



RTK 3100 Control Valve

Flexibility. Inside & Out





CIRCOR is a market - leading, global provider of integrated flow control solutions specializing in the manufacture of highly engineered valves, pumps, regulators, actuators and services for critical and severe service applications in the oil and gas, power generation and process industries.

Comprised of best-in-class, historically significant product brands, we consistently satisfy our customers mission-critical application needs by utilizing advanced technologies that can withstand extreme temperature and pressure from land-based to sub-sea and in between.

The RTK 3100 valve range is diligently designed to serve an ever increasing range of markets on a global level, including,



Midstream
Oil and Gas



General Industry



Downstream
Oil and Gas



Processing



Power
Generation



Maritime



Renewables

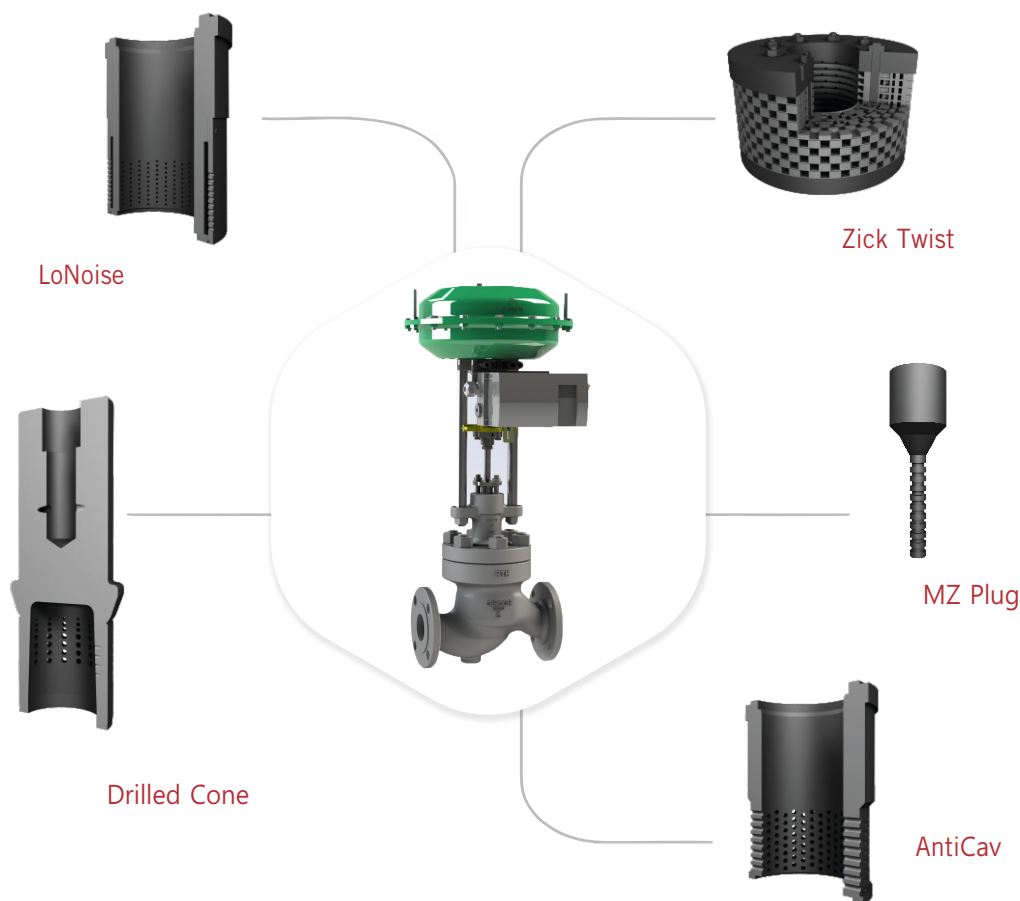
RTK 3100 is suitable for throttling and on-off control of a fluid flow such as gas, steam, water or chemical compounds to compensate for the load disturbance and helps to keep the regulated process variable as close as possible to the desired set point.

