERTON 1622 FUGITIVE EMISSION CERTIFIED ISO 15848-1/API 622/API 624 & API 607 FIRESAFE CERTIFIED, CHEVRON TEXACO CERTIFIED  
 (4) O-RING GROOVE SMOOTHNESS Ra 0.2 - 0.4 µm  
 (5) ENERGISED SEAT INHERENTLY SELF RELIEVING. ALSO WITH RADIAL GROOVES ON SIDE OF SEAT ENSURE UPSTREAM PRESSURE BALANCES CAVITY PRESSURE.

RATING	CL 150	TEST PRESSURE	
<b>DESIGN &amp; MFG.</b>	API6D & API608 & ASME B16.34	<b>SHELL HYDRO</b>	<b>SEAT HYDRO</b>
<b>PRESS-TEMP RATING</b>	ASME B16.34	2.9 Mpa / 425 Psi	2.2 Mpa / 325 Psi
<b>FACE TO FACE DIM.</b>	ASME B16.10	<b>SEAT AIR</b>	<b>SHELL GAS</b>
<b>END CONNECTION</b>	RFSF 3.2-6.3Ra	0.6 Mpa / 87 Psi	2.0 Mpa / 290 Psi
<b>END DIMENSION</b>	ANSI B16.5	TEMPERATURE	
<b>TEST &amp; INSPECTION</b>	API 6D, ISO 5208 RATE A	-29 TO 200 °C	-20 TO 392 °F
<b>MARKING &amp; PAINT</b>	MSS SP-25, PAINT PP WF 07.002	<b>MEDIUM</b>	Water, Oil, Gas
<b>OTHER REQ.</b>	NACE MR-01-75 & MR-01-03 INVESTMENT CAST		
<b>PORT SIZE</b>	FULL PORT (PRESSURE BALANCED HOLE)		
<b>TRIM</b>	316 TRIM, ALL STAINLESS STEEL TOP PARTS		
<b>NOTES</b>	FIRESAFE: ISO 10497, API607 5TH/ 6TH/ 7TH, ANTI STATIC BS5351/ISO 17292		
<b>NOTES</b>	CORROSION ALLOWANCE 3.0MM		
<b>SPECIAL</b>	OPTIONAL HP SEAT TEST PERFORMED TO API598 - ISO 5208-A, OPTIONAL HP GAS SUBMERGED TANK TEST ALSO PERFORMED TO BODY		

**DIMENSIONS (MM) & WEIGHT (KG)**

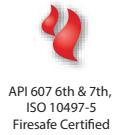
Inch	DN	d	L	O	C	g	n-Ø	t	f	H	W	K	M	J	ISO	P	N-m	Weight
2"	50	50	178	150	120.7	92	4-19	16.1	1.6	140.0	240	13	18	17.5	F07	70	4-M8	15
3"	80	76	203	190	152.4	127	4-19	19.1	1.6	183.5	400	18	27	27.5	F10	102	4-M10	19
4"	100	100	229	230	190.5	157	8-19	24.0	1.6	315.0	600	18	27	27.5	F10	102	4-M10	38

Dimensions in millimeters

Floating Firesafe Ball Valve, 2PC, Model SLFSBV01-AB1AHAABB7Y NPS 2"~4" (DN50~DN100) Class 150, RF, Lever Operated, FB, WCB <b>Australian Pipeline Valve</b>	<b>ORDER NO/ DWG NO</b>	05	<b>APPROVED</b>	B.T.
	<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
			<b>DRAWN</b>	C.C.



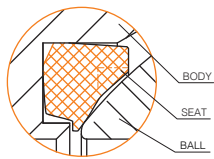
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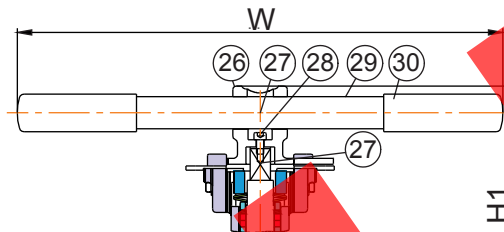
API 607 6th & 7th,  
ISO 10497-5  
Firesafe Certified



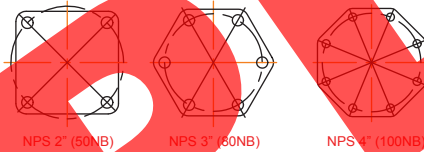
ISO 15848-1 & API 622 Fugitive  
Emission Prototype Certified



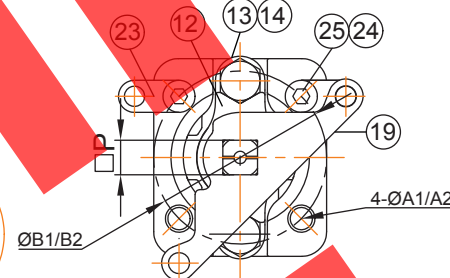
**DETAIL B**  
Live flexible lip seat design



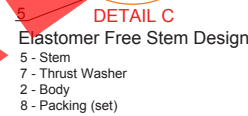
SIZE: 2 1/2"~4" (65NB~100NB) SLIDING LEVER & TOP PARTS



Inside flange pattern  
(straight edges not scalloped)



Direct Mount Pad  
(side access to adjust packing)



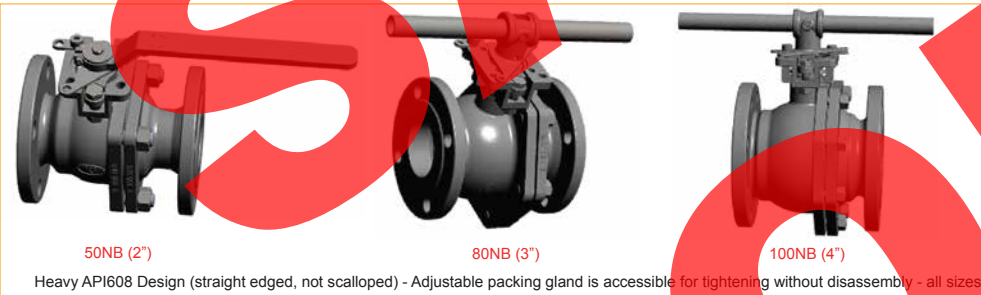
**DETAIL C**  
Elastomer Free Stem Design  
5 - Stem  
7 - Thrust Washer  
2 - Body  
8 - Packing (set)

**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	END CAP	ASTM A351 CF8M	(6) INVESTMENT CAST
2	BODY	ASTM A351 CF8M	(6) INVESTMENT CAST
3	BALL	ASTM A351 CF8M	(6) SOLID INVESTMENT CAST
4	SEATS	TFM1600 (PTFE)	(4) (5) ENERGISED
5	STEM	ASTM A182 316SS	(1)
6	ANTI STATIC BALL & SPRING	AISI 316SS	-
7	THRUST WASHER	TFM1600 (PTFE)	-
8	PACKING (SET)	GRAPHITE+INCONEL WIRE	(2) (3) CHESTERTON 1622 F.E.
9	BUSHING	AISI 316SS	-
10	GLAND	ASTM A276 316SS	-
11	BELLEVILLE WASHERS	AISI 301SS	-
12	PACKING GLAND	ASTM A351 CF8M SS	-
13	GLAND BOLT	A2-70 SS	-
14	GLAND NUT	A2-70 SS	-
15	HANDLE WASHER	AISI 304SS	50NB (2)
16	BOLT	A2-70 SS	50NB (2)
16A	NUT	A2-70 SS	50NB (2)
17	GLAND WASHER	AISI 316SS	-
18	HANDLE	ASTM A351 CF8 SS	50NB (2)
19	STOP PLATE & LOCK DEVICE	AISI 304SS	PTFE INNER
20	BODY GASKET (ENCAPSULATED)	316LSS+GRAPHOIL+PTFE	PTFE INNER
21	BOLT	ASTM A193 B8M	-
22	NUT	ASTM A194 8M	-
23	LOCK DEVICE LUG	AISI 304SS	-
24	STOP BOLT	A2-70 SS	-
25	STOP NUT	A2-70 SS	-
26	HANDLE ADAPTOR	ASTM A351 CF8SS	65NB-100NB (2 1/2"-4")
27	SET SCREWS	A2-70 SS	65NB-100NB (2 1/2"-4")
28	BOLTS	A2-70 SS	65NB-100NB (2 1/2"-4")
29	PIPE HANDLE	A53+ZINC PLATED	65NB-100NB (2 1/2"-4")
30	HANDLE SLEEVE	VINYL PLASTIC	65NB-100NB (2 1/2"-4")

(1) STEM SMOOTHNESS Ra ≤ 0.6 μm SUPERIOR TO API REQUIREMENTS  
(2) STUFFING BOX SMOOTHNESS Ra ≤ 1.6 μm SUPERIOR TO API REQUIREMENTS  
(3) DIE FORMED SET INCONEL WIRE REINFORCED EXFOLIATED GRAPHITE CHESTERTON 1622 LOW FUGITIVE EMISSION PACKING ISO 15848-1/API 1622 AND FIRESAFE API 624/API607 CERTIFIED CHEVRON TEXACO CERTIFIED  
(4) ENERGISED SEAT INHERENTLY SELF RELIEVING CAPABLE. ALSO WITH RADIAL GROOVES ON SIDE OF SEAT ENSURE UPSTREAM PRESSURE BALANCES CAVITY PRESSURE  
(5) DYNEON (M USA) TFM1600 SEATS  
(6) SILICA SOLUTION LOST WAX PRECISION INVESTMENT CAST

RATING	CL 150	TEST PRESSURE	
<b>DESIGN &amp; MFG.</b>	API 608, ASME B16.34	<b>SHELL HYDRO</b>	<b>SEAT HYDRO</b>
<b>PRESS-TEMP RATING</b>	ASME B16.34	2.9 Mpa / 425 Psi	2.2 Mpa / 325 Psi
<b>FACE TO FACE DIM.</b>	ASME B16.10	<b>SEAT AIR</b>	<b>BACKSEAT</b>
<b>END CONNECTION</b>	RFSF 3.2~6.3Ra	0.6 Mpa / 87 Psi	Mpa / Psi
<b>END DIMENSION</b>	ASME B16.5	TEMPERATURE	
<b>TEST &amp; INSPECTION</b>	API 598, ISO 5208-A	ASME B16.34 <sub>TC</sub>	ASME B16.34 <sub>TF</sub>
<b>MARKING &amp; PAINT</b>	MSS SP-25, PICKLED & PASSIVATED	<b>MEDIUM</b>	W.O.G. ETC.
<b>OTHER REQ.</b>	NACE MR-01-75 & MR-01-03		
<b>PORT SIZE</b>	FULL PORT (PRESSURE BALANCED BALL - HOLE IN SLOT)		
<b>TRIM</b>	316SS, ELASTOMER FREE DESIGN, BLOW OUT PROOF STEM		
<b>NOTES</b>	FIRESAFE: ISO 10497, API607 6TH & 7TH ANTI STATIC BS5351/ ISO 17292		
<b>OTHER</b>	OPTIONAL HP SEAT TEST PERFORMED TO API598		
<b>OTHER</b>	FUGITIVE EMISSION TESTED DESIGN ISO 15484-1		



50NB (2") 80NB (3") 100NB (4")  
Heavy API608 Design (straight edged, not scalloped) - Adjustable packing gland is accessible for tightening without disassembly - all sizes

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	d	R	D	C	T	f	N	h	H	H1	M	P	A1	A2	B1	B2	W	ISO5211	Weight
2"	50	178	50	92.0	150	120.7	14.3	1.6	4	19.0	97	135	14	14	9	-	70	-	250	F07	9
3"	80	203	76	127.0	190	152.4	17.5	1.6	4	19.0	143	203	18	17	9	11	70	102	350	F07~F10	19
4"	100	229	100	157.0	230	190.4	22.3	1.6	8	19.0	162	225	23.5	22	11	-	-	102	400	F10	37

Dimensions in millimeters

Floating Firesafe Ball Valve, 2PC, Model SLFSBV01-AB1APCABD6YM NPS 2"~4" (DN50~DN100) Class 150, RF, CF8M	<b>ORDER NO/ DWG NO</b>	62	<b>APPROVED</b>	B.T.
	<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
<b>Australian Pipeline Valve</b>			<b>DRAWN</b>	C.C.



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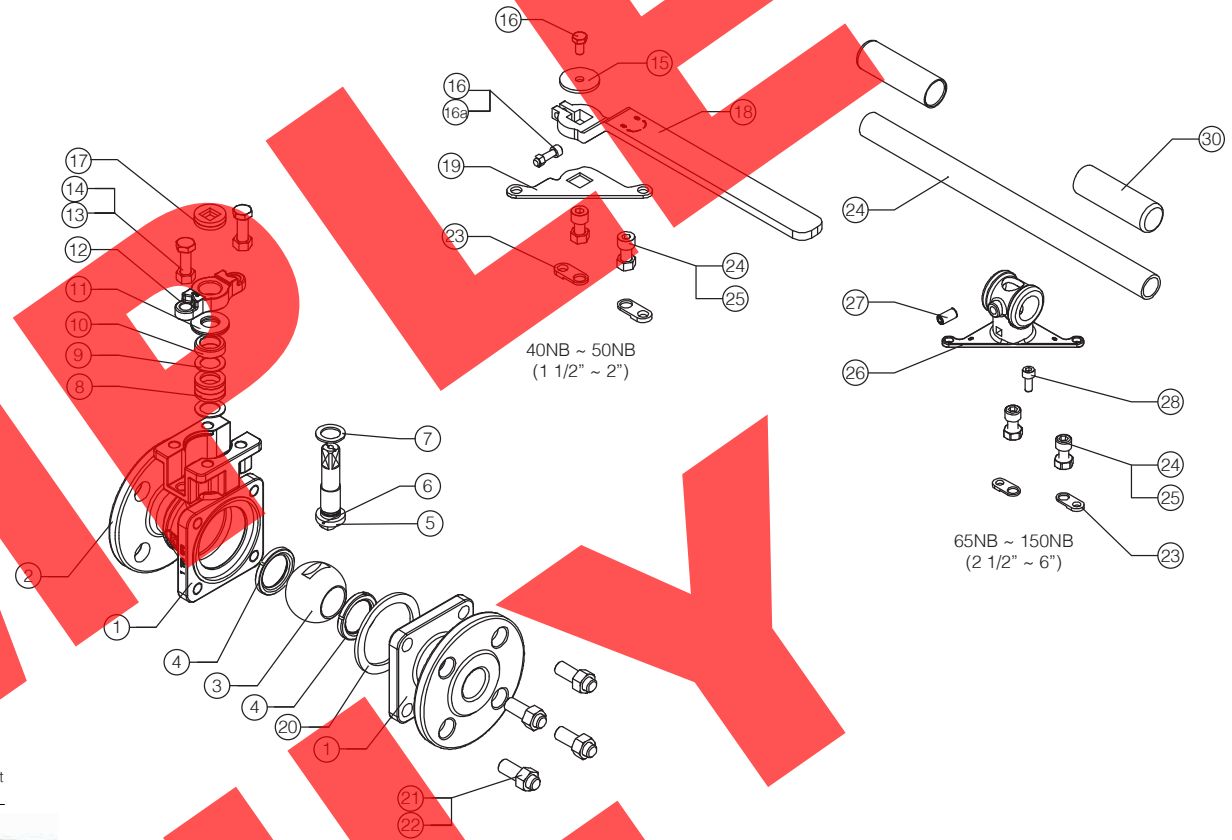


API 607 6th & 7th,  
ISO 10497-5  
Firesafe Certified



ISO 15484-1  
Endurance Test Certified

## EXPLODED BILL OF MATERIALS



**Precisely & Accurate On/Off Position**

The handle is fixed securely with two bolts that reduces the gap between handle/stem, and provides precise positioning.

- **Built-in ISO 5211 Direct Mount Pad**  
For easy automation.

- **Extended Handle Lever**  
Easier operation with lower torque.



- **Adjustable and Live-loaded Stem Packing**  
Packing is adjustable in-line.  
Easy for maintenance.

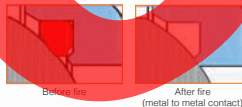
- **ISO 15848-1 Design**  
Optimised Stem Seal design to meet low emission test requirements.

- **Blow-out Proof Stem**  
Prevent accidental disassembly

- **Advanced Seat Design**  
Superior sealing performance/lower torque

- **Anti-static Device (Ball/Stem/Body)**  
ATEX design

- **Firesafe Design Approved**  
Designed and tested in accordance with API 607 6th & 7th 2016



- **Enlarged Ball Design**  
Allowing for a wider sealing area and ensure a perfect & tight sealing

- **Pressure Balance Hole in Ball Slot**  
To maintain the pressure balance in the body cavity



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API 607 6th & 7th,  
ISO 10497-5  
Firesafe Certified



ISO 15484-1  
Endurance Test Certified

## SLFSBV01 SERIES DESIGN - KEY FEATURES

### CV VALUES

NPS	CV	
	Class 150	Class 300
1/2	18	18
3/4	36	36
1	48	48
1 1/4	93	93
1 1/2	165	165
2	207	207
2 1/2	450	450
3	780	780
4	1360	1360
5	1700	1700
6	2600	2600
8	4200	4200

**High tensile High Strength Stem**  
Adapts readily to our wide range of pneumatic and electric actuators. Heat treated and rated for two times maximum torque. Blow-out proof design.

**Packing**  
Multi-ring adjustable packing offers secure, dynamic sealing with low torque. Elastomer free design option

**Encapsulated Body Seal**  
With secondary metal to metal body sealing.

**Live loaded seats**  
Flexible cavity relief seats.

**High Flow Capacity**  
Full bore opening offers higher Cv values and ensures lower pressure drops.

#### Other Features

- Superior Casting Appearance
- CNC machining to ensure accurate dimensions.
- Long Life Cycle
- Solid Balls
- Full Material Traceable for pressure containing components, EN10204 / ISO 1074 3.1
- Every APV valve is properly heat treated.
- Stem bores are fully machined.
- High Pressure heat treated stems.

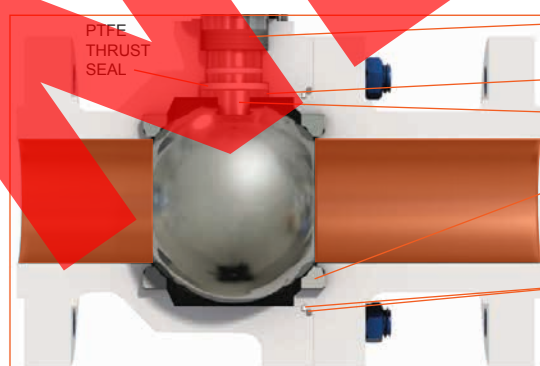
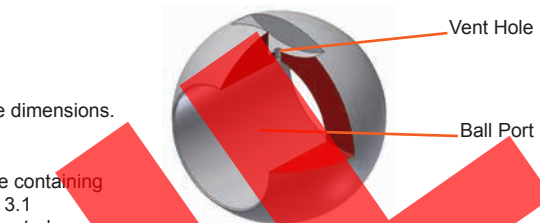
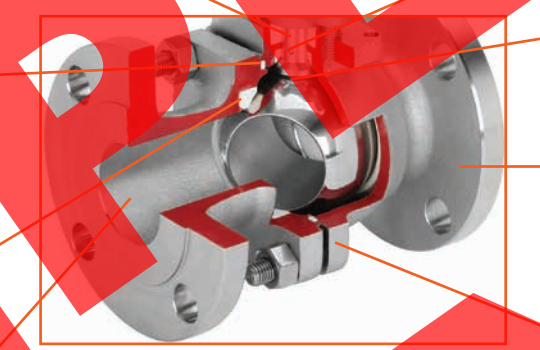
**Anti-Static device**  
Ensures electrical conductivity

**Vent Hole**  
Pressure balanced hole in ball

**Flanges**  
ASME (ANSI) Cl. 150/300/600 flanges are standard. Other end connections are also available.

**Rugged Heavy-Duty Body**  
We offer a lifetime guarantee on our casting if the valves are used within our design parameters. Heavy wall to API608 dual conforming ANSI B16.

**Safety (Vent) Hole Pressure balanced design.**  
Relieves the pressure differential between the body cavity and the ball port to prevent buildup of trapped pressure and to prolong the life of the stem packing/seals.



**MULTI-STAGE PACKING**  
Stem sealant injection is not required.

**BLOW OUT PROOF STEM**

**ANTI-STATIC STEM DEVICE**

**ENERGISED SEAT DESIGN**  
Complies to most low emission standards. Seat sealant injection is not required. Low and high pressure zero leakage capability. Large contact face.

**BODY SEALS**  
Elastomer free, Graphite outer, PTFE inner (with secondary metal to metal overlap). Non firesafe models are PTFE gasket.

Designed to outlast other valves in a wider range of service conditions.





