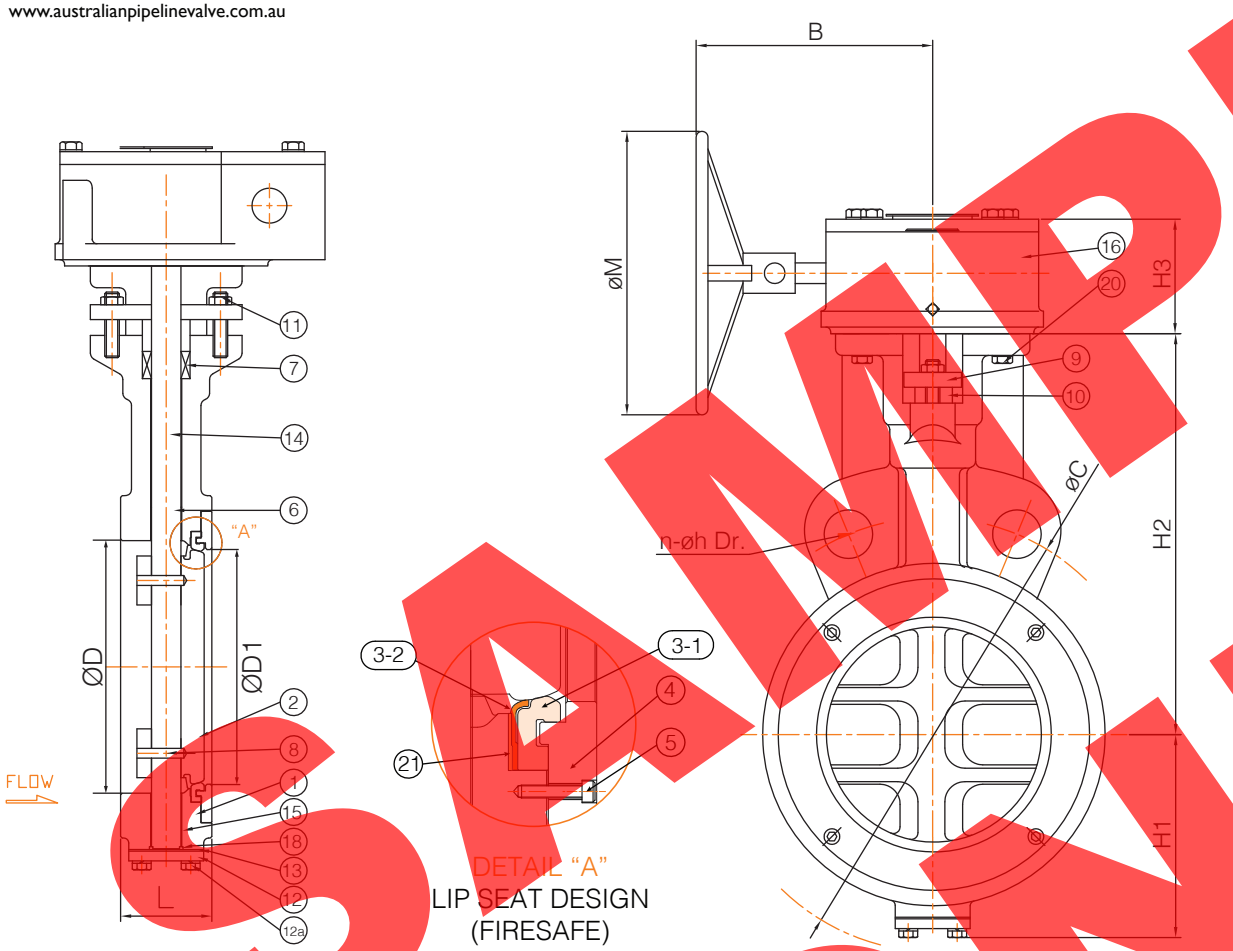
APV
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

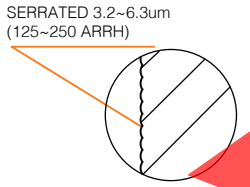
SUPERSEAL®

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

API 622/ISO 15848-41
Fugitive Emission Certified
(design test)



DETAIL "A"
LIP SEAT DESIGN
(FIRESAFE)



BILL OF MATERIALS

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A351 CF8M	-
2	DISC	ASTM A351 CF8M	-
3-1	SEAT	PTFE	ENERGISED
3-2	FIRESAFE SEAT BACK UP	ASTM A182 316	-
4	SEAT RETAINER	ASTM A351 CF8M (316)	-
5	SCREW	ASTM A193 B8M	1 SET
6	SHAFT	ASTM A27 T316	(2)
7	PACKING	GRAPHITE	(3) 1 SET
8	LOCK PIN	ASTM A276 T316	1 SET
9	PACKING GLAND	ASTM A240 T316	-
10	GLAND RING	ASTM A276 T316	-
11	GLAND BOLT NUT	ASTM A193 B8M/A194 8M	1 SET
12	END COVER	ASTM A240 T316	-
12A	COVER BOLTS	ASTM A193 B8M	1 SET
13	GASKET	GRAPHITE	-
14	BUSH	OILLESS BEARING	316+GRP+PTFE
15	BUSH	OILLESS BEARING	316+GRP+PTFE
16	GEARBOX	ASSEMBLY	(1)
18	STEM BEARING	ASTM A276 T316	-
20	GEAR BOLT	ASTM A193 B8	-
21	BODY/RETAINER GASKET	GRAPHITE	-

(1) PAINT SPEC PPS 07.00
(2) STEM SMOOTHNESS Ra ≤ 0.80 µm
(3) PACKING CHAMBER SMOOTHNESS Ra ≤ 3.2 µm
(4) DIE FORMED CHESTERTON 1622 FUGITIVE EMISSION & FIRESAFE PACKING ISO 15848-1 & API 622 CERTIFIED

RATING	CL 300	**TEST PRESSURE**	
DESIGN & MFG.	API609-B CAT.B ASME B16.34 (WALL)	**SHELL HYDRO**	**SEAT HYDRO**
PRESS-TEMP RATING	ASME B16.34 & API 609-B	7.58 Mpa 1100 Psi	5.62 Mpa 815 Psi
FACE TO FACE DIM.	API609 CATEGORY B	**SEAT AIR**	**BACKSEAT**
END CONNECTION	RFSF WAFER	0.55 Mpa 80 Psi	Mpa Psi
END DIMENSION	ANSI B16.5	**TEMPERATURE**	
TEST & INSPECTION	API 598 ISO 5208 RATE A	-29 TO 210 °C	-20 TO 410 °F
MARKING	MS SP-25	**MEDIUM**	Water, Oil, Gas
OTHER REQ.			
PAINT	PICKLED & PASSIVATED		
TRIM	316SS		
NOTES	FIRESAFE API607 & ISO 10497		
OTHER	DESIGN LIFE 20,000 CYCLES		
SPECIAL	OPTIONAL HP SEAT TEST ALSO PERFORMED ISO 5208-A		
NOTES	100% KOREAN CASTINGS/FORGINGS&COMPONENTS (ORIGINAL FOUNDRY/ FORGMASTERS AND TRIM COMPONENTS CERTIFICATES SUPPLIED WITH 3.1 CERTIFICATE)		

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	L	ØD	ØD1	ØC	n-øh Dr.	H1	H2	H3	B	ØM	Weight
6"	150	59	155	146	269.7	2-ø22.4	180	220	85	185	250	19.0

Dimensions in millimeters

High Performance Butterfly Valve, CF8M Double Offset Model SLHBFFS-BWJBP3G NPS 6" (DN150) Class 300, RF, Wafer, Gear Operated	**ORDER Nº/ DWG Nº**	XXXXXX-XX	**APPROVED**	B.T.
	REV.	00	**CHECKED**	S.Q.
Australian Pipeline Valve			**DRAWN**	C.C.

DOUBLE OFFSET MOUNT BASE DIMENSIONS

ANSI CLASS 150

SIZE		MOUNTING BASE			
Inch	mm	TYPE	n	h2	c1
2”	50	F07	4	10	70
3”	80	F07	4	10	70
4”	100	F07	4	10	70
6”	150	F07	4	10	70
8”	200	F10	4	12	102
10”	250	F14	4	18	140
12”	300	F14	4	18	140
14”	350	F14	4	18	140
16”	400	F16	4	22	165
18”	450	F16	4	22	165
20”	500	F16	4	22	165
24”	600	F16	4	22	165
26”	650	F25	8	19	254
28”	700	F25	8	19	254
30”	750	F25	8	19	254
32”	800	F25	8	19	254
36”	900	F25	8	19	254

UOM = mm

ANSI CLASS 300

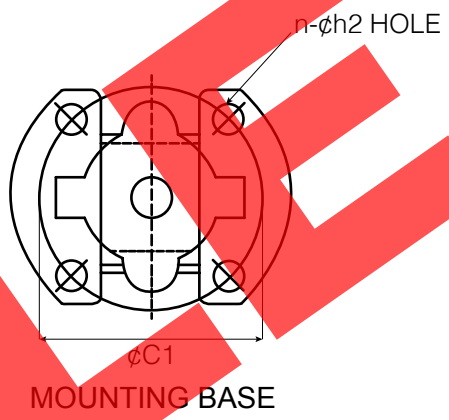
SIZE		MOUNTING BASE			
Inch	mm	TYPE	n	h2	c1
2”	50	F07	4	10	70
3”	80	F07	4	10	70
4”	100	F07	4	10	70
6”	150	F07	4	10	70
8”	200	F10	4	12	102
10”	250	F14	4	18	140
12”	300	F14	4	18	140
14”	350	F14	4	18	140
16”	400	F16	4	22	165
18”	450	F16	4	22	165
20”	500	F16	4	22	165
24”	600	F16	4	22	165
26”	650	F25	8	19	254
28”	700	F25	8	19	254
30”	750	F25	8	19	254
32”	800	F25	8	19	254
36”	900	F30	8	23	298

UOM = mm

ANSI CLASS 600

SIZE		MOUNTING BASE			
Inch	mm	TYPE	n	h2	c1
2”	50	F07	4	10	70
3”	80	F07	4	10	70

UOM = mm

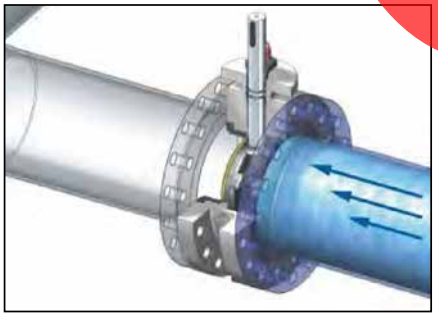


DOUBLE OFFSET - TORQUE & Cv

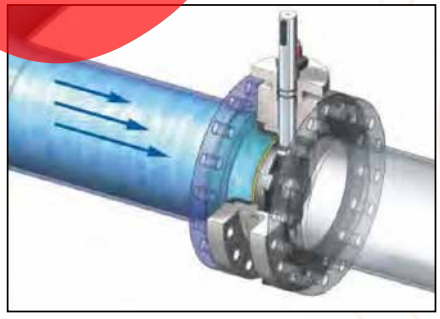
SIZE		TORQUE AT MAX. DIFFERENTIAL PRESSURE (kgf/cm)						Cv VALUE FULL OPEN		
Inch	mm	10.5	20	28.1	42.2	49.2	104.1	CLASS		
		(150PSI)	(285 PSI)	(400PSI)	(600PSI)	(700PSI)	(1480PSI)	150	300	600
2”	50	3.1	3.5	4.4	4.6	4.7	-	92	92	-
2-1/2”	65	3.3	3.8	4.5	4.8	4.9	-	150	150	-
3”	80	3.5	4.3	4.8	5.3	5.5	11.8	260	260	155
4”	100	4.6	6.2	7.1	7.9	8.7	21.0	460	460	255
5”	125	6.2	8.8	9.4	11.0	12.2	27.8	760	760	710
6”	150	8.2	10.2	12.2	14.3	14.9	37.0	1150	1100	740
8”	200	14.3	17.3	19.4	22.4	24.5	67.8	2100	1900	1350
10”	250	20.9	29.1	34.7	40.8	45.6	105.0	3200	3000	2050
12”	300	29.9	43.8	53.5	64.2	69.1	160.6	4700	4500	2700
14”	350	44.7	72.2	100.9	126.4	138.7	254.9	5800	5500	3900
16”	400	63.7	106.0	138.7	168.2	185.1	328.3	8000	7600	5100
18”	450	86.2	137.7	185.1	218.7	235.5	408.4	10500	9900	5500
20”	500	130.0	197.3	246.8	291.6	314.1	547.1	14000	13000	7900
22”	550	161.6	242.2	295.7	358.9	381.4	-	-	-	-
24”	600	197.3	296.2	358.9	444.1	475.7	948.3	21000	19500	11100
26”	650	224.3	336.5	413.0	520.5	565.4	-	25009	-	-
28”	700	255.9	394.6	475.7	646.5	708.7	-	29000	-	-
30”	750	304.9	448.7	556.2	735.7	807.6	-	33500	-	-
32”	800	368.1	556.2	-	-	-	-	41000	-	-
34”	850	430.8	646.5	-	-	-	-	-	-	-
36”	900	493.5	744.4	-	-	-	-	55000	-	-
38”	950	565.9	843.3	-	-	-	-	-	-	-
40”	1000	655.7	987.1	-	-	-	-	70000	-	-
42”	1050	717.9	1076.8	-	-	-	-	-	-	-
44”	1100	781.1	1166.5	-	-	-	-	87000	-	-
46”	1150	852.5	1346.0	-	-	-	-	-	-	-
48”	1200	987.1	1480.6	-	-	-	-	104000	-	-

Safety factor not included. Theoretical torque only.

Bi-directional Isolation

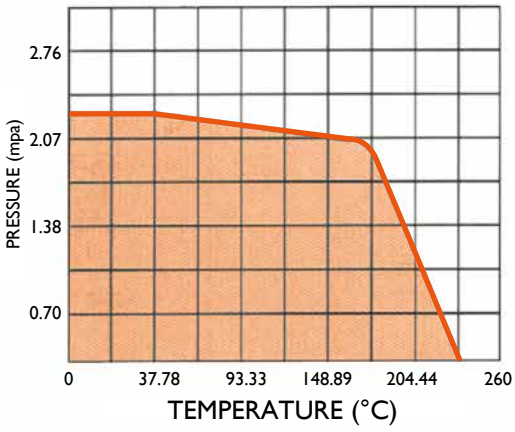


Preferred Direction - Leak tight shut off



Non-Preferred Direction (Not tested leak tight shut off)

Pressure/Temperature Rating 150 Class Reinforced PTFE

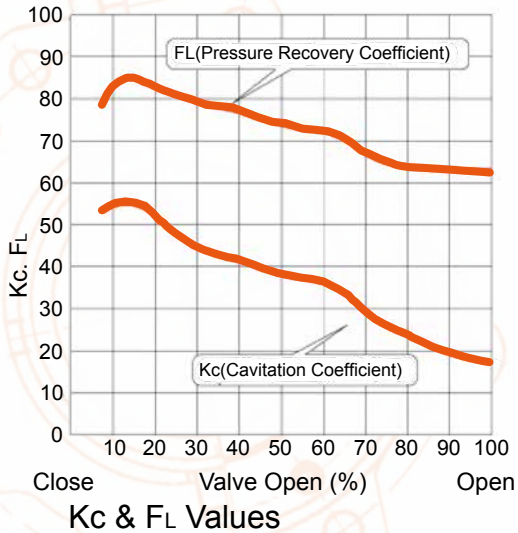


FLOW COEFFICIENTS CURVES

Cv (Coefficient of Volume) is the number of U.S. gallons per minute of water required to pass through a valve with a pressure drop of 1 psi.

Representative size: 150LB-12”

Flow Characteristics



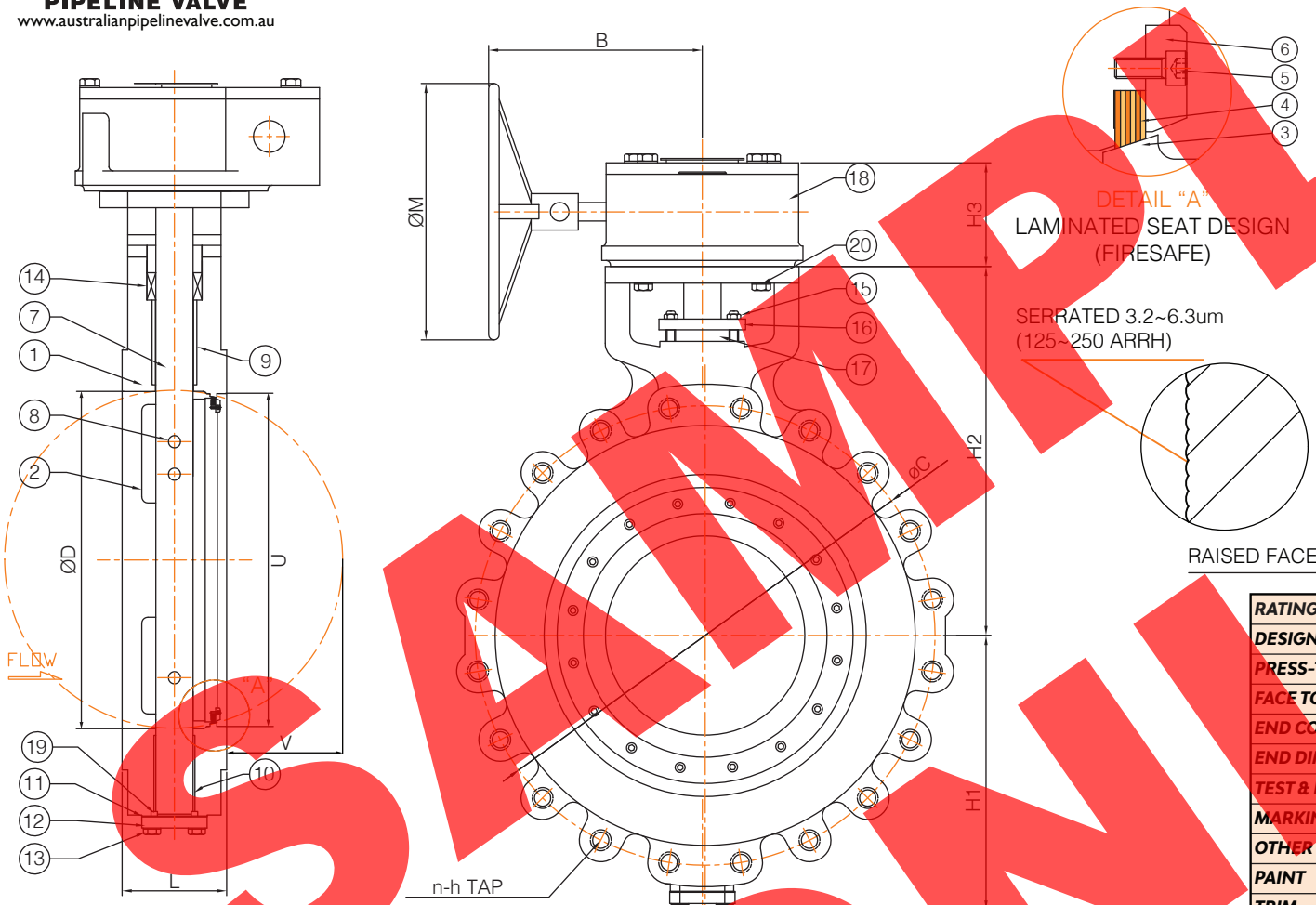
Kc & FL Values

APV
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®

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

API 622/ISO 15848-41
Fugitive Emission Certified
(design test)