We offer our customers and the markets we serve, solutions for a various range of general, critical, and severe applications, including but not limited to

- | | | |
|----------------------------|-----------------------------------|---------------------------|
| ▷ Well hookups | ▷ Mining (Water Management) | ▷ Turbine Bypass Steam |
| ▷ Gas gathering systems | ▷ Steam-assisted gravity drainage | ▷ Conditioning Steam |
| ▷ Treatment facilities | ▷ Thermal applications | ▷ Vent |
| ▷ Oil & gas transmission | ▷ Mainline pipeline | ▷ Soot Blower |
| ▷ Liquid level control | ▷ Compressor stations | ▷ Desuperheating |
| ▷ Pressure control | ▷ Manifold service | ▷ Feedwater Regulator |
| ▷ Process control | ▷ Enhanced oil recovery | ▷ Feedwater Recirculation |
| ▷ Over pressure protection | ▷ Blow-down | ▷ Instrumentation |
| ▷ Oil sands | ▷ Heating Control Systems | ▷ Balance of Plant |

PRODUCT ADVANTAGES

- ▷ One common economical valve body with multiple internal options
- ▷ Easily interchangeable trims, when process conditions/severity change
- ▷ Customizable to suit your process needs
- ▷ Class V leakage
- ▷ Standardized parts and accessories will keep your inventory and maintenance costs low
- ▷ Designed for diversified markets & applications



TRIM TYPES

Contoured Plug (UB-Unbalanced): Contour plug is a top guided design provides valve plug stability with less chance of a sticking valve plug due to non-lubricating or sticky process fluids which reduce vibration, mechanical noise, and trim wear and suitable for all general services.



Contour Plug

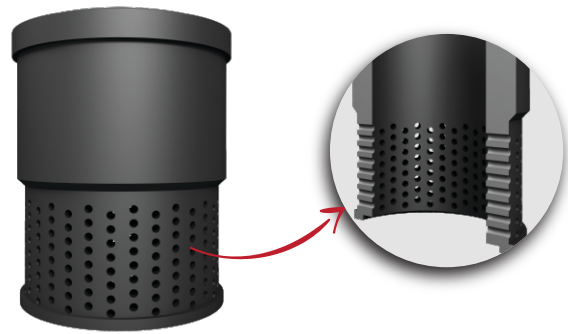
Drilled Cone (UB/PiB-Pilot Balanced): Drilled cone plug is a top guided design which has a significant impact on the overall pressure recovery of the valve. The hole pattern drilled onto the plug determines the trim characteristics and hence can be customized based on flow data. Generally this trim is used for both moderate and higher pressure drop applications.



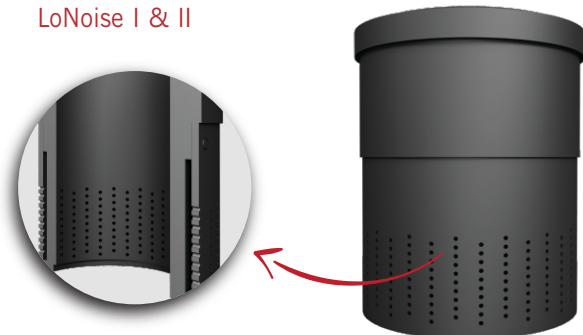
Drilled Cone

LoNoise Cage: LoNoise trims control aerodynamic noise that is effective for vapour, gas or steam flow applications. The LoNoise cage is designed to reduce fluid generated noise

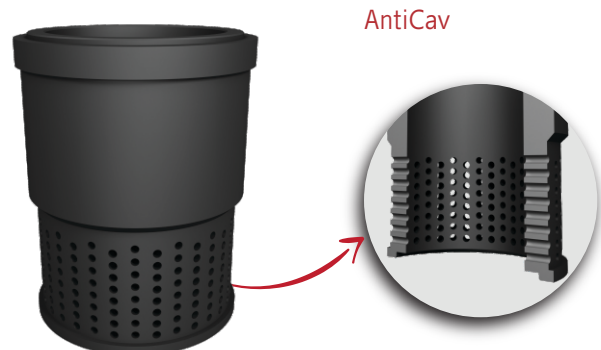
up to 15 - 20 dBA, using single or dual stages for any compressible fluid service. When used in conjunction with a LoNoise silencing orifice plate, noise attenuation of greater than 20 dBA can be achieved. Available stages are up to two stages, LoNoise I and LoNoise II.



LoNoise I & II



AntiCav Cage : Anticav trims are used for cavitating services in both globe and angle valve bodies which provides feature of both pressure drop staging & expanding flow area thereby effectively eliminate cavitation and also prevent valve damage.