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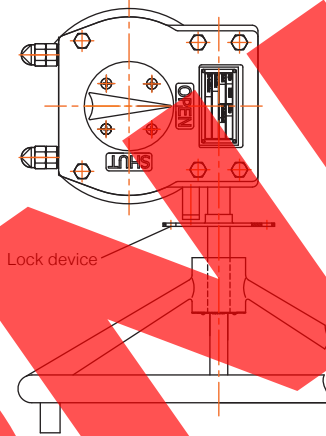
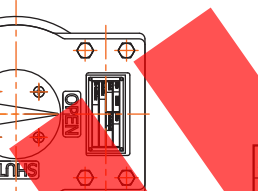
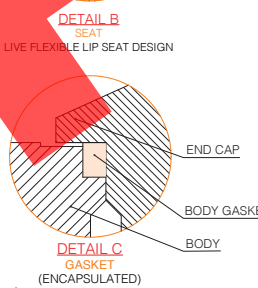
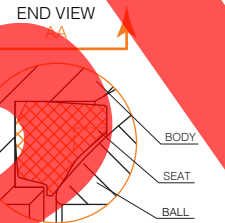
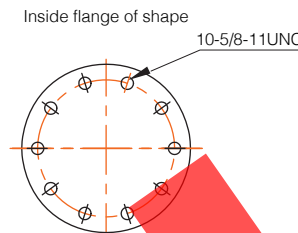
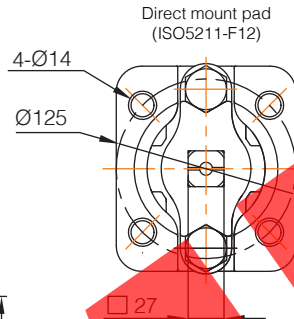
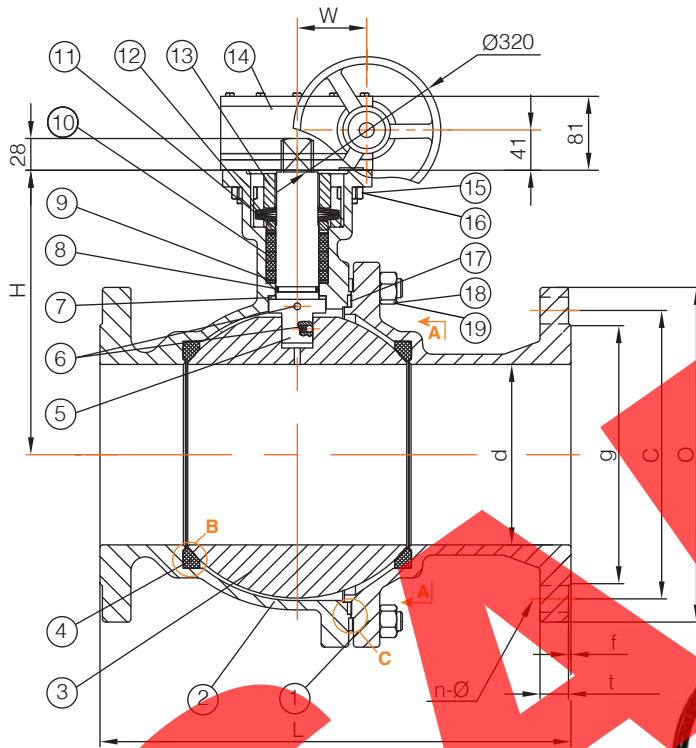
API607 6th & 7th Ed.,  
ISO 10497  
Firesafe Certified



ISO 15848-1 & API 622 Fugitive  
Emission Prototype Certified



AS 4617, AS 4629



**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY CAP	ASTM A216 WCB	(6)
2	BODY	ASTM A216 WCB	(6)
3	BALL	ASTM A351 CF8M	(6) SOLID
4	SEAT	RPTFE (PTFE+15%GF)	(5) ENERGISED
5	STEM	ASTM A182 316	(1)
6	ANTISTATIC SPRING/BALL	AISI 316SS	-
7	THRUST WASHER	PTFE	-
8	O-RING	VITON AED	-
9	BUSHING	ASTM A182 316SS	-
10	STEM PACKING (SET)	GRAPHITE+INCONEL WIRE	(2) (4) CHESTERTON 1622 F.E.
11	GLAND	ASTM A182 304SS	-
12	BELLEVILLE WASHERS	AISI 301SS	-
13	PACKING GLAND	ASTM A351 CF8	-
14	WORM GEAR	ASSY WGDGAB36/F1227IP67	(3)
15	BOLTING (GEARBOX)	A2-70	ZINC PLATED
16	WASHER	AISI 304SS	-
17	BODY GASKET	316SS+GRAPHITE	SPIRAL WOUND
18	BOLTING	ASTM A193 B7M	-
19	NUT	ASTM A194 2HM	-

- (1) STEM SMOOTHNESS  $R_a \leq 0.6 \mu\text{m}$  SUPERIOR TO API REQUIREMENTS
- (2) STUFFING BOX SMOOTHNESS  $R_a \leq 16 \mu\text{m}$  SUPERIOR TO API REQUIREMENTS
- (3) CR13SS+NP INPUT SHAFT
- (4) DIE FORMED SET INCONEL WIRE REINFORCED EXFOLIATED GRAPHITE CHESTERTON 1622 LOW FUGITIVE EMISSION PACKING ISO 15848-1/API 1622 AND FIRESAFE API 624/API607 CERTIFIED CHEVRON TEXACO CERTIFIED
- (5) ENERGISED SEAT INHERENTLY SELF RELIEVING CAPABLE. ALSO WITH RADIAL GROOVES ON SIDE OF SEAT ENSURE UPSTREAM PRESSURE BALANCES CAVITY PRESSURE
- (6) SILICA SOLUTION LOST WAX PRECISION INVESTMENT CAST

<b>RATING</b>	CL 150	<b>TEST PRESSURE</b>	
<b>DESIGN &amp; MFG.</b>	API6D, API608, ASME B16.34	<b>SHELL HYDRO</b>	<b>SEAT HYDRO</b>
<b>PRESS-TEMP RATING</b>	ASME B16.34	3.1 Mpa   449 Psi	2.2 Mpa   319 Psi
<b>FACE TO FACE DIM.</b>	ASME B16.10	<b>SEAT AIR</b>	<b>BACKSEAT</b>
<b>END CONNECTION</b>	RFSF 3.2-6.3Ra	0.6 Mpa   87 Psi	Mpa   Psi
<b>END DIMENSION</b>	ANSI B16.5	<b>TEMPERATURE</b>	
<b>TEST &amp; INSPECTION</b>	API 598, ISO 5208 RATE A	-29 TO 180 °C	-20 TO 356 °F
<b>MARKING &amp; PAINT</b>	MSS SP-25, PAINT PP KI 07.002	<b>MEDIUM</b>	Water, Oil, Gas
<b>OTHER REQ.</b>	NACE MR-01-75 & MR-01-03		
<b>PORT SIZE</b>	FULL PORT (PRESSURE BALANCED BALL - HOLE IN SLOT)		
<b>TRIM</b>	316 TRIM		
<b>NOTES</b>	FIRESAFE: ISO 10497, API607 6TH & 7TH ANTI STATIC BS5351/ ISO 17292		
<b>OTHER</b>	OPTIONAL HP SEAT TEST PERFORMED TO API598		

**WORM GEAR - TECHNICAL PARAMETERS**

MODEL	SPEED RATIO	TORQUE N.M		TORQUE AMPLIFICATION FACTOR ±10%
		INPUT	OUTPUT	
WGDGAB36	36:1	68	750	11

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	d	L	O	C	g	n-Ø	t	f	H	W	ISO	CV	Weight
6"	150	151	394	280	241.3	216	8-Ø22.3	23.9	1.6	238	62	F12	2600	65

Dimensions in millimeters

Floating Firesafe Ball Valve, 2PC, Model SLFSBV01-AC1AHAABB1YM NPS 6" (DN150) Class 150, RF, Gear Operated, FB, WCB	<b>ORDER N° / DWG N°</b>	73	<b>APPROVED</b>	B.T.
<b>Australian Pipeline Valve</b>	<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
			<b>DRAWN</b>	C.C.



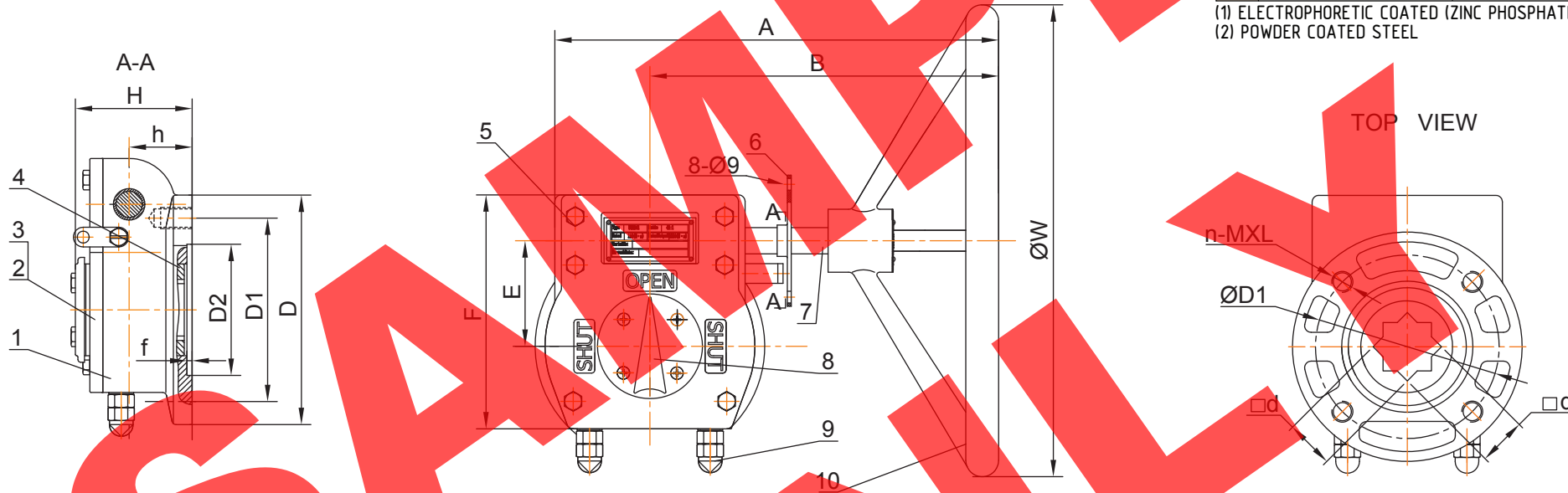
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www.australianpipelinevalve.com.au



**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	GEAR BODY	ASTM A536 65-45-12	-
2	COVER	ASTM A536 65-45-12	-
3	O-RING	NBR	-
4	GEAR	ASTM A536 65-45-12	-
5	BOLT	8.8	-
6	LOCKING DEVICE	1025	-
7	SHAFT	1045 COATED	(1)
8	POSITION INDICATOR	A36	-
9	ADJUSTING SCREW	8.8	-
10	HANDWHEEL	ASTM A536 65-45-12	(2)

(1) ELECTROPHORETIC COATED (ZINC PHOSPHATE PRE TREATMENT)  
(2) POWDER COATED STEEL



**DIMENSIONS (MM) & WEIGHT (KG)**

Model	D	D1	D2	f	n-MXL	d	ISO5211	A	B	E	F	H	h	w	Weight	Matching APV Ball Valve Size (Full Port 2P SLFSBV01)	
																150 LB	300 LB
WGDGAB24 F07 □14	90	70	55	3	4-M8X12	14	F07 Concave									50NB	
WGDGAB24 F10 □17	125	102	70	3	4-M10X15	17	F10 Concave	256	211	44.5	116	67	31	250	4.5	65/80NB	
WGDGAB24 F10 □22	125	102	70	3	4-M10X15	22	F10 Concave									100NB	
WGDGAB36 F12 □27	150	125	85	3	4-M12X18	27	F12 Concave	273	218	61.5	138	80	41	320	6.5	125/150NB	125NB
WGDGAB41 F12 □27	175	125	85	3	4-M12X18	27	F12 Concave	338	266	80.5	179	90	48	360	11.5	200NB	150NB
WGDGAB47 F12 □27	175	125	85	3	4-M12X18	27	F12 Concave	338	266	89.5	185	95	54	460	12.5		200NB
WGDGAB36 F10 □22	125	102	70	3	4-M10X15	22	F10 Concave	273	220	61.5	138	80	41	320	6.5		
WGDGAB41 F14 □36	175	140	100	4	4-M16X24	36	F14 Concave	338	266	80.5	179	90	54	320	11.5		
WGDGAB47 F14 □36	175	140	100	4	4-M16X24	36	F14 Concave	338	266	89.5	185	95	54	320	12.5		
WGDGAB47 F14 □36*	175	140	100	4	4-M16X24	36	F14 Concave	410	340					320	12.7		

Dimensions in millimeters

**TECHNICAL PARAMETERS**

Model	Speed Ratio	Torque Nm		Torque amplification factor ±10%
		Input	Output	
WGDGAB24	24:1	60	430	7.2
WGDGAB36	36:1	70	800	10.7
WGDGAB41	41:1	110	1350	12.3
WGDGAB47	47:1	160	2000	12.5

Worm Gear, WGDGA Series Double Square Connection	ORDER N° / DWG N°	XXXXXX-99	APPROVED	B.T.
	REV.	00	CHECKED	S.Q.
Australian Pipeline Valve			DRAWN	C.C.







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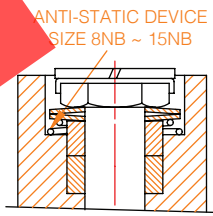
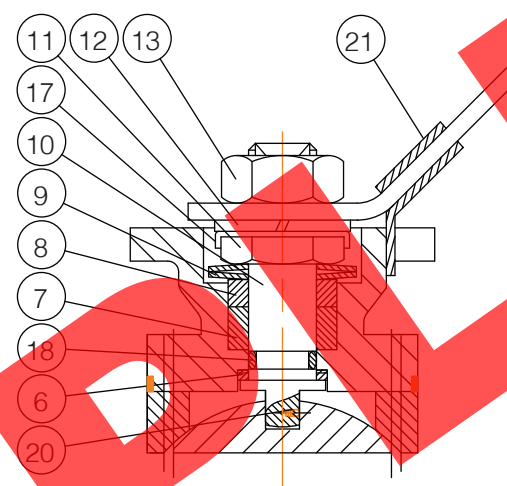
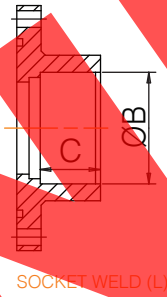
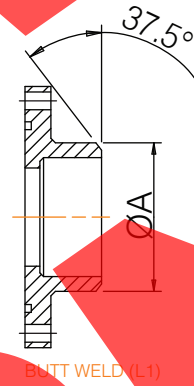
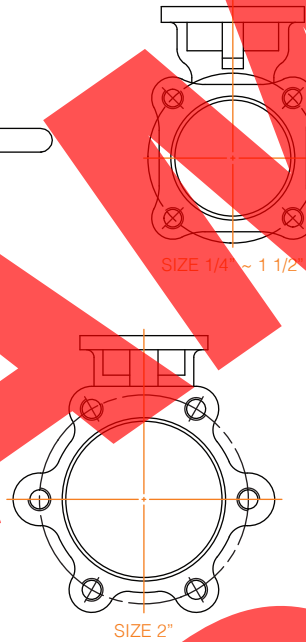
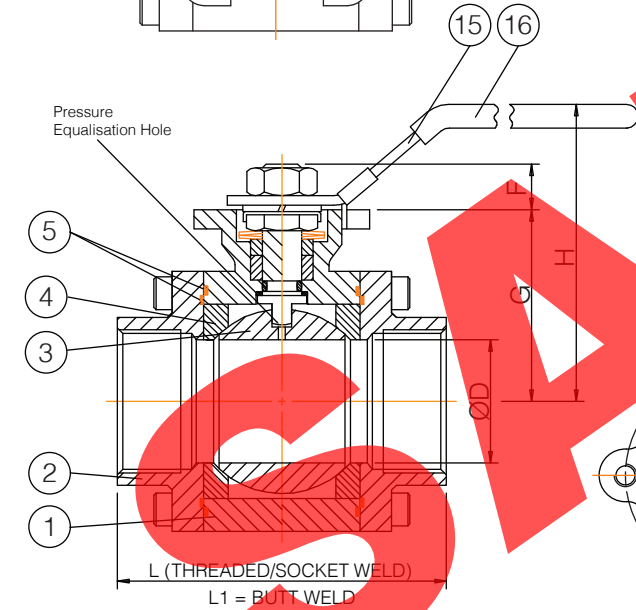
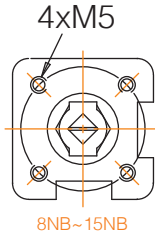
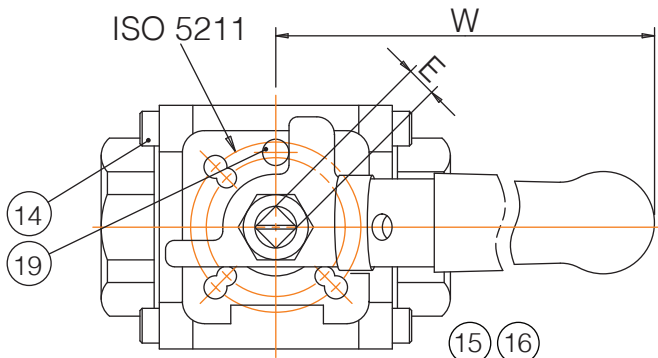
API 6FA 3rd Edition  
API 607 5th  
ISO 10497



ISO 15848-1 & API 622 Fugitive  
Emission Prototype Certified  
(Design Test)



AS 4617, AS 4629



**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A351 CF8M	-
2	BODY CAPS	ASTM A351 CF8M	-
3	BALL	ASTM A351 CF8M/316	SOLID
4	SEAT	RPTFE	GLASS REINFORCED
5-1	BODY GASKET	GRAPHITE	OUTER
5-2	BODY GASKET	PTFE	INNER
6-1	THRUST WASHER	GRAPHITE	-
6-2	THRUST WASHER	PTFE	-
7	STEM PACKING	GRAPHITE	(2)(3) CHESTERTON 1622 F.F.E.
8	GLAND	AISI 304	-
9	BELLEVILLE WASHERS	AISI 301	-
10	STEM	ASTM A276 316	(1)
11	GLAND NUT	AISI 304	-
12	SPRING WASHER	AISI 304	-
13	HANDLE NUT	AISI 304	-
14	BODY BOLT	ASTM A193 B8M	-
15	HANDLE	AISI 304	-
16	SLEEVE	VINYL PLASTISOL	-
17	LOCK CLIP	AISI 304	-
18	STEM O-RING	VITON AED	-
19	STOP PIN	AISI 304	-
20	ANTI-STATIC DEVICE	AISI 316	-
21	LOCK DEVICE	AISI 304	-

(1) STEM SMOOTHNESS Ra 0.8 - 1.0 µm  
(2) STUFFING BOX SMOOTHNESS Ra 0.8 - 1.1 µm  
(3) CHESTERTON 1622 FUGITIVE EMISSION CERTIFIED ISO 15848-1 & API 622 & FIRESAFE CERTIFIED V PACKING

<b>RATING</b>	CL 800 2000 PSI	<b>TEST PRESSURE</b>	
<b>DESIGN &amp; MFG.</b>	ASME B16.34 & API608 & EN12516-1	<b>SHELL HYDRO</b>	<b>SEAT HYDRO</b>
<b>PRESS-TEMP RATING</b>	ASME B16.34	20.7 Mpa   3000 Psi	15.2 Mpa   2200 Psi
<b>END CONNECTION</b>	NPT	<b>SEAT AIR</b>	<b>BACKSEAT</b>
<b>END DIMENSION</b>	ANSI B1.20.1	0.55 Mpa   80 Psi	Mpa   Psi
<b>TEST &amp; INSPECTION</b>	API598/ ISO 5208-A	<b>TEMPERATURE</b>	
<b>MARKING &amp; PAINT</b>	MSS SP-55, PICKLED & PASSIVATED	-29 TO 220 °C	-20 TO 428 °F
<b>OTHER REQ.</b>	NACE MR-01-75 & MR-01-03	<b>MEDIUM</b>	Water, Oil, Gas
<b>PORT SIZE</b>	FULL PORT		
<b>TRIM</b>	316SS HIGH CYCLE TRIPLE BARRIER STEM SEAL SYSTEM		
<b>NOTES</b>	FIRESAFE : API 607 5TH ED., API 6FA 3RD ED.		
<b>OTHER</b>	ANTI STATIC BS5351 & ISO 17292-2015		
<b>SPECIAL</b>	OPTIONAL HP SEAT TEST PERFORMED ISO 5208-A		

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	ØD	L	L1	E	F	G	H	W	ØA	ØB	C	ØMxN	ISO 5211 (F)	Weight
1/4"	8	11.0	65.0	70.0	7.4	8.0	37.5	70.0	140.0	13.8	14.2	10.0	42-M5	F04	1.1
3/8"	10	11.0	65.0	70.0	7.4	8.0	37.5	70.0	140.0	17.3	17.6	10.0	42-M5	F04	1.1
1/2"	15	14.0	75.0	75.0	7.4	8.0	37.5	70.0	140.0	21.7	21.8	13.0	42-M5	F04	1.1
3/4"	20	20.5	80.0	90.0	8.7	11.0	52.0	90.0	180.0	27.2	27.2	15.0	42-Ø6 x50-Ø7	F04-F05	1.6
1"	25	25.0	90.0	100.0	8.7	11.0	60.0	100.0	180.0	34.0	33.9	15.0	42-Ø6 x50-Ø7	F04-F05	2.2
1 1/4"	32	31.5	110.0	110.0	14.1	17.0	72.0	112.0	215.0	42.7	42.7	15.0	70-Ø9	F07	3.3
1 1/2"	40	37.0	120.0	125.0	14.1	17.0	76.0	115.0	215.0	48.6	48.8	16.0	70-Ø9	F07	4.6
2"	50	50.0	140.0	150.0	14.1	17.0	93.0	133.0	215.0	60.5	61.2	17.0	70-Ø9	F07	7.3

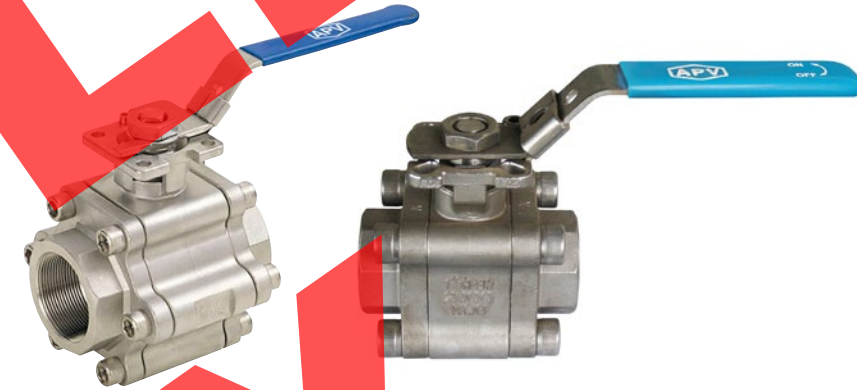
Dimensions in millimeters

Firesafe Ball Valve, 3PC  
Model BV100-AK3EHGACD4MN,  
NPS 1/4"~2" (DN8~DN50) Class 800,  
NPT, Lever Operated, FB, CF8M , Swing out centre

<b>ORDER No/ DWG No</b>	09	<b>APPROVED</b>	B.T.
<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
<b>Australian Pipeline Valve</b>		<b>DRAWN</b>	C.C.