BILL OF MATERIALS

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A216 WCB	(1)
2	DISC	ASTM A351 CF8M	–
3	BODY SEAT	STELLITE #21	OVERLAY
4	DISC SEAT	ASTM A276 316+GRAPHITE	TRIPLE LAMINATED
5	BOLT	ASTM A193 B8M	1 SET
6	SEAT RETAINER	ASTM A351 CF8M	–
7	SHAFT	ASTM A564 T630 (17-4PH)	(2)
8	LOCK PIN	ASTM A564 T630 (17-4PH)	1 SET
9	BUSH	OILLESS BEARING	316+GRP+PTFE
10	BUSH	OILLESS BEARING	316+GRP+PTFE
11	GASKET	GRAPHITE	–
12	END COVER	ASTM A240 T316	–
13	COVER BOLTS	ASTM A193 B8M	1 SET
14	PACKING V-TYPE	GRAPHITE	(3) (4) 1 SET
15	GLAND BOLT & NUT	ASTM A193 B8M/A194 8M	1 SET
16	PACKING GLAND	ASTM A240 T316	–
17	GLAND RING	ASTM A276 T316	–
18	GEARBOX	ASSEMBLY	(1)
19	STEAM BEARING	ASTM A564 T630 (17-4PH)	–
20	GEAR BOLT	ASTM A193 B8	–

(1) PAINT SPEC PPS 07.00
(2) STEM SMOOTHNESS Ra ≤ 0.80 µm
(3) PACKING CHAMBER SMOOTHNESS Ra ≤ 3.2 µm
(4) DIE FORMED CHESTERTON 1622 FUGITIVE EMISSION & FIRESAFE PACKING ISO 15848-1 & API 622 CERTIFIED

RATING	CL 300	**TEST PRESSURE**	
DESIGN & MFG.	API609-B CAT.B ASME B16.34 (WALL)	**SHELL HYDRO**	**SEAT HYDRO**
PRESS-TEMP RATING	ASME B16.34 & API 609-B	3.10 Mpa / 450 Psi	2.17 Mpa / 315 Psi
FACE TO FACE DIM.	API609 CATEGORY B	**SEAT AIR**	**BACKSEAT**
END CONNECTION	RFSF LUGGED	0.55 Mpa / 80 Psi	Mpa / Psi
END DIMENSION	ANSI B16.5	**TEMPERATURE**	
TEST & INSPECTION	API 598 ISO 5208 RATE A ZERO LEAKAGE	-29 TO 210 °C / -20 TO 410 °F	
MARKING	MS SP-25	**MEDIUM**	Water, Oil, Gas
OTHER REQ.	NACE MR-01-75/MR-01-03 (ISO 15156)		
PAINT	SPEC PPS07.00 ZINC EPOXY PRIMER, POLYURETHANE TOP COAT		
TRIM	316SS		
NOTES	FIRESAFE API607 & ISO 10497		
OTHER	CORROSION ALLOWANCE: 3.0MM, DESIGN LIFE 20,000 CYCLES		
SPECIAL	OPTIONAL HP SEAT TEST ALSO PERFORMED ISO 5208-A		
NOTES	100% KOREAN CASTINGS/FORGINGS&COMPONENTS (ORIGINAL FOUNDRY/ FORGMASTERS AND TRIM COMPONENTS CERTIFICATES SUPPLIED WITH 3.1 CERTIFICATE)		

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	L	ØD	ØC	n-øh TAP	H1	H2	H3	B	ØM	U	V	Weight
14"	350	73	318	514.3	20-1 1/8" UNC (80~)	220	270	85	185	250	315	109	38.0

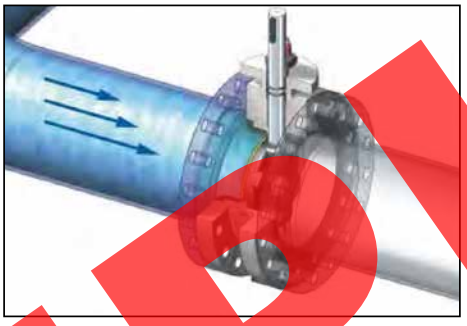
Dimensions in millimeters

High Performance Butterfly Valve, WCB Triple Offset Model SLHBFFS-T-BLABL1G-N NPS 14" (DN350) Class 300, RF, Fully Lugged & Tapped, Gear Operated	**ORDER Nº/ DWG Nº**	XXXXXX-XX	**APPROVED**	B.T.
	REV.	00	**CHECKED**	S.Q.
Australian Pipeline Valve			**DRAWN**	C.C.

APV AUSTRALIAN PIPELINE VALVE®

SUPERSEAL®

Uni-Directional Zero Leakage



Preferred Direction

CYCLE TESTED

API 622 & ISO 15848-1
Endurance Test Certified

DNV

API 607, ISO 10497-5
Firesafe Certified

DNV

ISO 15848-1
Fugitive Emission Certified

TRIPLE OFFSET MOUNT BASE DIMENSIONS

ANSI CLASS 150

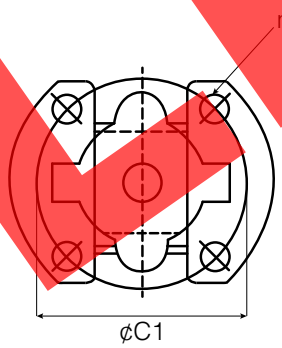
SIZE		MOUNTING BASE			
Inch	mm	TYPE	n	h2	c1
3”	80	F07	70	4	9
4”	100	F07	70	4	9
5”	125	F07	70	4	9
6”	150	F07	70	4	9
8”	200	F10	102	4	11
10”	250	F10	102	4	11
12”	300	F14	140	4	18
14”	350	F14	140	4	18
16”	400	F16	165	4	22
18”	450	F16	165	4	22
20”	500	F16	165	4	22
24”	600	F25	254	8	18

ANSI CLASS 300

SIZE		MOUNTING BASE			
Inch	mm	TYPE	n	h2	c1
3”	80	F07	70	4	9
4”	100	F07	70	4	9
5”	125	F10	102	4	11
6”	150	F10	102	4	11
8”	200	F14	140	4	18
10”	250	F14	140	4	18
12”	300	F16	165	4	22
14”	350	F16	165	4	22
16”	400	F25	254	8	18
18”	450	F25	254	8	18
20”	500	F30	298	8	22
24”	600	F30	298	8	22

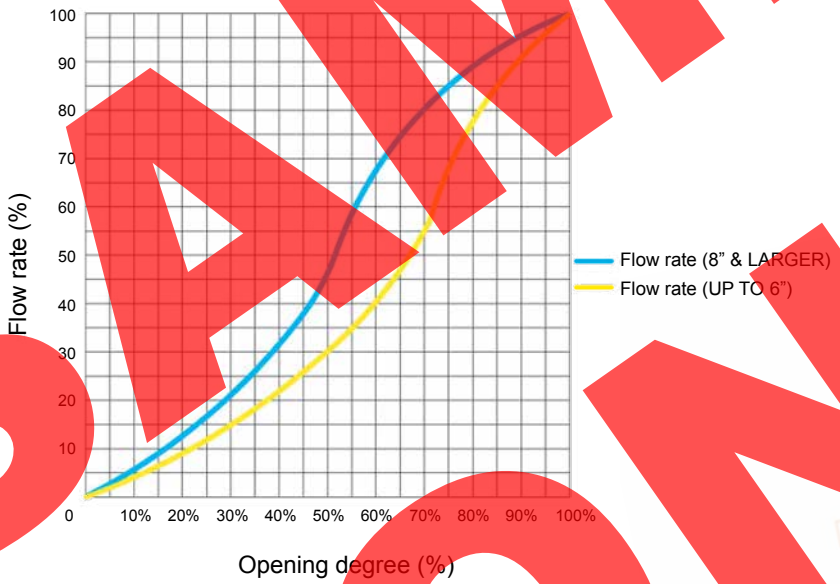
ANSI CLASS 600

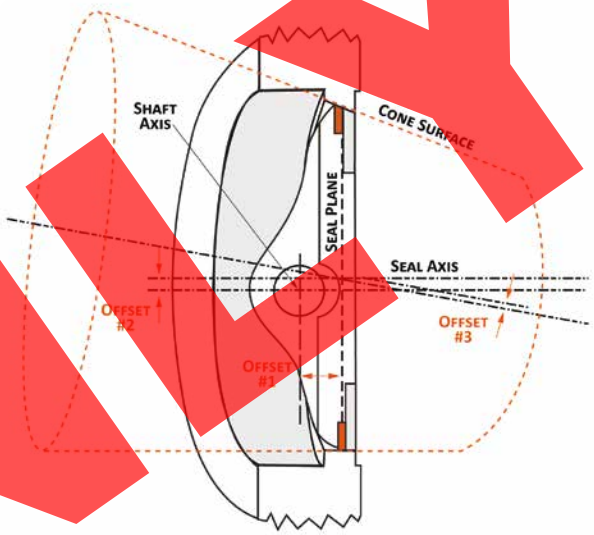
SIZE		MOUNTING BASE			
Inch	mm	TYPE	n	h2	c1
3”	80	F07	70	4	9
4”	100	F10	102	4	11
5”	125	F14	140	4	18
6”	150	F14	140	4	18
8”	200	F16	165	4	22
10”	250	F16	165	4	22
12”	300	F25	254	8	18



TRIPLE OFFSET FLOW & TORQUE DATAFLOW

CHARACTERISITC CURVE





Triple Offset Design

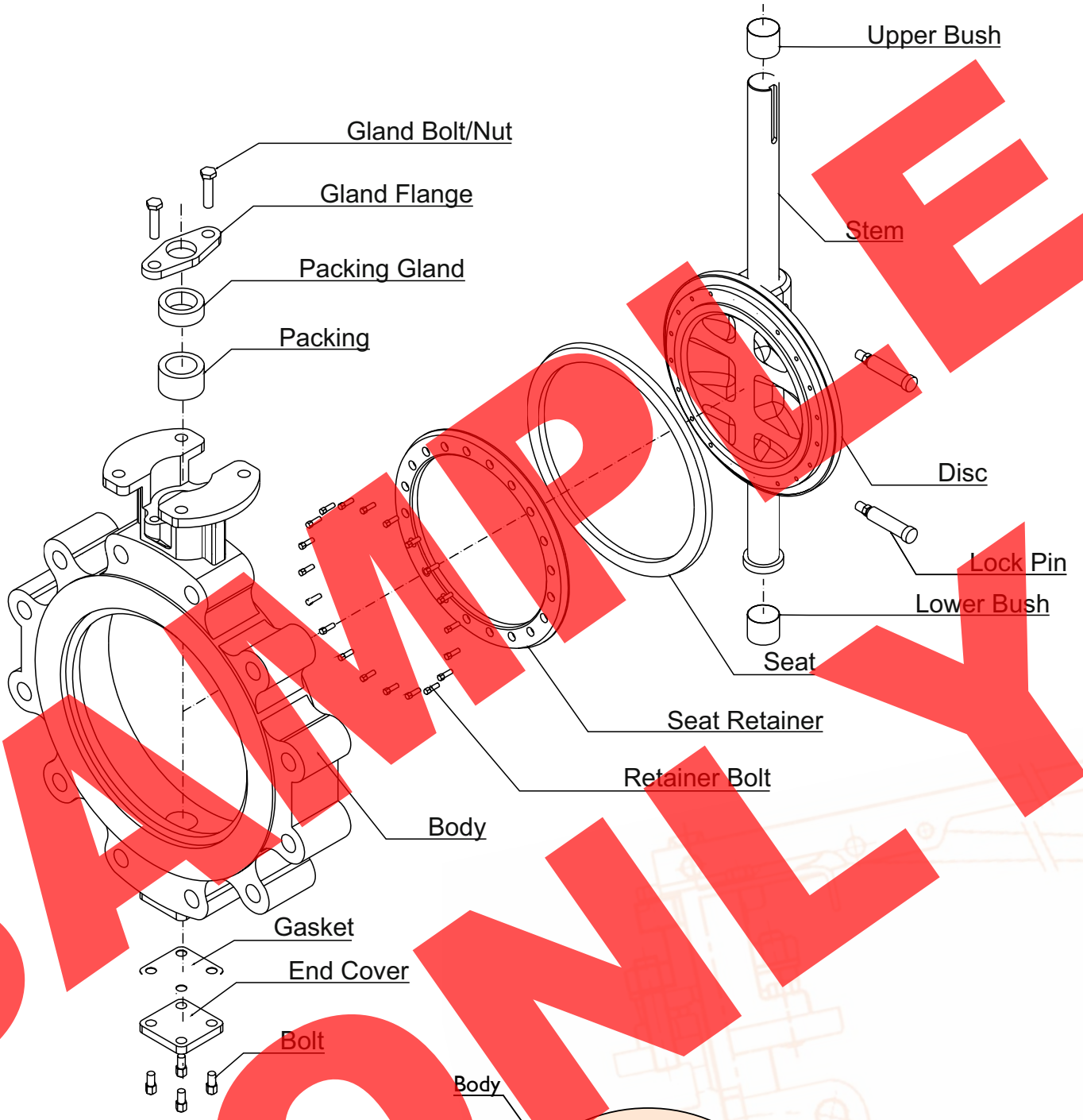
TORQUE DATA

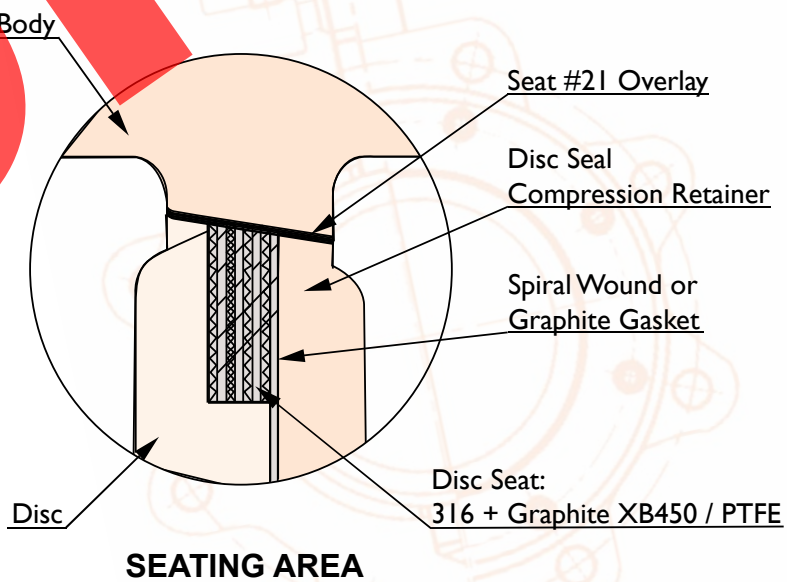
Max ΔP (kdf/cm)	3”	4”	5”	6”	8”	10”	12”	14”	16”	18”	20”	24”
10.5 (150PSIG)	2.8	4.9	6.8	11.0	19.3	29.8	51.2	61.7	86.5	143.7	181.8	272.5
20.0 (285PSIG)	5.4	9.3	13.0	20.8	36.5	56.4	96.8	116.5	163.1	271.0	342.1	510.7
28.1 (400PSIG)	7.6	13.0	18.2	29.1	52.3	81.5	134.2	169.3	236.8	386.0	495.1	735.1
42.2 (600PSIG)	11.3	19.3	27.3	43.7	78.4	122.1	201.0	253.6	354.5	578.0	741.0	1098.9
52.0 (740PSIG)	14.0	24.1	33.6	53.9	96.7	150.5	247.8	312.6	436.8	712.3	913.1	1353.5
104.1 (1480PSIG)	36.4	66.2	90.1	14.9	286.6	449.4	642.5					

Theoretical torque only. Safety factor not included.

INSTALLATION

- The valve should be mounted with the stem in a horizontal position, the inclined cone edge of disc faces toward the downstream (refer to directional arrows and stem side).





SEATING AREA

AUSTRALIAN PIPELINE VALVE®

ADELAIDE • BRISBANE • PERTH

PAINTING PROCEDURE PPS 07.00 HP BUTTERFLY

SH. 2 / 1
REV. 1

GENERAL SERVICE APPLICATION	Carbon steel surfaces. Body and lever/gearbox.
SCOPE	Standard industrial level protection against weathering, brackish water, etc. for petroleum plants, pipelines & refineries.
TEMPERATURE RESISTANCE	-46ºC ~ 240ºC
PRELIMINARY SURFACE PREPARATION	Blasting to Grade Sa 2.1/2 then cleaning with degreaser and washing with high pressure water at 100ºC, and then drying in open air for 24 hours.
PROTECTION OF UNPAINTED PARTS	Protection with suitable plastic plugs and with sealing tape where applicable.
FINAL SURFACE PREPARATION	Machining to smoothness of ≤ 6,3µm where applicable. Prepare all surfaces to ensure proper adhesion of paint film by polishing and de-burring, removing any dust, rust, water, oil or other impurities.
PAINT APPLICATION	Spraying with a gun, drying in between coats as per manufacturer's specification. Painting performed at 5 ~ 30ºC at less than 85% humidity. Allow at least 24 hours between coats for drying time. Dip coating allowed for some components.

NO. OF COATS	TYPE OF PROCESS	TYPE	FILM THICKNESS
Primer Coats Body	Anti-rust self curing Epoxy Zinc primer Grey	Zinc-rich Epoxy Polyamide	30 µm
Top Coats Body	Dark Cyan Green/Blue RAL5001 Acrylic Polyurethane	Polyurethane Resin Dark Cyan Green/Blue	30 µm
TOTAL DRY FILM THICKNESS:			60 µm

NOTES:
Application temperature, drying times and other physical data of painting as per manufacturer specifications.