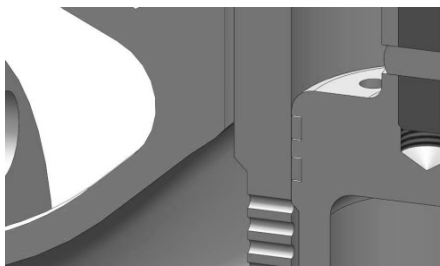
AntiCav

FEATURES

REDUCED SEAT WEAR/ TIGHTER SHUT OFF

RTK 3100 control valves are specially designed for both low and high pressure drop service.

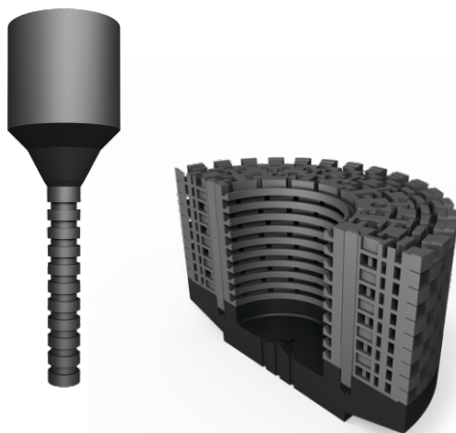
Pressure drop, high velocities and throttling occur only at the cage window and the plug, thereby protecting the seat ring and offers tight shut-off capability to the valve.



MULTI-STAGE TRIMS

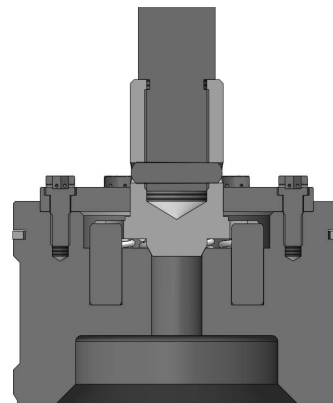
➤ MZ plug are multi-staged micro flow trims specially designed for very fine control of low-flows and high pressure drop application.

➤ Zick twist trim designs are Multi-path Pressure Reduction technology which are custom made and designed to control the potentially destructive effects of high velocity fluids experienced in the control valve.



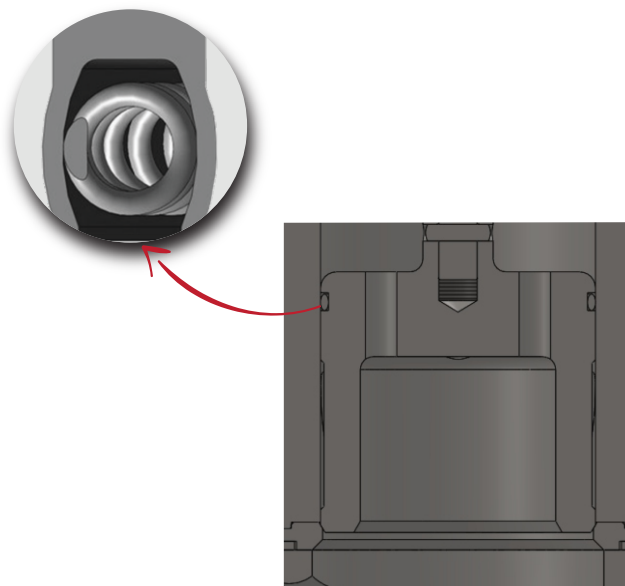
PILOT BALANCED PLUG

Pilot Balanced design both offers the excellent shutoff properties of an unbalanced design and reduces actuator thrust as a balanced design.



RUGGED PLUG SEAL

Heavy cup washer style PTFE plug seal has three times the cross-sectional area and with minimal friction for tightest resolution. Pressure energized to provide a tight seal at low and high pressures providing tight shut off needed for balanced plug design



SPECIFICATIONS

Body Assembly	Globe, Angle
Valve Size	1" (DN 25) to 16" (DN 400)
Pressure Class	1" to 8" - 150# to 2500# & 10" to 16" - 150# to 600#
End Connections	Socket Weld (<2"), Butt weld (>2"), RF, RTJ
Plug Type	MZ plug (UB), Contour Plug (UB), Drilled Cone Plug (UB/PiB), Standard Plug (PiB/PB)
Cage Type	Standard Ported Cage, LoNoise I & II, AntiCav I, Zick Twist ¹
Flow Characteristic	Linear, Equal Percentage, Modified
Packing Type	Single/Double PTFE, Single/Double Graphite, Low Emission PTFE/Graphite ¹
Body Material	A216 Gr WCC, A352 Gr LCC, A217 Gr WC6, A217 Gr WC9, A351 Gr CF8M
Trim Material	Refer Table 1.1, 1.2, 1.3
Cv Range	Refer Table 2.1, 2.2, 2.3, 2.4, 2.5
Leakage Class	Class IV and Class V
Actuation	Pneumatic, Electric, Electro-Hydraulic, Hydraulic
Certifications/Compliance	IBR-ANSI B16.34 NACE, PED/CE- to be updated