**BREAK TORQUE VALUES (NM) - REINFORCED PTFE SEATS 800 CLASS**

Valve Size mm	Line Pressure - Mpa									Maximum Stem Torque (NM)
	1	2	3	4	5	7	9	10.3	13.8	
8, 10, 15	13	14	15	16	17	17	18	18	20	35
20	19	20	21	22	23	24	25	26	29	45
25	25	26	27	28	29	33	34	35	37	75
32	28	29	29	30	32	35	37	38	40	85
40	36	38	38	40	41	46	46	48	50	90
50	45	45	45	46	48	51	51	52	55	250
65	50	57	67	80	82					390
80	110	130	144	148	154					390
100	140	160	190	210	230					

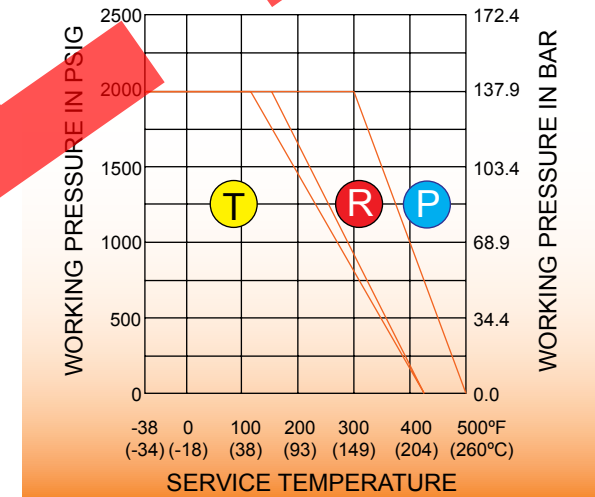


50NB

8~40NB

**PRESSURE/TEMPERATURE RATING**

**T** PTFE    **R** R-PTFE    **P** PEEK



No safety factor is included. When conditions below apply, then calculate torque using the following application factors:

<b>PEEK SEATS</b>		+80% to all torques shown
<b>FREQUENCY OF OPERATION</b>	Less than once per week	+25%
	Less than once per month	+40%
	Less than once per year	+60%
<b>SERVICE CONDITIONS</b>	Light slurry semi solids	+40%
	Heavy slurry and some solids	+75%
	Temp. -40°C to -20°C	+75%
	Temp. -20°C to 0°C	+25%
	Temp. Over 150°C	+40%



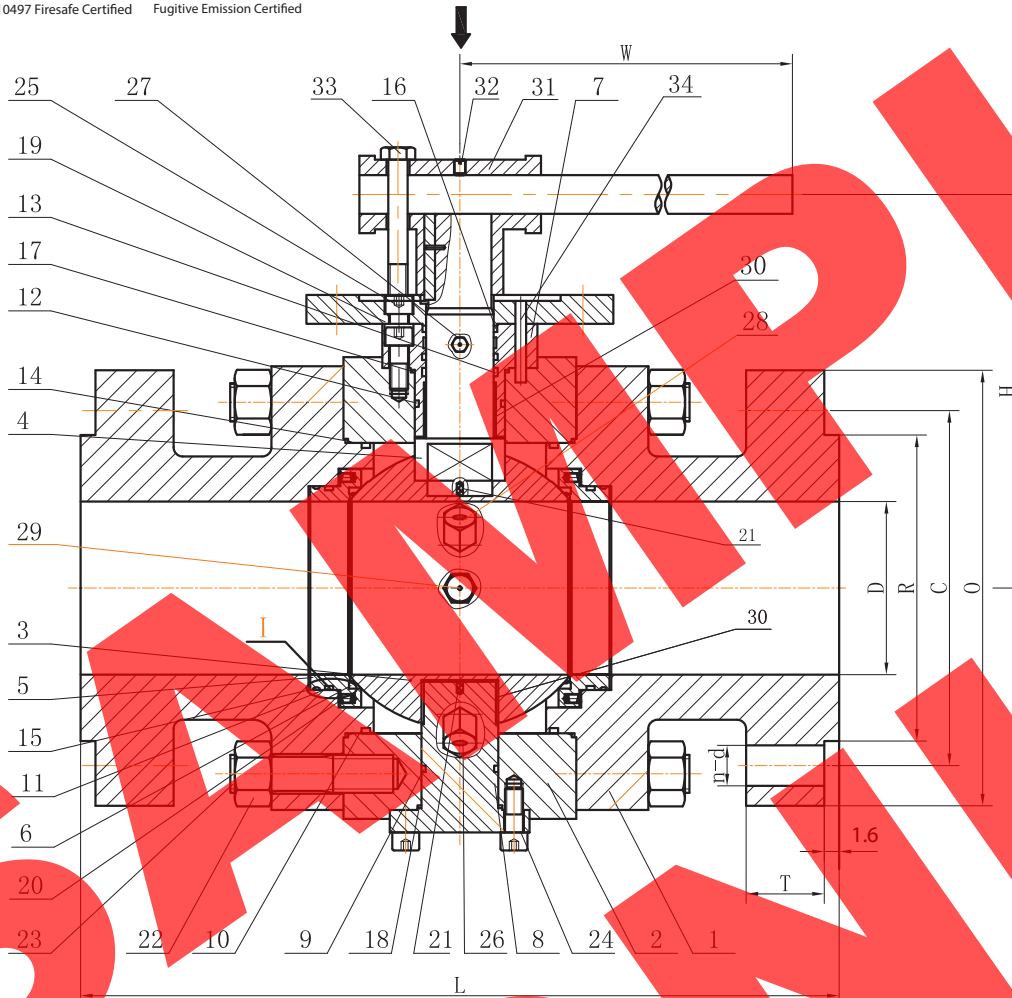
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API607 5th, 6th & 7th Ed.  
ISO 10497 Firesafe Certified



API 622 & ISO 15848-1  
Fugitive Emission Certified



**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	LEFT/RIGHT SECTION BODY	ASTM A350 LF2 CL. 1	(1)
2	BODY	ASTM A350 LF2 CL. 1	(1)
3	BALL	ASTM A182 F316	SOLID
4	STEM	ASTM A182 F316	(3)
5	SEAT RETAINER	ASTM A182 F316	-
6	SEAT RING INSERT	RPTFE	-
7	TRUNNION	ASTM A350 LF2 CL. 1	(1) +ENP
8	BONNET	ASTM A350 LF2 CL. 1	(1) +ENP
9	O-RING	VITON AED/VGLT	-
10	O-RING	VITON AED/VGLT	-
11	O-RING	VITON AED/VGLT	-
12	O-RING	VITON AED/VGLT	-
13	O-RING	VITON AED/VGLT	-
14	F.S GASKET	316+GRAPHITE	-
15	F.S SEAL	GRAPHITE+316	-
16	F.S SEAL	GRAPHITE+316	-
17	F.S SEAL	GRAPHITE+316	-
18	F.S SEAL	GRAPHITE+316	-
19	ADAPTOR	ASTM A350 LF2 CL1	(1) (2) +ENP
20	SPRINGS	INCONEL X750	-
21	ANTISTATIC DEVICE	ASTM A276 316	-
22	NUT	ASTM A194 7M	+ZP
23	STUD	ASTM A320 L7M	+ZP
24	SCREW	ASTM A320 L7M	+ZP
25	SCREW	ASTM A320 L7M	+ZP
26	DRAIN VALVE	ASTM A182 F316	-
27	INJECTION SEALANT VALVE	ASTM A182 F316	-
28	VENT VALVE	ASTM A182 F316	-
29	INJECTION SEALANT VALVE	ASTM A182 F316	-
30	NON-LUBRICATED BEARING	316+PTFE	-
31	LEVER SLEEVE	ASTM A216 WCB	-
32	SCREW	ASTM A320 L7M	+ZP
33	SCREW	ASTM A320 L7M	+ZP
34	PIN	SS	-

(1) CHARPIES TESTED -16°C DUAL CERTIFIED ASTM A105N  
(11) PACKING CHAMBER SMOOTHNESS Ra ≤ 3.2 µm (SUPERIOR TO API REQUIREMENTS)  
(12) STEM SMOOTHNESS Ra 0.80 - 1.2 µm

<b>RATING</b>	CL 600	<b>TEST PRESSURE</b>	
<b>DESIGN &amp; MFG.</b>	API 6D, ASME B16.34	<b>SHELL HYDRO</b>	<b>SEAT HYDRO</b>
<b>PRESS-TEMP RATING</b>	ASME B16.34	15.3 Mpa   2220 Psi	11.2 Mpa   1625 Psi
<b>FACE TO FACE DIM.</b>	ASME B16.10	<b>SEAT AIR</b>	<b>BACKSEAT</b>
<b>END CONNECTION</b>	RFSF 3.2-6.3Ra (125-250 AARH)	0.55 Mpa   80 Psi	Mpa   Psi
<b>END DIMENSION</b>	ASME B16.5	<b>TEMPERATURE</b>	
<b>TEST &amp; INSPECTION</b>	API 6D, ISO 5208 RATE A	-46 TO 200 °C	-51 TO 392 °F
<b>MARKING</b>	MSS SP-25	<b>MEDIUM</b>	Water, Oil, Gas
<b>OTHER REQ.</b>	NACE MR-01-75 & MR-01-03		
<b>PORT SIZE</b>	FULL PORT		
<b>TRIM</b>	316 TRIM		
<b>NOTES</b>	FIRESAFE: ISO 10497, API607 5TH/ 6TH/ 7TH		
<b>OTHER</b>	ANTI STATIC BS5351/ ISO 17292-2010		
<b>SPECIAL</b>	OPTIONAL LP AIR SEAT TEST ALSO PERFORMED		

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	D	R	C	O	n-d	T	E	W	H	Weight
4"	100	100.1	157.2	190.5	230	8-19	22.3	35	450	230	50

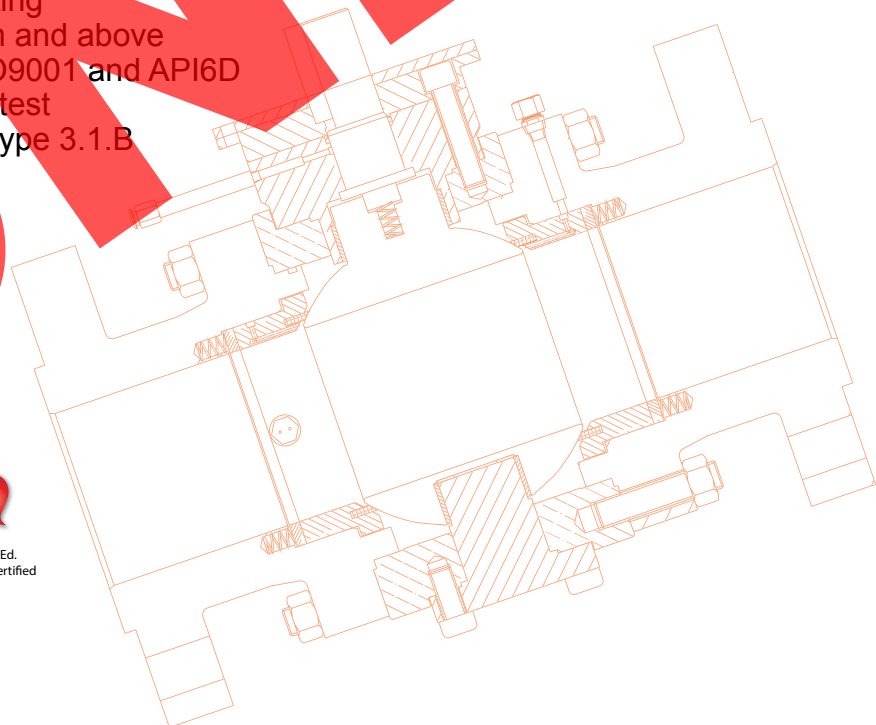
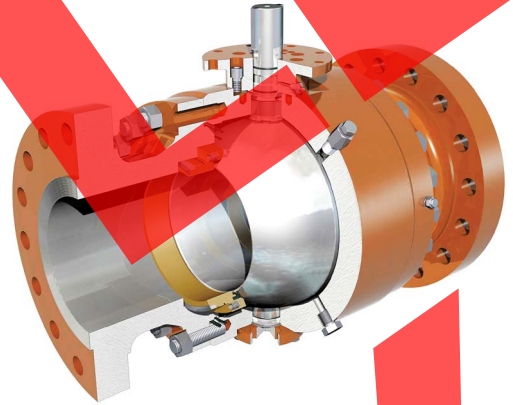
Dimensions in millimeters

Trunnion Firesafe Ball Valve, 3PC, Model BVF100-FTAG2243AAADG NPS 4" (DN100) Class 600, RF, Lever Operated, FB, LF2 <b>Australian Pipeline Valve</b>	<b>ORDER N°/ DWG N°</b>	XXXXXXX-XX	<b>APPROVED</b>	B.T.
	<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
			<b>DRAWN</b>	C.C.

# BVF100 SERIES FORGED SIDE ENTRY BALL VALVE

## DESIGN FEATURES

- Manufactured and tested to API 6D/ISO 14313
- Double block & bleed capability
- Antistatic to API 608
- 3 piece Side Entry type
- Full Bore - Full through conduit - piggable
- Manual operation - Gear
- Trunnion mounted
- Stem separate from the ball, anti-blow-out design
- No side load on the stem. Bearing blocks absorb the pressure load on the ball
- Large diameter, heavy duty trunnion & bearings
- Triple barrier stem seals.
- Anti blow-out stem configuration
- Metal seat retainer (secondary fire seal) complete with soft insert
- O-ring for static (body joints) and dynamic (seat rings and stem) seals
- Self-relieving (automatic cavity relief) seats
- Spring energised constrained seat design
- Body bolting design complies with ASME B16.34 & ASME VIII
- Anti-static device
- Emergency seat & stem sealant injection
- Fire safe certified DNV witness in accordance with ISO 10497 & API607 5th/6th/7th Edition
- Fugitive emission certified ISO - EN 15848-1
- Equipped with cavity pressure bleed fitting
- Additional cavity vent for valves 150mm and above
- Manufactured under quality system ISO9001 and API6D
- Body and seat hydrostatic and seat air test
- Material certification to EN 10204/ISO type 3.1.B



API 622 & ISO 15848-1  
Fugitive Emission Certified



ISO 15848-1 Class CO2  
Endurance Test Certified



API607 6th & 7th Ed.  
ISO 10497 Firesafe Certified





**AUSTRALIAN PIPELINE VALVE®**

TECHNICAL OVERVIEW SHEET

APV AUSTRALIAN PIPELINE VALVE® TECHNICAL OVERVIEW SHEET		PROJECT	Stock Order
		PURCHASER	Australian Pipeline Valve
		END USER	Australia
LINE		<b>SPECIFICATIONS</b>	
1	<b>VALVE DESCRIPTION</b>	3-Piece Ball Side Entry Trunnion Bolted Bonnet	
2	VALVE MODEL NO.	BVF100 Series Ball Valve Side Entry	
3			
4			
5			
6	PRESSURE CLASS	Refer to drawing	
7	BORE (FULL/REDUCED)	Refer to drawing	
8	END CONNECTIONS	Refer to drawing	
9	OPERATION (MANUAL/ACTUATED)	Refer to drawing	
10	GEARBOX (WHERE APPLICABLE)	Diamond Gear	
11	SEAT CONFIGURATION	Self-Relieving	
12	ANTI BLOWOUT STEM DESIGN (YES/NO)	Yes	
13	ANTI STATIC DEVICE (YES/NO)	Yes	
14	VENT/DRAIN FITTING	NPT Plug and Bleed Valve - as per API 6D	
15	FIRE SAFE DESIGN & TESTING (YES/NO - SPEC)	Yes - ISO 10497	
16			
17	<b>VALVE MATERIALS OF CONSTRUCTION</b>		
18	BODY	Refer to drawing	
19	CLOSURE	Refer to drawing	
20	STEM	Refer to drawing	
21	BALL	Refer to drawing	
22	SEATS	Refer to drawing	
23	SEAT INSERT	Refer to drawing	
24	SEAT SPRINGS	INCONEL X750	
25	OTHER SEALS	Graphite/Viton AED	
26	BOLTING	Refer to drawing	
27	STEM GREASE FITTING	Yes	
28	SEAT SEALANT INJECTION FITTING	Yes	
29			
30			
31	<b>VALVE DESIGN LIMITS</b>		
32	TEMPERATURE	Refer to drawing	
33	PRESSURE	Refer to drawing	
34	DIFFERENTIAL PRESSURE (MAX.)	Not Available	
35			
36	<b>TESTING</b>		
37	REFERENCED SPECIFICATION	API6D (ISO 14313 Rate A)	
38	OTHER TEST/INSPECTION CONDUCTED	APV Representative Witness	
39	SPECIAL TESTS	PM/CT/MPI where specified	
40	<b>CERTIFICATION</b>		
41	PRESSURE RETAINING PARTS		
42	- BODY, BONNET, CLOSURE	EN 10204 3.1	
43	- STEM	EN 10204 3.1	
44	- BOLTING†	EN 10204 3.1	
45	PRESSURE CONTROLLING PARTS		
46	- SEATS	EN 10204 3.1	
47	- BALL	EN 10204 3.1	
48			
49		† ALL B7, B7M, L7, L7M BOLTING IS GALVANISED.	
50	<b>CLARIFICATIONS/QUALIFICATIONS:</b>		
51			
52	1) All valves are provided with locking devices on their individual operators.		
53	2) Valves are designed with capability for double block and bleed operation/function.		
54	3) Vent and drain connections include bleed valve.		
55	4) Valve body cavity pressure can be released during open and close position.		
56	5) Gear box's cover screw shall be accessible from the top.		
57	6) Firesafe ISO 10497 certification is equivalent to API 6FA/API607 v5 & 6/BS 6755 Pt. 2.		
58	7) All external fixtures, i.e. seal injection, drain & bleed plug are full 316SS.		
59			
60			
	PREPARED BY	CHECKED BY	REV. NO.
	BT	AS	01



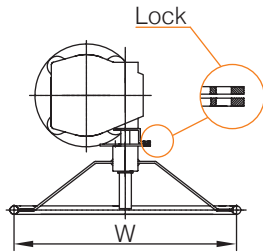
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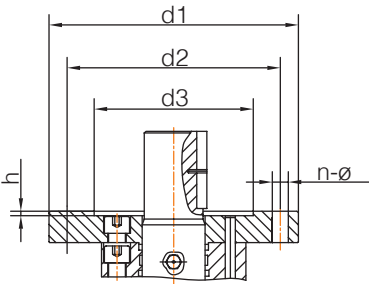
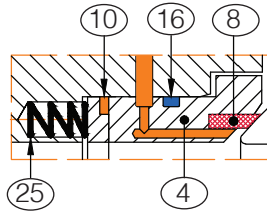
API607 5th & 6th Ed. ISO 10497  
Firesafe Certified



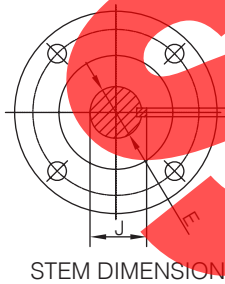
API 622 & ISO 15848-1  
Fugitive Emission Certified



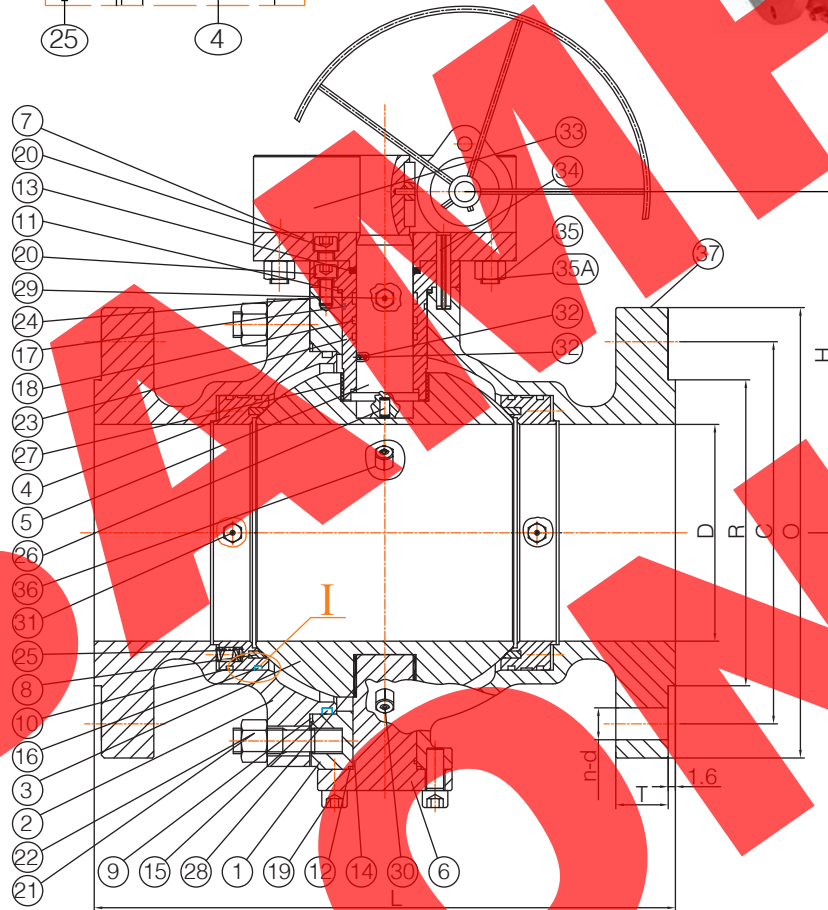
**I- SEAT AREA**



ISO 5211 F16  
TOP MOUNT PAD



STEM DIMENSION



**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A351 CF8M	(4)
2	BODY ADAPTOR	ASTM A351 CF8M	(4)
3	BALL	ASTM A182 F316	-
4	SEAT RETAINER	ASTM A182 F316	-
5	STEM	ASTM A182 F316	(2) (3)
6	TRUNNION	ASTM A182 F316	-
7	TOP ADAPTOR FLANGE	CS+ENP_003	-
8	SEAT INSERT	RPTFE	-
9	F.S BODY GASKET	316+GRAPHITE	GLASS FILLED
10	F.S SEAT SEAL	GRAPHITE+316	-
11	F.S BONNET SEAL	GRAPHITE+316	-
12	F.S COVER SEAL	GRAPHITE+316	-
13	F.S STEM SEAL	GRAPHITE+316	(2)
14	O-RING	VITON AED/VGLT	(1)
15	O-RING	VITON AED/VGLT	(1)
16	O-RING	VITON AED/VGLT	(1)
17	O-RING	VITON AED/VGLT	(1)
18	O-RING	VITON AED/VGLT	(1)
19	SCREW	ASTM A193 B8M	-
20	SCREW	ASTM A193 B8M	-
21	STUD	ASTM A193 B8M	-
22	NUT	ASTM A194 8M	-
23	BONNET	ASTM A182 F316	-
24	SCREW	ASTM A193 B8M	-
25	SEAT SPRINGS	INCONEL X750	-
26	ANTI STATIC SPRING	ASTM A276 316	-
27	NON-LUBRICATED RADIAL BEARINGS	316+PTFE	-
28	NON-LUBRICATED RADIAL BEARINGS	316+PTFE	-
29	INJECTION SEALANT VALVE STEM	ASTM A182 F316	-
30	DRAIN VALVE	ASTM A182 F316	-
31	INJECTION SEALANT VALVE SEATS	ASTM A182 F316	-
32	ANTI STATIC DEVICE	ASTM A276 316	-
33	GEAR OPERATOR	ASSEMBLY LOCKABLE	-
34	PIN	AISI 316	-
35	STUD	ASTM A193 B8M	-
35A	NUT	ASTM A194 8M	-
36	VENT VALVE	ASTM A182 F316	-
37	LABEL	SS316	API 6D MONOGRAMMED

(1) NORSOK M-710 FRM-GLT-90-AED  
(2) PACKING CHAMBER SMOOTHNESS Ra ≤ 3.2 μm (SUPERIOR TO API REQUIREMENTS)  
(3) STEM SMOOTHNESS Ra 0.60 ~ 15 μm  
(4) CHARPIES TESTED -46 °C

RATING	EL 150	TEST PRESSURE	
DESIGN & MFG.	API 6D, ASME B16.34	SHELL HYDRO	SEAT HYDRO
PRESS-TEMP RATING	ASME B16.34	2.93 Mpa   425 Psi	2.24 Mpa   325 Psi
FACE TO FACE DIM.	ASME B16.10	SEAT AIR	BACKSEAT
END CONNECTION	RFSF 3.2-6.3Ra (125~250 AARH)	0.6 Mpa   87 Psi	Mpa   Psi
END DIMENSION	ASME B16.5	TEMPERATURE	
TEST & INSPECTION	API 6D, ISO 5208 RATE A	-46 TO 180 °C	-50 TO 356 °F
MARKING & PAINT	MSS SP-25 PICKLED & PASSIVATED	MEDIUM	Water, Oil, Gas
OTHER REQ.	NACE MR-01-75 & MR-01-03		
PORT SIZE	FULL PORT		
TRIM	316 TRIM		
NOTES	FIRESAFE: ISO 10497, API607 5TH/ 6TH		
OTHER	ANTI STATIC BS5351/ ISO 17292-2010		
SPECIAL	OPTIONAL LP AIR SEAT TEST ALSO PERFORMED		

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	D	R	C	O	T	n-d	W	H	J	K	E	d1	d2	d3	h	n-ø	ISO 5211	TORQUE NM	Weight
8"	200	457	202	269.9	298.5	345	27	8-22.5	600	330	56	16.0	52	210	165	130	6	4-22	F16	618	180

Dimensions in millimeters

APV Trunnion Firesafe Ball Valve, 2PC,  
Model FS9000-AC1243AAAED  
NPS 8" (DN200) Class 150, RF,  
Gear Operated, FB, CF8M

ORDER N° / DWG N°	466	APPROVED	B.T.
REV.	00	CHECKED	S.Q.
Australian Pipeline Valve		DRAWN	C.C.



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API607 5th & 6th Ed. ISO 10497  
Firesafe Certified



API 622 & ISO 15848-1  
Fugitive Emission Certified



## FS9000 Series Design Features

The P-T rating is not only governed by the body material, but is further defined by the material of seat, packing and gasket. The selection of sealing material is dependant upon the medium passing through valve, valve working temperature, pressure and velocity of flow. As the P-T rating varies according to different valve working conditions, the following P-T rating value is calculated assuming stable valve working condition. The pressure temperature shown are absolute maximum. As temperature rises, pressure reduces.