Rev.	Date	Remarks	Issued by:
1	Sept 18th 2018	First Issue	GP

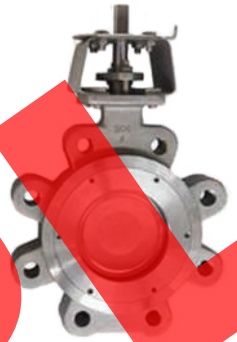
www.australianpipelinevalve.com.au
70-78 Stanbel Road Salisbury Plain, South Australia 5109
Telephone +61 (0)8 8285 0033 Fax +61 (0)8 8285 0044
admin@australianpipelinevalve.com.au

AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®

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

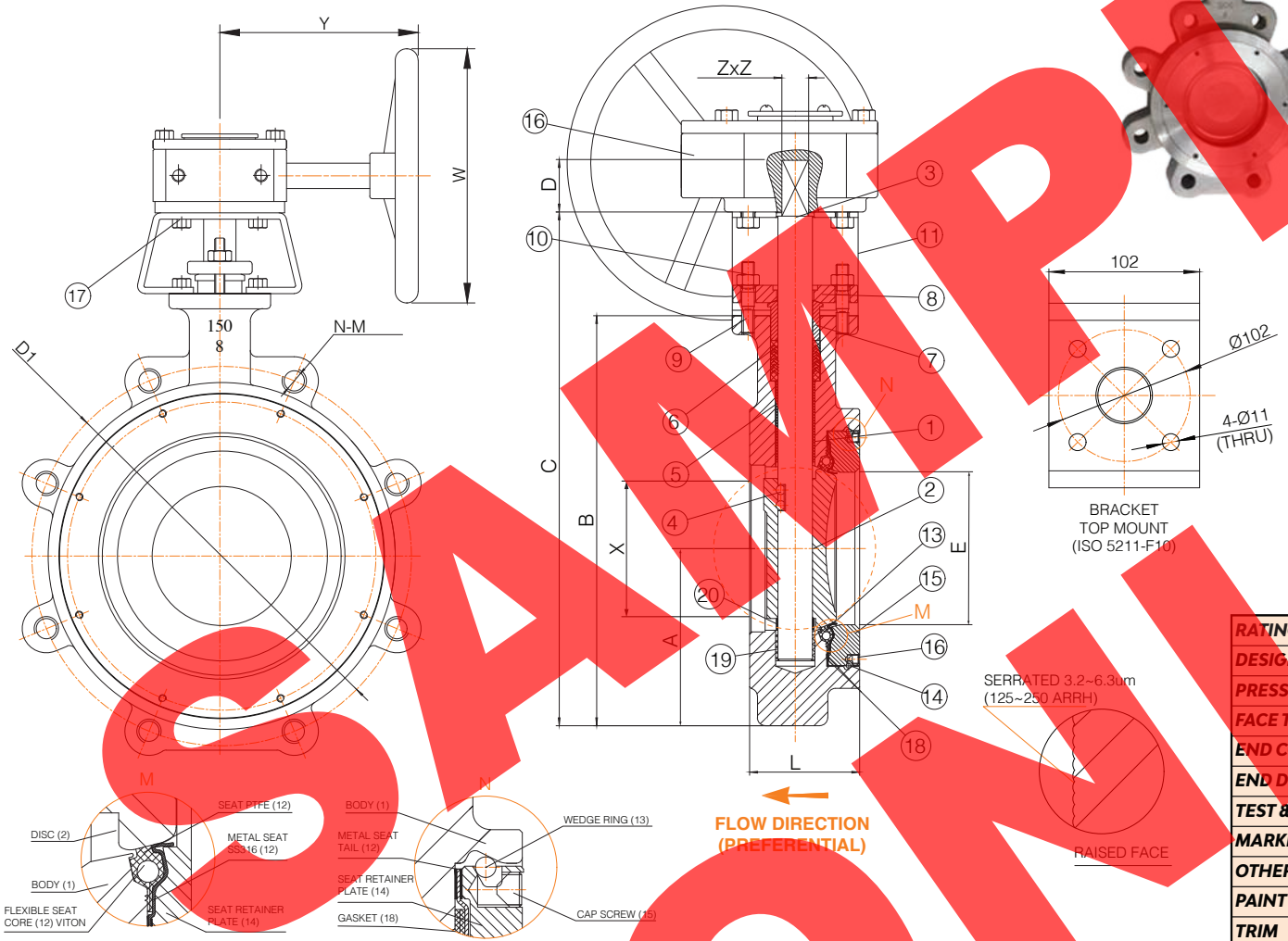
API 622/ISO 15848-41
Fugitive Emission Certified
(design test)



BILL OF MATERIALS

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM B148 C95800	NIABZ
2	DISC	ASTM A494 M35-1	MONEL M35-1
3	STEM	UNS N05500	(2) MONEL K500
4	PIN	AISI 316SS	-
5	BEARINGS	ASTM A240 316+PTFE	BONDED
6	PACKING F.E.	GRAPHITE CHESTERTON	(3) (4)
7	GLAND RING	ASTM A269 TP316	-
8	GLAND RETAINER	ASTM A351 CF8M	-
9	STUD	ASTM A193 B8M	-
10	HEX NUT	ASTM A194 8M	-
11	BRACKET	ASTM A240 316	-
12	SEAT ASSEMBLY	ASTM A240 316+RPTFE	FLEXIBLE ENCAPSULATED CORE
13	WEDGE RING	AISI 316SS	-
14	SEAT RETAINER	INCONEL 625	-
15	CAP SCREW	ASTM A193 B8M	-
16	GEAR	ASSEMBLY	(1) (5)
17	BOLT	ASTM A193 B8M	-
18	GASKET	GRAPHITE	-
19	BEARING	SS316L+PTFE	-
20	DISC THRUST SPACER	ASTM A240 316	-

(1) PAINT SPEC SP-P09.001 3 COAT SYSTEM
(2) STEM SMOOTHNESS Ra 0.2 ~ 0.6 µm (SUPERIOR TO API 609)
(3) PACKING CHAMBER SMOOTHNESS Ra 1.2 ~ 2.4 µm (SUPERIOR TO API 609)
(4) DIE FORMED CHESTERTON 1622 FUGITIVE EMISSION & FIRESAFE PACKING ISO 15848-1 & API 622 CERTIFIED
(5) ELECTROPHORETIC COATED INPUT SHAFT



BRACKET
TOP MOUNT
(ISO 5211-F10)

RATING	CL 150	**TEST PRESSURE**	
DESIGN & MFG.	API609-B CAT.B ASME B16.34 (WALL)	**SHELL HYDRO**	**SEAT HYDRO**
PRESS-TEMP RATING	ASME B16.34 & API 609-B	3.0 Mpa / 435 Psi	2.2 Mpa / 319 Psi
FACE TO FACE DIM.	API609 CATEGORY B	**SEAT AIR**	**BACKSEAT**
END CONNECTION	RFSF FULLY LUGGED & TAPPED	0.55 Mpa / 80 Psi	Mpa / Psi
END DIMENSION	ANSI B16.5	**TEMPERATURE**	
TEST & INSPECTION	API 598 ISO 5208 RATE A	-29 TO 200 °C	-20 TO 392 °F
MARKING	MSS SP-25	**MEDIUM**	Water, Oil, Gas
OTHER REQ.	PICKLED & PASSIVATED BODY		
PAINT	GEARBOX 3 COAT SYSTEM SP-P09.001		
TRIM	MONEL, FLO-SEAL SEAT		
NOTES	FIRESAFE API607 & ISO 10497		
OTHER	DESIGN LIFE 20,000 CYCLES. TESTED BI-DIRECTIONAL		
SPECIAL	OPTIONAL HP AND LP SEAT TEST PERFORMED ISO 5208-A		

TORQUE RATINGS (@ MAXIMUM DP)

Break to Open Torque (N-M)	Run to Open Torque (N-M)	End to Open Torque (N-M)	Break to Close Torque (N-M)	Run to Close Torque (N-M)	End to Close Torque (N-M)	Max Stem Allow Torque (N-M)
325	98	107	107	117	325	660

No safety factor allowed, based on seat upstream. Theoretical torque only.

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	L	A	B	C	D	E	D1	W	X	Y	Z X Z	N-M	ISO 5211	Weight
8"	200	63.5	152.7	359	466	44	195	241.74	162	184	126.36	17 X 17	8-3/4-10	F10	33.0

Dimensions in millimeters

High Performance Butterfly Valve, Bi-Directional
Double Offset Model SLHBFFS-ALZGR6G-B
NPS 8" (DN200) Class 150,
RF, Lugged, Gear Operated

Australian Pipeline Valve

ORDER Nº/ DWG Nº	275	**APPROVED**	B.T.
REV.	00	**CHECKED**	S.Q.
		DRAWN	C.C.

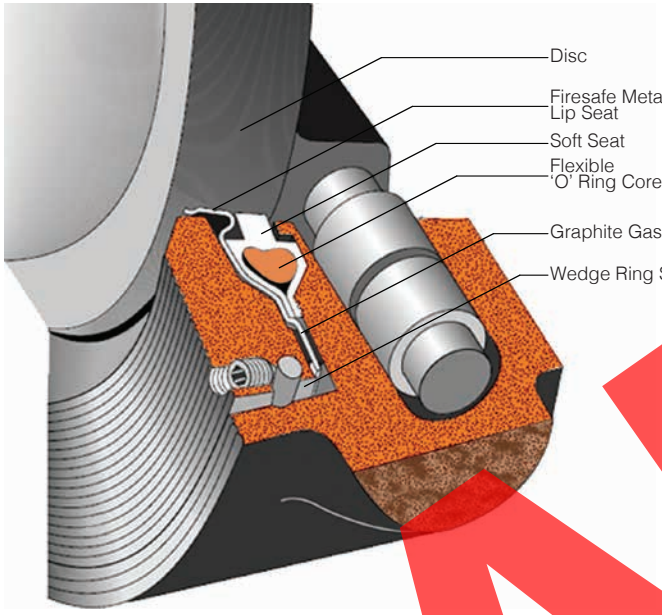
APV DWG FRM 275

APV

AUSTRALIAN PIPELINE VALVE®

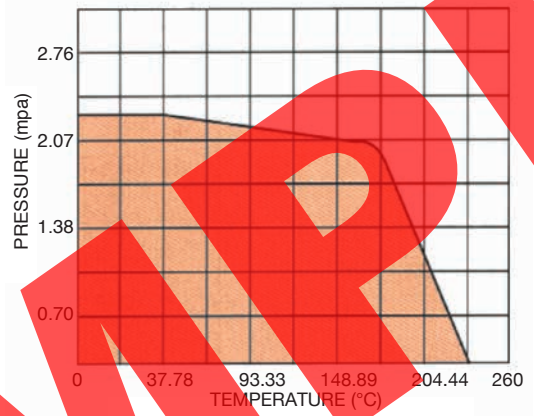
www.australianpipelinevalve.com.au

SUPERSEAL®

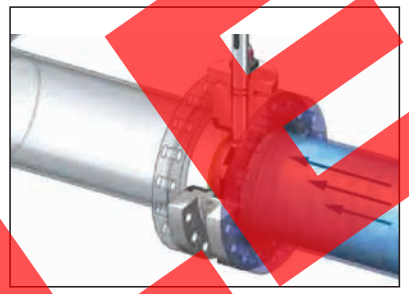


PRESSURE/TEMPERATURE

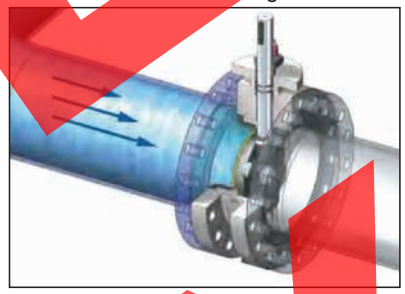
REINFORCED PTFE SEAT P/T RATING 150 CLASS



Bi-directional Isolation



Preferred Direction - Leak tight shut off

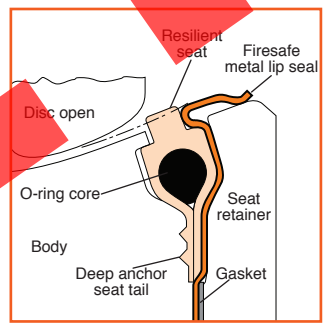


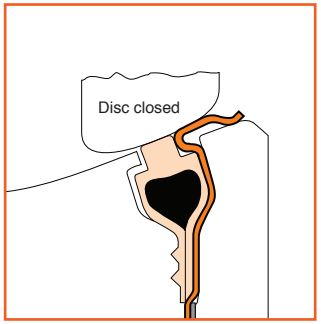
Non-Preferred Direction (Tested)

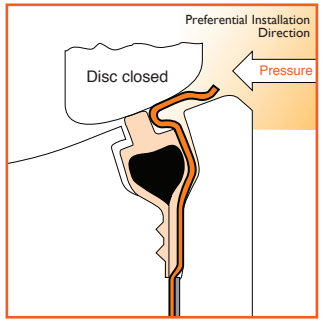
150 CLASS BODY PRESSURE/TEMPERATURE RATING (BAR)

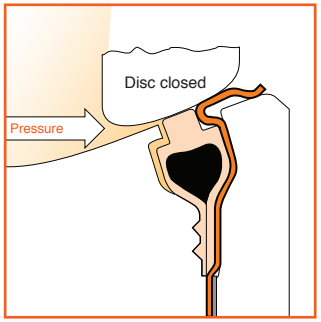
Temperature (C°)	Carbon Steel	Stainless Steel 316	20# Alloy	Monel
-20 - 38	19.7	19.0	15.8	15.8
93	17.9	16.5	13.8	13.8
149	15.8	14.8	12.4	13.1
204	13.8	13.4	11.0	12.8
260	11.7	11.7	10.3	11.7
Test Pressure	31	29.3	24.1	24.1

FIRESAFE SOFT SEAT (ENERGISED FLO-SEAL STYLE) BI-DIRECTIONAL









Cv VALUES

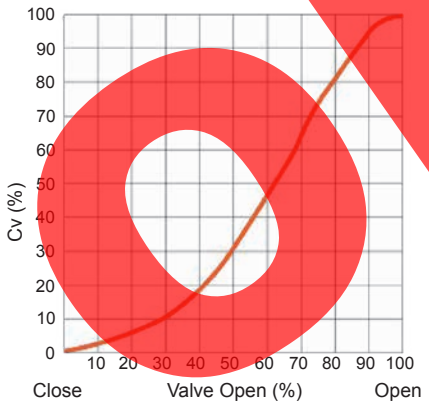
SIZE		Cv VALUE FULL OPEN		
Inch	mm	CLASS		
		150	300	600
2”	50	103	99	92
2-1/2”	65	160	160	140
3”	80	185	185	165
4”	100	375	375	305
5”	125	795	795	-
6”	150	1360	1050	870
8”	200	2830	2010	1510
10”	250	4320	2660	2200
12”	300	6660	4000	3100
14”	350	7650	4120	3900
16”	400	9820	7810	5020
18”	450	10520	9500	6050
20”	500	13550	11000	8050
24”	600	20000	18050	11000

Cv is defined as the volume of water in U.S.P.M. that will flow through a given restriction or valve opening with a pressure drop of one(1) p.s.i. room remperatre.

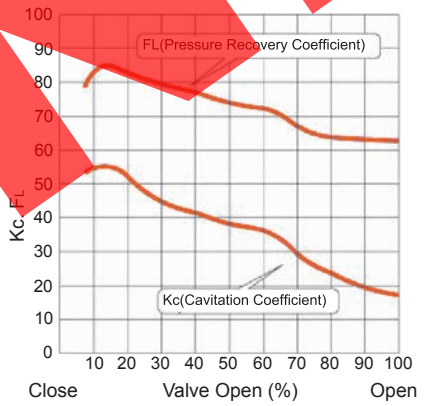
Cv FLOW COEFFICIENTS CURVES

Cv (Coefficient of Volume) is the number of U.S. gallons per minute of water required to pass through a valve with a pressure drop of 1 psi.

Representative size: 150LB - 12”



Flow Characteristics

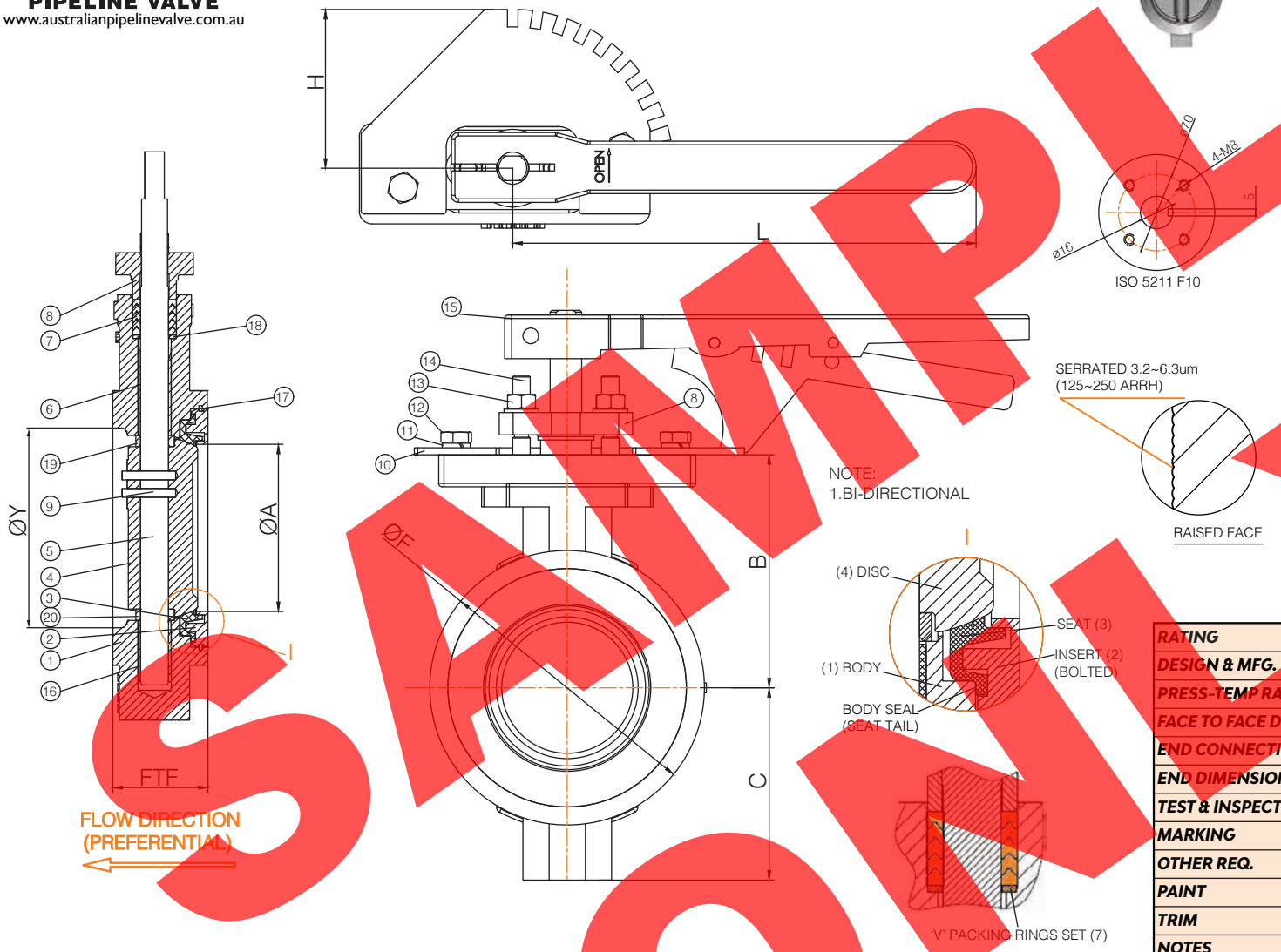


Kc & FL Values

APV
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®

API 622/ ISO15848-1
Endurance Test Certified



BILL OF MATERIALS

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A351 CF8M	-
2	INSERT (BOLTED)	ASTM A182 F316	-
3	SEAT	PTFE	-
4	DISC	ASTM A351 CF8M	-
5	STEM	ASTM 182 F316	(2)
6	UPPER BEARING	ASTM A240 316L+RPTFE	1 SET
7	PACKING	PTFE V-TYPE	(3) CHEVRON SET
8	GLAND FLANGE	ASTM A351 CF8M	-
9	PINS	ASTM A182 F316	-
10	POSITION INDICATOR	316 STAINLESS STEEL	-
11	WASHER	304 STAINLESS STEEL	-
12	BOLT	ASTM A193 B8M	-
13	NUT	ASTM A194 8M	-
14	BOLT	ASTM A193 B8M	-
15	LEVER	ASSEMBLY	(1) PAINTING
16	LOWER BEARING	ASTM A240 316L+RPTFE	-
17	LOCK BOLTS	ASTM A193 B8M	-
18	PACKING GASKET	316 STAINLESS STEEL	-
19	UPPER RETAINER RING	316 STAINLESS STEEL	-
20	LOWER RETAINING RING	316 STAINLESS STEEL	-

(1) PAINT SPEC SP-P09-001, PROCEDURE AP-SP-PD-P-001
(2) STEM SMOOTHNESS Ra ≤ 0.80 µm
(3) PACKING CHAMBER SMOOTHNESS Ra ≤ 3.2 µm

RATING	CL 150	TEST PRESSURE	
DESIGN & MFG.	API609 CAT.B ASME B16.34 (WALL)	SHELL HYDRO	SEAT HYDRO
PRESS-TEMP RATING	ASME B16.34 & API 609-B	3.0 Mpa / 435 Psi	3.2 Mpa / 464 Psi
FACE TO FACE DIM.	API609 CATEGORY B	SEAT AIR	BACKSEAT
END CONNECTION	RFSF WAFER	0.55 Mpa / 80 Psi	Mpa / Psi
END DIMENSION	ANSI B16.5	TEMPERATURE	
TEST & INSPECTION	API 598 ISO 5208 RATE A	-29 TO 180 °C	-20 TO 356 °F
MARKING	MS SP-25	MEDIUM	Water, Oil, Gas
OTHER REQ.			
PAINT	PICKLED & PASSIVATED BODY		
TRIM	316SS		
NOTES			
OTHER	DESIGN LIFE 20,000 CYCLES, TESTED BI-DIRECTIONAL		
SPECIAL	OPTIONAL HP & LP SEAT TEST ALSO PERFORMED ISO 5208-A		

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	A	B	C	F	FTF±3.3	L	Y	H	ISO 5211	Torque ⚠	Torque (MAST)	Weight
6”	150	142	152	135	217	57	262	146	93	F10	126 NM	155 NM	16.0

High Performance Butterfly Valve, CF8M Double Offset Model SLHBF-AWJBPP-B, NPS 6” (DN150) Class 150, Lip Seat, RF, Wafer, Lever Operated	ORDER Nº/ DWG Nº	XXXXXX-XX	APPROVED	B.T.
	REV.	00	CHECKED	S.Q.
Australian Pipeline Valve			DRAWN	C.C.