1 - Non standard

Trim Type	Trim Material	Max Service Temp	Cage/Seat Rtnr. Material	Plug & Seat Ring Material	Stem Material	Leakage Class
Post Guided (UB)	SS410	427°C / 800°F	SS410	SS410 Hardened	A479 TY316	IV & V
	DIN1.4122	593°C / 1100°F	DIN 1.4122	DIN 1.4122 Nitrided	DIN 1.4122 Nitrided	IV & V
Unbalanced Cage Guided (UB)	SS410	427°C / 800°F	CA15 / SS410 Nitrided	CA15 / SS410 Nitrided	A479 TY316	IV & V
	SS316	427°C / 800°F	A351 CF8M Nitrided	A351 CF8M Nitrided	A479 TY316	IV & V
	SS316 ST	427°C / 800°F	A351 CF8M Cr. Plated	A351 CF8M Stellite	A479 TY316	IV & V
	CA6NM Hi-Temp	538°C / 1000°F	ASTM A487 CA6NM Nitrided	ASTM A487 CA6NM Nitrided	ASTM A638 Gr 660 / Inconel X750	IV & V

Table 1.1

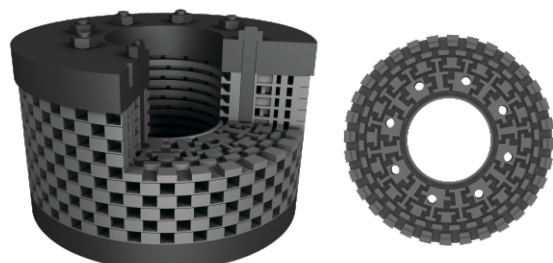
Trim Type	Trim Material	Max Service Temp	Cage Material	Plug & Seat Ring Material	Stem Material	Plug Seal Material	Leakage Class
Plug Balanced – Cage Guided (PB)	SS410	427°C / 800°F	CA15 / SS410 Nitrided	CA15 / SS410 Nitrided	A479 TY316	C300 Spring Loaded Seal 230°C / 446°F Max	V
						Flex Graphite 427°C / 800°F Max	IV
	SS316	427°C / 800°F	A351 CF8M Nitrided	A351 CF8M Nitrided	A479 TY316	C300 Spring Loaded Seal 230°C / 446°F Max	V
						Flex Graphite 427°C / 800°F Max	IV
	SS316 ST	427°C / 800°F	A351 CF8M Cr. Plated	A351 CF8M Stellite	A479 TY316	C300 Spring Loaded Seal 230°C / 446°F Max	V
						Flex Graphite 427°C / 800°F Max	IV
	CA6NM Hi-Temp	538°C / 1000°F	ASTM A487 CA6NM Nitrided	ASTM A487 CA6NM Nitrided	ASTM A638 Gr 660 / Inconel X750		IV

Table 1.2

Trim Type	Trim Material	Max Service Temp	Cage Material	Plug & Seat Ring Material	Stem Material	Piston Ring Material	Leakage Class
Pilot Plug Balanced – Cage Guided (PiB)	SS410	427°C / 800°F	CA15 SS410 Nitrided	CA15 / SS410 Nitrided	A479 TY316	DIN 1.4086	IV & V
	CA6NM Hi-Temp	538°C / 1000°F	ASTM A487 CA6NM Nitrided	ASTM A487 CA6NM Nitrided	ASTM A638 Gr 660 / Inconel X750	DIN 1.4086	IV & V
	DIN 1.4122	593°C / 1099°F	DIN 1.4122	DIN 1.4122 Nitrided	DIN 1.4122 Nitrided	DIN 1.4086	IV & V