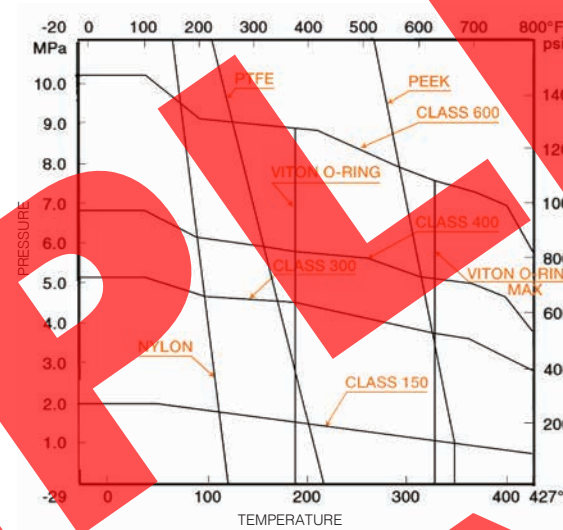
### Torque FS9000 200NB 150LB

BTO TORQUE (N.m)	MAST (N.m)	STEM DIA. φ (mm)	ISO PLATE
618	3093	52	F16

BTO	RTO	RTC	ETO	ETC	BTC
x 1	x 0.5	x 0.5	x 0.8	x 0.85	x 0.8

1. BTO Torque shown at maximum differential pressure
2. Theoretical torque only, no safety factor included. 50% safety recommended.
3. Maximum stem torque shown is for 316 stem. FS9000 2 piece cast trunnion ball valves usually have a heavier stem than 3 piece body trunnion ball valves with higher MAST.

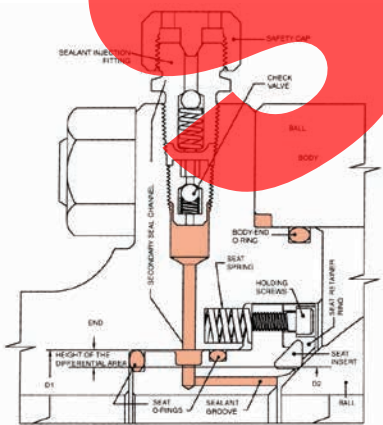
## PRESSURE-TEMPERATURE RATING



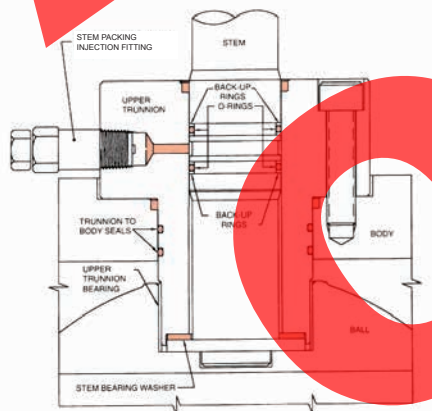
It must be understood that many factors can influence the torque of ball valves in field service. For this reason to SELECT PROPER ACTUATOR use the "TORQUE ADJUSTMENT FACTORS".

Net Break Away Torque of Valves	X	Process Media	X	Frequency of Operation	X	Process Temperature	X	Valve Seating Material	X	Suggested Safety Factor	X	Torque to Select Actuator or Gear in Nm
---------------------------------	---	---------------	---	------------------------	---	---------------------	---	------------------------	---	-------------------------	---	---

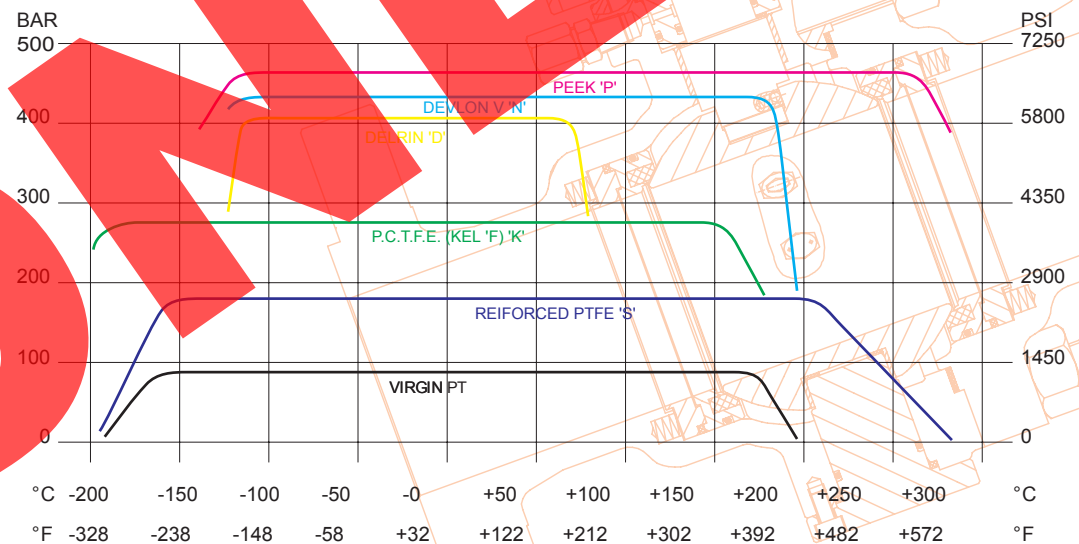
### Cross-Section Seat Area



### Cross-Section Stem Area



## PRESSURE/TEMPERATURE LIMITATIONS OF SOFT SEAT INSERT SEAT MATERIAL







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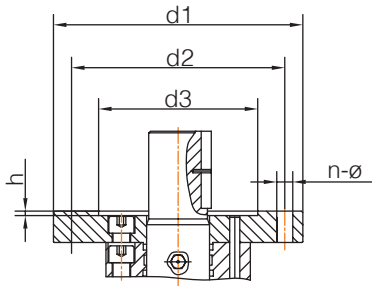
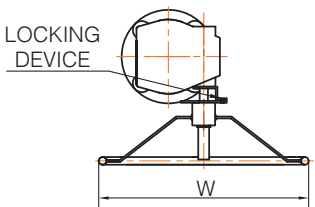
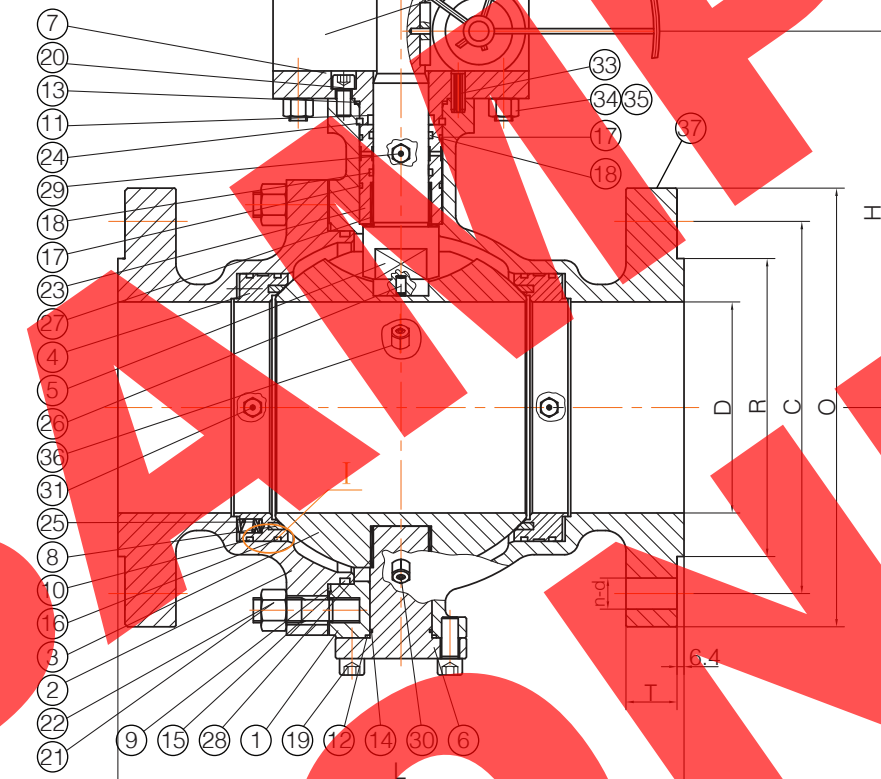
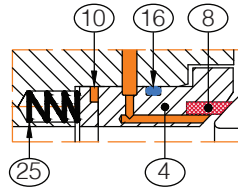
API607 5th & 6th Ed. ISO 10497  
Firesafe Certified



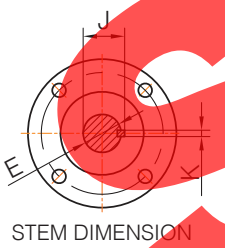
API 622 & ISO 15848-1  
Fugitive Emission Certified



**I: SEAT AREA**



ISO 5211 F16  
TOP MOUNT PAD



STEM DIMENSION

**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A216 WCC	(1)
2	BODY	ASTM A216 WCC	(1)
3	BALL	ASTM A182 F316	-
4	SEAT RETAINER	ASTM A182 F316	-
5	STEM	ASTM A182 F316	(3)
6	TRUNNION	ASTM A105+ENP	-
7	BONNET	ASTM A105+ENP	(2)
8	SEAT RING	DEVLON	-
9	F.S GASKET	316+GRAPHITE	-
10	F.S SEAL	GRAPHITE+316	-
11	F.S SEAL	GRAPHITE+316	-
12	F.S SEAL	GRAPHITE+316	-
13	F.S SEAL	GRAPHITE+316	-
14	O-RING	VITON AED	-
15	O-RING	VITON AED	-
16	O-RING	VITON AED	-
17	O-RING	VITON AED	-
18	O-RING	VITON AED	-
19	SCREW	ASTM A193 B7M	ZINC PLATED
20	SCREW	ASTM A193 B7M	ZINC PLATED
21	STUD	ASTM A193 B7M	ZINC PLATED
22	NUT	ASTM A194 2HM	-
23	SEAL RING	ASTM A276 316	-
24	SEGMENT	ASTM A276 316	-
25	SPRINGS	INCONEL X750	-
26	ANTI STATIC SPRING & BALL	ASTM A276 316	-
27	NON-LUBRICATED BEARING	316+PTFE	-
28	NON-LUBRICATED BEARING	316+PTFE	-
29	INJECTION SEALANT VALVE	ASTM A182 F316	-
30	DRAIN VALVE	ASTM A182 F316	-
31	INJECTION SEALANT VALVE	ASTM A182 F316	-
32	GEAR OPERATOR	ASSEMBLY	LOCKABLE
33	PIN	AISI 410	-
34	STUD	ASTM A193 B7	-
35	NUT	ASTM A194 2H	-
36	VENT VALVE	ASTM A182 F316	-
37	LABEL	SS316	API 6D MONOGRAMMED

(1) DUAL CERTIFIED ASTM A216 WCC  
(2) PACKING CHAMBER SMOOTHNESS Ra ≤ 3.2 μm (SUPERIOR TO API REQUIREMENTS)  
(3) STEM SMOOTHNESS Ra 0.80 - 1.2 μm

RATING	CL 600	TEST PRESSURE	
DESIGN & MFG.	API 6D, ASME B16.34	SHELL HYDRO	SEAT HYDRO
PRESS-TEMP RATING	ASME B16.34	15.3 Mpa   2220 Psi	11.2 Mpa   1625 Psi
FACE TO FACE DIM.	ASME B16.10	SEAT AIR	BACKSEAT
END CONNECTION	RFSF 3.2-6.3Ra (125-250 AARH)	0.6 Mpa   87 Psi	Mpa   Psi
END DIMENSION	ASME B16.5	TEMPERATURE	
TEST & INSPECTION	API 6D, ISO 5208 RATE A	-29 TO 150 °C	-80 TO 302 °F
MARKING & PAINT	MSS SP-25, PAINT PPWF07.002	MEDIUM	Water, Oil, Gas
OTHER REQ.	NACE MR-01-75 & MR-01-03 CORROSION ALLOWANCE 3.0MM		
PORT SIZE	FULL PORT		
TRIM	316 TRIM		
NOTES	FIRESAFE: ISO 10497, API607 5TH/ 6TH, API 6D MONOGRAMMED		
OTHER	ANTI STATIC BS5351/ ISO 17292-2010		
OTHER	COROSSION ALLOWANCE B16.34 3.2MM		
SPECIAL	OPTIONAL LP AIR SEAT TEST ALSO PERFORMED		

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	D	R	C	O	T	n-d	W	H	J	K	E	d1	d2	d3	h	n-ø	ISO 5211	Torque B TO NM	Weight
6"	150	559	152	215.9	292.1	355	47.8	12-28.5	600	275	43	12	40						F16	855	225

Dimensions in millimeters

APV Trunnion Firesafe Ball Valve, 2PC, Model FS9000-FTCI1523AAACB NPS 6" (DN150) Class 600, RF, Gear Operated, FB, WCC	<b>ORDER N° / DWG N°</b>	115	<b>APPROVED</b>	B.T.
	<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
<b>Australian Pipeline Valve</b>			<b>DRAWN</b>	C.C.

## FS9000 SERIES MATERIALS AND DESIGN FEATURES

Parts	Standard	SS Trim	Full SS		LCB, LCC
	WCB	WCB	CF8/CF3	CF3M/CF8M	LCC/LCB
Body	A216-WCB	A216-WCB	A351-CF8, CF3	A351-CF8M,CF3M	A352-LCB, LCC
Packing Support	A105-1025	A102-1025	A182-F304,F304L	A182-F316, F316L	A182-F304
Ball	A105+ENP .003"	A182-316	A182-F304, F304L*	A182-F304,316L*	A182-F304 or F316
	A216-WCB+ENP .003"	A182-316	A351-CF8, CF3*	A351-CF8M, CF3M*	A352-LCB, LCC+.003"ENP
Stem	A182-F6a	316 or 17-PH	A182-F304, F304L	A182-F316 ,F316L	A182-F304 or 316
Seals	PTFE / PEEK (PPL) / Nylon				
Seating Retainer	A105-1025+ENP .003"	316	A182-F304, F304L	A182-F316, F316L	A182-F304 or F316
Packing	PTFE / PEEK (PPL) / Graphite				
Gasket	PTFE / PEEK (PPL) / Graphite				
Bearings	PTFE / PEEK (PPL) / 316+PTFE				
Spring	INCONEL X750				
Stud	A193-B7	A193-B7M	A193-B8, B8M	A193-B8, B8M	A320-L7
Nut	A194-2H	A194-2HM	A194-8, 8M	A194-8, 8M	A194-7M
O-Rings	Viton B / Buna / Viton AED / Viton GLT / Elast-O-Lion 985 / Aflas				

\* ENP or hard chrome surfacing for smoothness and hardness in some sizes and classes

Remarks: All materials conform to ASTM standard.

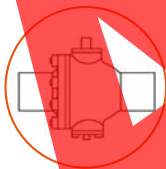
We can provide alternative body and trim materials according to valve working conditions or customer's requirements. We also reserve the rights to improve the valve material according to relative standard.

The P-T rating is not only governed by the body material, but is further defined by the material of seat, packing and gasket. The selection of sealing material is dependant upon the medium passing through valve, valve working temperature, pressure and velocity of flow.

As the P-T rating varies according to different valve working conditions, the following P-T rating value is calculated assuming stable valve working condition.

Cross-Section Seat Area

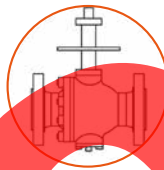
Cross-Section Stem Area



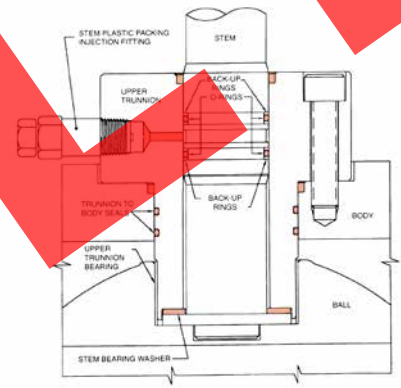
Pup Ends



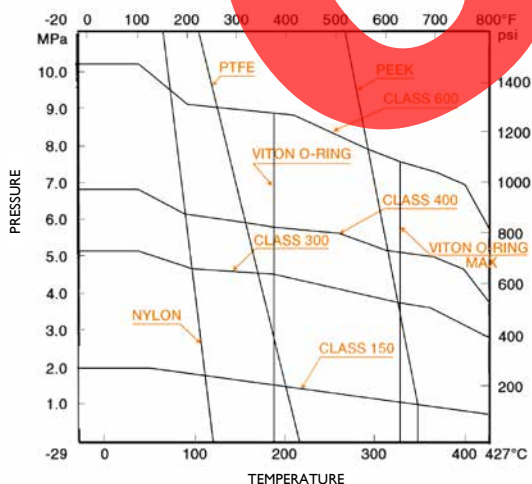
Extended Stem



Cryogenic Stem



### PRESSURE-TEMPERATURE RATING





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Firesafe Certified



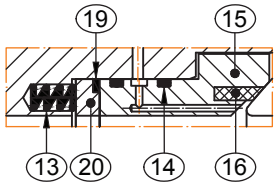
API 622 & ISO 15848-1  
Fugitive Emission Certified



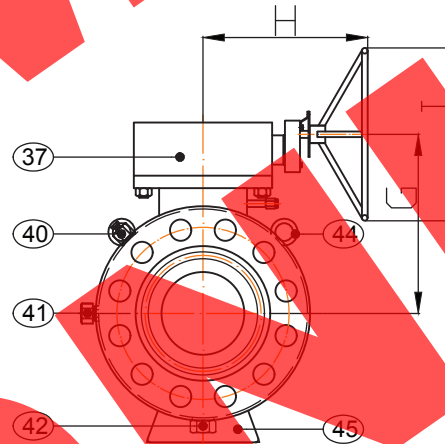
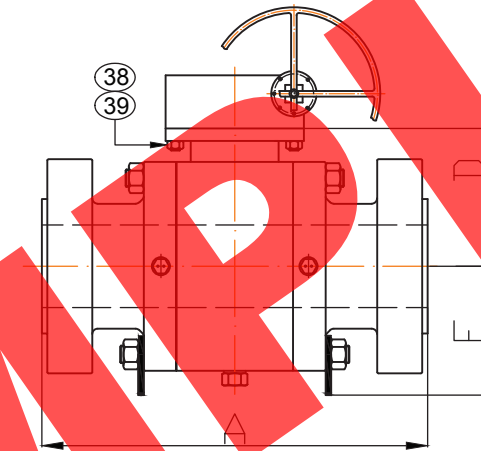
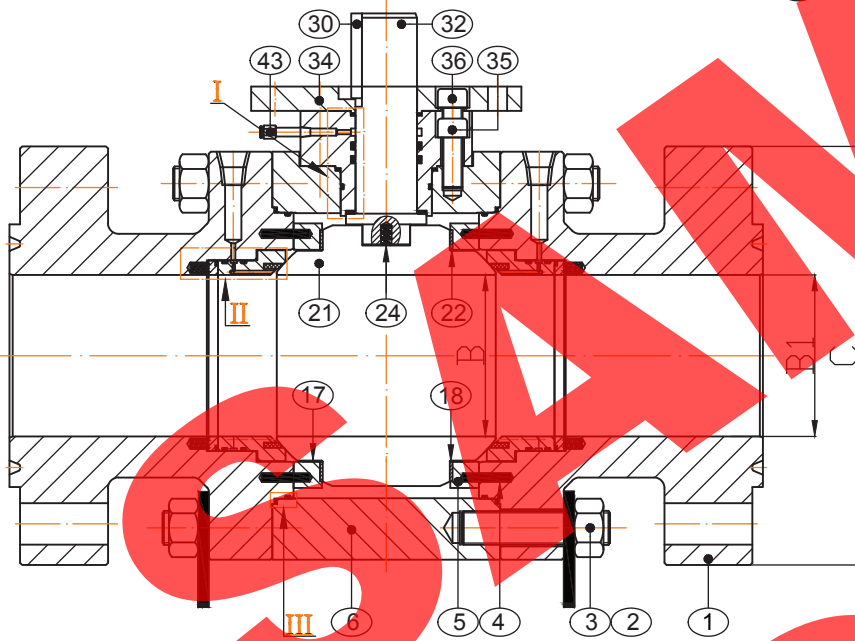
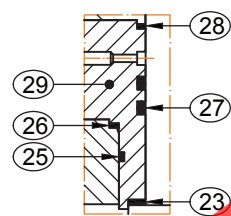
**SECTIONAL DWG III**



**SECTIONAL DWG II**



**SECTIONAL DWG I**



**BILL OF MATERIALS**

NO.	PART NAME	QTY	MATERIAL	NOTES
1	CLOSURE	2	AISI 4140	-
2	BODY STUD	SET	ASTM A193 B7M	-
3	BODY NUT	SET	ASTM A194 2HM	-
4	PIN	4	STAINLESS STEEL	-
5	TRUNNION PLATE	2	4140+ENP	-
6	BODY	1	AISI 4140	-
11	BODY O-RING	2	VITON AED	-
12	BODY FIRESAFE GASKET	2	GRAPHITE	-
13	SEAT SPRING	--	INCONEL X-750	-
14	SEAT O-RING	4	VITON AED	-
15	SEAT	2	ASTM A182 F51	-
16	SEAT INSERT	2	DEVLON	-
17	WASHER	1	STAINLESS STEEL+PTFE	-
18	BALL BEARING	1	STAINLESS STEEL+PTFE	-
19	FIRESAFE GASKET	2	GRAPHITE	-
20	SEAT PLATE	2	ASTM A182 F51	-
21	BALL	1	ASTM A182 F51	-
22	BALL BEARING	1	STAINLESS STEEL+PTFE	-
23	STEM WASHER	1	STAINLESS STEEL+PTFE	-
24	ANTI-STATIC DEVICE	1	INCONEL X-750	-
25	BONNET O-RING	1	VITON AED	-
26	BONNET FIRESAFE GASKET	1	GRAPHITE	-
27	STEM O-RING	2	VITON AED	-
28	STEM FIRESAFE GASKET	1	GRAPHITE	-
29	BONNET	1	AISI 4140+ENP	(1)
30	STEM KEY	1	CARBON STEEL	ZINC PLATED
32	STEM	1	ASTM A182 F51	(2)
34	BONNET FLANGE	1	4140	-
35	BONNET CAP SCREW	SET	ASTM A193 B7	-
36	BONNET FLANGE CAP SCREW	SET	ASTM A193 B7	-
37	GEARBOX	1	ASTM A105N	LOCKABLE
38	GEARBOX STUD	SET	ASTM A193 B7	-
39	GEARBOX NUT	SET	ASTM A194 2H	-
40	BLEED VALVE	1	STAINLESS STEEL	-
41	SEAT INJECTION FITTING	2	STAINLESS STEEL	-
42	DRAIN PLUG	1	STAINLESS STEEL	-
43	STEM INJECTION FITTING	1	STAINLESS STEEL	-
44	LIFTING LUG	2	CARBON STEEL+ZP	-
45	SUPPORT LEG	2	CARBON STEEL	-

(1) PACKING CHAMBER SMOOTHNESS Ra ≤ 3.2 μm  
(2) STEM SMOOTHNESS Ra ≤ 0.80 μm

**DIMENSIONS (MM) & WEIGHT (KG)**

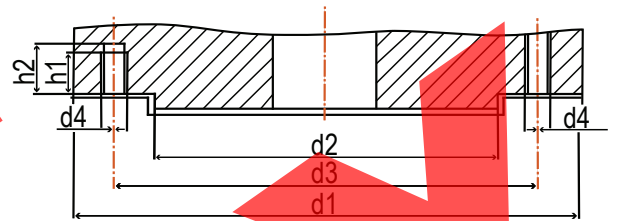
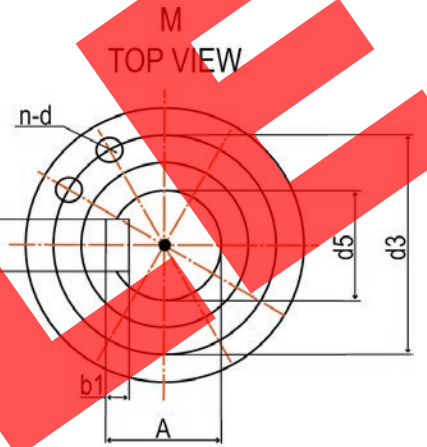
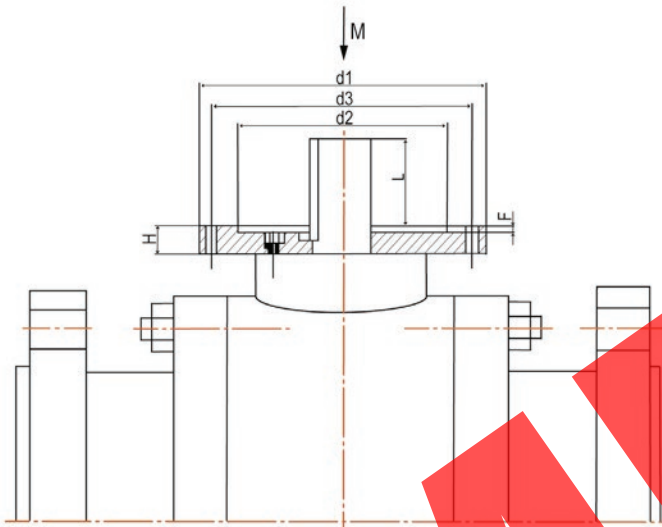
Inch	A(RTJ)	B	B1	C	D	G	E	H	I	Weight
7-1/16"	711	179.4	179.4	395	254	309	243	235	460	620

Dimensions in millimeters

RATING		TEST PRESSURE	
DESIGN & MFG.	API6A, API6D	SHELL HYDRO	SEAT HYDRO
PRESS-TEMP RATING	API6A	51.7 Mpa   7500 Psi	34.75 Mpa   5000 Psi
FACE TO FACE DIM.	ASME B16.10	SEAT AIR	BACKSEAT
END CONNECTION	RTJ	0.6 Mpa   87 Psi	Mpa   Psi
END DIMENSION	API6A	TEMPERATURE	
TEST & INSPECTION	API6A	-29 TO 175 °C	-80 TO 347 °F
MARKING	MSS SP-25	MEDIUM	Water, Oil, Gas
OTHER REQ.	NACE MR-01-75 API6A TEMP P-X		
PORT SIZE	7 1/16" THROUGH PORT		
TRIM	F51 TRIM API6A 'EE'		
NOTES	FIRESAFE: ISO 10497, API607 5TH/ 6TH PSL2 PR4		
OTHER	ANTI STATIC BS5351/ ISO 17292-2010		
SPECIAL	OPTIONAL LP AIR SEAT TEST ALSO PERFORMED		

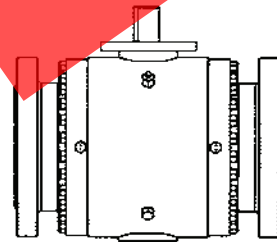
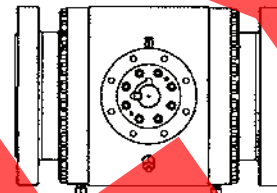
Trunnion Firesafe Ball Valve, 3 PC, Model BVF100-FTIZ2523EBEEB API6A 7-1/16" 5000 PSI, RTJ PSL2 PR1, Gear Operated, FB, 4140	ORDER N°/ DWG N°	XXXXXXX-XX	APPROVED	B.T.
	REV.	00	CHECKED	S.Q.
<b>Australian Pipeline Valve</b>			<b>DRAWN</b>	C.C.