Dimensions in millimeters

⚠ BTO/BTC Torque @ maximum differential pressure, no safety factor included. Theoretical torque only.

APV DWG FRM 427

APV
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®

API 622/ ISO15848-1 Endurance Test Certified

API 622 2011 2nd Edition Fugitive Emission Certified (Design Test)

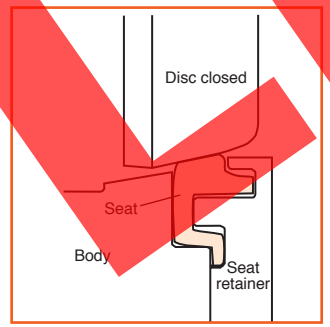
VALVE TORQUES

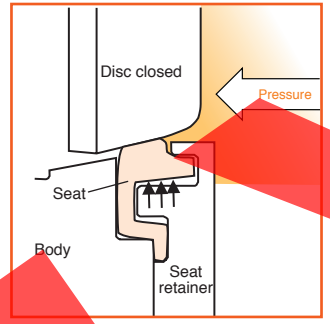
VALVE SIZE		150LB - Stem Upstream - Standard Seat					
		Closing differential pressure					
Inch	mm	lb-ft@ 100 psi	N-m@ 6.9 bar	lb-ft@ 200 psi	N-m@ 13.8 bar	lb-ft@ 285 psi	N-m@ 19.7 bar
2-1/2"	65	21	29	23	31	24	33
3"	80	25	34	27	37	29	39
4"	100	35	47	39	53	43	58
5"	125	48	65	56	76	63	86
6"	150	72	97	83	113	93	126
8"	200	121	164	142	193	160	217
10"	250	163	222	202	274	234	318
12"	300	214	290	287	390	350	475
14"	350	362	491	505	684	626	849
16"	400	463	628	646	876	1,091	1,512
18"	450	602	816	844	1,144	1,387	1,923
20"	500	810	1,098	1,140	1,546	1,776	2,407
24"	600	1,234	1,673	1,758	2,384	2,200	2,983
30"	750	2,170	2,942	2,940	3,986	3,595	4,873
36'	900	3,530	4,786	4,860	6,589	5,990	8,121
42"	1,050	5,780	7,837	8,060	10,928	10,000	13,558
48"	1,200	9,170	12,433	12,840	17,409	15,960	21,638
54"	1,350	12,950	17,558	17,900	24,269	22,110	29,977
60"	1,500	19,020	25,790	26,040	35,310	32,000	43,397

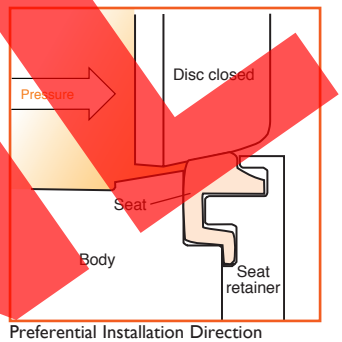
Cv VALUES

SIZE		Cv VALUE	
		CLASS	
Inch	mm	150	300
2-1/2"	65	78	165
3"	80	165	400
4"	100	400	1,050
5"	125	650	1,800
6"	150	1,050	3,150
8"	200	2,200	4,750
10"	250	3,300	5,200
12"	300	5,100	6,900
14"	350	5,800	9,300
16"	400	8,000	11,300
18"	450	10,500	18,500
20"	500	14,000	29,100
24"	600	21,600	47,500
30"	750	34,000	-
36'	900	55,500	-
42"	1050	82,650	-
48"	1200	108,300	-
54"	1350	133,500	-
60"	1500	159,000	-

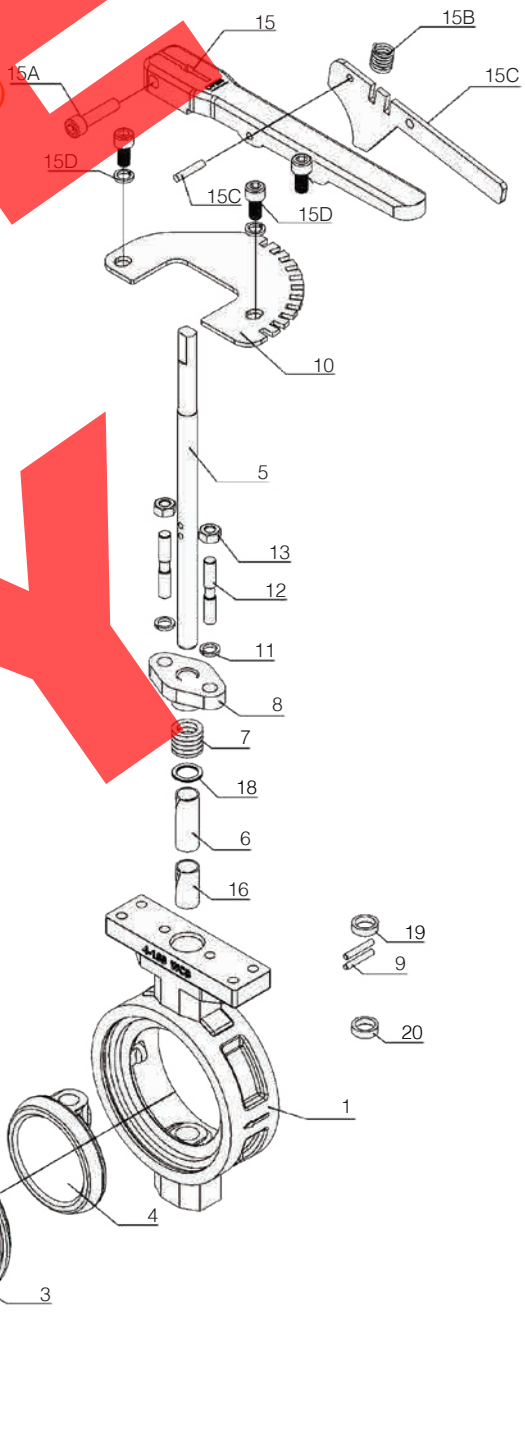
SOFT SEAT (ENERGISED LIP-SEAL STYLE)





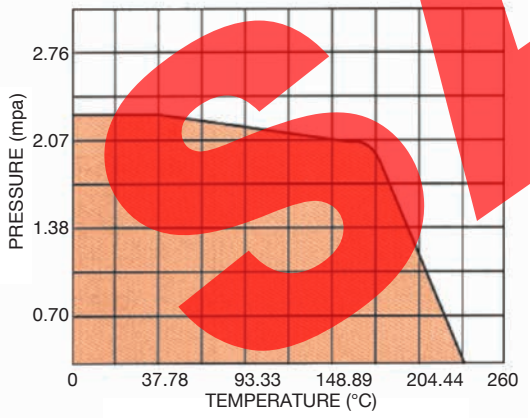


Preferential Installation Direction



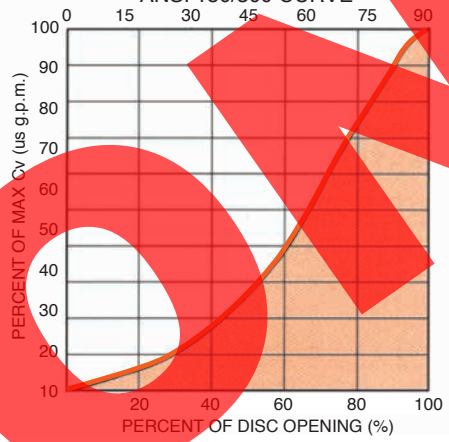
PRESSURE/TEMPERATURE

REINFORCED PTFE 150 CLASS



Cv CURVE

ANSI 150/300 CURVE



150 CLASS BODY PRESSURE/TEMPERATURE RATING (BAR)

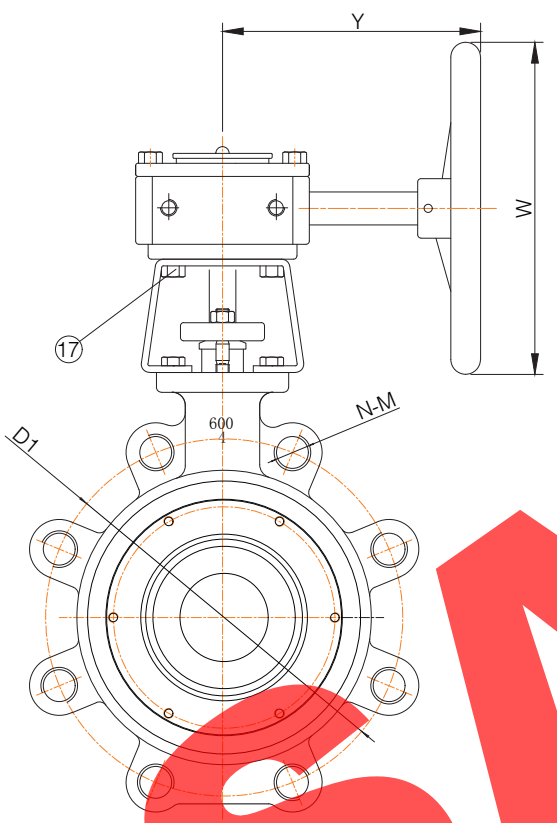
Temperature (C°)	Carbon Steel	Stainless Steel 316	20# Alloy	Monel
-20 - 38	19.7	19.0	15.8	15.8
93	17.9	16.5	13.8	13.8
149	15.8	14.8	12.4	13.1
204	13.8	13.4	11.0	12.8
260	11.7	11.7	10.3	11.7
Test Pressure	31	29.3	24.1	24.1

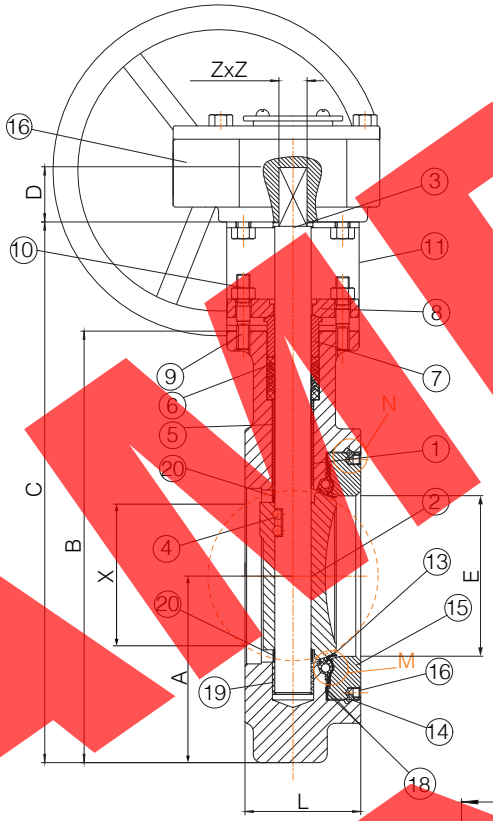
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

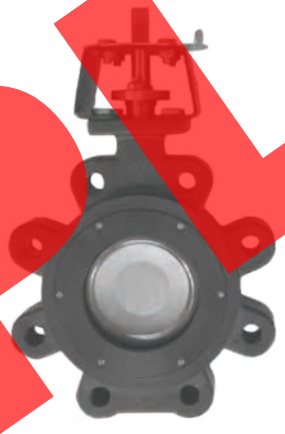
SUPERSEAL®

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

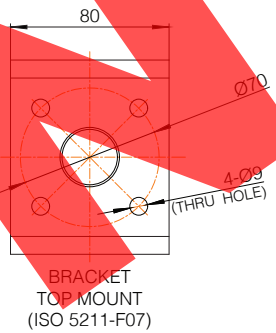
API 622/ISO 15848-41
Fugitive Emission Certified
(design test)



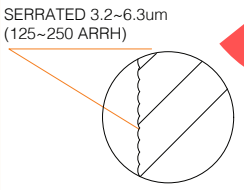


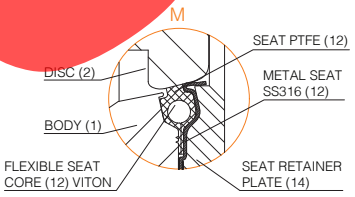


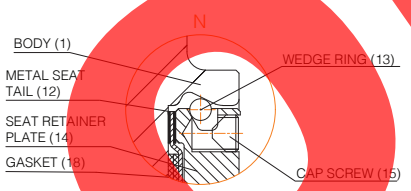
FLOW DIRECTION
(PREFERENTIAL)



BRACKET
TOP MOUNT
(ISO 5211-F07)







BILL OF MATERIALS

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A105N	(1)
2	DISC	ASTM A351 CF8M	–
3	STEM	ASTM A564 630	(2) 17-4PH
4	PIN	AISI 316SS	–
5	BEARINGS	ASTM A240 316+PTFE	BONDED
6	PACKING F.E.	GRAPHITE CHESTERTON	(3) (4)
7	GLAND RING	ASTM A269 TP316	–
8	GLAND RETAINER	ASTM A351 CF8	–
9	STUD	ASTM A193 B8M	–
10	HEX NUT	ASTM A194 8M	–
11	BRACKET	ASTM A240 304	–
12	SEAT ASSEMBLY	ASTM A240 316+RPTFE	FLEXIBLE ENCAPSULATED CORE
13	WEDGE RING	AISI 316SS	–
14	SEAT RETAINER	ASTM A240 316	–
15	CAP SCREW	ASTM A193 B8	–
16	GEAR	ASSEMBLY	(1) (5)
17	BOLT	ASTM A193 B7	ZINC PLATED
18	GASKET	GRAPHITE	–
19	BEARING	SS316L+PTFE	–
20	DISC THRUST SPACER	ASTM A240 316	–

(1) PAINT SPEC SP-P09.001
(2) STEM SMOOTHNESS Ra 0.2 ~ 0.6 µm (SUPERIOR TO API 609)
(3) PACKING CHAMBER SMOOTHNESS Ra 1.2 ~ 2.4 µm (SUPERIOR TO API 609)
(4) DIE FORMED CHESTERTON 1622 FUGITIVE EMISSION & FIRESAFE PACKING ISO 15848-1 & API 622 CERTIFIED
(5) ELECTROPHORETIC COATED INPUT SHAFT

RATING	CL 600	**TEST PRESSURE**	
DESIGN & MFG.	API609-B CAT.B ASME B16.34 (WALL)	**SHELL HYDRO**	**SEAT HYDRO**
PRESS-TEMP RATING	ASME B16.34 & API 609-B	15.0 Mpa / 2175 Psi	11.0 Mpa / 1595 Psi
FACE TO FACE DIM.	API609 CATEGORY B	**SEAT AIR**	**BACKSEAT**
END CONNECTION	RFSF FULLY LUGGED & TAPPED	0.55 Mpa / 80 Psi	Mpa / Psi
END DIMENSION	ANSI B16.5	**TEMPERATURE**	
TEST & INSPECTION	API 598 ISO 5208 RATE A	-29 TO 200 °C	-20 TO 392 °F
MARKING	MS SP-25	**MEDIUM**	Water, Oil, Gas
OTHER REQ.			
PAINT	HEMPLE 3 COAT SYSTEM SP-P09.001		
TRIM	316SS, NACE MR-01-75 & MR-01-03		
NOTES	FIRESAFE API607 & ISO 10497, 10.0 MPA MAX CWP		
OTHER	DESIGN LIFE 20,000 CYCLES. TESTED BI-DIRECTIONAL		
SPECIAL	OPTIONAL HP AND LP SEAT TEST PERFORMED ISO 5208-A		

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	L	A	B	C	D	W	X	Y	Z X Z	D1	N-M	ISO 5211	Torque ⚠	Torque (MAST)	Weight
4"	100	70	106	261	327	33	200	91	156	17 X 17	215.9	7/8"-9x8	F07	270 NM	630 NM	30.0

Dimensions in millimeters

⚠ Torque @ maximum differential pressure, seat upstream. No safety factor included. Theoretical torque only.

High Performance Butterfly Valve, Bi-Directional Double Offset Model SLHBFFS-CLABR1G-BN
NPS 4" (DN100) Class 600,
RF, Lugged, Gear Operated

Australian Pipeline Valve

ORDER Nº/ DWG Nº	428	**APPROVED**	B.T.
REV.	00	**CHECKED**	S.Q.
		DRAWN	C.C.

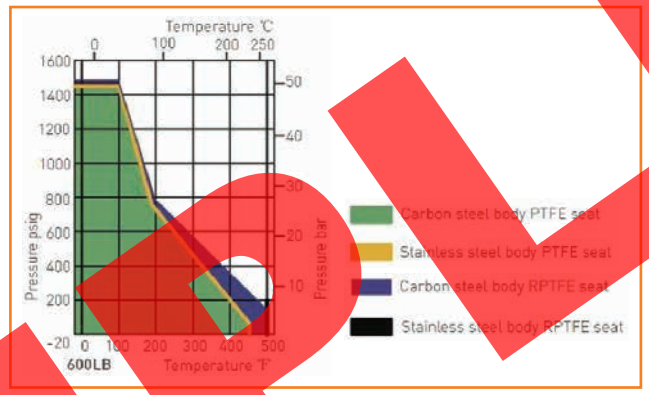
APV

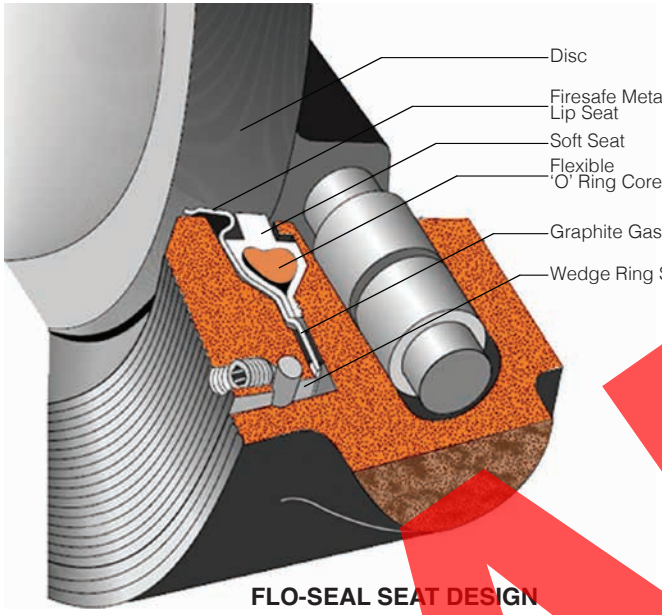
AUSTRALIAN PIPELINE VALVE®

www.australianpipelinevalve.com.au

SUPERSEAL®

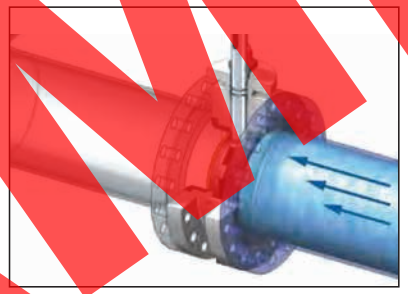
PRESSURE/TEMPERATURE RATING (BODY)



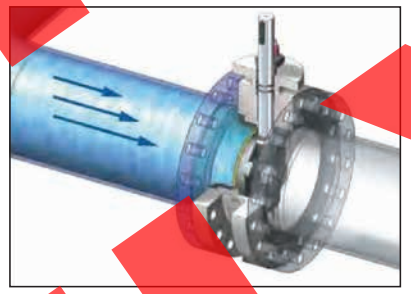


FLO-SEAL SEAT DESIGN

Bi-directional Isolation

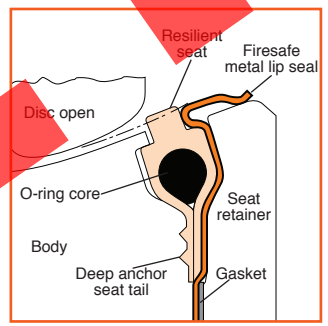


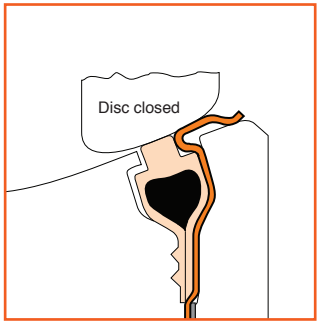
Preferred Direction - Leak tight shut off

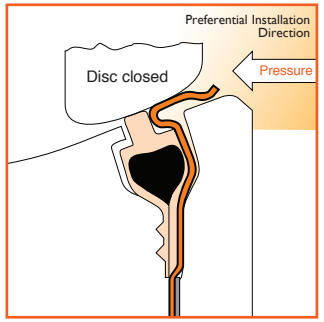


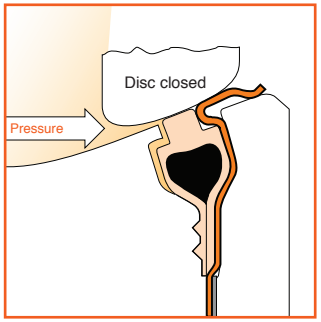
Non-Preferred Direction (Tested)

FIRESAFE SOFT SEAT (ENERGISED FLO-SEAL STYLE) BI-DIRECTIONAL









Cv VALUES

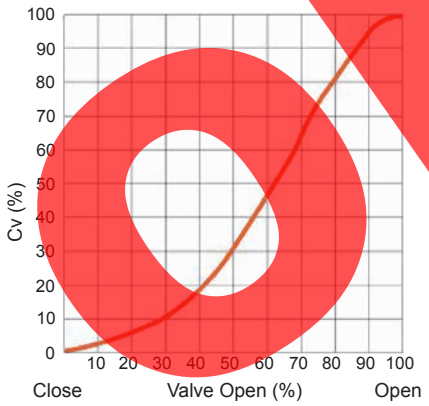
SIZE		Cv VALUE FULL OPEN		
		CLASS		
Inch	mm	150	300	600
2”	50	103	99	92
2-1/2”	65	160	160	140
3”	80	185	185	165
4”	100	375	375	305
5”	125	795	795	-
6”	150	1360	1050	870
8”	200	2830	2010	1510
10”	250	4320	2660	2200
12”	300	6660	4000	3100
14”	350	7650	4120	3900
16”	400	9820	7810	5020
18”	450	10520	9500	6050
20”	500	13550	11000	8050
24”	600	20000	18050	11000

Cv is defined as the volume of water in U.S.P.M. that will flow through a given restriction or valve opening with a pressure drop of one(1) p.s.i. room remperatre.