Table 1.3

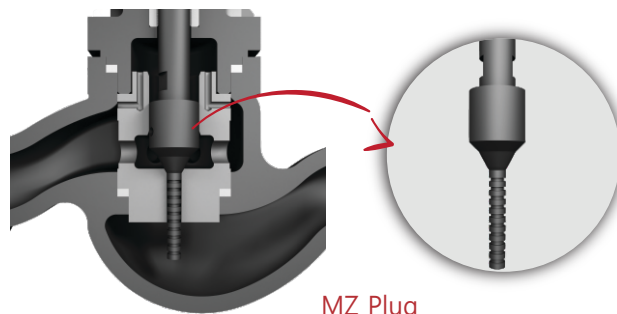
Zick Twist: It is custom made design to meet the specific needs of the process. Multi-Stage Multi-Path Pressure Reduction technology which are specially designed to control the potentially destructive effects of high velocity fluids experienced in the control valve.



Zick Twist

It breaks the larger pressure drop across the valve trim into a series of smaller pressure drops by forcing the liquid through torturous flow paths which results in reduced vibration and noise.

MZ Plug (UB): Specially designed trim for very fine control in low-flow / high pressure drop liquid applications.



MZ Plug

Valve Size	Stroke	Rating	Low Flow Plug - Linear
1 Inch - Micro Flow	20 mm	150~2500	0.12, 0.25, 0.5, 0.75, 1.25
1.5 Inch - Micro Flow	20 mm	150~2500	0.25, 0.5, 0.75, 1.25
1 & 1.5 Inch - MZ Plug	20 mm	150~2500	0.12, 0.25, 0.4
1 & 1.5 Inch - MZ Plug	25 mm	150~2500	0.07, 0.1, 0.16, 0.3, 0.5, 0.75, 1, 1.6, 2

Table 2.1 - CV- Values of Unbalanced(UB), Top Guided

Valve Size	Stroke	Rating	Contour Plug Linear	Contour Plug Equal	Contour Plug Modified	Drilled Cone Linear	Drilled Cone Equal	Drilled Cone Modified
1 Inch (DN 25)	20 mm	150~1500	3.5, 6, 9, 11			3.5, 6, 9,11	3.5, 6	
1.5 Inch (DN 40)	20 mm	150~1500	3.5, 6, 9			3.5, 6, 9	3.5, 6	
	30 mm	150~1500	14, 23, 32			14, 23, 32	10	12
2 Inch (DN 50)	20 mm	150~1500	3.5, 9	3.5, 6		3.5, 6		
	30 mm	150~1500	14, 23			14, 23	10	12
	40 mm	150~1500	35, 45, 49			32, 45, 49	20, 27	20, 30
3 Inch (DN 80)	40 mm	150~1500	35, 49, 75, 95			32, 49, 75	27	30
	50 mm	150~1500	-			95	45	55
4 Inch (DN 100)	40 mm	150~1500	49, 75			49	-	
	50 mm	150~1500	110, 175			95	45	55

Table 2.2 - CV- Values of Unbalanced(UB), Top Guided

Valve Size	Stroke	Rating	Ported Cage Linear	Ported Cage Eq %	AntiCav I Linear	LoNoise I Linear	LoNoise II Linear
2 Inch (DN 50)	40 mm	150~1500	30, 45, 60	27, 41, 54	34, 51	26, 43	18, 30
3 Inch (DN 80)	50 mm	150~1500	62, 93, 124	56, 84, 112	61, 91	55, 86, 100	75, 90
4 Inch (DN 100)	50 mm	150~1500	96, 144, 192,	86, 130, 173	71, 112	86, 122, 160	100, 125
6 Inch (DN 150)	60 mm	150~1500	180, 270, 360, 400	160, 240	162, 243, 324	159, 223, 303	140, 180
8 Inch (DN 200)	75 mm	150~600	320, 480, 640	302, 454, 605	243, 350, 471, 578	276, 423, 551	220, 280
		900~1500	288, 432, 576,	272, 408, 544	213, 304, 411, 502	293, 440	200, 245
10 Inch (DN 250)	100 mm	150~600	520, 780, 1040, 1300	440, 660, 880, 1100	365, 547, 750	411, 616, 792	360, 450
12 Inch (DN 300)	100 mm	150~600	720, 1080, 1440, 1800	576, 864, 1152, 1440	426, 629, 831, 1095	469, 675, 909, 1114	450, 550
16 Inch (DN 400)	125 mm	150~600	1240, 1860, 2300, 2800	920, 1380, 1840, 2300	735, 1115, 1470, 1749	871, 1271, 1707	675, 810