**Engineering Data - Top Works Mount Pad**



**MAXIMUM FLANGE TORQUE VALUES**

Flange Type	Maximum flange torque (NM)
F03	32
F04	63
F05	125
F07	250
F10	500
F12	1,000
F14	2,000
F16	4,000
F25	8,000
F30	16,000
F35	32,000
F40	63,000
F48	125,000
F60	250,000



**ISO FLANGE DIMENSION**

Flange Type	d1	d2	d3	h1 max.	h2 min.	N (Number of screws, studs or bolts)	d4	d (diametre)	H	L	b	b1	A	d5
F03	46	25	36	3	8	4	M5							
F04	54	30	42	3	8	4	M5							
F05	65	35	50	3	9	4	M6							
F07	90	55	70	3	12	14	M8							
F10	125	70	102	3	15	4	M10							
F12	150	85	125	3	18	4	M12							
F14	175	100	140	4	24	4	M16	18						
F16	210	130	165	5	30	4	M20	22						
F25	300	200	254	5	24	8	M16	18						
F30	350	230	298	5	30	8	M20	22						
F35	415	260	356	5	45	8	M30							
F40	475	300	406	8	54	8	M36							
F48	560	370	483	8	54	12	M36							
F60	686	470	603	8	54	20	M36							

Dimensions in mm

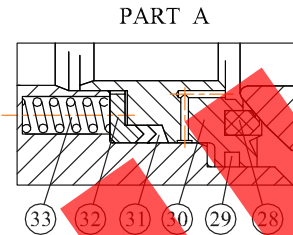
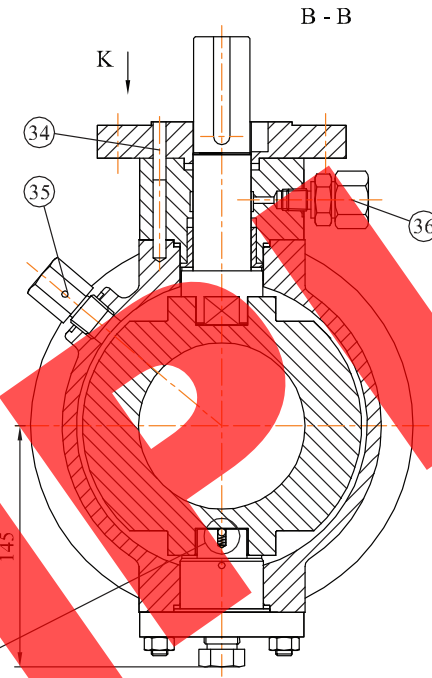
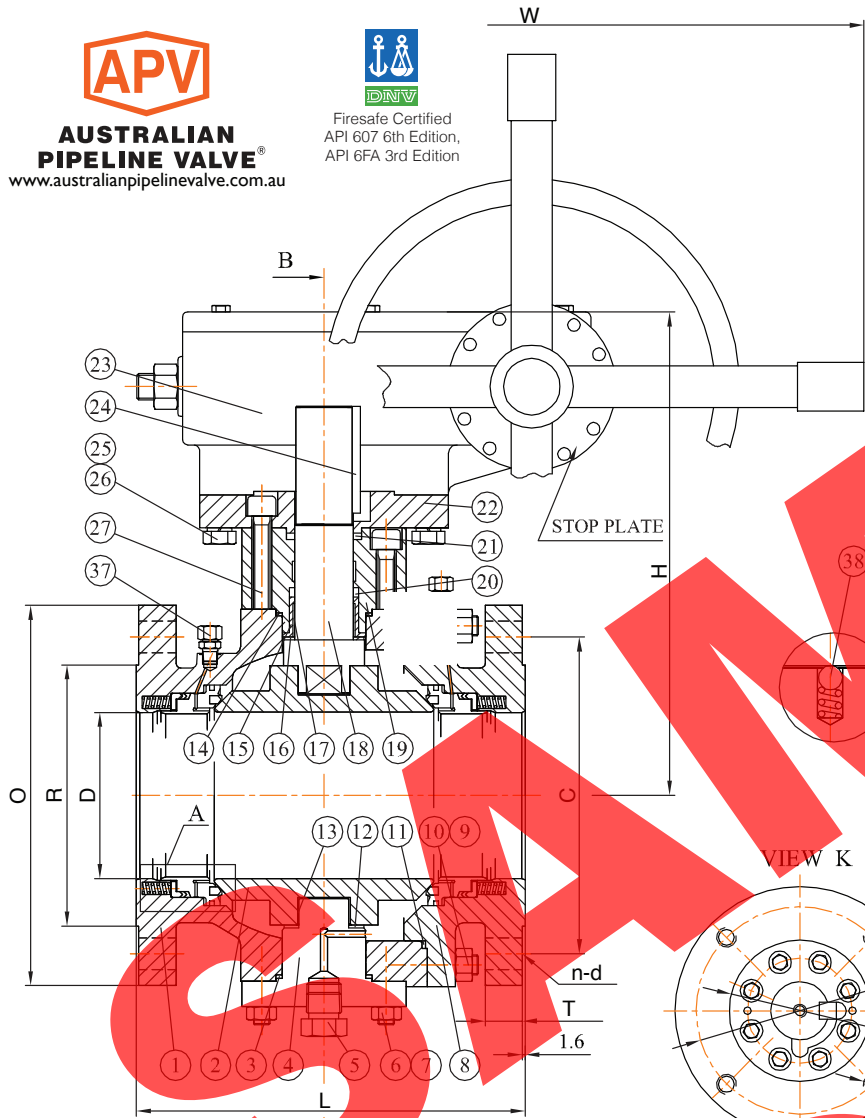
FRV ISO Flange Dimension Table API6A - AS



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Firesafe Certified  
API 607 6th Edition,  
API 6FA 3rd Edition



**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A351 CF8M-IC	-
2	BALL	ASTM A182 F316	-
3	GASKET	316SS+GRAPHITE	-
4	TRUNNION	ASTM A182 F316	-
5	DRAIN PLUG	ASTM A276 316	-
6	STUD	ASTM A193 B8M	-
7	NUT	ASTM A194 8M	-
8	BODY CAP	ASTM A351 CF8M-IC	-
9	STUD	ASTM A193 B8M	-
10	NUT	ASTM A194 8M	-
11	GASKET	316SS+GRAPHITE	-
12	THRUST WASHER	316SS+RPTFE	-
13	TRUNNION BEARING	316SS+RPTFE	-
14	GASKET	316SS+GRAPHITE	-
15	BACKUP RING	ASTM A276 316	-
16	THRUST WASHER	316SS+RPTFE	-
17	STEM BEARING	316SS+RPTFE	-
18	STEM	ASTM A182 F316	(2)
19	GUIDE RING BONNET	ASTM A182 F316	(1)
20	COATED O-RING	SILICON+PFA	-
21	STEM PACKING	GRAPHITE	-
22	TOP FLANGE	ASTM A276 316	-
23	GEARBOX	ASSEMBLY	-
24	KEY	ASTM A276 316	-
25	BOLT	ASTM A193 B8M	-
26	FLEXIBLE WASHER	ASTM A276 316	-
27	SCREW BOLT	ASTM A193 B8M	-
28	SEAT INSERT	RPTFE	-
29	DUST PROOF RING	GRAPHITE	-
30	SEAT	ASTM A182 F316	-
31	SEAT SEAL	VPTFE	-
32	BACKUP RING	ASTM A276 316	-
33	SPRING	INCONEL X-750	-
34	PIN	ASTM A276 304	-
35	VENT VALVE	ASTM A276 316	-
36	STEM SI VALVE	ASTM A276 316	-
37	SEATS SI VALVE	ASTM A276 316	-
38	ANTISTATIC SPRING	ASTM A276 316	-
39	ANTISTATIC BALL	ASTM A276 316	-

(1) PACKING CHAMBER SMOOTHNESS Ra ≤ 3.2 µm  
(2) STEM SMOOTHNESS Ra ≤ 0.80 µm

RATING	CL 150	TEST PRESSURE	
<b>DESIGN &amp; MFG.</b>	API6D, ASME B16.34	<b>SHELL HYDRO</b>	<b>SEAT HYDRO</b>
<b>PRESS-TEMP RATING</b>	ASME B16.34	2.93 Mpa   425 Psi	2.24 Mpa   325 Psi
<b>FACE TO FACE DIM.</b>	ASME B16.10	<b>SEAT AIR</b>	<b>BACKSEAT</b>
<b>END CONNECTION</b>	RFSF 3.2~6.3Ra (125~250 AARH)	0.55 Mpa   80 Psi	Mpa   Psi
<b>END DIMENSION</b>	ANSI B16.5 RF	TEMPERATURE	
<b>TEST &amp; INSPECTION</b>	API 6D, ISO 5208 RATE A	ASME B16.34	ASME B16.34
<b>MARKING &amp; PAINT</b>	MSS SP-25 PICKLED & PASSIVATED	<b>MEDIUM</b>	Water, Oil, Gas
<b>OTHER REQ.</b>	NACE MR-01-75		
<b>PORT SIZE</b>	FULL PORT		
<b>TRIM</b>	316		
<b>NOTES</b>	FIRESAFE: API607, API6FA		
<b>SPECIAL</b>	ELASTOMER FREE DESIGN		

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	D	R	C	O	T	n-d	H	W	Weight
6"	150	394	150	216	241.3	280	23.9	8-Ø22	340	400	100

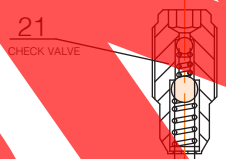
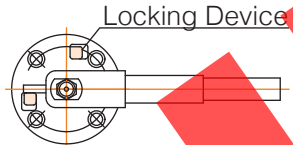
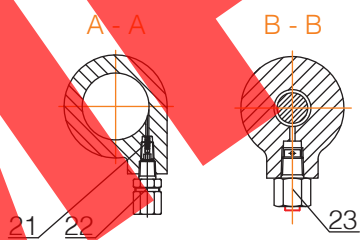
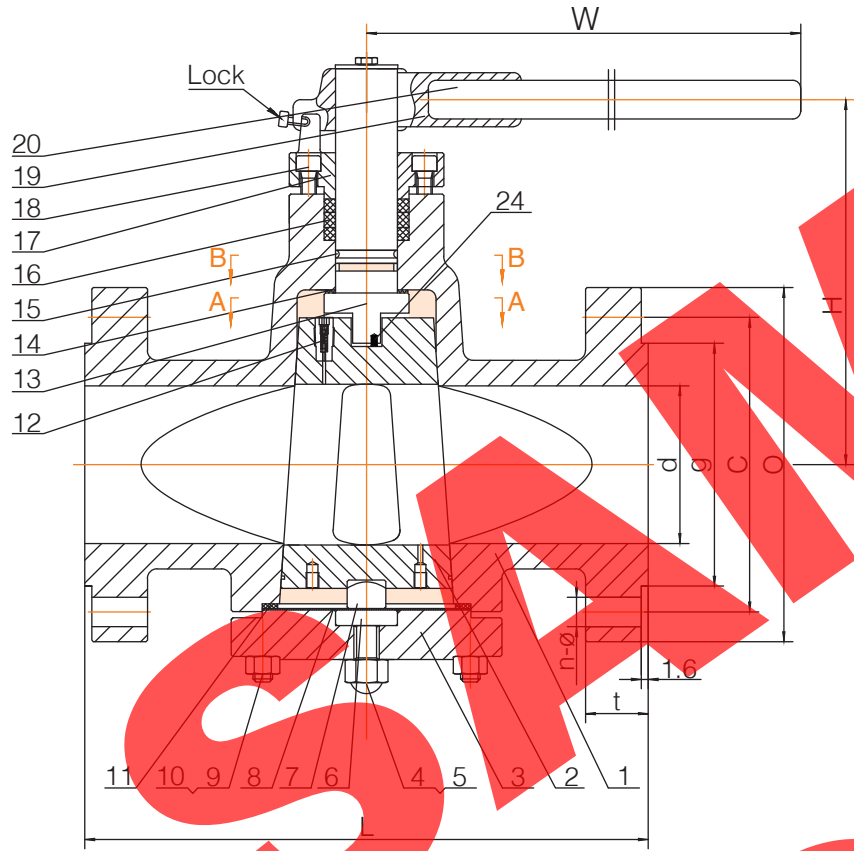
Dimensions in millimeters

Trunnion Mounted Firesafe Ball Valve, Model FS9000-FTAC1153AAACD NPS 6" (DN150) Class 150, RF, Gear Operated, CF8M	<b>ORDER NO/ DWG NO</b>	XXXXXXXX-99	<b>APPROVED</b>	B.T.
	<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
	<b>Australian Pipeline Valve</b>		<b>DRAWN</b>	C.C.



API6FA, API607 5th, ISO 10497  
Firesafe Certified

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**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A216 WCB	-
2	PLUG	ASTM A217 CA15+ENP	≥ .075mm HB746 MIN
3	BONNET	ASTM A216 WCB	-
4	PLUG ADJUSTING BOLT	ASTM A193 B7M	ZINC PLATED
5	COVER NUT	ASTM A194 2HM	ZINC PLATED
6	THRUST PAD	ASTM A276 410SS	-
7	ADJUSTABLE THRUST SEAT	ASTM A276 410SS	BALL HEAD
8	DIAPHRAGM	ASTM A182 316SS	-
9	BOLT	ASTM A193 B7M	ZINC PLATED
10	NUT	ASTM A194 2HM	ZINC PLATED
11	BONNET GASKET	SS316+GRAPHITE	SPIRAL WOUND
12	PRESSURE BALANCE BALL SPRING CHECK	AISI SS316	-
13	STEM	ASTM A276 410SS+ENP	(1) ≥ .075mm HB746 MIN
14	THRUST BEARING SEAL	PTFE	-
15	O-RING	VITON AED	-
16	PACKING	GRAPHITE	(2)(3)
17	GLAND	ASTM A216 WCB	-
18	BOLT	ASTM A193 B7M	-
19	HANDLE	CS	-
20	LEVER - POLE	STEEL	ZINC PLATED
21	CHECK VALVE	AISI SS316	-
22	SEALANT INJECTOR	AISI 316SS	-
23	STEM SEALANT INJECTOR	AISI 316SS	-
24	SPRING ANTISTATIC	AISI 316SS	-

(1) STEM SMOOTHNESS ≤ Ra 0.8 μm  
(2) PACKING CHAMBER SMOOTHNESS ≤ 3.2 Ra  
(3) CHESTERTON 1622 API 622 & FIRESAFE CERTIFIED V PACKING

RATING	CL 150	TEST PRESSURE	
DESIGN & MFG.	API 6D & API 599	SHELL HYDRO	SEAT HYDRO
PRESS-TEMP RATING	ASME B16.34	3.1 Mpa   449 Psi	2.2 Mpa   319 Psi
FACE TO FACE DIM.	API 6D & ASME B16.10	SEAT AIR	BACKSEAT
END CONNECTION	RFSF 3.2-6.3Ra	0.55 Mpa   80 Psi	Mpa   Psi
END DIMENSION	ANSI B16.5	TEMPERATURE	
TEST & INSPECTION	API 6D/ ISO 5208-A	-29 TO 200 °C	-20 TO 392 °F
MARKING & PAINT	MSS SP-25, PAINTING - PPWF07.002	MEDIUM	Water, Oil, Gas
OTHER REQ.	NACE MR-01-75		
PORT SIZE	REGULAR - INVERTED TAPER PLUG		
TRIM	ENP/410 STAINLESS STEEL		
OTHER	CORROSION ALLOWANCE B16.34 3.0MM		
OTHER	FIRESAFE CERTIFIED API 607-5TH/ API 6FA & ANTI STATIC		
SPECIAL	OPTIONAL LP AIR SEAT TEST ALSO PERFORMED		

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	d	O	C	g	t	n-Ø	H	W	Weight
2"	50	203	51	152	120.5	92	16	4-19	195	480	21.0
3"	80	241	76	190	152.5	127	19	4-19	205	530	40.0

Dimensions in millimeters

Pressure Balanced, Lubricated Firesafe Plug Valve,  
Regular Pattern, Inverted Plug, H Style  
Model SSCR-RHW33CIBN,  
NPS 2"~3" (DN50~DN80) Class 150 RF Lever Operated

**Australian Pipeline Valve**

ORDER N°/ DWG N°	XXXXXX-99	APPROVED	B.T.
REV.	00	CHECKED	S.Q.
		DRAWN	C.C.

## ELECTROLESS NICKEL PLATING CONFORMITY DECLARATION

<b>Customer:</b>	Global Supply Line Pty Ltd	<b>Reference:</b>	
<b>Order Number:</b>	XXXXXXXX	<b>Date:</b>	XX-XX-XXXX
<b>Item Numbers:</b>	XXX		

All ENP surfaces (plug/stem) hardened to thickness 0.075mm (.003") minimum 746 HB hardness.

WE HEREBY CERTIFY THAT THE MATERIAL SUPPLIED IS CONFORMING WITH THE APPLICABLE SUB-ORDER.

### STANDARD METHODS OF NICKEL PLATING INSPECTION

- VISUAL INSPECTION ON 100% OF PLATED SURFACES
- THICKNESS VERIFICATION
- ADHESION INSPECTION WITH IMPACT TEST ON PLATED COMPONENTS
- REFERENCE STANDARD ASTM B733.