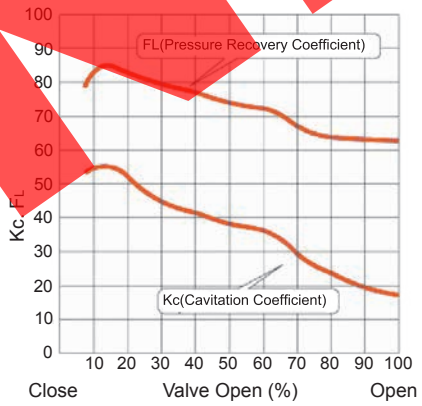
Cv FLOW COEFFICIENTS CURVES

Cv (Coefficient of Volume) is the number of U.S. gallons per minute of water required to pass through a valve with a pressure drop of 1 psi.

Representative size: 150LB - 12”



Flow Characteristics



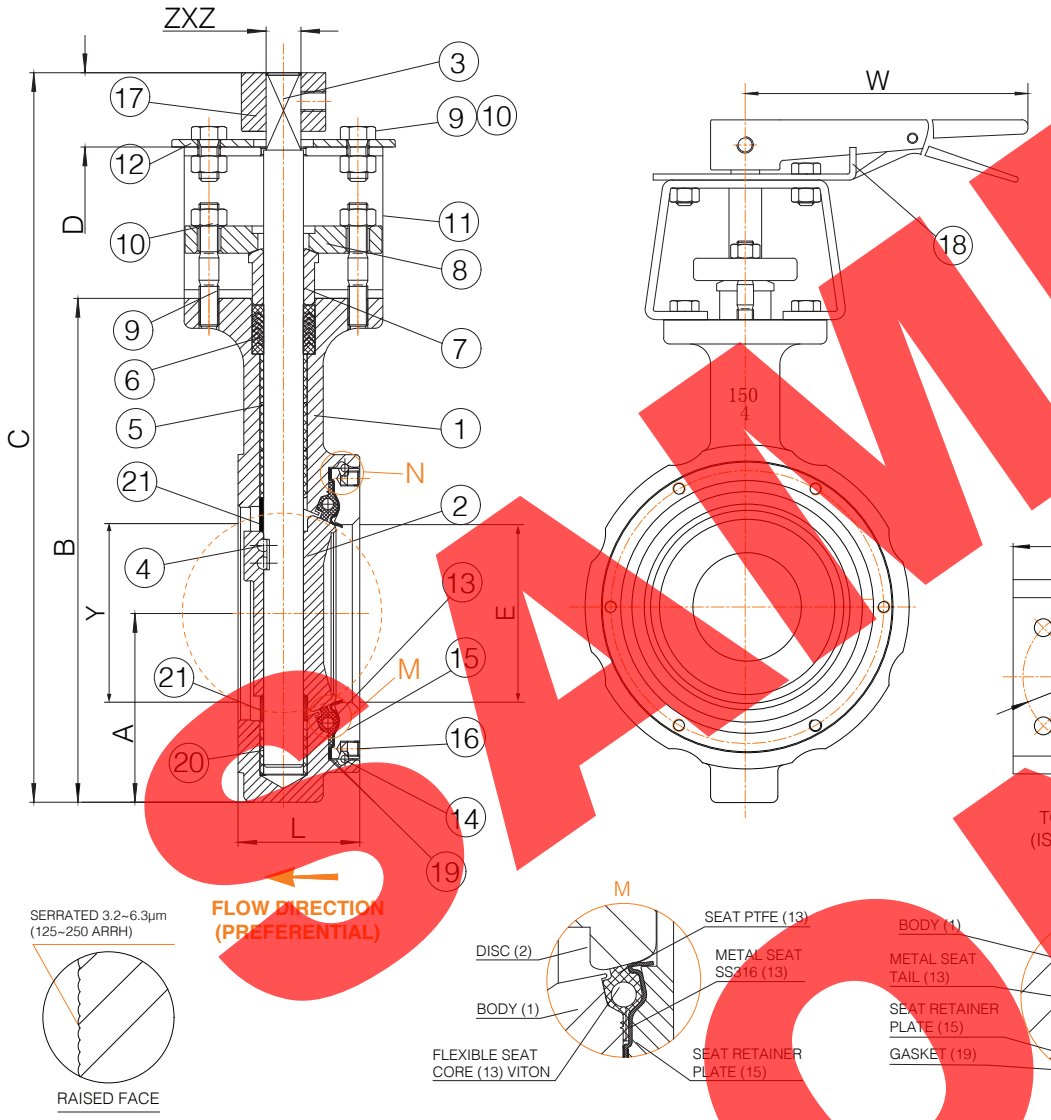
Kc & FL Values

APV
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®

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

API 622/ISO 15848-41
Fugitive Emission Certified
(design test)



BILL OF MATERIALS

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A216 WCB	(1)
2	DISC	ASTM A351 CF8M	–
3	STEM	ASTM A182 F316	(2)
4	PIN	AISI 316SS	–
5	BUSHINGS	ASTM A240 316+PTFE	BONDED
6	PACKING F.E.	GRAPHITE CHESTERON	(3) (4)
7	GLAND RING	ASTM A269 TP304	–
8	GLAND RETAINER	ASTM A351 CF8	–
9	STUD	ASTM A193 B8M	–
10	HEX NUT	ASTM A194 8M	–
11	BRACKET	ASTM A240 304	–
12	NOTCH PLATE	ASTM A240 304	–
13	SEAT ASSEMBLY	ASTM A240 316+PTFE	FLEXIBLE ENCAPSULATED CORE
14	WEDGE RING	AISI 304SS	–
15	SEAT RETAINER	ASTM A240 316	–
16	CAP SCREW	ASTM A193 B8	–
17	LEVER	ASSEMBLY	(1)
18	POSITION INDICATOR	AISI 304SS	–
19	GASKET	GRAPHITE	–
20	BEARING	SS316L+PTFE	–
21	DISC THRUST SPACER	ASTM A240 316	RETAINER

(1) PAINT SPEC SP-P09.001
(2) STEM SMOOTHNESS Ra. 0.2 ~ 0.6 µm (SUPERIOR TO API 609)
(3) PACKING CHAMBER SMOOTHNESS Ra. 1.2 ~ 2.4 µm (SUPERIOR TO API 609)
(4) DIE FORMED CHESTERTON 1622 FUGITIVE EMISSION & FIRESAFE PACKING ISO 15848-1 & API 622 CERTIFIED

TORQUE RATINGS (@ MAXIMUM DP)

Break to Open Torque (N-M)	Run to Open Torque (N-M)	End to Open Torque (N-M)	Break to Close Torque (N-M)	Run to Close Torque (N-M)	End to Close Torque (N-M)	Max Stem Allow Torque (N-M)
73	22	24	24	26	73	106

No safety factor allowed, based on seat upstream. Theoretical torque only.

RATING	CL 150	**TEST PRESSURE**	
DESIGN & MFG.	API 609-B CAT.B ASME B16.34 (WALL)	**SHELL HYDRO**	**SEAT HYDRO**
PRESS-TEMP RATING	ASME B16.34 & API 609-B	3.0 Mpa | 435 Psi	2.2 Mpa | 319 Psi
FACE TO FACE DIM.	API 609 CATEGORY B	**SEAT AIR**	**BACKSEAT**
END CONNECTION	RFSF WAFER	0.55 Mpa | 80 Psi	Mpa | Psi
END DIMENSION	ANSI B16.5	**TEMPERATURE**	
TEST & INSPECTION	API 598 ISO 5208 RATE A	-29 TO 200 °C | -20 TO 392 °F	
MARKING	MSS SP-25	**MEDIUM**	Water, Oil, Gas
OTHER REQ.	NACE MR-01-75 & MR-01-03		
PAINT	HEMPLE 3 COAT SYSTEM SP-P09.001		
TRIM	FLO-SEAL SEAT 316 TRIM		
NOTES	FIRESAFE API 607 & ISO 10497		
OTHER	DESIGN LIFE 20,000 CYCLES. TESTED BI-DIRECTIONAL		
SPECIAL	OPTIONAL HP AND LP SEAT TEST PERFORMED ISO 5208-A		

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	L	A	B	C	D	E	W	Y	Z X Z	ISO 5211	Weight
4"	100	52	96	242	335	30	106	255	91	14 x 14	F07	11.0

Dimensions in millimeters

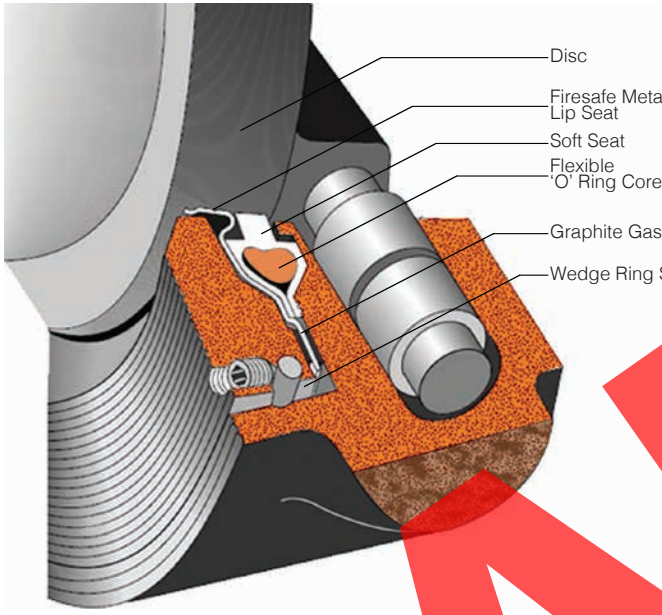
High Performance Butterfly Valve, Bi-Directional Double Offset Model SLHBFFS-AWABP3G-BN NPS 4" (DN100) Class 150, RF, Wafer, Lever Operated	**ORDER Nº/ DWG Nº**	429	**APPROVED**	B.T.
	REV.	00	**CHECKED**	S.Q.
Australian Pipeline Valve			**DRAWN**	C.C.

APV

AUSTRALIAN PIPELINE VALVE®

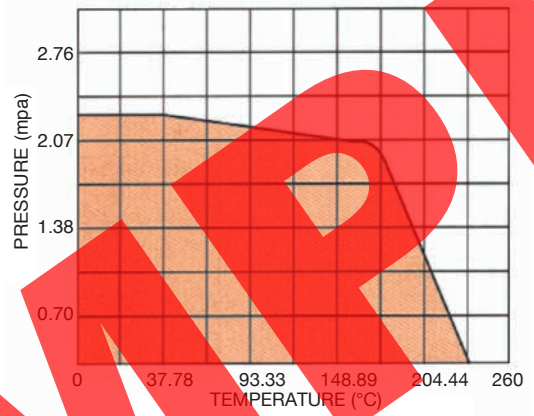
www.australianpipelinevalve.com.au

SUPERSEAL®

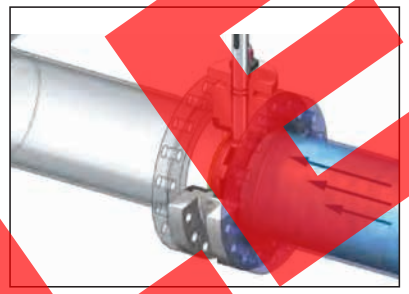


PRESSURE/TEMPERATURE

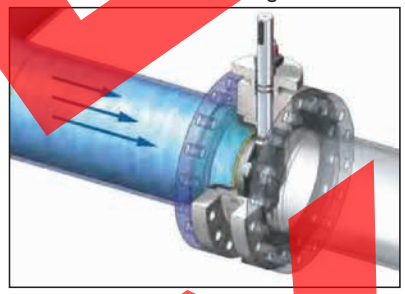
REINFORCED PTFE SEAT P/T RATING 150 CLASS



Bi-directional Isolation



Preferred Direction - Leak tight shut off

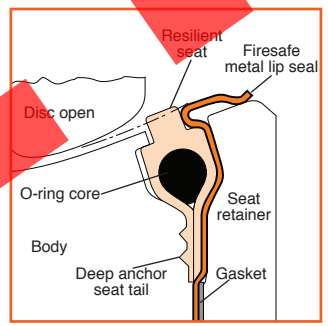


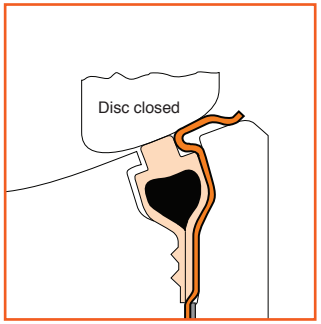
Non-Preferred Direction (Tested)

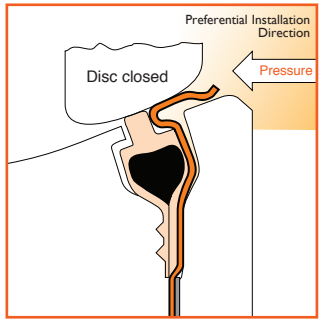
150 CLASS BODY PRESSURE/TEMPERATURE RATING (BAR)

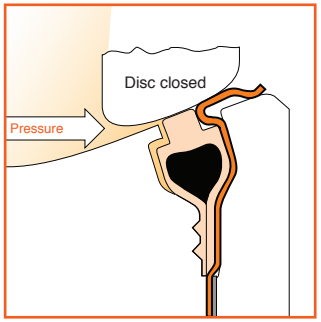
Temperature (C°)	Carbon Steel	Stainless Steel 316	20# Alloy	Monel
-20 - 38	19.7	19.0	15.8	15.8
93	17.9	16.5	13.8	13.8
149	15.8	14.8	12.4	13.1
204	13.8	13.4	11.0	12.8
260	11.7	11.7	10.3	11.7
Test Pressure	31	29.3	24.1	24.1

FIRESAFE SOFT SEAT (ENERGISED FLO-SEAL STYLE) BI-DIRECTIONAL









Cv VALUES

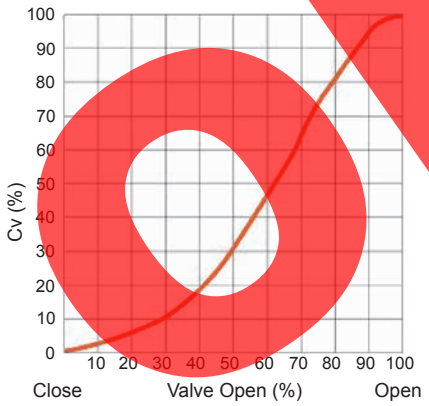
SIZE		Cv VALUE FULL OPEN		
		CLASS		
Inch	mm	150	300	600
2”	50	103	99	92
2-1/2”	65	160	160	140
3”	80	185	185	165
4”	100	375	375	305
5”	125	795	795	-
6”	150	1360	1050	870
8”	200	2830	2010	1510
10”	250	4320	2660	2200
12”	300	6660	4000	3100
14”	350	7650	4120	3900
16”	400	9820	7810	5020
18”	450	10520	9500	6050
20”	500	13550	11000	8050
24”	600	20000	18050	11000

Cv is defined as the volume of water in U.S.P.M. that will flow through a given restriction or valve opening with a pressure drop of one(1) p.s.i. room remperatre.

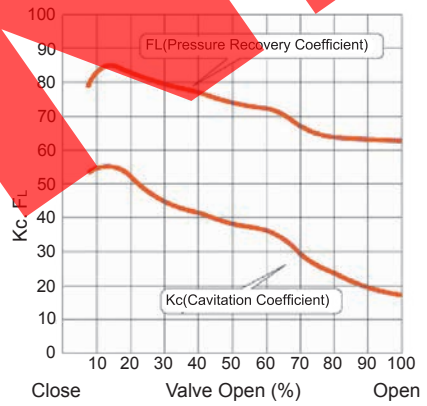
Cv FLOW COEFFICIENTS CURVES

Cv (Coefficient of Volume) is the number of U.S. gallons per minute of water required to pass through a valve with a pressure drop of 1 psi.