Table 2.3 - CV-Values of Plug Balanced(PB) & Pilot Balanced(PiB) – Cage Guided

Valve Size	Stroke	Rating	Contour Plug Linear	Contour Plug Equal	Contour Plug Modified	Drilled Cone Linear	Drilled Cone Equal	Drilled Cone Modified
1 Inch (DN 25)	20 mm	2500	3.5, 6, 9			3.5, 6, 9	3.5, 6	
1.5 Inch (DN 40)	20 mm	2500	3.5, 6, 9			3.5, 6, 9	3.5, 6	
	30 mm	2500	14			14	10	12
2 Inch (DN 50)	20 mm	2500	3.5, 9	3.5		3.5	3.5, 6	
	30 mm	2500	14, 23			14, 23	10	12
	40 mm	2500	35			32	20, 27	20, 30
3 Inch (DN 80)	20 mm	2500	3.5, 9	3.5		3.5	3.5, 6	
	30 mm	2500	14, 23			14, 23	10	12
	40 mm	2500	35, 45, 49			32, 45, 49	20, 27	20, 30
4 Inch (DN 100)	40 mm	2500	35, 49, 75, 95			32, 49, 75	27	30
	50 mm	2500	-			95	45	55

Table 2.4 - CV-Values of Unbalanced(UB), Top Guided (2500#)

Valve Size	Stroke	Rating	Ported Cage Linear	Ported Cage Eq %	AntiCav I Linear	LoNolse I Linear	LoNolse II Linear
2 Inch (DN 50)	40 mm	2500	30	27	34	26	18, 30
3 Inch (DN 80)	40 mm	2500	30, 45, 60	27, 41, 54	34, 51	26, 43	18, 30
4 Inch (DN 100)	50 mm	2500	62, 93, 124	56, 84, 112	61, 91	55, 86, 100	75, 90
6 Inch (DN 150)	50 mm	2500	96, 144, 192	86, 130, 173	71, 112	86, 122, 100	100, 125
8 Inch (DN 200)	60 mm	2500	180, 270, 360, 400	160, 240, 320	162, 243, 324	159, 223, 303	140, 180

Table 2.5 - CV-Values of Plug Balanced(PB) & Pilot Balanced(PiB) – Cage Guided (2500#)

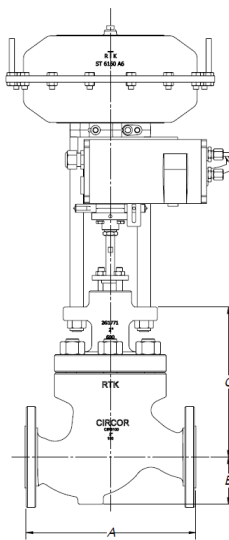
ACTUATION & ACCESSORIES

The RTK 3100 valves are offered with both electric and pneumatic actuator as standard but can also be offered with wide range of actuator options namely hydraulic, electro hydraulic and standalone manual actuation too.

The actuators are selected & bundled with appropriate accessories like emergency closing unit (ECU), POP- Power off positioning, Air Filter regulator, Positioner, Solenoid valves, Volume booster and digital controllers etc based on the minimum operating site conditions & also any speed or control requirement with respect to each valve.



DIMENSION & WEIGHT



Raised Face (RF) DIMENSIONS Inches (mm)