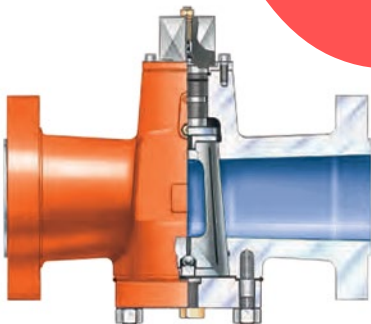
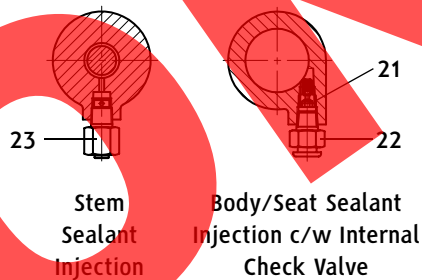
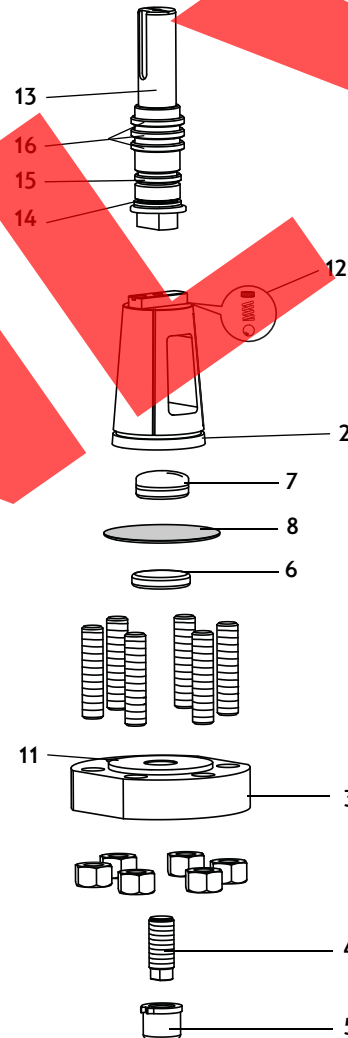
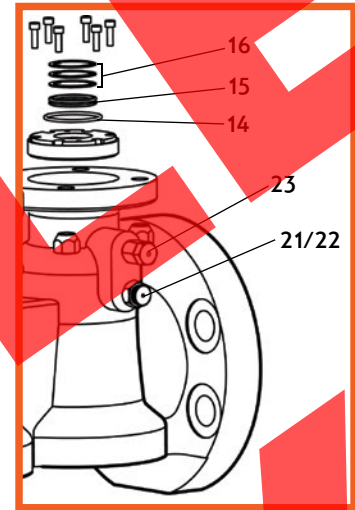
### NOTES

Covers: - Stem/Plug (as applicable)

<b>INSPECTOR</b>	<b>ISSUED BY</b>
	GP

## EXPLODED VIEW OF TYPICAL APV PRESSURE BALANCED VALVE

- 2. Plug: Metal-to metal seating, hardened
- 3. Bolted Cover
- 4. Plug Loading Screw
- 5. Protective Cap
- 6. Adjustable Thrust Pad
- 7. Adjustable Thrust Seat (Ball head)
- 8. Diaphragm Plate
- 11. Spiral Wound Gasket
- 12. Pressure Balance Anti-static Ball Check
- 13. Blow Out Proof Stem
- 14. Thrust Bearing/ Stem Seal
- 15. Weather Seal O-Ring
- 16. Graphite "Fire Safe" Stem Packing
- 21/22. Seat Sealant Injection c/w Internal Check Valve
- 23. Stem Packing Compound Injector

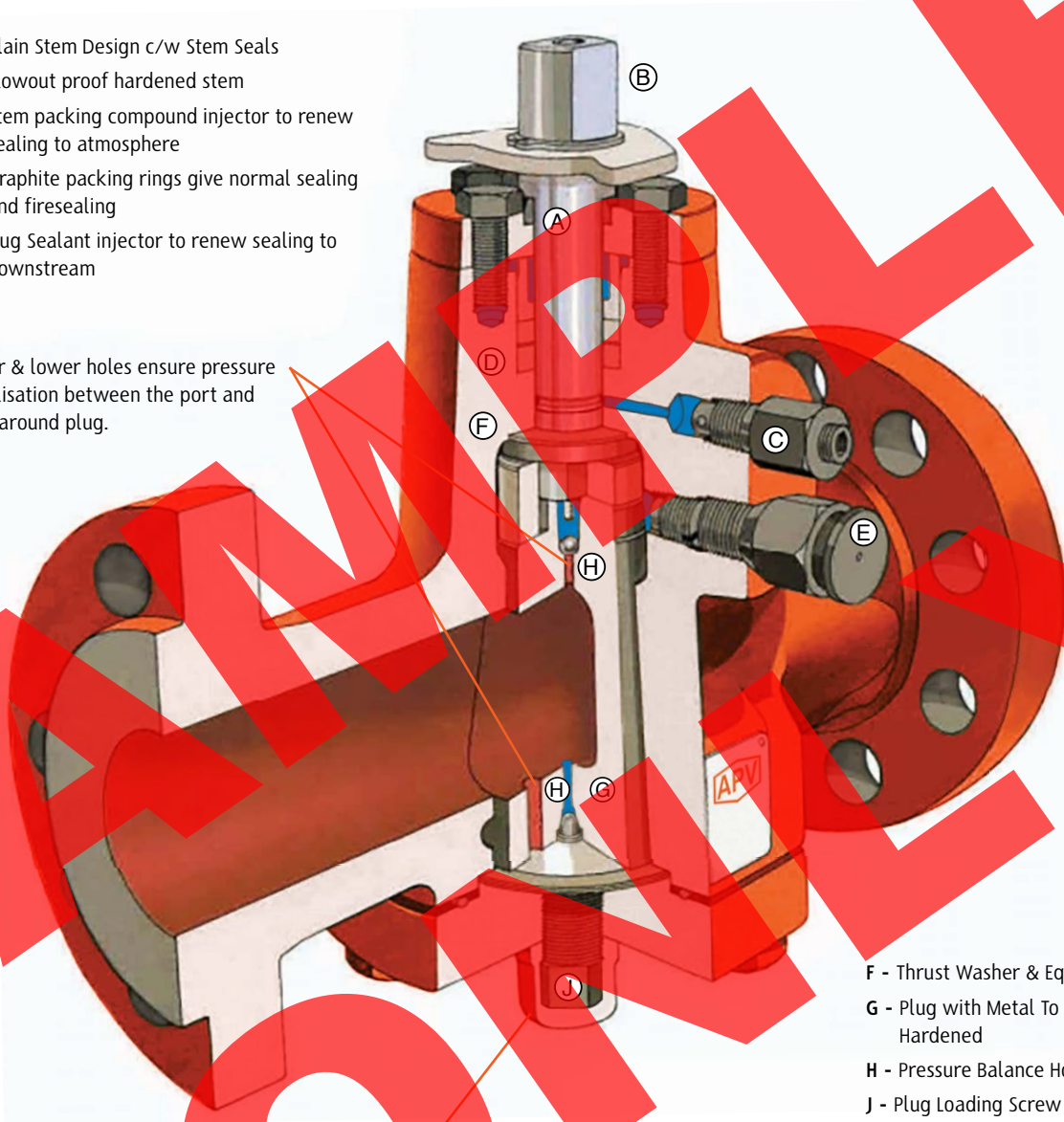




## PRESSURE BALANCED DESIGN FEATURES - BOLTED GLAND DESIGN

- A - Plain Stem Design c/w Stem Seals
- B - Blowout proof hardened stem
- C - Stem packing compound injector to renew sealing to atmosphere
- D - Graphite packing rings give normal sealing and firesealing
- E - Plug Sealant injector to renew sealing to downstream

Upper & lower holes ensure pressure equalisation between the port and area around plug.

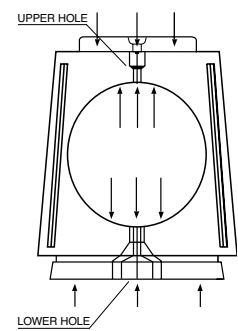


- F - Thrust Washer & Equaliser Joint
- G - Plug with Metal To Metal Seating, Hardened
- H - Pressure Balance Holes
- J - Plug Loading Screw

Cover or internal retaining bolt depending on size/class

### Plug Pressure Design

The Pressure Balanced Conical Inverted Plug contains 2 holes:



- The Upper Holes Connects the Plug Port with the area above plug.
- The Lower hole maintains pressure equalisation between the plug port and the area below the plug.

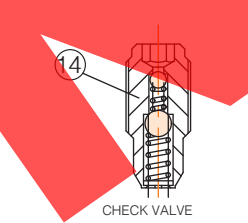
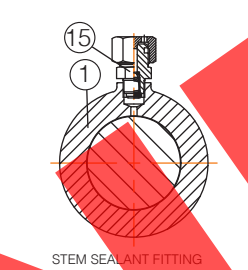
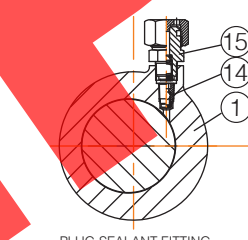
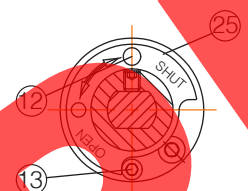
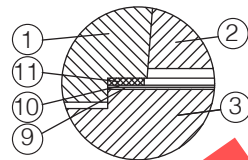
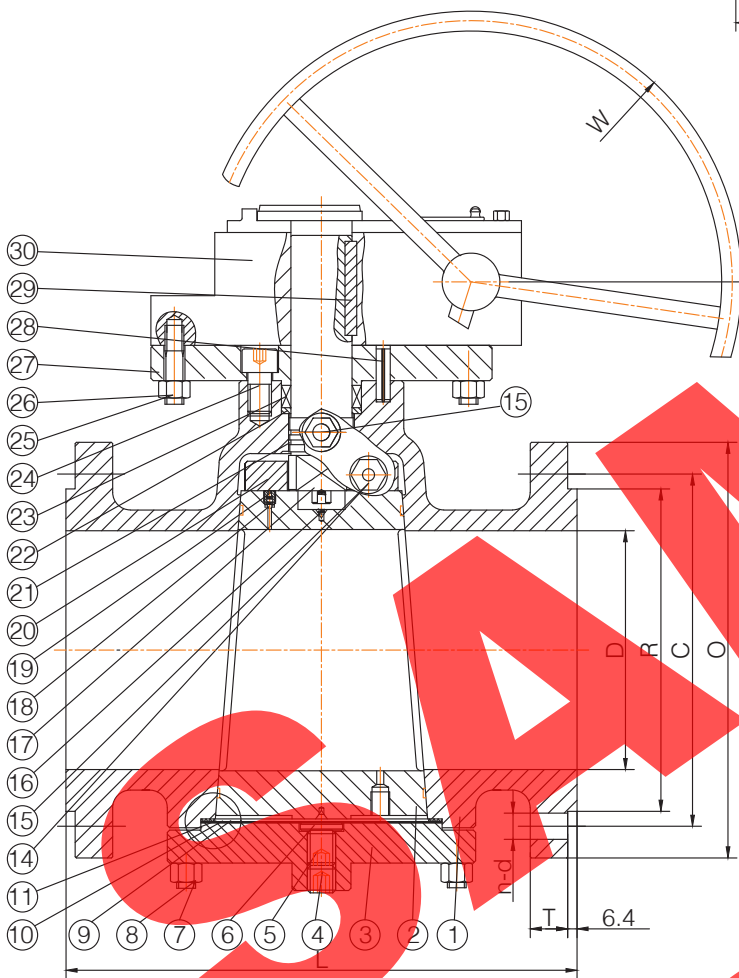
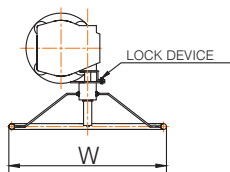
This prevents the plug from seizing against the body and permits predictable turning torque.





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API6FA, API607 5th, ISO 10497  
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**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A216 WCC	(1)
2	PLUG	ASTM A217 CA15+NITRIDED	≥.8mm HB746 MIN
3	LOWER COVER	ASTM A105N	-
4	COVER LOCKING SCREW & WASHER	ASTM A193 B7M	ZINC PLATED
5	PLUG LOADING SCREW	ASTM A193 B7M	ZINC PLATED
6	ADJUSTABLE THRUST PAD	AISI 1045	-
7	STUD	ASTM A193 B7M	ZINC PLATED
8	NUT	ASTM A194 2HM	ZINC PLATED
9	DIAPHRAGM	ASTM A276 316	-
10	DIAPHRAGM	ASTM A276 316	-
11	SPIRAL BONNET GASKET	FLEXIBLE GRAPHITE+316	-
12	LOCK PIN	AISI 316SS	-
13	STOP SCREW	AISI 304SS	-
14	CHECK VALVE	AISI 316SS	-
15	SEALANT INJECTION FITTING	AISI 316SS	-
16	ANTISTATIC DEVICE	ASTM A276 316	-
17	STEM	ASTM 17-4PH+ENP	(2) ≥.075mm HB746 MIN
18	PRESSURE BALANCE BALL	ASTM A276 316	-
19	RETAINER	ASTM A276 316	-
20	ARTICULATED EQUALISING JOINT	AISI 4135	-
21	O-RING	VITON	AED
22	PACKING BUSH	ASTM A276 410	-
23	PACKING	FLEXIBLE GRAPHITE	(3)(4)
24	SCREW	ASTM A193 B7M	ZINC PLATED
25	STUD	ASTM A193 B7M	ZINC PLATED
26	NUT	ASTM A194 2H	ZINC PLATED
27	UPPER COVER	ASTM A216 WCC	(1)
28	FLEXIBLE CUTTER PIN	AISI 1566	-
29	KEY	AISI 1045	-
30	GEAR BOX	ASTM A216 WCB	ASSEMBLY

- (1) DUAL CERTIFIED A216 WCB
- (2) STEM SMOOTHNESS ≤ Ra 0.8 μm
- (3) PACKING CHAMBER SMOOTHNESS ≤ 3.2 Ra
- (4) CHESTERTON 1622 API 622 & FIRESAFE CERTIFIED V-PACKING

<b>RATING</b>	EL 900	<b>TEST PRESSURE</b>	
<b>DESIGN &amp; MFG.</b>	API 6D	<b>SHELL HYDRO</b>	<b>SEAT HYDRO</b>
<b>PRESS-TEMP RATING</b>	ASME B16.34	23.25 Mpa / 3375 Psi	17.05 Mpa / 2475 Psi
<b>FACE TO FACE DIM.</b>	ASME B16.10 REGULAR	<b>SEAT AIR</b>	<b>BACKSEAT</b>
<b>END CONNECTION</b>	RFSF 3.2-6.3Ra	0.6 Mpa / 87 Psi	Mpa / Psi
<b>END DIMENSION</b>	ANSI B16.5	<b>TEMPERATURE</b>	
<b>TEST &amp; INSPECTION</b>	API 6D / ISO 5208-A	-29 TO 200 °C	-20 TO 392 °F
<b>MARKING &amp; PAINT</b>	MSS SP-25, PAINTING - PPF07.002	<b>MEDIUM</b>	Water, Oil, Gas
<b>OTHER REQ.</b>	NACE MR-01-75		
<b>PORT SIZE</b>	REGULAR PATTERN - TAPER PLUG		
<b>TRIM</b>	316SS TRIM + 410SS/NITRIDED		
<b>NOTES</b>	CORROSION ALLOWANCE B16.34 6.0MM		
<b>OTHER</b>	FIRESAFE CERTIFIED API607 / API 6FA & ANTISTATIC		
<b>SPECIAL</b>	OPTIONAL LP AIR SEAT TEST ALSO PERFORMED		

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	D	R	C	O	T	n-d	W	H	Weight
4"	100	457	102	157.2	235	290	44.5	8-32	600	310	145

Dimensions in millimeters

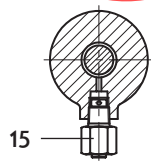
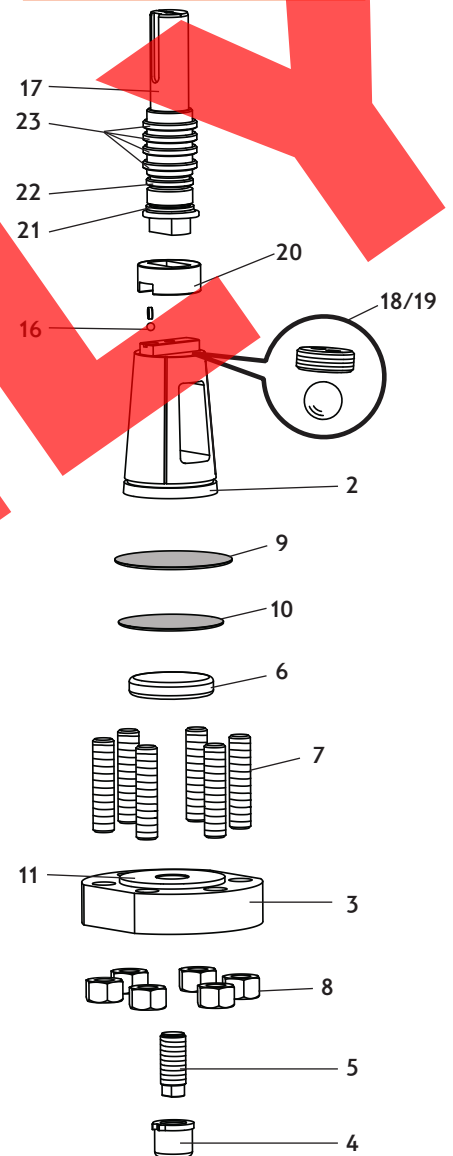
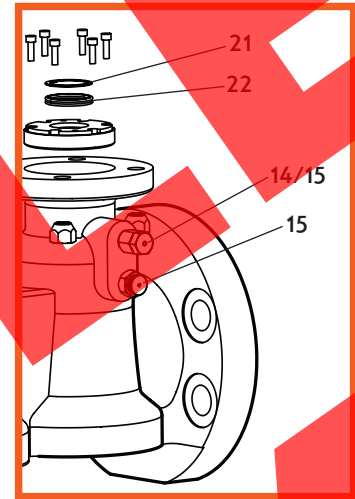
Pressure Balanced, Lubricated Firesafe Plug Valve,  
Inverted Plug, Regular Pattern, Taper Plug, H Style  
Model SSCR-RHG93WFBN,  
NPS 4" (DN100) Class 900 RF Gear Operated

**Australian Pipeline Valve**

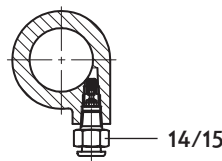
<b>ORDER N°/ DWG N°</b>	XXXXXX-99	<b>APPROVED</b>	B.T.
<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
		<b>DRAWN</b>	C.C.

## EXPLODED VIEW - TYPICAL APV PRESSURE BALANCED PLUG VALVE SSCR AUD-H STYLE

2. Plug: Metal-to metal seating, hardened
3. Bolted Cover
4. Protective Cap or Retaining Screw
5. Plug Loading Screw
6. Thrust Pad
7. Studs
8. Nuts
9. Diaphragm Plate
10. Diaphragm Plate
11. Spiral Wound Gasket
14. Inbuilt Check Valve
15. Sealant Fitting
16. Anti-static Device
17. Blow Out Proof Stem
- 18/19. Pressure Balanced Ball & Retainer
20. Articulated Equaliser Joint: for low torque and bubble tight sealing
21. O-ring
22. Packing Bush
23. Graphite 'Fire Safe' Packing



Stem  
Sealant  
Injection

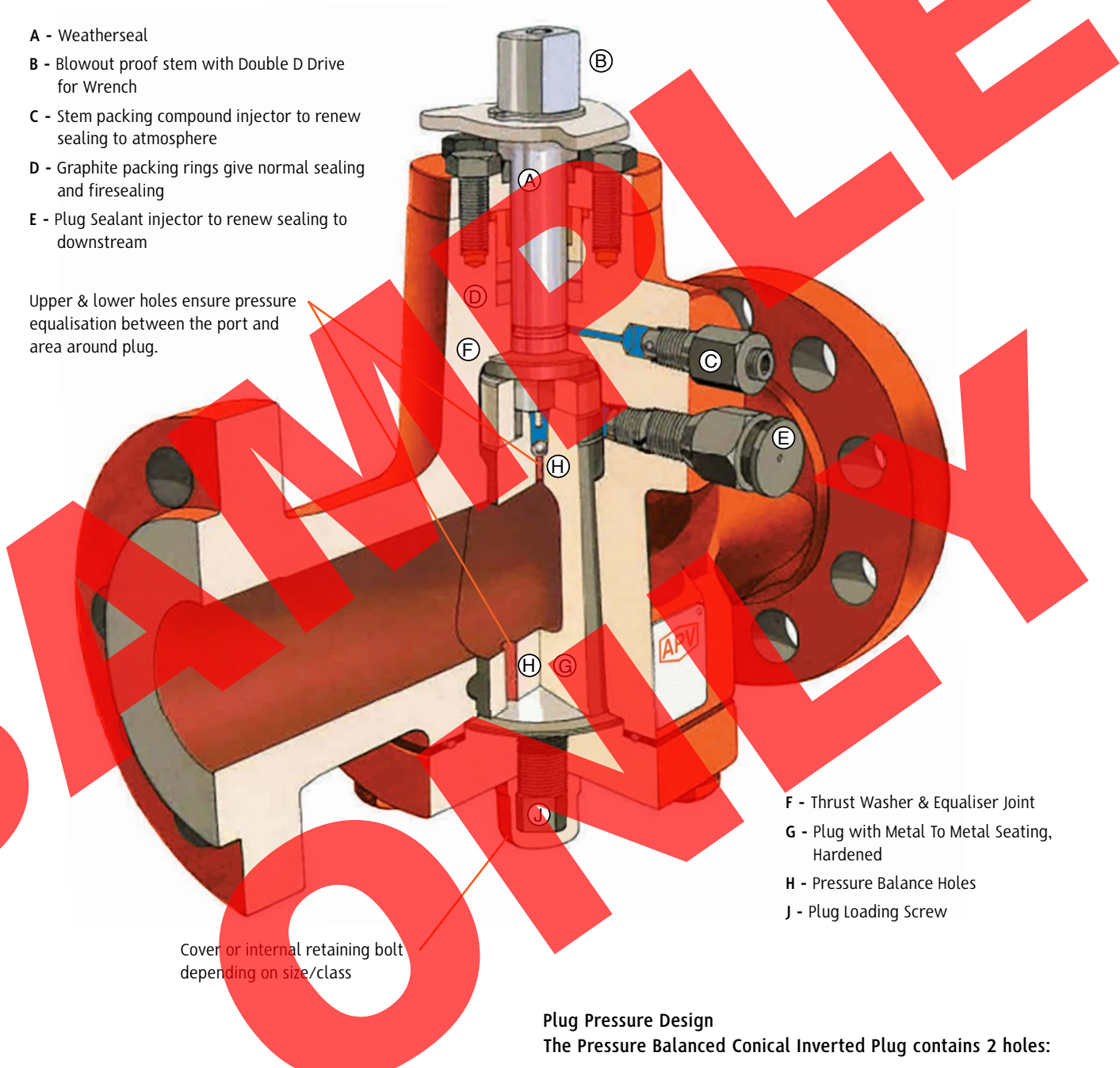


Body/Seat Sealant  
Injection c/w Internal  
Check Valve

## PRESSURE BALANCED DESIGN FEATURES - BOLTED GLAND DESIGN

- A - Weatherseal
- B - Blowout proof stem with Double D Drive for Wrench
- C - Stem packing compound injector to renew sealing to atmosphere
- D - Graphite packing rings give normal sealing and firesealing
- E - Plug Sealant injector to renew sealing to downstream

Upper & lower holes ensure pressure equalisation between the port and area around plug.

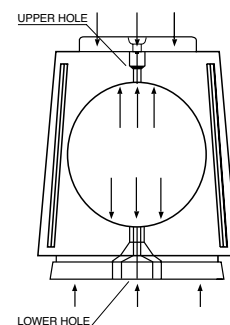


- F - Thrust Washer & Equaliser Joint
- G - Plug with Metal To Metal Seating, Hardened
- H - Pressure Balance Holes
- J - Plug Loading Screw

Cover or internal retaining bolt depending on size/class

### Plug Pressure Design

The Pressure Balanced Conical Inverted Plug contains 2 holes:



- The Upper Holes Connects the Plug Port with the area above plug.
- The Lower hole maintains pressure equalisation between the plug port and the area below the plug.

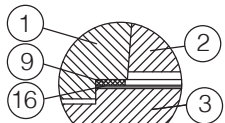
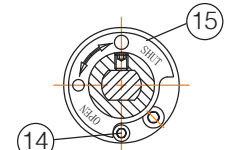
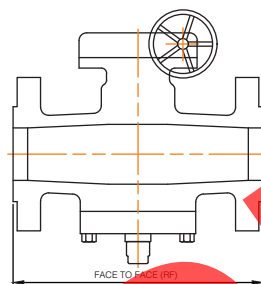
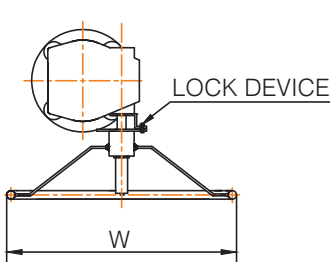
This prevents the plug from seizing against the body and permits predictable turning torque.