Representative size: 150LB - 12”



Flow Characteristics



Kc & FL Values

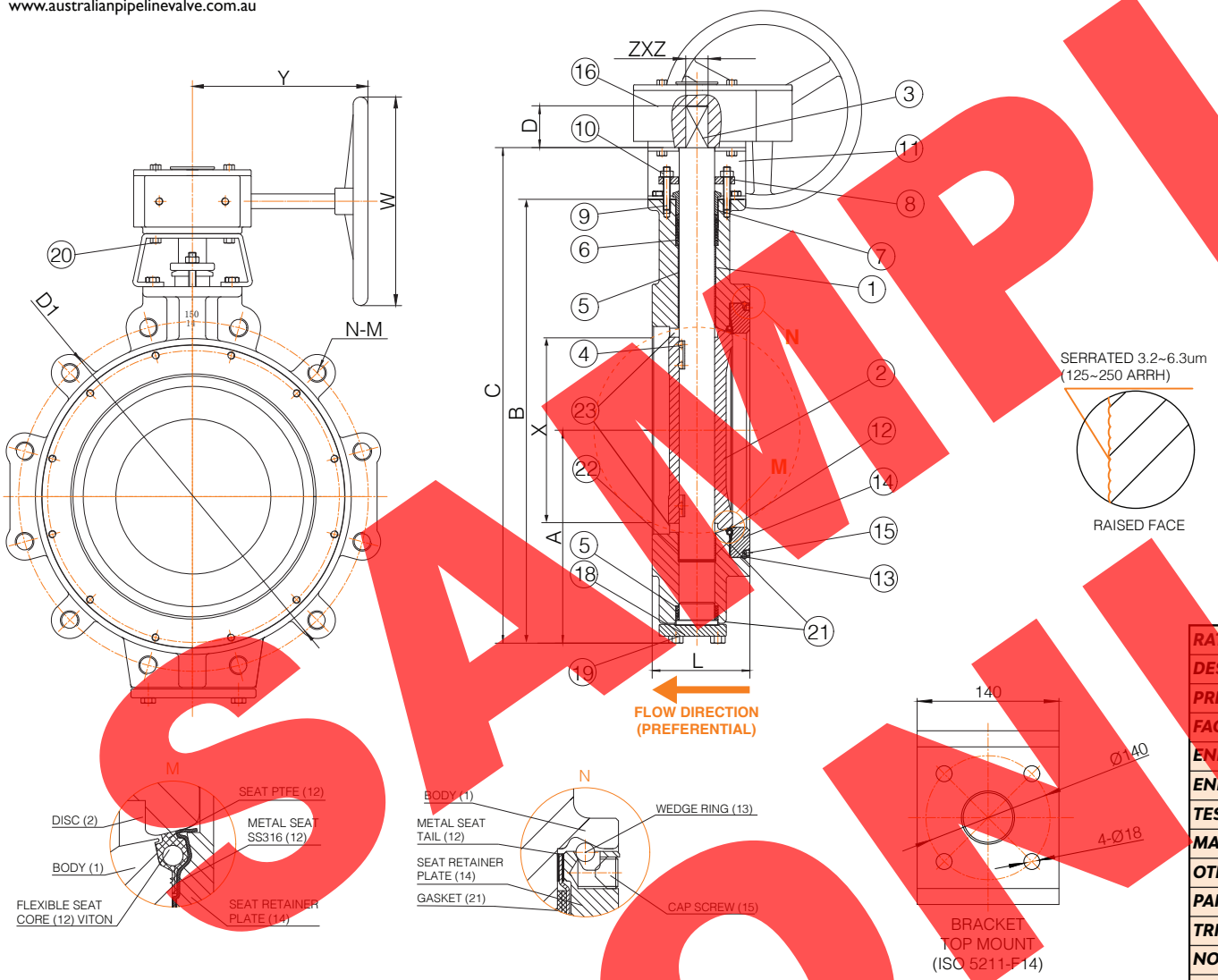
APV

AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®

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

API 622/ISO 15848-41
Fugitive Emission Certified
(design test)



BILL OF MATERIALS

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A216 WCB	(1)
2	DISC	ASTM A351 CF8M	-
3	STEM	ASTM A564 630	(2) 17-4PH
4	PINS	AISI 316SS	-
5	BEARINGS	ASTM A240 316+PTFE	BONDED
6	PACKING F.E.	GRAPHITE	(3) (4)
7	GLAND RING	ASTM A269 TP316	-
8	GLAND RETAINER	ASTM A351 CF8	-
9	STUDS	ASTM A193 B8M	-
10	HEX NUTS	ASTM A194 8M	-
11	BRACKET	ASTM A240 304	-
12	SEAT ASSEMBLY	ASTM A240 316+RPTFE	FLEXIBLE ENCAPSULATED CORE
13	WEDGE RING	AISI 316SS	-
14	SEAT RETAINER	ASTM A240 316	-
15	CAP SCREWS	ASTM A193 B8	-
16	GEAR	ASSEMBLY	(1) (5)
17	SEALING RING	GRAPHITE	-
18	BOTTOM COVER	ASTM A216 WCB	-
19	BOLTS	ASTM A193 B7	(1) ZINC PLATED
20	BOLTS	ASTM A193 B7	(1) ZINC PLATED
21	GASKET	GRAPHITE	-
22	BEARING	SS316L+PTFE	-
23	DISC THRUST SPACER	ASTM A240 316	RETAINING RING

(1) PAINT SPEC SP-P09.001
(2) STEM SMOOTHNESS Ra 0.2 ~ 0.6 µm (SUPERIOR TO API 609)
(3) PACKING CHAMBER SMOOTHNESS Ra 1.2 ~ 2.4 µm (SUPERIOR TO API 609)
(4) DIE FORMED CHESTERTON 1622 FUGITIVE EMISSION & FIRESAFE PACKING ISO 15848-1 & API 622 CERTIFIED
(5) ELECTROPHORETIC COATED INPUT SHAFT

RATING	CL 150	**TEST PRESSURE**	
DESIGN & MFG.	API 609-B CAT.B ASME B16.34 (WALL)	**SHELL HYDRO**	**SEAT HYDRO**
PRESS-TEMP RATING	ASME B16.34 & API 609-B	3.0 Mpa / 435 Psi	2.2 Mpa / 319 Psi
FACE TO FACE DIM.	API609 CATEGORY B	**SEAT AIR**	**BACKSEAT**
END CONNECTION	RFSF FULLY LUGGED & TAPPED	0.55 Mpa / 80 Psi	Mpa / Psi
END DIMENSION	ANSI B16.5	**TEMPERATURE**	
TEST & INSPECTION	API 598 ISO 5208 RATE A	-29 TO 200 °C	-20 TO 392 °F
MARKING	MSS SP-25	**MEDIUM**	Water, Oil, Gas
OTHER REQ.			
PAINT	3 COAT SYSTEM SP-P09.001 HEMPLE SYSTEM		
TRIM	316SS		
NOTES	FIRESAFE API607 & ISO 10497, 10.0 MPA MAX CWP		
OTHER	DESIGN LIFE 20,000 CYCLES. TESTED BI-DIRECTIONAL		
SPECIAL	OPTIONAL HP AND LP SEAT TEST PERFORMED ISO 5208-A		

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	L	A	B	C	D	D1	W	X	Y	Z X Z	N-M	ISO 5211	Torque ⚠	Torque (MAST)	Weight
14"	350	92	295	581	712	58	476	284	324.1	239	27 X 27	1"UNC 8X20	F14	1200 NM	2850 NM	115.0

High Performance Butterfly Valve, Bi-Directional
Double Offset Model SLHBFFS-ALABR1G-B
NPS 14" (DN350) Class 150,
RF, Lugged, Gear Operated

Australian Pipeline Valve

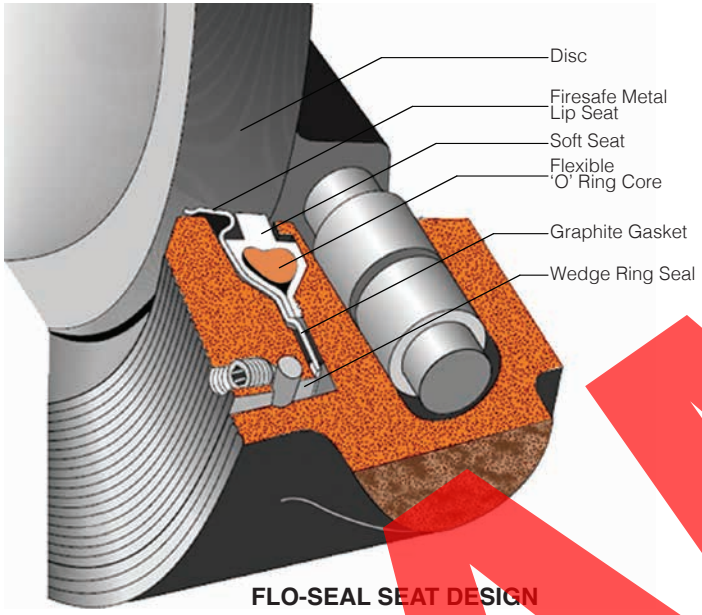
ORDER Nº/ DWG Nº	XXXXXX-XX	**APPROVED**	B.T.
REV.	00	**CHECKED**	S.Q.
		DRAWN	C.C.

Dimensions in millimeters

⚠ Maximum BTO/BTC. Torque @ maximum differential pressure, seat upstream. No safety factor included. Theoretical torque only.

APV
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®

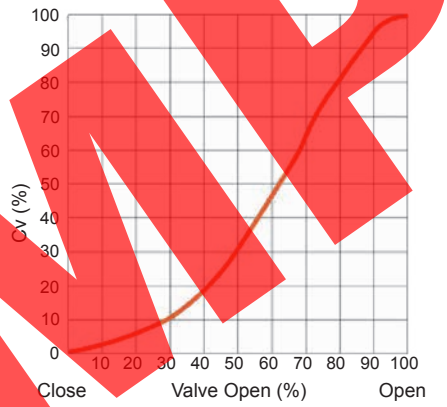


FLO-SEAL SEAT DESIGN

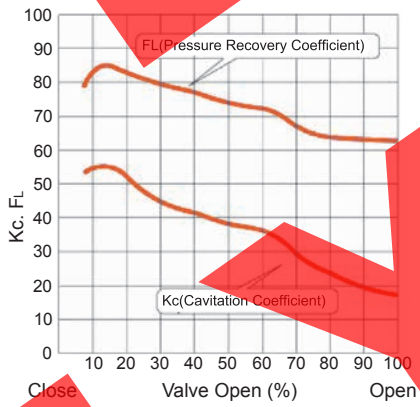
Cv FLOW COEFFICIENTS CURVES

Cv (Coefficient of Volume) is the number of U.S. gallons per minute of water required to pass through a valve with a pressure drop of 1 psi.

Representative size: 150LB - 12"



Flow Characteristics



Kc & F_L Values

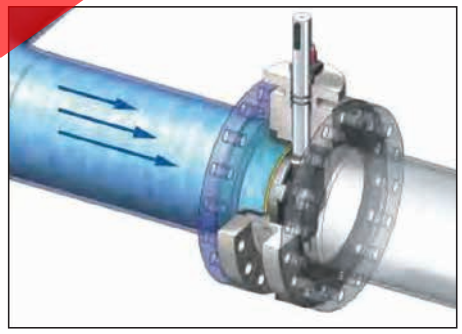
Cv VALUES

SIZE		Cv VALUE FULL OPEN		
		CLASS		
Inch	mm	150	300	600
2”	50	103	99	92
2-1/2”	65	160	160	140
3”	80	185	185	165
4”	100	375	375	305
5”	125	795	795	-
6”	150	1360	1050	870
8”	200	2830	2010	1510
10”	250	4320	2660	2200
12”	300	6660	4000	3100
14”	350	7650	4120	3900
16”	400	9820	7810	5020
18”	450	10520	9500	6050
20”	500	13550	11000	8050
24”	600	20000	18050	11000

Cv is defined as the volume of water in U.S.P.M. that will flow through a given restriction or valve opening with a pressure drop of one(1) p.s.i. room remperatre.

Bi-directional Isolation

Preferred Direction - Leak tight shut off

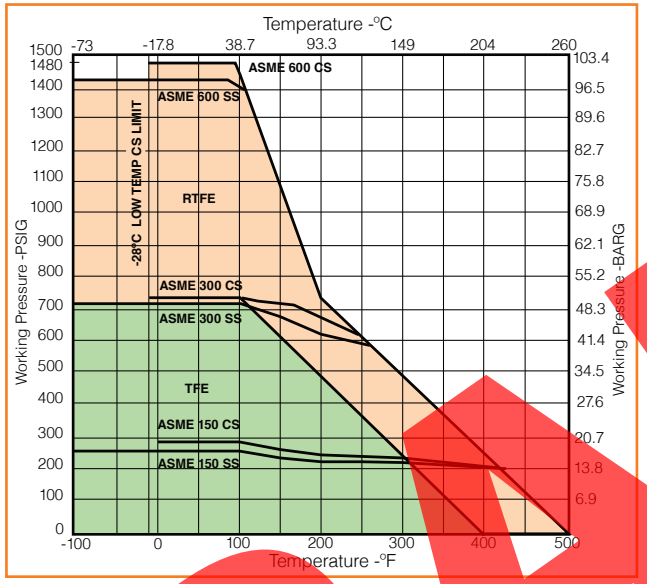


Non-Preferred Direction (Tested)

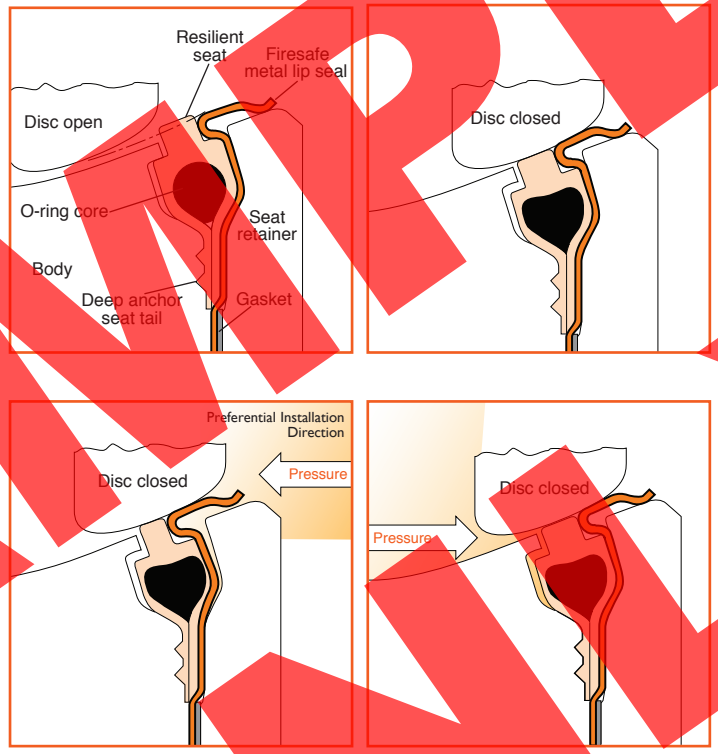
APV
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

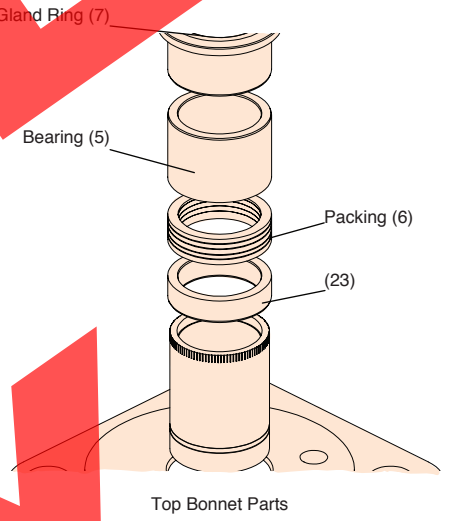
SUPERSEAL®

ASME B16.34 BODY & SOFT SEAT PRESSURE TEMPERATURE RATING

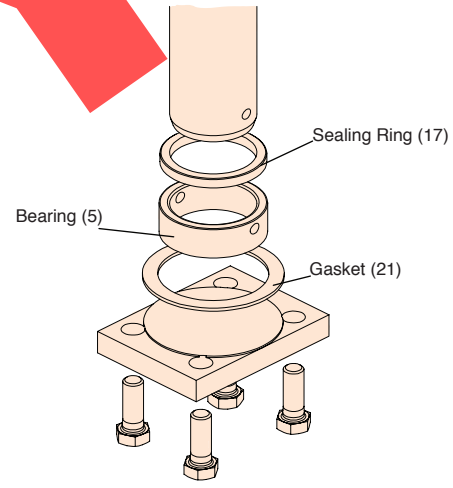


FIRESAFE SOFT SEAT (ENERGISED FLO-SEAL STYLE) BI-DIRECTIONAL





Top Bonnet Parts



Bottom Bonnet Parts

APV

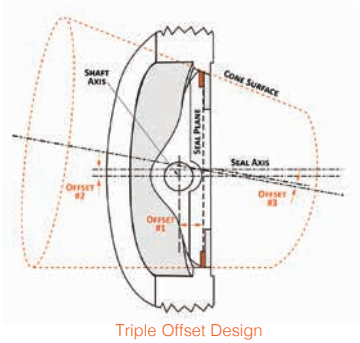
AUSTRALIAN PIPELINE VALVE®

www.australianpipelinevalve.com.au

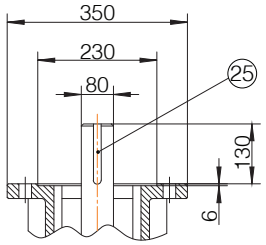
SUPERSEAL®

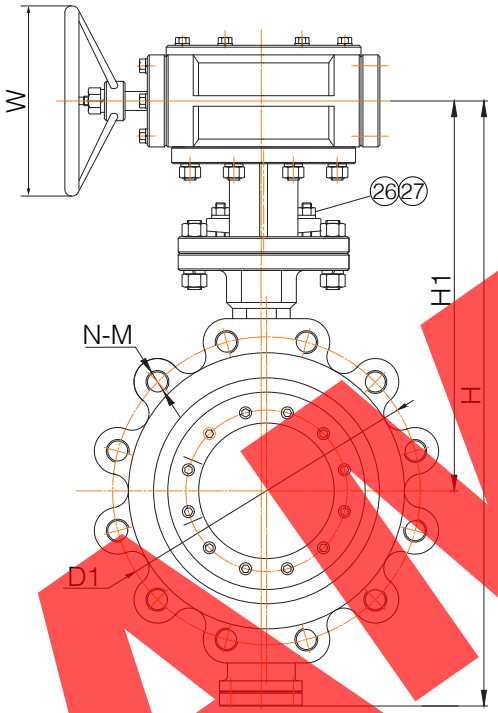
API 607 7th Ed.
ISO 10497
Firesafe Certified

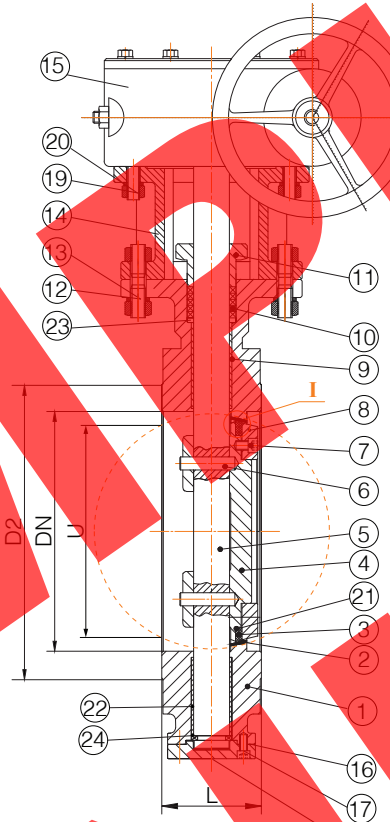
API 622/ISO 15848-41
Fugitive Emission Certified
(design test)



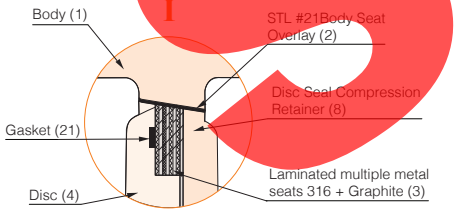
Triple Offset Design

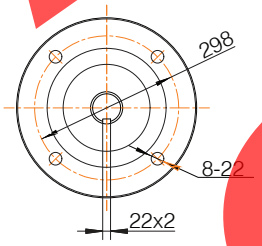




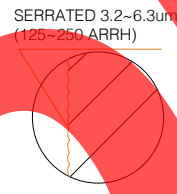


PREFERRED FLOW DIRECTION





ISO 5211-F30



BILL OF MATERIALS

NO.	PART NAME	MATERIAL	NOTES
1	BODY	ASTM A216 WCB	(1)
2	BODY SEAT SURFACE	STELLITE#21	OVERLAY
3	DISC SEAT RING	ASTM A240 316+GRAPHITE	LAMINATED
4	DISC	ASTM A351 CF8M	-
5	STEM	ASTM A564 630	(2) 17-4PH
6	PINS	ASTM A564 630	17-4PH
7	SCREWS	ASTM A193 B8M	-
8	DISC SEAT RETAINER	ASTM A182 F316	-
9	BUSHING UPPER	ASTM A240 316	NITRIDED
10	PACKING F.E.	GRAPHITE CHESTERTON	(3) (5)
11	PACKING GLAND	ASTM A216 WCB	(1)
12	STUD	ASTM A193 B7M	(1) ZINC PLATED
13	HEX NUT	ASTM A194 2HM	(1) ZINC PLATED
14	ADAPTOR	ASTM A216 WCB	(1) ZINC PLATED
15	GEAR	ASSEMBLY	(1) PAINTED
16	GASKET	AISI 316SS+GRAPHITE	-
17	BOLT	ASTM A193 B7M	(1) ZINC PLATED
18	BOTTOM COVER	ASTM A216 WCB	(1)
19	BOLTS	ASTM A193 B7	(1) ZINC PLATED
20	NUTS	ASTM A194 2H	(1) ZINC PLATED
21	GASKET	GRAPHITE	-
22	LOWER BUSHING	ASTM A269 TP316	NITRIDING
23	SEAL RING	GRAPHOIL	-
24	RETAINING RING	ASTM A240 316	(4)
25	SHAFT KEY	AISI 1045	ZINC PLATED
26	BOLT	ASTM A193 B7M	(1) ZINC PLATED
27	NUT	ASTM A194 2HM	(1) ZINC PLATED