		A						B						C			H (1) (Max Overall Height)					
Size	NPT	150	300	600	900	1500	2500	150	300	600	900	1500	2500	150~ 600	900~ 1500	2500	150~ 600	900~ 1500	2500			
1 (25)		7.24 (184)	7.75 (197)	8.27 (210)	10.75 (273)	10.75 (273)	12.52 (318)	2.24 (57)			2.13 (54)		2.60 (66)	5.87 (149)	6.77 (172)	11.10 (282)	70.67 (1795)	71.57 (1818)	80.0 (2032)			
1.5 (40)		8.74 (222)	9.25 (235)	9.88 (251)	13.11 (333)	13.11 (333)	15.00 (381)	2.17 (55)			3.11 (79)		2.60 (66)	7.6 (193)	8.58 (218)	11.10 (282)	72.4 (1839)	73.38 (1864)	80.0 (2032)			
2 (50)	11.26 (286)	10 (254)	10.51 (267)	11.26 (286)	14.76 (375)	14.76 (375)	15.75 (400)	2.76 (70)			2.87 (73)	2.87 (73)	3.35 (85)	8.84 (225)		15.04 (382)	73.64 (1871)		83.93 (2132)			
3 (80)		11.73 (298)	12.52 (318)	13.27 (337)	17.36 (441)	18.11 (460)	19.61 (498)	3.54 (90)			3.54 (90)	3.77 (96)	3.94 (100)	11.14 (283)		15.04 (382)	75.94 (1929)		83.93 (2132)			
4 (100)		13.86 (352)	14.49 (368)	15.51 (394)	20.11 (511)	20.86 (530)	22.64 (575)	3.94 (100)			4.64 (118)	5.31 (135)	5.50 (140)	11.89 (302)		16.38 (416)	76.69 (1948)		85.27 (2166)			
6 (150)		17.76 (451)	18.62 (473)	20 (508)	28.11 (714)	30.23 (768)	32.25 (819)	5.91 (150)			6.77 (172)	7.28 (185)	6.70 (170)	14.1 (358)		17.00 (432)	78.9 (2004)		85.90 (2182)			
8 (200)		21.34 (543)	22.36 (568)	24.02 (610)	35.98 (914)	38.26 (972)	40.24 (1022)	7.6 (193)			8.66 (220)	9.5 (241)	10.63 (270)	16.78 (426)		20.47 (520)	78.39 (1991)		89.37 (2270)			
A								B						C			H (1) (Max Overall Height)					
														150- 300	600	900	1500	150- 300	600	900	1500	
10 (250)		26.5 (673)	27.9 (708)	29.6 (752)	39.01 (991)	42.0 (1067)	-	9.7 (245)			9.3 (235)	11.71 (297)	12.73 (323)	-	22.7 (576)	23 (586)	24.31 (617)	26.43 (671)	84.31 (2142)	84.61 (2149)	93.18 (2367)	95.31 (2421)
12 (300)		29 (737)	30.5 (775)	32.2 (819)	44.48 (1130)	47.99 (1219)	-	10.6 (270)			13.30 (338)	14.19 (360)	-	23.9 (606)	24 (611)	27.5 (698)	29.86 (758)	85.51 (2172)	85.61 (2175)	96.37 (2448)	98.74 (2508)	
16 (400)		40 (1,016)	41.6 (1,057)	43.6 (1,108)	-	-	-	13.2 (334)	13.6 (345)	13.8 (350)	-	-	-	23.5 (599)	-	-	-	85.11 (2162)	-	-		

Table 3.1 NPT Available in 2" only.

Butt Weld (BWE) DIMENSIONS in Inches to be update

	A						B						C			H (1) (Max Overall Height)					
Size	NPT	150	300	600	900	1500	2500	150	300	600	900	1500	2500	150-600	900-1500	2500	150-600	900-1500	2500		
1 (25)		8.27 (210)			10.98 (279)		12.52 (318)	2.24 (57)			2.13 (54)		2.60 (66)	5.87 (149)	6.77 (172)	11.10 (282)	70.67 (1795)	71.57 (1818)	80.0 (2032)		
1.5 (40)		9.88 (251)			12.99 (330)		12.52 (318)	2.17 (55)			3.11 (79)		2.60 (66)	7.6 (193)	8.58 (218)	11.10 (282)	72.4 (1839)	73.38 (1864)	80.0 (2032)		
2 (50)		11.25 (286)			14.8 (375)		12.52 (318)	2.76 (70)		2.87 (73)	2.87 (73)	3.35 (85)	8.84 (225)			15.04 (382)	73.64 (1871)		83.93 (2132)		
3 (80)		13.26 (337)			18.11 (460)		15.0 (381)	3.54 (90)		3.54 (90)	3.77 (96)	3.94 (100)	11.14 (283)			15.04 (382)	75.94 (1929)		83.93 (2132)		
4 (100)		15.5 (394)			20.9 (530)		16.0 (406)	3.94 (100)		4.64 (118)	5.31 (135)	5.50 (140)	11.89 (302)			16.38 (416)	76.69 (1948)		85.27 (2166)		
6 (150)		20 (508)			30.23 (768)		24.0 (610)	5.91 (150)		6.77 (172)	7.28 (185)	6.70 (170)	14.1 (358)			17.00 (432)	78.9 (2004)		85.90 (2182)		
8 (200)		24 (610)			32.75 (832)		30.0 (762)	7.6 (193)		8.66 (220)	9.5 (241)	10.63 (270)	16.78 (426)			20.47 (520)	78.39 (1991)		89.37 (2270)		
	Butt Weld End (A)						B						C			H (1) (Max Overall Height)					
														150- 300	600	900	1500	150- 300	600	900	1500
10 (250)		29.6 (752)		29.6 (752)	30.0 (762)	30.0 (762)	-	9.7* (245)		9.3 (235)	11.71 (297)	12.73 (323)	-	22.7 (576)	23 (586)	24.31 (617)	26.43 (671)	84.31 (2142)	84.61 (2149)	93.18 (2367)	95.31 (2421)
12 (300)		32.2 (819)		32.2 (819)	35.98 (914)	35.98 (914)	-	10.6* (270)			13.30 (338)	14.19 (360)	-	23.9 (606)	24 (611)	27.5 (698)	29.86 (758)	85.51 (2172)	85.61 (2175)	96.37 (2448)	98.74 (2508)
16 (400)		43.6 (1,108)		43.6 (1,108)	-	-	-	13.6 (345)		13.8 (350)	-	-	-	23.5 (599)	-	-	-	85.11 (2162)	-	-	