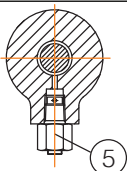


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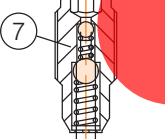
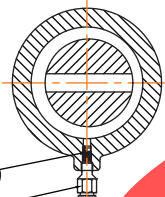
API6FA, API607 5th, ISO 10497  
Firesafe Certified



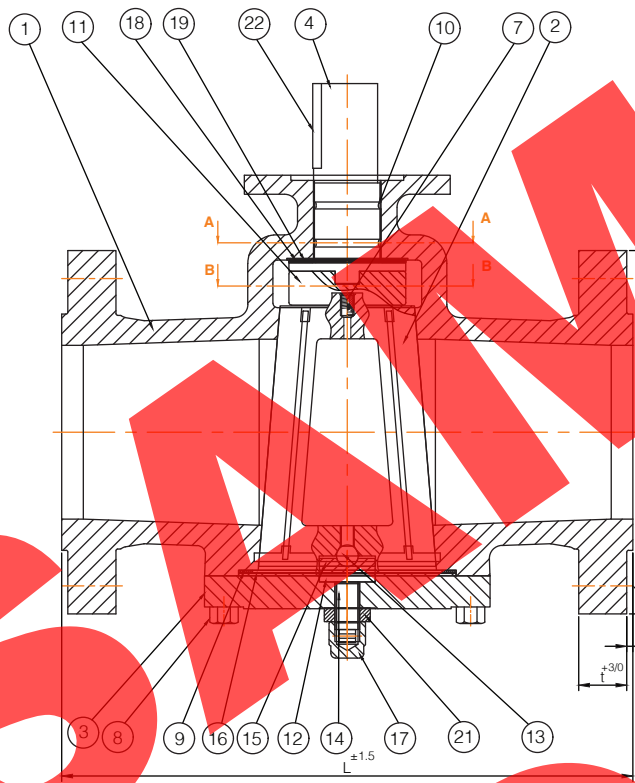
A - A  
STEM GREASE INJECTION



B - B  
BODY GREASE INJECTION



CHECK VALVE



**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	d	ØD	ØRF	H	W	t	PCD	d	n	Weight
4"	100	457	100	290	157.2		500	44.5	235	1 1/4"	8	106

Dimensions in millimeters

**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A216 GR. WCB	-
2	PLUG (PRESSURE BALANCED)	ASTM A216 GR. WCB+PTFE	(1) INVERTED
3	COVER	ASTM A216 GR. WCB	-
4	STEM	SS 410	(1) (2) BLOW OUT PROOF
5	COMB STEM INJECTOR CHECK VALVE	MS/SS 304/SS 316	-
6	PLUG INJECTOR	MS/SS 304/SS 316	-
7	PLUG CHECK VALVE	MS/SS 304/SS 316	-
8	BOLT/STUD & NUT	ASTM A193 GR. B7/A194 GR. 2H	ZINC PLATED
9	GASKET SPIRAL WOUND	SS 304/SS 316+GRAPHITE	ENCAPSULATED
10	PACKING (O-RING)	GRAPHITE	(3) (4)
11	ARTICULATED EQUALISING COUPLER	SS 410	-
12	LOWER THRUST WASHER	SS 410	-
13	THRUST BALL SEAT	CHROME STEEL	-
14	LOADING SCREW	SS 410/ASTM A193 GR. B7	-
15	THRUST BEARING RETAINER	SS 410	-
16	DIAPHRAGM	SS 304/SS 316	-
17	LOADING SCREW CAP	SS 410	-
18	THRUST WASHER	SS 410	-
19	THRUST SHIM	GRAPHITE	-
20	INJECTOR CHECK VALVE	MS/SS 304/SS 316	-
21	LOCK NUT	ASTM A194 GR. 2H	-
22	STEM KEY	SS 410	-

(1) PTFE IMPREGNATED LO-MU STYLE  
(2) STEM SMOOTHNESS Ra ≤ 0.80 µm SUPERIOR TO API 600 AND API 6D REQUIREMENT  
(3) STUFFING BOX SMOOTHNESS Ra ≤ 3.2 µm SUPERIOR TO API 600 AND API 6D REQUIREMENT  
(4) CHESTERTON 1622 API 622 & FIRESAFE CERTIFIED V PACKING

RATING	CL 900	TEST PRESSURE	
DESIGN & MFG.	API 6D & API 599	SHELL HYDRO	SEAT HYDRO
PRESS-TEMP RATING	ASME B16.34	23.0 Mpa   3350 Psi	16.9 Mpa   2445 Psi
FACE TO FACE DIM.	API 6D & ASME B16.10 REGULAR PATTERN	SEAT AIR	BACKSEAT
END CONNECTION	RFSF 3.2-6.3Ra	55 Mpa   80 Psi	Mpa   Psi
END DIMENSION	ASME B16.5	TEMPERATURE	
TEST & INSPECTION	API 6D/ API 598 ISO 5208-A	ASME B16.5	°C   °F
MARKING	MSS SP-25	MEDIUM	
OTHER REQ.	NACE MR-01-75 & MR-01-03		
PORT SIZE	STANDARD - INVERTED TAPER PLUG		
TRIM	PTFE TREATED PLUG + 410SS STEM		
NOTES	PAINTING - PPWF07.002		
OTHER	FIRESAFE CERTIFIED API 607 5TH/ API 6FA & ANTISTATIC		
SPECIAL	OPTIONAL LP AIR SEAT TEST ALSO PERFORMED		

Pressure Balanced, Lubricated Firesafe Plug Valve,  
Short (Standard) Pattern, Inverted Plug  
Model SSCR-SHW23CIJBN,  
NPS 4" (DN100) Class 900 RF Gear Operated

**Australian Pipeline Valve**

ORDER N°/ DWG N°	XXXXXX-99	APPROVED	B.T.
REV.	00	CHECKED	S.Q.
		DRAWN	C.C.



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API6FA, API607 5th, ISO 10497  
Firesafe Certified

Blowout proof stem

Weather proof seal

Check valve

Graphite packing rings give normal sealing and fire sealing

Stem sealing compound injector to renew sealing to atmosphere

Coupler ring

Plug sealant injector to renew sealing to downstream

Pressure balance holes

Equalising ball

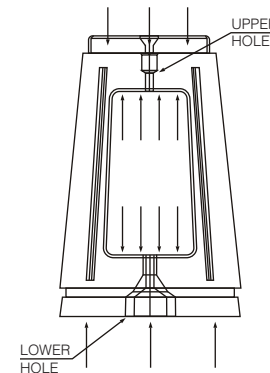
### Dynamically Balanced Pressure System

The Pressure Balance system works on the principle of Pascal's law.

In a Lubricated Pressure Balanced Plug valve, two holes are provided in the Plug - one at the top and the other at the bottom. This makes the pressure equal between the plug and the port areas/chambers on either end of the plug.

The hole in the smaller end of the plug is provided with a non-return valve. This ensures that the pressure at the chamber/area above the small end of the plug is greater than the line pressure. Whereas, the pressure at the larger end of the plug and that of the chamber below the plug are equal. In this way the taper locking of the plug is prevented.

Pressure Balance system ensures a predictable and consistent torque.



Body

### Plug with Anti-friction Treatment



Diaphragm

Gasket

Cover

Lower thrust washer

Plug loading screw

Plug with metal-to-metal seating, PTFE treated

## FINAL INSPECTION - PTFE IMPREGNATION

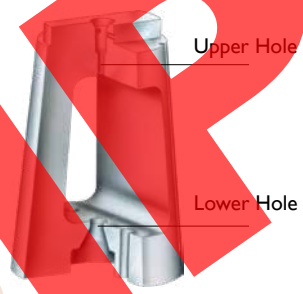
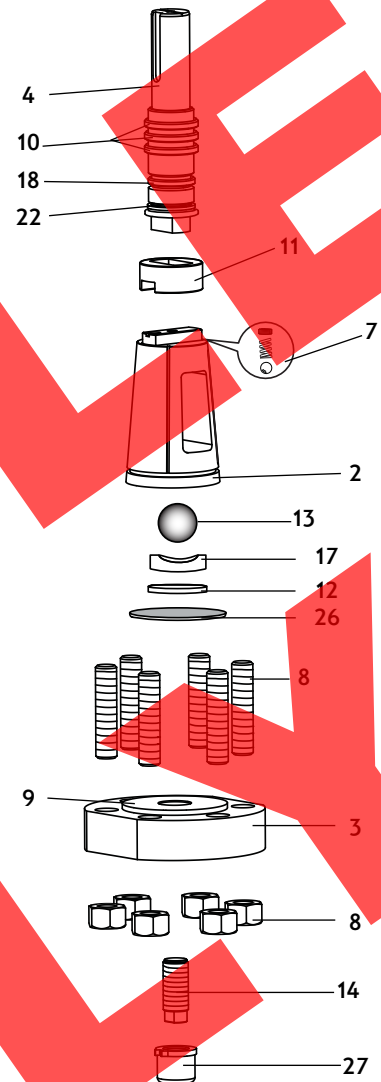
ADELAIDE • BRISBANE • PERTH

<b>Invoice No/Dc No.</b>		1101		<b>Product No.</b>		4" 900#								
<b>Total Quantity:</b>		4		<b>Product Name:</b>		PLUG & STEM								
<b>Customer:</b>				<b>Operation Description:</b>		PTFE BONDING								
<b>Inspection Report No.</b>				<b>Date:</b>		12/7/2018								
S. No.	Characteristics	Specification	Inspection Method	Vendor Observation					Customer Observation					
				1	2	3	4	5	1	2	3	4	5	
1	Coating Thickness	30+10 Microns	Thickness Gauge	32	34	39								
2	Colour	Teflon Black Colour	Visual	OK	OK	OK								
3	Appearance	No white patches, No peel off	Visual	OK	OK	OK								
<b>Remarks</b>		6" CL 600 - AC6511 - VMT8389 3" CL 600 - A5237 - MT2316 4" CL 600 - AD5500 - VMT3911 3" CL900 - AC5805 - VMT5190					Accp	Rew	Rej				Acc with Dev	
<b>Inspected By:</b>				<b>Conclusion:</b>		Accepted / Rejected		<b>Approved By:</b>		GP				
<b>Approved By:</b>														

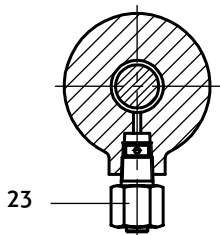
# MODEL SSCR EXPLODED VIEW

## Pressure Balanced Plug Valve - Style E1

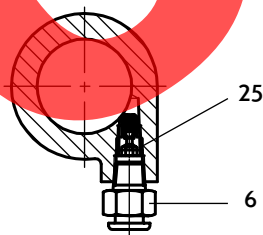
- 2. Plug metal to metal seating, hardened ENP .075
- 3. Bolted Cover
- 4. Blow Out Proof Stem
- 5. Stem Packing Compound Injector
- 6/25. Seat Area Sealant Injector (c/w In built Check Valve)
- 7. Plug Check Valve
- 8. Studs/Nuts
- 9. Spiral Wound Gasket
- 10. Graphite 'Fire Safe' Stem Packing
- 11. Articulated Equaliser Joint for low torque & bubble tight seating
- 12. Adjustable Lower Thrust Washer
- 14. Plug Loading Screw
- 17. Adjustable Hardened Thrust Ball Sea
- 18. Weather Seal O-Ring
- 19. Thrust Bearing/ Stem Seal
- 26. Diaphragm
- 27. Protective Cap



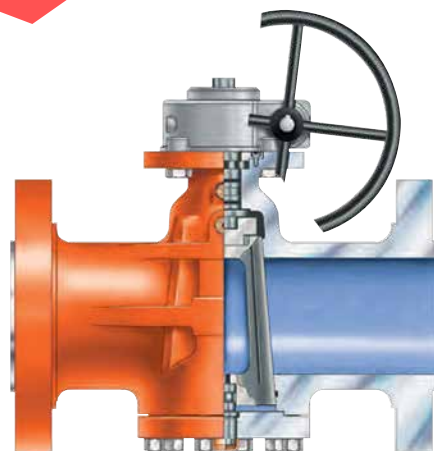
*Inherently anti-static design*



**Stem  
Sealant  
Injection**



**Body/Seat Sealant  
Injection c/w Internal  
Check Valve**



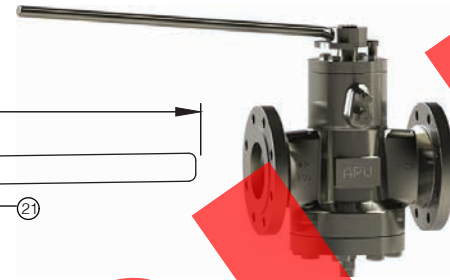
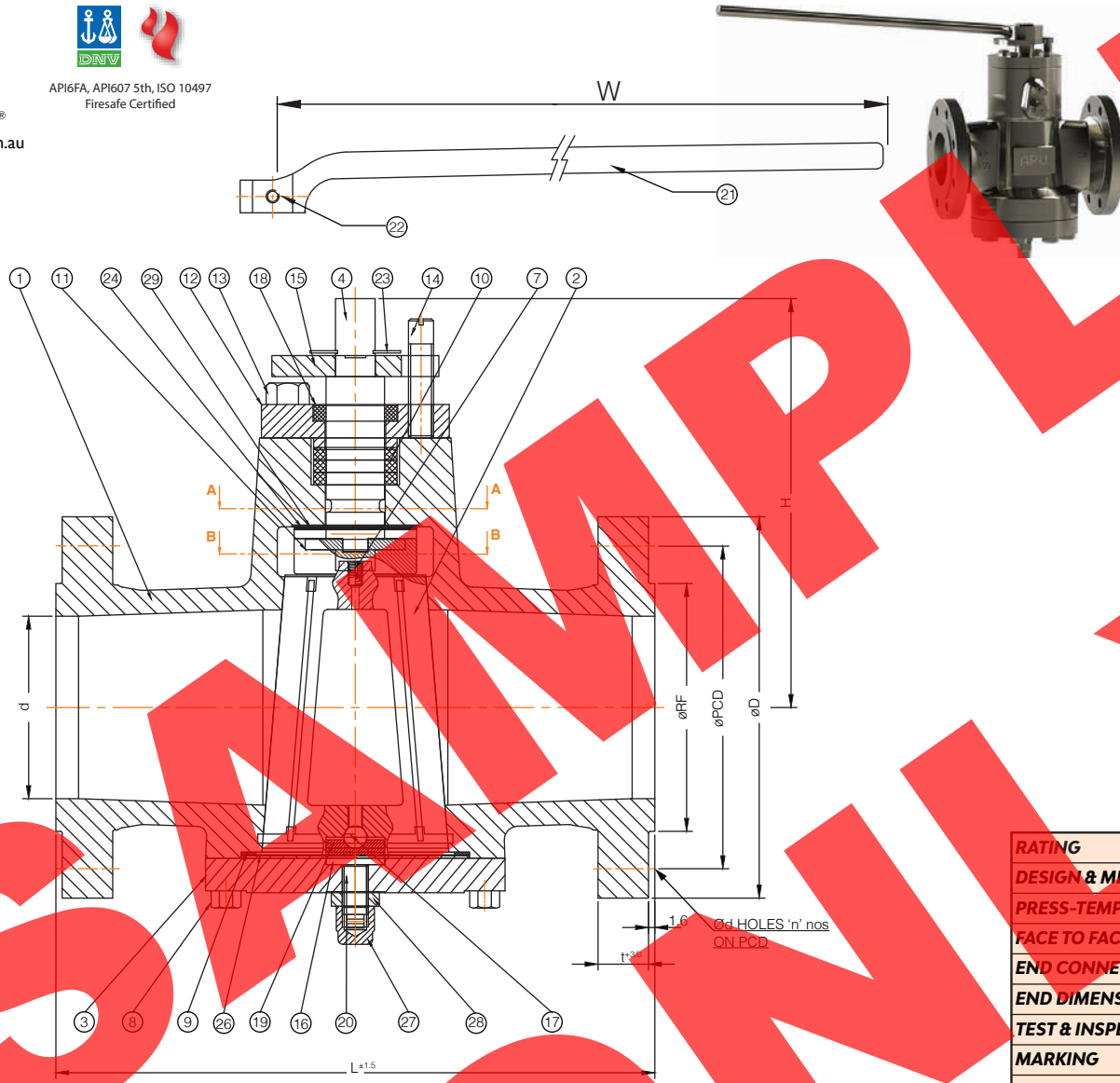
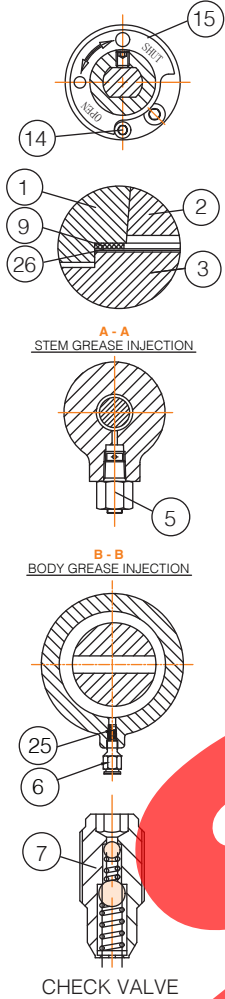
**Gear Operated**





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API6FA, API607 5th, ISO 10497  
Firesafe Certified



**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A216 GR. WCB	-
2	PLUG (PRESSURE BALANCED)	ASTM A216 GR. WCB+PTFE	(1) INVERTED
3	COVER	ASTM A216 GR. WCB	-
4	STEM	SS 410	(1) (2) BLOW OUT PROOF
5	COMB STEM INJECTOR CHECK VALVE	MS/SS 304/SS 316	-
6	PLUG INJECTOR	MS/SS 304/SS 316	-
7	INV. CHECK VALVE	MS/SS 304/SS 316	-
8	BOLT/STUD & NUT	ASTM A193 GR. B7/A914 GR. 2H	ZINC PLATED
9	GASKET SPIRAL WOUND	SS 304/SS 316+GRAPHITE	ENCAPSULATED
10	PACKING	GRAPHITE	(3) (4)
11	ARTICULATED EQUALISING COUPLER	SS 410	-
12	GLAND PLATE	SS 410	-
13	GLAND BOLTS	ASTM A193 GR. B7	-
14	STOP PIN	SS 410/ASTM A193 GR. B7	-
15	STOP PLATE	SS 410	-
16	LOWER THRUST WASHER	SS 410	-
17	THRUST BALL	CHROME STEEL	-
18	WEATHER SEAL	NITRILE	-
19	THRUST BEARING RETAINER	SS 410	-
20	LOADING SCREW	SS 410/A193 GR. B7	-
21	WRENCH	CAST IRON	-
22	GRUB SCREW	STEEL	-
23	CIRCLIP	STEEL	-
24	THRUST WASHER	SS 410	-
25	INJECTOR CHECK VALVE	MS/SS 304/SS 316	-
26	DIAPHRAGM	SS 304/SS 316	-
27	LOADING SCREW CAP	SS 410	-
28	LOCK NUT	ASTM A194 GR. 2H	-
29	THRUST SHIM	GRAPHITE	-

(1) PTFE IMPREGNATED LD-HU STYLE  
(2) STEM SMOOTHNESS Ra ≤ 0.80 µm SUPERIOR TO API 600 AND API 6D REQUIREMENT  
(3) STUFFING BOX SMOOTHNESS Ra ≤ 3.2 µm SUPERIOR TO API 600 AND API 6D REQUIREMENT  
(4) CHESTERTON 1622 API 622 & FIRESAFE CERTIFIED V PACKING

RATING	CL 150	TEST PRESSURE	
DESIGN & MFG.	API 6D & API 599	SHELL HYDRO	SEAT HYDRO
PRESS-TEMP RATING	ASME B16.34	30.0 Mpa   450 Psi	22.0 Mpa   315 Psi
FACE TO FACE DIM.	API 6D & ASME B16.10 REGULAR PATTERN	SEAT AIR	BACKSEAT
END CONNECTION	RFSF 3.2~6.3Ra	55 Mpa   80 Psi	Mpa   Psi
END DIMENSION	ASME B16.5	TEMPERATURE	
TEST & INSPECTION	API 6D/ API 598 ISO 5208-A	ASME B16.5	°C   °F
MARKING	MSS SP-25	MEDIUM	
OTHER REQ.	NACE MR-01-75 & MR-01-03		
PORT SIZE	STANDARD - INVERTED TAPER PLUG		
TRIM	PTFE TREATED PLUG + 410SS STEM		
NOTES	PAINTING - PPWF07.002		
OTHER	FIRESAFE CERTIFIED API 607 5TH/ API 6FA & ANTISTATIC		
SPECIAL	OPTIONAL LP AIR SEAT TEST ALSO PERFORMED		

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	d	ØD	ØRF	H	W	t	PCD	d	n	Weight
2"	50	178	50	150	92.1	160	300	14.3	120.7	3/4"	4	18
3"	80	203	80	190	127.0	175	350	17.5	152.4	3/4"	4	33
4"	100	229	100	230	157.2	175	400	22.3	190.5	3/4"	8	54

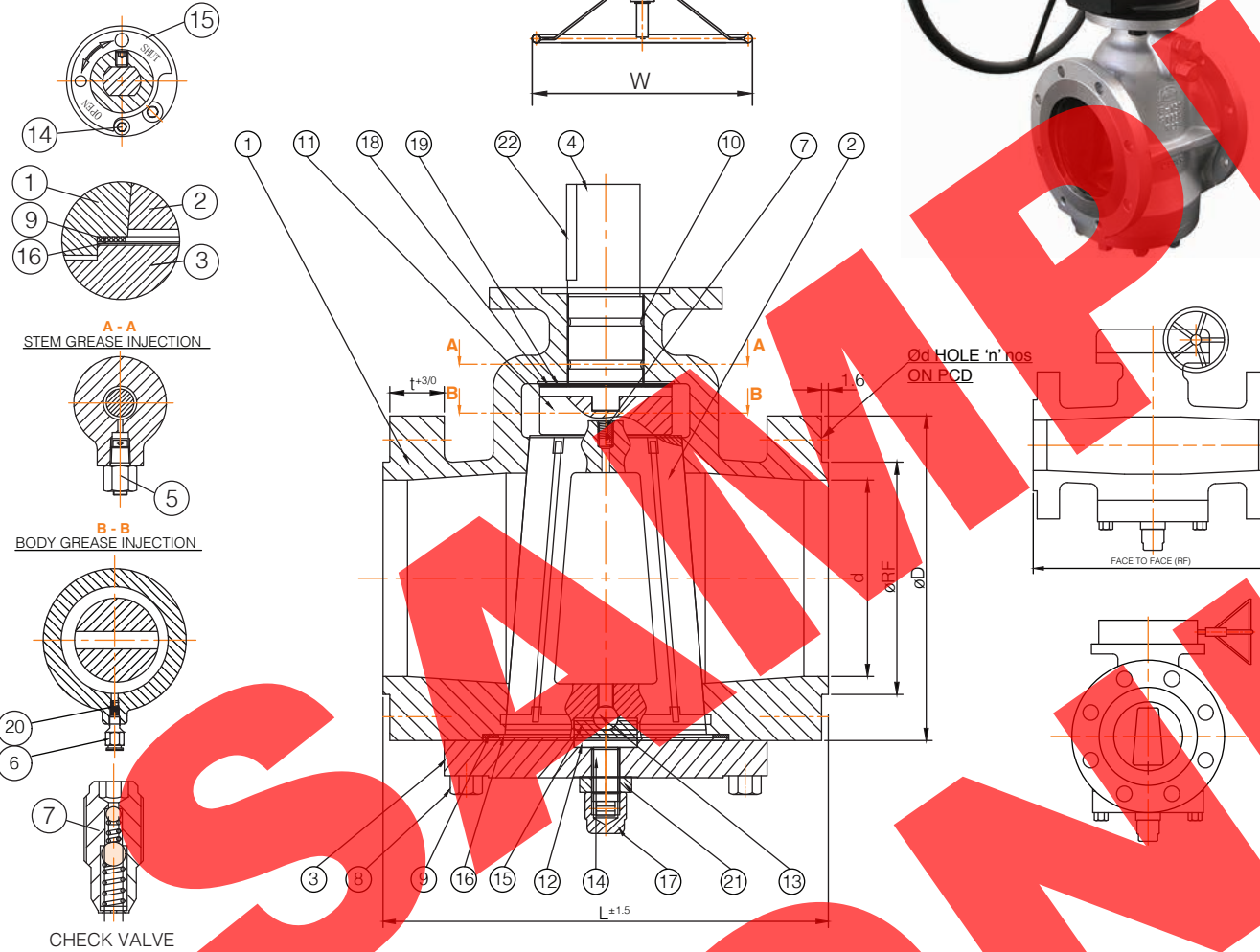
Pressure Balanced, Lubricated Firesafe Plug Valve,  
Short (Standard) Pattern, Inverted Plug  
Model SSCR-SHW23CIJBN,  
NPS 2"~4" (DN50~DN100) Class 150 RF Wrench Operated  
**Australian Pipeline Valve**

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API6FA, API607 5th, ISO 10497  
Firesafe Certified