(1) PAINT SPEC SP-P09.001
(2) STEM SMOOTHNESS Ra 0.2 ~ 0.6 µm (SUPERIOR TO API 609)
(3) PACKING CHAMBER SMOOTHNESS Ra 1.2 ~ 2.4 µm (SUPERIOR TO API 609)
(4) B.O.P. STEM SYSTEM
(5) DIE FORMED CHESTERTON 1622 FUGITIVE EMISSION & FIRESAFE PACKING ISO 15848-1 & API 622 CERTIFIED

RATING	CL 300	**TEST PRESSURE**	
DESIGN & MFG.	API609-B CAT.A ASME B16.34 (WALL)	**SHELL HYDRO**	**SEAT HYDRO**
PRESS-TEMP RATING	ASME B16.34 & API 609-A	7.6 Mpa / 1103 Psi	5.5 Mpa / 798 Psi
FACE TO FACE DIM.	API609 CATEGORY A	**SEAT AIR**	**BACKSEAT**
END CONNECTION	RFSF LUGGED & TAPPED	0.55 Mpa / 80 Psi	Mpa / Psi
END DIMENSION	ANSI B16.5	**TEMPERATURE**	
TEST & INSPECTION	API 598 ISO 5208 RATE A	-29 TO 400 °C	-20 TO 752 °F
MARKING	MSS SP-25	**MEDIUM**	Water, Oil, Gas
OTHER REQ.	ZERO LEAKAGE, BLOW OUT PROOF STEM		
PAINT	3 COAT HEMPLE PAINT SYSTEM SP-P09.001		
TRIM	LAMINATED METAL SEAT 316/STELLITE		
NOTES	FIRESAFE CERTIFIED API 607 7TH EDITION		
OTHER	DESIGN LIFE 20,000 CYCLES		
SPECIAL	NACE MR-01-75 & MR-01-03		

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	L	D1	D2	H1	H	N-M	U	W	ISO 5211	Torque ⚠	Torque (MAST)	Weight
24"	600	81	813	692	850	13600	24-1 1/2"	545	300	F30	13000 NM	28,000 NM	1060.0

Dimensions in millimeters

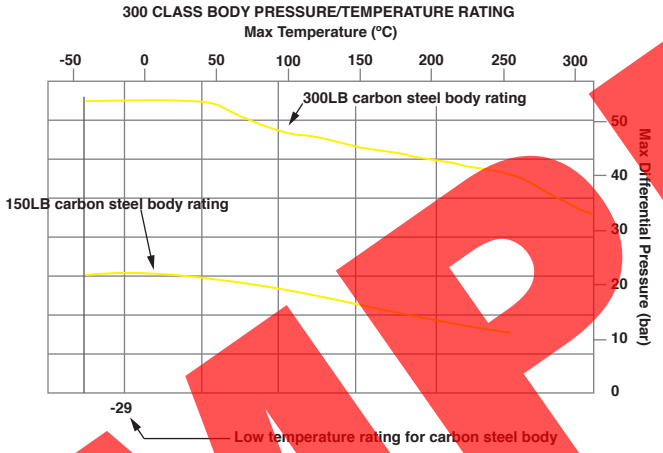
⚠ BTO & BTC Torque @ maximum differential pressure, stem upstream. No safety factor included. Theoretical torque only.

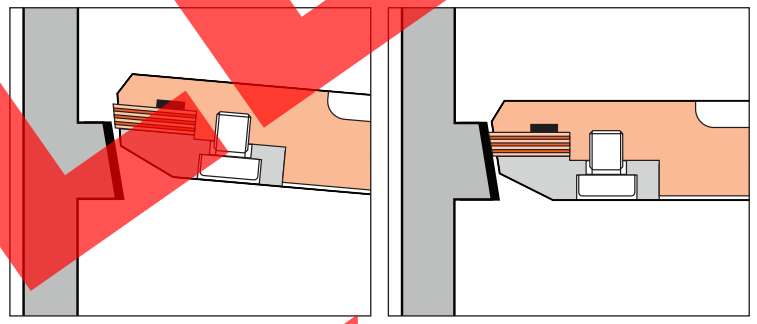
High Performance Butterfly Valve, Bi-Directional Triple Offset Model SLHBFFS-T-BLABL1G-SN NPS 24" (DN600) Class 300, RF, Lugged & Tapped, Gear Operated	**ORDER Nº/ DWG Nº**	446	**APPROVED**	B.T.
	REV.	00	**CHECKED**	S.Q.
Australian Pipeline Valve			**DRAWN**	C.C.

APV

AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®





1. Multi-sealing triple eccentric construction
   - Primary metal seat
   - Multiple metal laminations graphite filled
2. Excellent sealing in both directions
3. Firesafe API 607
4. Stellite overlay on disc seat

300 CLASS BODY PRESSURE/TEMPERATURE RATING (BAR)

Temperature (C°)	Carbon Steel	Stainless Steel 316	20# Alloy	Monel
-20 - 38	51.0	499.6	41.4	41.1
93	46.5	42.7	35.9	36.5
149	45.2	38.6	32.1	34.1
204	43.8	35.5	29.0	33.1
260	41.4	33.1	26.9	32.8
Test Pressure	77.6	75.8	62	62

Over 260°C refer to ASME B16.34

Cv VALUES

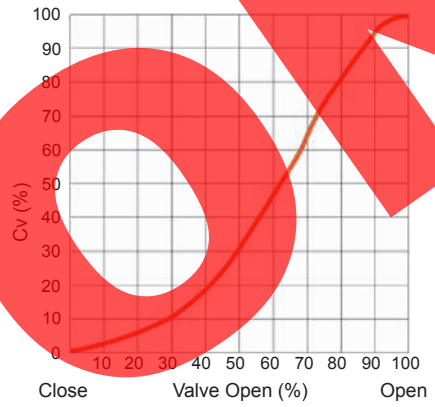
SIZE		Cv VALUE FULL OPEN		
		CLASS		
Inch	mm	150	300	600
2”	50	103	99	92
2-1/2”	65	160	160	140
3”	80	185	185	165
4”	100	375	375	305
5”	125	795	795	-
6”	150	1360	1050	870
8”	200	2830	2010	1510
10”	250	4320	2660	2200
12”	300	6660	4000	3100
14”	350	7650	4120	3900
16”	400	9820	7810	5020
18”	450	10520	9500	6050
20”	500	13550	11000	8050
24”	600	20000	18050	11000

Cv is defined as the volume of water in U.S.P.M. that will flow through a given restriction or valve opening with a pressure drop of one(1) p.s.i. room remperatre.

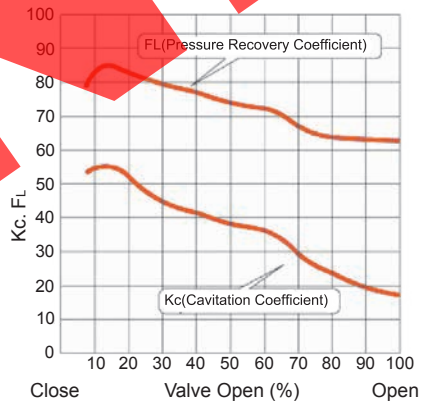
Cv FLOW COEFFICIENTS CURVES

Cv (Coefficient of Volume) is the number of U.S. gallons per minute of water required to pass through a valve with a pressure drop of 1 psi.

Representative size: 150LB - 12”

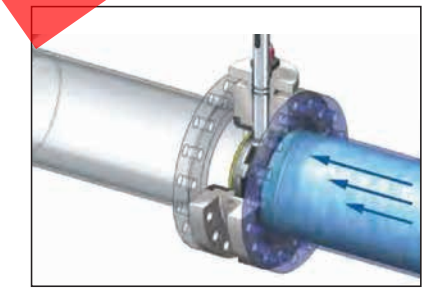


Flow Characteristics

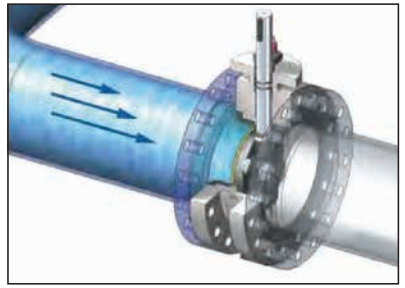


Kc & FL Values

Bi-directional Isolation



Preferred Direction - Leak tight shut off



Non-Preferred Direction

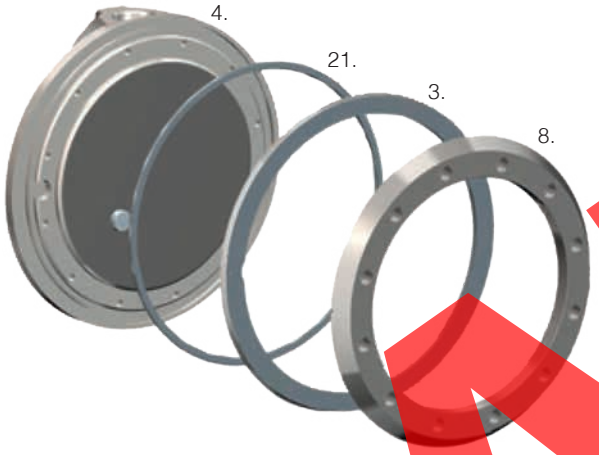
APV
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®

MULTIPLE LAMINATED DISC SEATING

Key Components

8. Disc retainer
3. Seal ring triple laminated
21. Spiral wound or graphite gasket
4. Disc and reference pin



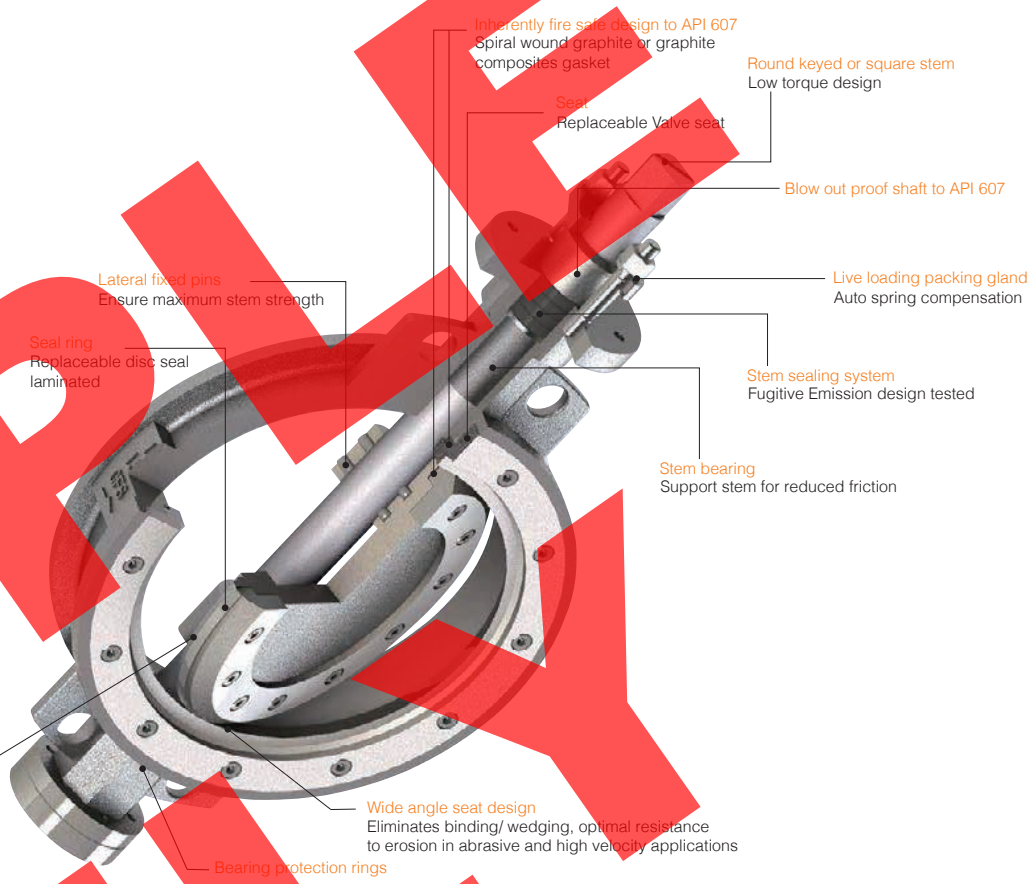


Table 5 - Maximum Allowable Closure Test Seat Leakage Rate ISO 5208:2008(E)/API 6D* (2008)

Test fluid	Unit leakage rates	Rate A	Rate AA	Rate B	Rate C	Rate CC	Rate D	Rate E	Rate EE	Rate F	Rate G
Liquid	mm^3/s	No visually detectable leakage for the duration of the test	0,006 x DN	0,01 x DN	0,03 x DN	0,08 x DN	0,1 x DN	0,3 x DN	0,39 x DN	1 x DN	2 x DN
	drops/s		0,000 1 x DN	0,000 16 x DN	0,000 5 x DN	0,001 3 x DN	0,001 6 x DN	0,004 8 x DN	0,006 2 x DN	0,016 x DN	0,032 x DN
Gas	mm^3/s	No visually detectable leakage for the duration of the test	0,18 x DN	0,3 x DN	3 x DN	22,3 x DN	30 x DN	300 x DN	470 x DN	3 000 x DN	6 000 x DN
	bubbles/s		0,003 x DN	0,0046 x DN	0,045 8 x DN	0,340 7 x DN	0,458 4 x DN	4,583 7 x DN	7,129 3 x DN	45,837 x DN	91,673 x DN

**API 6D - 2008 refers to ISO 5208 (2008-E) for leakage rates. EN 12266-1 also corresponds to ISO 5208 leakage rates but only for class A, B, C, D, E, F & G.*

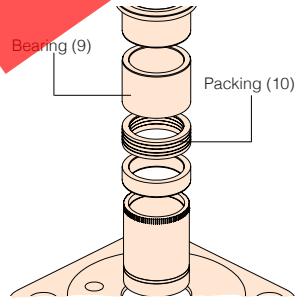
NOTE 1 *The leakage rates only apply when discharging test fluid to the atmosphere.*

NOTE 2 *The closure leakage rate that applies is either that identified in a valve product standard or a leakage rate identified in a purchaser's valve procurement purchase order that is more stringent than that specified in the product standard.*

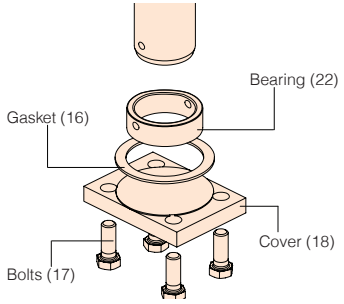
NOTE 3 *The meaning of "No visually detectable leakage" is that there is no visible weeping or leakage in the form of drops or bubbles.*

NOTE 4 *There is a loosely defined correspondence between the leakage rate acceptance values of API 598 and the leakage values Rate A as applied to DN < 50, Rate AA-Gas CC-Liquid for other than metal seated check valves and for check valves Rate EE-Gas and Rate G-Liquid. Rates A, B, C, D, E, F and G correspond to values in EN 12266-1.*

NOTE 5 *Double block & bleed leakage test is optional only and the client can specify the allowable leakage past the first seat for larger sizes.*



Top Bonnet Parts

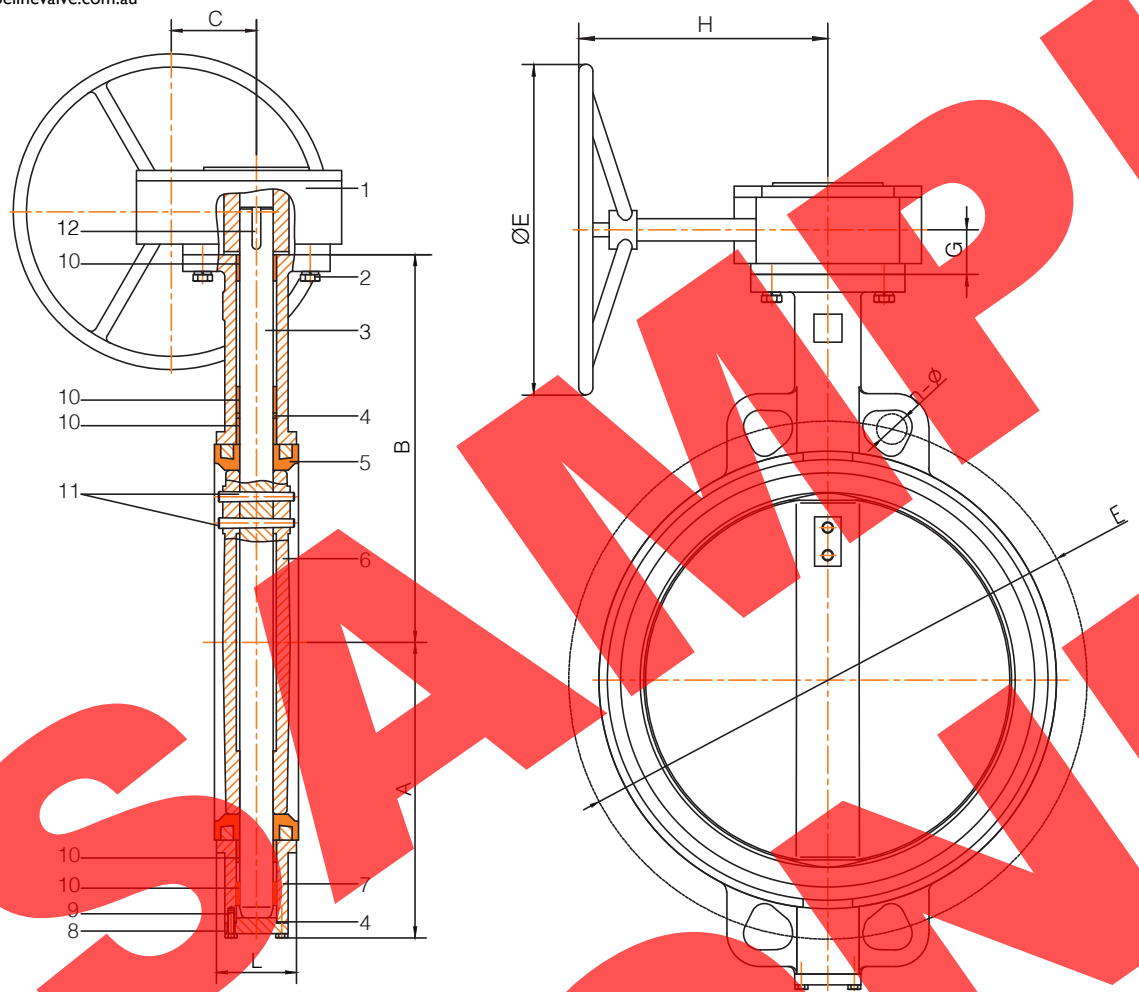


Bottom Bonnet Parts

APV

AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®



BILL OF MATERIALS

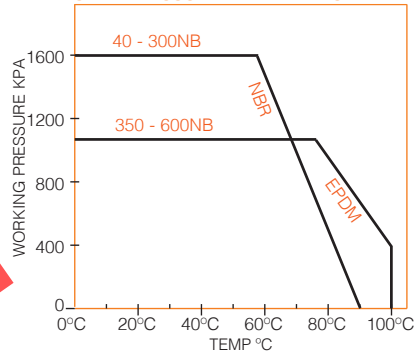
NO.	PART NAME	MATERIAL	NOTES
1	GEAR OPERATOR	CI-ASSEMBLY	+FBE
2	BOLT	CARBON STEEL	+ZINC PLATED
3	STEM	A276 SS316	-
4	O-RING	NBR	-
5	SEAT	NBR	-
6	DISC	ASTM A351 CF8M	-
7	BODY	GGG40 CAST IRON	+FBE
8	END CAP	GGG40 CAST IRON	+FBE
9	BOLT	CARBON STEEL A3	+ZINC PLATED
10	BUSHING	PTFE	-
11	TAPER PIN	AISI SS410	-
11	PINS	CARBON STEEL	+ZINC PLATED

