

IPV Reduced Bore Ball Valve Customer Information Document



Series 6142



SOUTHERN AFRICA





IPV Reduced Bore Ball Valve

The AVK – IPV brand products were designed for heavy duty, difficult and critical applications in mind for the Chemical, Petro-chemical, Mining and Slurry segments. The first valves were introduced to the South African market more than 50 years ago.

Flanged Ball Valves, **Reduced bore** is available in sizes DN40 – DN300, and Class #150 & #300

The IPV reduced bore, end entry, floating ball design is manufactured as

One Piece Design – DN40 to DN250

Two Piece Design – DN300

Understanding the IPV Factory Figure Number Description –

R523 – Reduced Bore, Class #150, Body = WCB; Ball & Stem = CF8M; Seats = RTFE

R623 – Reduced Bore, Class #300, Body = WCB; Ball & Stem = CF8M; Seats = RTFE

R533 – Reduced Bore, Class #150, Body = CF8M; Ball & Stem = CF8M; Seats = RTFE

R633 – Reduced Bore, Class #300, Body = CF8M; Ball & Stem = CF8M; Seats = RTFE

R534 – Reduced Bore, Class #150, Body = CF8M; Ball & Stem = CN7M (Alloy 20); Seats = RTFE

R544 – Reduced Bore, Class #150 Body = CN7M; Ball & Stem = CN7M (Alloy 20); Seats = PTFE



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IPV Reduced Bore Ball Valve

Features & Benefits

- One-piece body greater mechanical strength and no potential leak paths.
- Blow-out proof stem pressure safe shoulder design retains stem in body for increased safety
- Integral anti- static device ensures operational safety by eliminating static build up
- Adjustable gland packing, deep gland packing (typically 20% more) to maximize service life
- High precision ball precision finished ball guarantees high-and-low pressure seal, consistent operating torque and longer life
- Protected seats are encapsulated in body and protected from flow
- Firesafe a true secondary metal seat formed to the ball diameter to ensure a tight metal seal under emergency conditions
- Good flow characteristics offers a low pressure drop
- Fire safe secondary metal lip seal
- Seats positioned for protection
- Thrust washer acts as a primary seal
- Available in pressure ratings ASME #150: 1895 kPa @ 38°C and ASME #300: 4965 kPa @38°C
- Each valve is pressure tested and assigned a serial number – No batch testing – assuring quality & traceability
- All parts and components are locally manufactured
- Body wall thickness exceed minimum design standards by typically 15%, providing greater wear/corrosion allowance
- Wider Ball slot by 10% and stem significantly larger diameter by 15%, offers advantage in severe local operating conditions



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Materials of Construction

Description	Carbon Steel	Stainless Steel
Body	ASTM A216 Grade WCB	ASTM A351 Grade CF8M
• Ball	ASTM A351 Grade CF8M	ASTM A351 Grade CF8M
End Plug	ASTM A216 Grade WCB	ASTM A351 Grade CF8M
• Seat*	PTFE / RTFE	PTFE / RTFE
• Stem	AISI Grade 316	AISI Grade 316
Gland bush	AISI Grade 316	AISI Grade 316
Wrench nut	AISI Grade 316	AISI Grade 316
• Gland packing	Graphite / PTFE	Graphite / PTFE
• Thrust washer	PTFE	PTFE
• 'O' Ring	Viton A / EPDM	Viton A / EPDM
Wrench	SG 42 / Mild steel	SG 42 / Mild steel
Stop plate	AISI 304	AISI 304
Gland nut	AISI Grade 316	AISI Grade 316
Anti-static device	AISI Grade 316	AISI Grade 316

- Recommended Spares / * Metal seat available on request
Note: Other materials available on request for example – CN7M (Alloy 20)



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Main dimensions, Mass and Cv Values

Dimensions (mm):															
		A		B		C		D		E		F		G	
		Face to Face		Center to Face		Center to top		Bore through valve		Inlet diameter		C/L to end of wrench		C/L to neck fl	
Class		150	300	150	300	150	300	150	300	150	300	150	300	150	300
Valve size (mm)	40	165	190	66.5	76	81	81	30	30	40	40	213	213	53.5	53.5
	50	178	216	76	79	96	96	37	37	51	51	213	213	62	62
	80	203	283	85	97	150	150	60	60	76	76	340	340	97	97
	100	229	305	95	109	186	186	76	76	102	102	450	450	127	127
	150	267	403	119	143	230	230	111	111	153	153	600	600	158	158
	200	292	419	135	157	317	317	144	144	203	203	-	-	185	185
	250	330	457	150	174	394	394	187	187	254	254	-	-	233	233
	300**	610	-	305	-	445	-	241	-	306	-	-	-	269	-

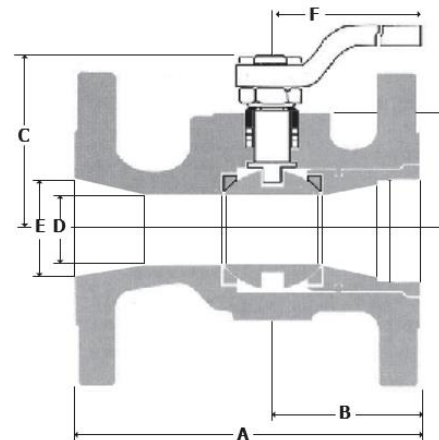
** Two-piece design for size DN300

Note: Centre to top 0 dimension for gear operated DN150 = 325mm

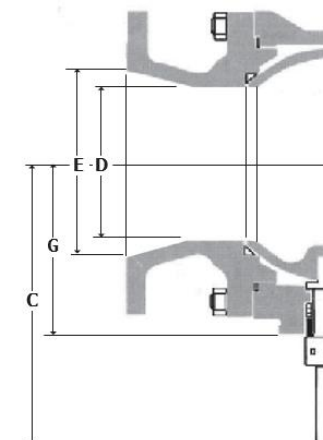
		Mass Kg		CV Value	
Class		150	300	150	300
Valve size (mm)	40	7.5	10	121	121
	50	11	13	178	178
	80	19	28	465	465
	100	31	40	736	736
	150	57	86	1195	1195
	200	85	130	1246	1246
	250	142	230	2027	2027
	300**	365	-	3600	-

Cv = The quantity of water in U.S. gallons per minute (gal/min) which will pass through a given valve opening with a pressure drop ($\leftarrow p$) of 1 lb/in² at 60°F

Dimensions



Detail X



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	Torque Figures							
	Reduced Bore Ball Valves							
	Class 150				Class 300			
	5Bar / Nm	10Bar / Nm	15Bar / Nm	20Bar / Nm	25Bar / Nm	30Bar / Nm	40Bar / Nm	50Bar / Nm
40mm	24	27	30	33	36	38	42	48
50mm	36	39	44	45	48	53	60	72
80mm	75	81	90	98	108	123	150	195
100mm	113	128	140	150	173	180	225	270
150mm	195	225	265	300	360	420	540	720
200mm	420	480	570	630	765	900	1065	1800
250mm	1200	1500	1800	2250	2700	3225	5250	7500
300mm	2325	3225	4500	6000	8250	X	X	X
Torque Figures								

**** Torque Figures include a 50% Safety Factor ****

NB: Details and Images in this document may change without prior notification



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