**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A216 GR. WCB	-
2	PLUG (PRESSURE BALANCED)	ASTM A216 GR. WCB+PTFE	(1) INVERTED
3	COVER	ASTM A216 GR. WCB	-
4	STEM	SS 410	(1) (2) BLOW OUT PROOF
5	COMB STEM INJECTOR CHECK VALVE	MS/SS 304/SS 316	-
6	PLUG INJECTOR	MS/SS 304/SS 316	-
7	PLUG CHECK VALVE	MS/SS 304/SS 316	-
8	BOLT/STUD & NUT	ASTM A193 GR. B7/A194 GR. 2H	ZINC PLATED
9	GASKET SPIRAL WOUND	SS 304/SS 316+GRAPHITE	ENCAPSULATED
10	PACKING (O-RING)	GRAPHITE	(3)
11	ARTICULATED EQUALISING COUPLER	SS 410	-
12	LOWER THRUST WASHER	SS 410	-
13	THRUST BALL SEAT	CHROME STEEL	-
14	LOADING SCREW	SS 410/ASTM A193 GR. B7	-
15	THRUST BEARING RETAINER	SS 410	-
16	DIAPHRAGM	SS 304/SS 316	-
17	LOADING SCREW CAP	SS 410	-
18	THRUST WASHER	SS 410	-
19	THRUST SHIM	GRAPHITE	-
20	INJECTOR CHECK VALVE	MS/SS 304/SS 316	-
21	LOCK NUT	ASTM A194 GR. 2H	-
22	STEM KEY	SS 410	-

(1) PTFE IMPREGNATED LO-MU STYLE  
(2) STEM SMOOTHNESS Ra ≤ 0.80 µm SUPERIOR TO API 600 AND API 6D REQUIREMENT  
(3) STUFFING BOX SMOOTHNESS Ra ≤ 3.2 µm SUPERIOR TO API 600 AND API 6D REQUIREMENT  
(4) CHESTERTON 1622 API 622 & FIRESAFE CERTIFIED V PACKING

RATING		TEST PRESSURE	
DESIGN & MFG.	API 6D & API 599	SHELL HYDRO	SEAT HYDRO
PRESS-TEMP RATING	ASME B16.34	30.0 Mpa   450 Psi	22.0 Mpa   315 Psi
FACE TO FACE DIM.	API 6D & ASME B16.10 REGULAR PATTERN	SEAT AIR	BACKSEAT
END CONNECTION	RFSF 3.2-6.3Ra	0.55 Mpa   80 Psi	Mpa   Psi
END DIMENSION	ASME B16.5	TEMPERATURE	
TEST & INSPECTION	API 6D/ API 598 ISO 5208-A	ASME B16.5	°C   °F
MARKING	MSS SP-25	MEDIUM	
OTHER REQ.	NACE MR-01-75 & MR-01-03		
PORT SIZE	STANDARD - INVERTED TAPER PLUG		
TRIM	PTFE TREATED PLUG + 410SS STEM		
NOTES	PAINTING - PPWF07.002		
OTHER	FIRESAFE CERTIFIED API 607 5TH/ API 6FA & ANTISTATIC		
SPECIAL	OPTIONAL LP AIR SEAT TEST ALSO PERFORMED		

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	d	ØD	ØRF	H	W	t	PCD	d	n	Weight
6"	150	267	150	280	215.9		450	23.9	241.3	7/8"	8	78

Dimensions in millimeters

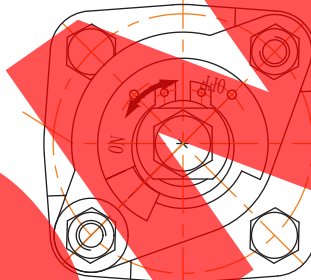
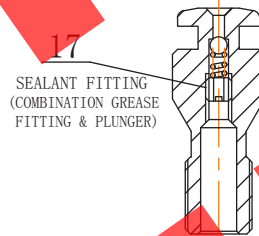
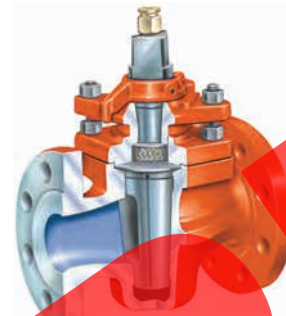
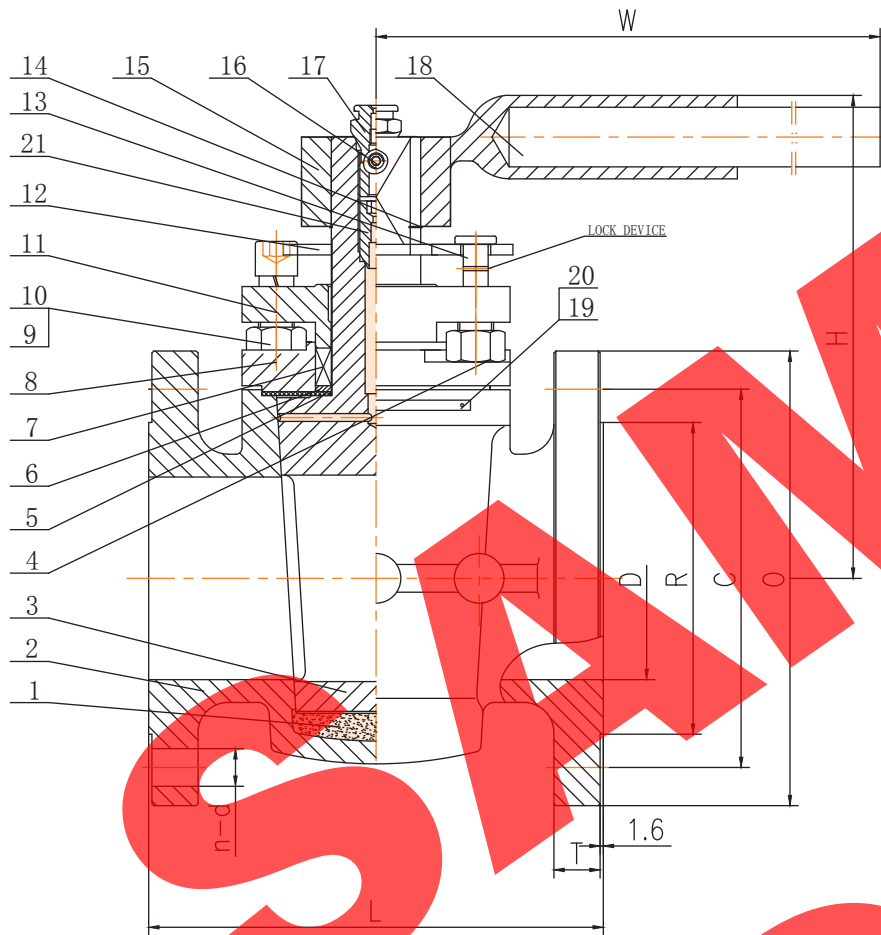
Pressure Balanced, Lubricated Firesafe Plug Valve,  
Short (Standard) Pattern, Inverted Plug  
Model SSCR-SHW23CIJBN,  
NPS 6" (DN150) Class 150 RF Wrench Operated

**Australian Pipeline Valve**

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REV.	00	CHECKED	S.Q.
		DRAWN	C.C.



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**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	GREASE	STANDARD	MULTI PURPOSE (1)
2	BODY	ASTM A216 WCB	-
3	PLUG & STEM	ASTM A217 CA15+NITRIDED	≥ .8mm HB746 MIN (2)
4	BOLT	ASTM A193 B7	-
5	BONNET GASKET	FLEXIBLE GRAPHITE+316	-
6	PACKING RING GASKET	ASTM A182 F6a	-
7	PACKING	FLEXIBLE GRAPHITE	(3)
8	UPPER COVER	ASTM A216 WCB	-
9	BOLT	ASTM A193 B7	-
10	GLAND NUT	ASTM A194 2H	-
11	PACKING GLAND	ASTM A216 WCB	-
12	STOP PLATE	ASTM A36	ZINC PLATED
13	LOCKING PIN	AISI 316SS	-
14	RETAINER	AISI 316SS	-
15	HANDLE	ASMT A216 WCB	-
16	SCREW	ASTM A193 B7	ZINC PLATED
17	SEALANT FITTING	ASTM A105	ZINC PLATED
18	LEVER POLE	AISI 1020	ZINC PLATED
19	NAMEPLATE	ASTM A276 304	-
20	RIVET	AISI 316SS	-
21	CHECK VALVE	ASTM A105	ZINC PLATED

(1) MULTI PURPOSE WILL ALSO SUIT HYDROCARBON SERVICE  
(2) STEM SMOOTHNESS ≤ Ra. 08.0 μm

(3) PACKING CHAMBER SMOOTHNESS 3.2Ra

<b>RATING</b>	CL 150	<b>TEST PRESSURE</b>			
<b>DESIGN &amp; MFG.</b>	API 6D & API 599	<b>SHELL HYDRO</b>		<b>SEAT HYDRO</b>	
<b>PRESS-TEMP RATING</b>	ASME B16.34	3.1 Mpa	450 Psi	2.2 Mpa	325 Psi
<b>FACE TO FACE DIM.</b>	API 599 & ASME B16.10 SHORT PATTERN	<b>SEAT AIR</b>		<b>BACKSEAT</b>	
<b>END CONNECTION</b>	RFSF 3.2~6.3Ra	0.6 Mpa	87 Psi	Mpa	Psi
<b>END DIMENSION</b>	ANSI B16.5	<b>TEMPERATURE</b>			
<b>TEST &amp; INSPECTION</b>	API 6D/ ISO 5208-A	-29 TO 250 °C	-20 TO 482 °F		
<b>MARKING</b>	MSS SP-25	<b>MEDIUM</b>	Water, Oil, Gas		
<b>OTHER REQ.</b>	NACE MR-01-75				
<b>PORT SIZE</b>	REGULAR TAPER PLUG				
<b>TRIM</b>	316SS/ 410SS				
<b>NOTES</b>	PAINTING - PPFO7.002				
<b>OTHER</b>	FIRESAFE & ANTI STATIC				
<b>SPECIAL</b>	OPTIONAL LP SEAT AIR TEST ALSO PERFORMED				

**DIMENSIONS (MM) & WEIGHT (KG)**

Inch	DN	L	D	R	C	O	T	n-d	W	H	Weight
2"	50	178	51	92.1	120.7	150	14.3	4-19	350	145	18
3"	80	203	76	127	152.4	190	17.5	4-19	700	190	34
4"	100	229	102	157.2	190.5	230	22.3	8-19	800	214	53

Dimensions in millimeters

Standard Type, Lubricated Plug Valve,  
Short Pattern, Taper Plug (Aud Style)  
Model SAPM-SSW23CIB,  
NPS 2~4" (DN50~DN100) Class 150 RF Lever Operated

**Australian Pipeline Valve**

<b>ORDER N°/ DWG N°</b>	XXXXXX-99	<b>APPROVED</b>	B.T.
<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
		<b>DRAWN</b>	C.C.

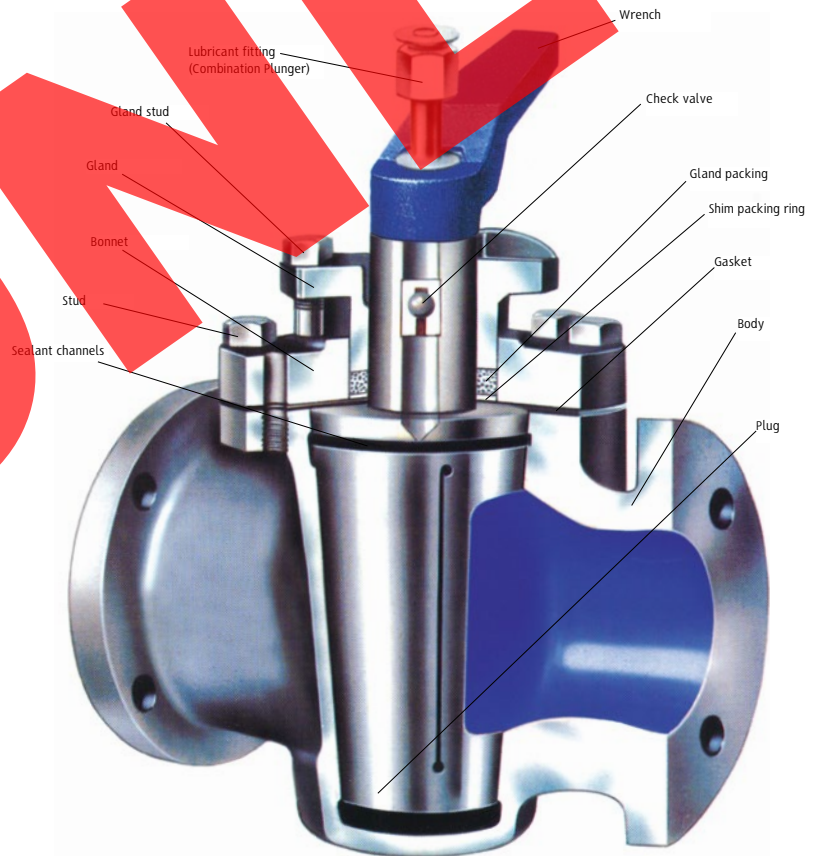
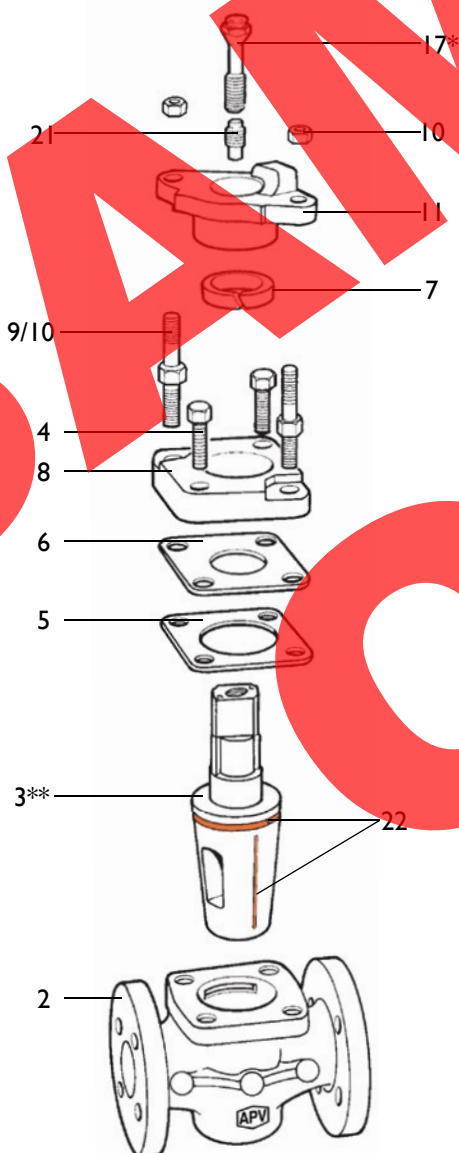
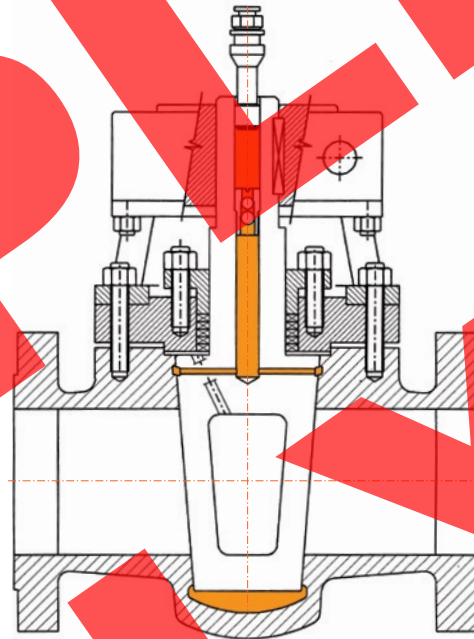
## LUBRICATED TAPER PLUG VALVES - STANDARD TYPE MODEL SAPM

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.

2	Body	9/10	Gland Stud/ Nut
3**	Plug & Stem	10	Gland Nuts
4	Cover Bolts	11	Gland
5	Gasket	12	Stop Plate/ Lock Device
6	Packing Retainer Gasket	17*	Sealant Injector
7	Gland Packing (multiple)	21	Check Valve
8	Cover	22	Sealant Chamber

\* Combination button head fitting & plunger for packing sticks.

\*\* Integral plug & stem inherently anti-static.

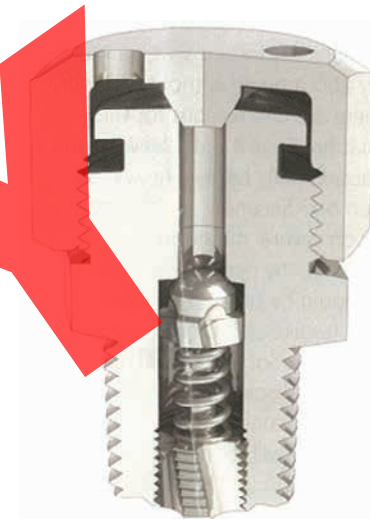
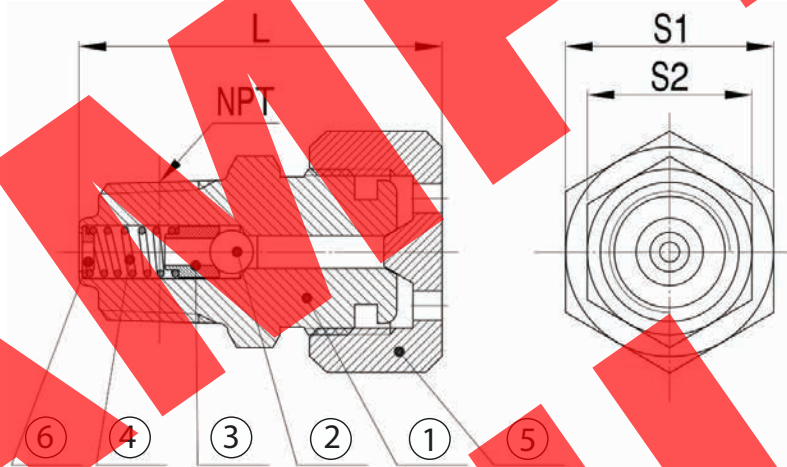




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**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	AISI 316	-
2	STEEL BALL	440C	-
3	SPRING SEAT	AISI 316	-
4	SPRING	AISI 316	-
5	CAP	AISI 316	-
6	RETAINER	AISI 316SS	-



**WARNING**

**NEVER UNSCREW  
FITTING FROM  
VALVE BODY!**

**DIMENSIONS (MM) & WEIGHT (KG)**

NPT Thread Spec	Model	S1	S2	L
1/4"-NPT	HVC1-C	22	19	44
3/8"-NPT	HVC1-D	27	24	55
1/2"-NPT	HVC1-E	27	24	55
3/4"-NPT	HVC1-F	32	27	55
1"-NPT	HVC1-G	36	32	60

Dimensions in millimeters

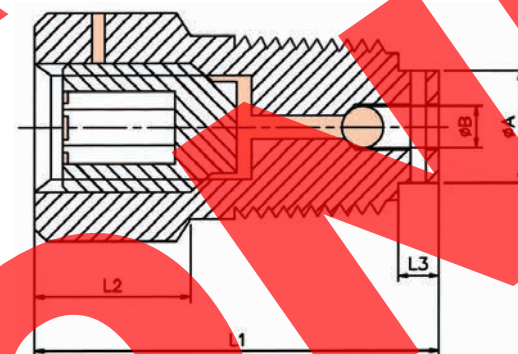
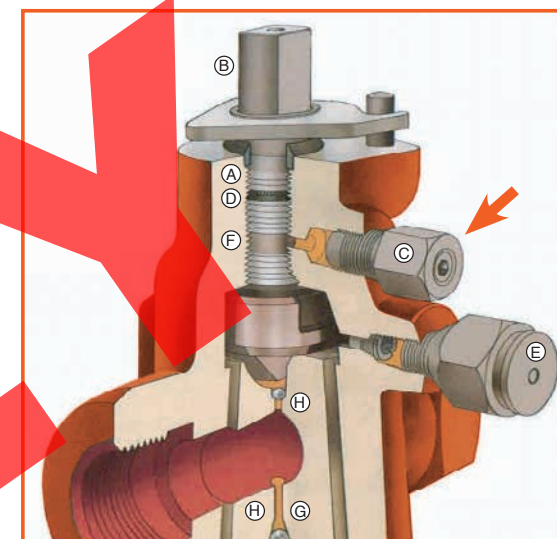
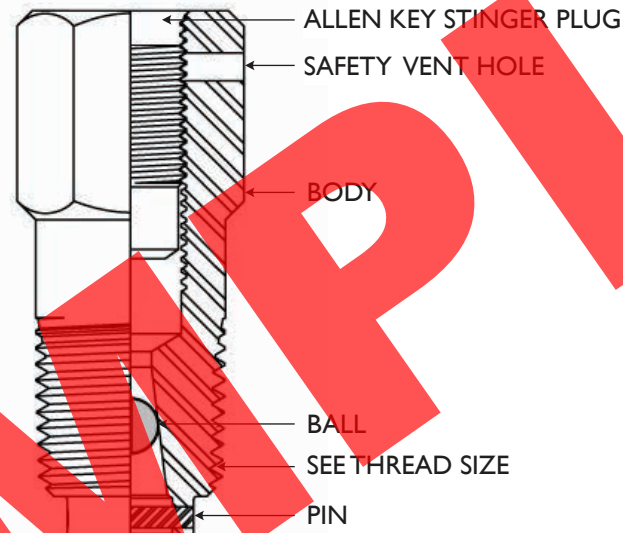
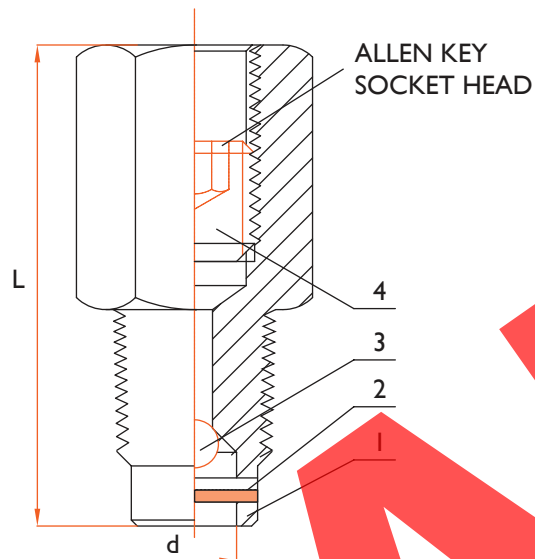
Sealant Injection Nipple Giant Button Head NPT 1/4" ~ 1" (DN8~DN25) 316 Stainless Steel	<b>ORDER N°/ DWG N°</b>	XXXXXX-99	<b>APPROVED</b>	B.T.
	<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
<b>Australian Pipeline Valve</b>			<b>DRAWN</b>	C.C.



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**BILL OF MATERIALS**

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A182 F316	-
2	BALL RETAINER BAR	ASTM A276 316	-
3	BALL CHECK	ANSI 316SS	-
4	PLUNGER (STINGER)	AISI 316SS	-



**WARNING**

**NEVER UNSCREW FITTING FROM VALVE BODY!**

**DIMENSIONS (MM) & WEIGHT (KG)**

NPT	L1	L2	L3	A	B
1/4"-NPT	52	23	6	12	6
3/8"-NPT	52	23	6	15	8
1/2"-NPT	52	23	6	18	8

Dimensions in millimeters

Emergency Stem Sealant Injector Plug Valve NPT 1/4"~1/2" (DN8~DN15)	<b>ORDER N°/ DWG N°</b>	XXXXXX-99	<b>APPROVED</b>	B.T.
	<b>REV.</b>	00	<b>CHECKED</b>	S.Q.
<b>Australian Pipeline Valve</b>			<b>DRAWN</b>	C.C.