OPERATING TORQUE (NM)

VALVE SIZE		△ kPa (psi)				
in	mm	170 (25)	340 (50)	680 (100)	1020 (150)	1600 (232)
2	50	12	12	20	25	35
2 1/2	65	12	12	25	30	42
3	80	18	19	30	35	60
4	100	32	33	40	50	80
5	125	49	51	60	70	90
6	150	72	76	70	90	215
8	205	127	139	160	190	400
10	255	196	219	240	300	
12	305	289	323	400	500	
14	355	439	481	554	830	
16	405	568	636	762	1110	
18	455	751	831	1005	139	
20	510	931	1052	1282	1730	
24	610	1375	1559	1871	2020	

Torque shown is break/reseating (same). No safety factor included

SEAT PRESSURE / TEMPERATURE



		TEST PRESSURE	
RATING	1600 kPa		
DESIGN & MFG.	API609-A, BSEN593, AS4795, MSS SP67	SHELL HYDRO	SEAT HYDRO
PRESS-TEMP RATING	BS/EN 1092-2, AS4331.1 PN16	2.4 Mpa / 348 Psi	1.8 Mpa / 261 Psi
FACE TO FACE DIM.	API609-A, EN558, AS4795	SEAT AIR	BACKSEAT
END CONNECTION	WAFER SEMI LUG TABLE E & PN16 DRILLING	Mpa / Psi	Mpa / Psi
END DIMENSION	AS2129 TABLE E/AS4087 PN14/16	TEMPERATURE	
TEST & INSPECTION	API609-A, BS/EN12266-1, AS4795	-4 TO 100 °C	24.8 TO 212 °F
MARKING	MSS SP-25	MEDIUM	Water
OTHER REQ.			
PAINT	FUSION BONDED EPOXY (BLUE) FBE-CI-01		
TRIM	316SS + NBR		
NOTES			
OTHER	TOP MOUNT ISO 5211		

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	L	A	B	C	E	G	H	D	n-Ø	Weight
14"	350	77	277	368	80	278	37	225	270	4-26	85

Dimensions in millimeters

Lined Butterfly Valve, Wafer
Model 2014HP, Concentric,
NPS 14" (DN350)
1600 kPa, Gear Operated

Australian Pipeline Valve

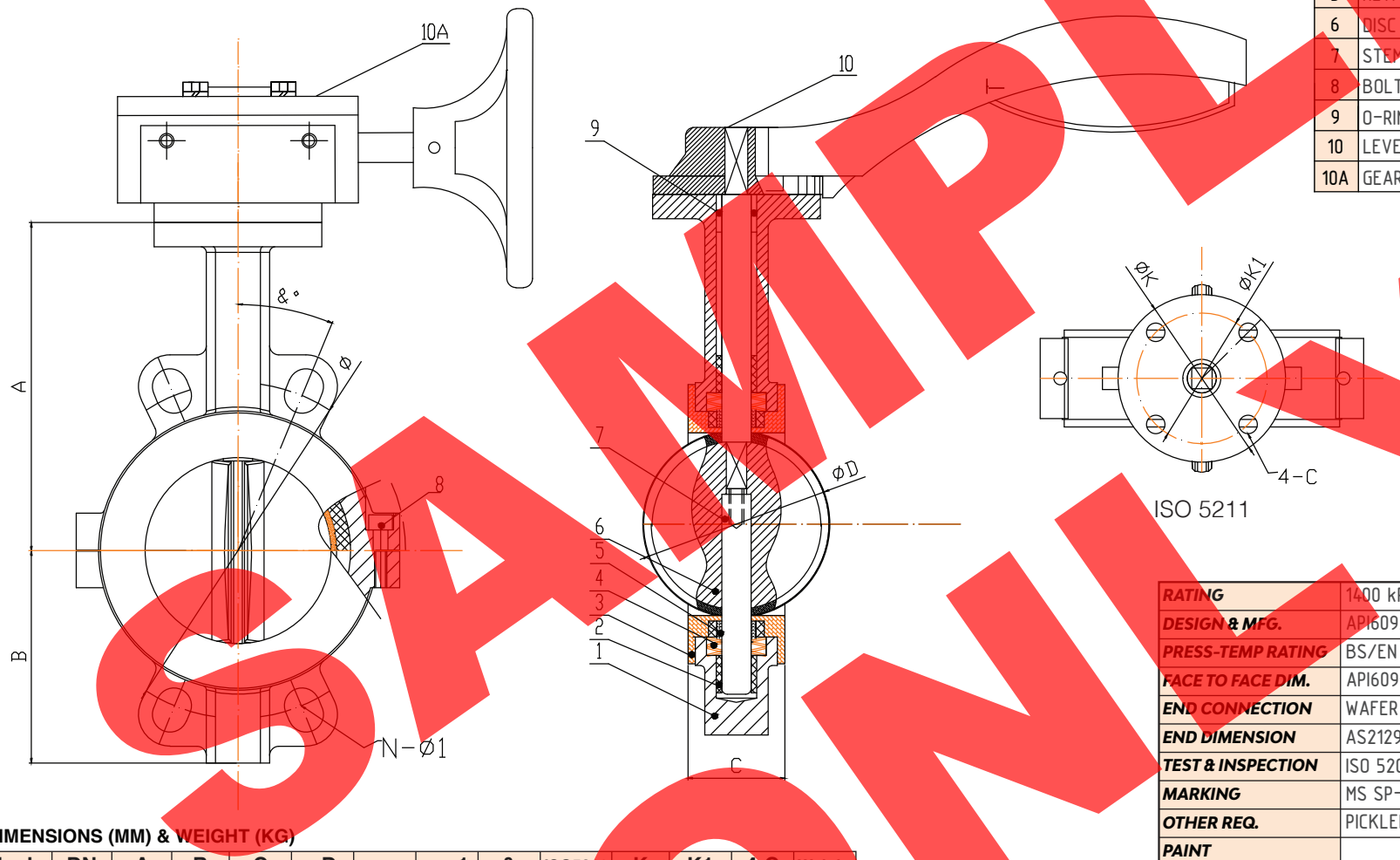
ORDER Nº/ DWG Nº	XXXXXX-00~00	APPROVED	B.T.
REV.	00	CHECKED	S.Q.
		DRAWN	C.C.

APV
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®

BILL OF MATERIALS

NO.	PART NAME	QTY	MATERIAL	NOTES
1	BODY	1	ASTM A351 CF8M	-
2	BUSHING	4	PTFE	-
3	SEAT	1	SOLID PTFE	-
4	DISC SPRING	8	AISI 316SS	-
5	RETAINER RING	2	PTFE	-
6	DISC	1	ASTM A351 CF8M	-
7	STEM	1	ASTM A276 SS316	-
8	BOLT	2	AISI SS316	-
9	O-RING	1	VITON	-
10	LEVER	1	CI+FBE	-
10A	GEARBOX-ASSY	1	CI+FBE	-



ISO 5211

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	A	B	C	øD	ø	n-ø1	&	ISO5211	K	K1	4-C	Weight
2"	50	80	161	43	53	114	4-18	45	F05	90	70	4-10	11
2 1/2"	65	89	175	44.7	63	127	4-18	45	F05	90	70	4-10	11
3"	80	95	181	45.2	77	146	4-18	22.5	F05	90	70	4-10	11
4"	100	114	200	52	101	178	4-18	22.5	F07	90	70	4-10	11
5"	125	127	213	54.5	124	210	4-18	22.5	F07	90	70	4-10	14
6"	150	139	226	55.8	152	235	4-22	22.5	F07	90	70	4-10	14
8"	200	175	260	60.6	202	292	4-22	22.5	F10	125	102	4-12	17
10"	250	203	292	65.6	248	356	4-22	15	F10	125	102	4-12	22
12"	300	242	337	76.9	298	406	4-22	15	F10	125	102	4-12	22

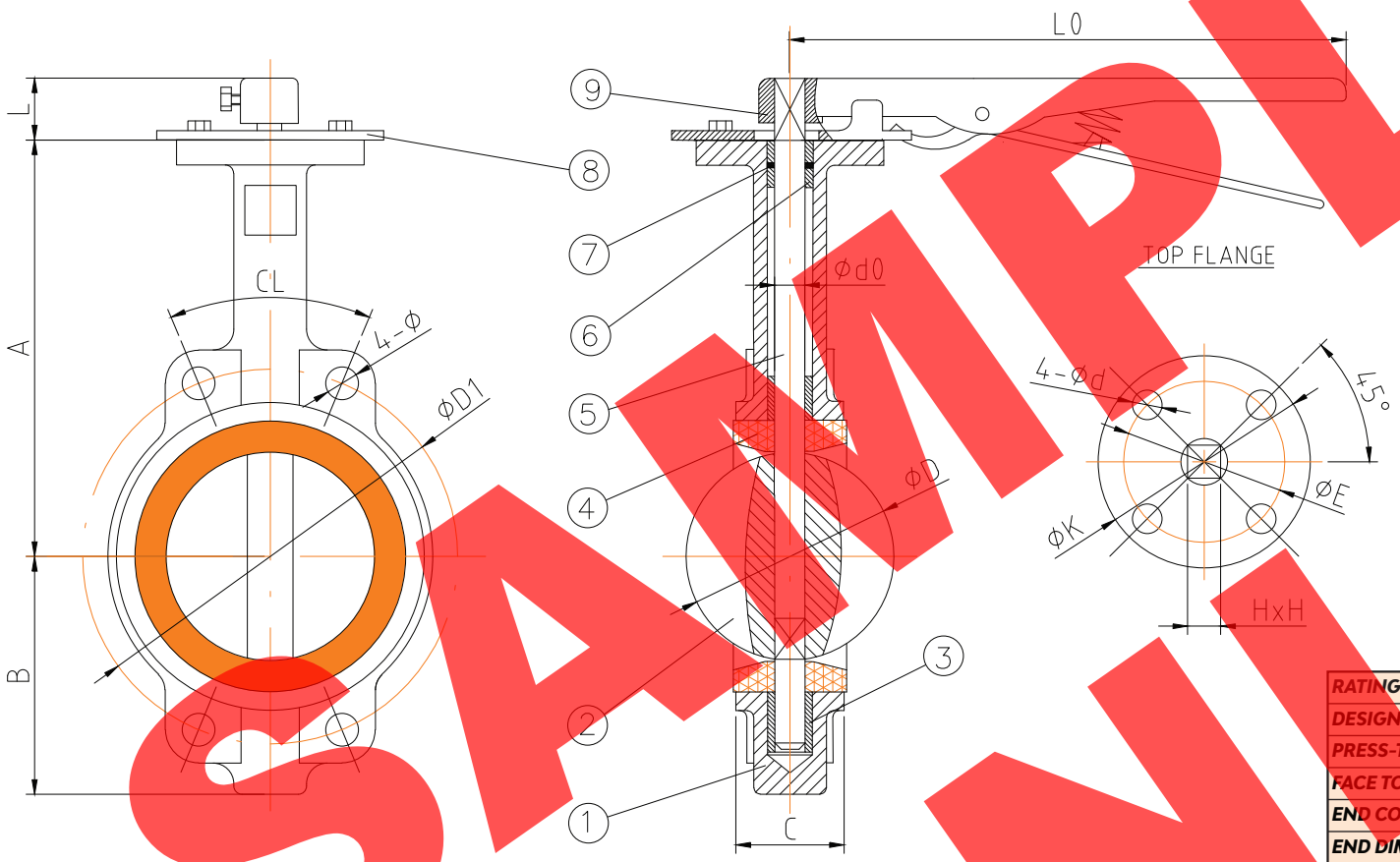
Dimensions in millimeters

RATING	1400 kPa CWP	**TEST PRESSURE**		
DESIGN & MFG.	API609/BS EN593	**SHELL HYDRO**		**SEAT HYDRO**	
PRESS-TEMP RATING	BS/EN 1092-2	2.1 Mpa	304 Psi	1.54 Mpa	223 Psi
FACE TO FACE DIM.	API609-A EN558 (DIN 3202 K1)	**SEAT AIR**		**BACKSEAT**	
END CONNECTION	WAFER SEMI LUG CLASS PN14 & PN16*	Mpa	Psi	Mpa	Psi
END DIMENSION	AS2129 TABLE E/AS4087 PN14/PN16*	**TEMPERATURE**			
TEST & INSPECTION	ISO 5208, BSEN12266-1	-4 TO 150 °C		24.8 TO 302 °F	
MARKING	MS SP-25	**MEDIUM**	Water		
OTHER REQ.	PICKLED & PASSIVATED BODY				
PAINT					
TRIM	316SS + PTFE				
NOTES	*1400 kPa MAXIMUM CWP				
OTHER	TOP MOUNT ISO 5211				

Lined Butterfly Valve, Wafer Model 2014, Concentric NPS 2"~12" (DN50~DN300) 1400 kPa, Gear Operated	**ORDER Nº/ DWG Nº**	XXXXXX-01~04	**APPROVED**	B.T.
	REV.	00	**CHECKED**	S.Q.
Australian Pipeline Valve			**DRAWN**	C.C.

APV
AUSTRALIAN PIPELINE VALVE®
www.australianpipelinevalve.com.au

SUPERSEAL®



BILL OF MATERIALS

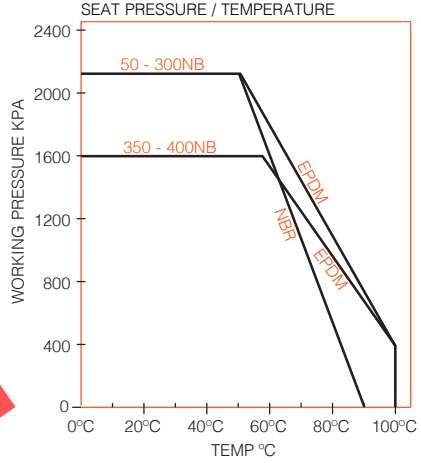
NO.	PART NAME	QTY	MATERIAL	NOTES
1	BODY	1	DUCTILE IRON	+FBE
2	DISC	1	ASTM A351 CF8M	-
3	BUSHING	1	PTFE	-
4	SEAT	1	NBR	-
5	STEM	1	ASTM A276 SS316	-
6	BUSHING	6	PTFE	-
7	O-RING	1	NBR	-
8	INDICATOR	1	CARBON STEEL	GALVANISED
9	LEVER	1	CAST IRON	+FBE

OPERATING TORQUE (NM)

Valve Size (ins)	Δ P (psi) 200	250	300
2	30	37	45
2-1/2	35	43	55
3	55	67	75
4	70	90	105
5	100	150	180
6	170	225	240
8	300	416	490

Torque shown is break/reseating (same)
Torques based on clean, wet fluids. 20% safety factor recommended. For oil/lubricated fluids torque can reduce from 20% to 50%.
For non lubricating dry gases torque will increase 35% to 80%. Also, dry or abrasive/dirty service, temperature variations as well as infrequent use can all dramatically increase torque.

SEAT PRESSURE / TEMPERATURE



		TEST PRESSURE	
RATING	150 LB 2000 kPa CWP	SHELL HYDRO	SEAT HYDRO
DESIGN & MFG.	API609-A/MSS-SP67 ANSI B16.42 (WALL)	3.0 Mpa / 435 Psi	2.2 Mpa / 293 Psi
PRESS-TEMP RATING	ANSI B16.42 MSS-SP67	SEAT AIR	BACKSEAT
FACE TO FACE DIM.	API609-A	Mpa / Psi	Mpa / Psi
END CONNECTION	WAFER SEMI LUG	TEMPERATURE	
END DIMENSION	API609-A	-4 TO 100 °C / 24.8 TO 212 °F	
TEST & INSPECTION	ISO 5208	MEDIUM	Water
MARKING	MS SP-25		
OTHER REQ.			
PAINT	FUSION BONDED EPOXY (BLUE) FBE-CI-01		
TRIM	316SS + NBR		
NOTES			
OTHER	TOP MOUNT ISO 5211		

DIMENSIONS (MM) & WEIGHT (KG)

Inch	DN	A	B	C	øD	LO	dO	ISO5211	L	K	E	4-ød	øD1	4-ø	CL	HxH	Weight
2"	50	161	80	42	52.9	260	12.6	F07	30	90	70	4-9	120.6	4-19	85.28	11x11	2.3
2 1/2"	65	175	89	44.7	64.5	260	12.6	F07	30	90	70	4-9	139.7	4-19	98.78	11x11	2.7
3"	80	181	95	45.2	78.8	260	12.6	F07	30	90	70	4-9	152.4	4-19	107.76	11x11	3.6
4"	100	200	114	52.0	104.0	260	15.77	F07	30	90	70	4-9	190.5	4-19	72.90	11x11	5.0
5"	125	213	127	54.4	123.3	260	18.92	F07	30	90	70	4-9	215.9	4-22.4	82.62	14x14	6.1
6"	150	226	139	55.8	155.1	260	18.92	F07	30	90	70	4-9	241.3	4-22.4	92.34	14x14	7.1
8"	200	260	175	60.6	202.3	375	22.1	F10	40	125	102	4-12	298.4	4-22.4	114.19	17x17	13.6

Dimensions in millimeters

Lined Butterfly Valve, Wafer Model 2014HP, Concentric, NPS 2"~8" (DN50~DN200) 2000 kPa, 150LB, Lever Operated	ORDER Nº/ DWG Nº	XXXXXX-01~04	APPROVED	B.T.
	REV.	00	CHECKED	S.Q.
Australian Pipeline Valve			DRAWN	C.C.

AUSTRALIAN PIPELINE VALVE®

ADELAIDE • BRISBANE • PERTH

PAINTING PROCEDURE FBE-CI-01 CI GGC-WF

SH. 1 / 1
REV. 2

GENERAL SERVICE APPLICATION	Cast Iron/Ductile Iron surfaces
SCOPE	Standard level protection against weathering, brackish water, salt spray, mild acids, alkaline solutions. Resistance to solvents. Good electrical insulation.
TEMPERATURE RESISTANCE	-29ºC ~ 180ºC
PRELIMINARY SURFACE PREPARATION	Blasting to Grade Sa 2.1/2 then cleaning with degreaser and washing with high pressure water at 100ºC, and then drying in open air for 24 hours.
PROTECTION OF UNPAINTED PARTS	Paint prior to assembly internal & external.
FINAL SURFACE PREPARATION	Machining to smoothness of ≤ 6,3µm where applicable. Prepare all surfaces to ensure proper adhesion of paint film by polishing and de-burring, removing any dust, rust, water, oil or other impurities.
PAINT APPLICATION	Preheat body prior to spraying, post heat body after spraying electrostatic spray as per manufacturer's specification. Painting performed at 5 ~ 30ºC at less than 85% humidity. Allow at least 24 hours between coats for drying time.

NO. OF COATS	TYPE OF PROCESS	TYPE	FILM THICKNESS
Body	Fusion Bonded Epoxy Powder RAL 5005 Light Blue	Anti-Corrosive self curing. Impact resistance (N.cm):500 Bending Test: 2 mm	250 µm
TOTAL DRY FILM THICKNESS:			250 µm

NOTES:

Application temperature, drying times and other physical data of painting as per manufacturer specifications.

Rev.	Date	Remarks	Issued by:
1	Nov 16th 2018	Second Issue	GP

www.australianpipelinevalve.com.au

70-78 Stanbel Road Salisbury Plain, South Australia 5109
Telephone +61 (0)8 8285 0033 Fax +61 (0)8 8285 0044
admin@australianpipelinevalve.com.au