Table 3.2 *Designs vary to meet required Cv's

Ring Type Joint (RTJ) DIMENSIONS Inches (mm)																						
Size	NPT	A						B						C				H (1) (Max Overall Height)				
		150	300	600	900	1500	2500	150	300	600	900	1500	2500	150	600	900	2500	150	600	900	2500	
		300						300						300		1500		300		1500		
1 (25)		7.75 (197)	8.27 (210)	8.27 (210)	10.75 (273)	10.75 (273)	12.52 (318)	2.24 (57)			2.13 (54)		2.60 (66)	5.87 (149)		6.77 (172)	11.10 (282)	70.67 (1795)		71.57 (1818)	80.0 (2032)	
1.5 (40)		9.25 (235)	9.76 (248)	9.88 (251)	13.11 (333)	13.11 (333)	15.12 (384)	2.17 (55)			3.11 (79)		2.60 (66)	7.6 (193)		8.58 (218)	11.10 (282)	72.40 (1839)		73.38 (1864)	80.0 (2032)	
2 (50)		10.5 (267)	11.14 (283)	11.37 (289)	14.88 (378)	14.88 (378)	15.87 (403)	2.76 (70)		2.87 (73)	2.87 (73)	3.35 (85)	8.84 (225)				15.04 (382)	73.64 (1871)		83.93 (2132)		
3 (80)		12.24 (311)	13.12 (334)	13.4 (340)	17.5 (444)	18.22 (463)	19.84 (504)	3.54 (90)		3.54 (90)	3.77 (96)	3.94 (100)	11.14 (283)				15.04 (382)	75.94 (1929)		83.93 (2132)		
4 (100)		14.37 (365)	15.1 (384)	15.62 (397)	20.23 (514)	21 (533)	23.0 (585)	3.94 (100)		4.64 (118)	5.31 (135)	5.50 (140)	11.89 (302)				16.38 (416)	76.69 (1948)		85.27 (2166)		
6 (150)		18.26 (464)	19.25 (489)	20.11 (511)	28.22 (717)	30.5 (774)	32.76 (832)	5.91 (150)		6.77 (172)	7.28 (185)	6.70 (170)	14.1 (358)				17.00 (432)	78.9 (2004)		85.90 (2182)		
8 (200)		21.9 (556)	23 (584)	24.13 (613)	36.1 (917)	38.7 (982)	40.87 (1038)	7.6 (193)		8.66 (220)	9.5 (241)	10.63 (270)	16.78 (426)				20.47 (520)	78.39 (1991)		89.37 (2270)		
		A						B						150-300	600	C	900	1500	H (1) (Max Overall Height)			
		150	300	600	900	1500	2500	150	300	600	900	1500	2500						150-300	600	900	1500
10 (250)		27 (686)	28.5 (724)	29.7 (755)	39.13 (994)	42.40 (1133)	-	9.7 (245)		9.3 (235)	11.71 (297)	12.73 (323)	-	22.7 (576)	23 (586)	24.31 (617)	26.43 (671)	84.31 (2142)	84.61 (2149)	93.18 (2367)	95.31 (2421)	
12 (300)		29.5 (750)	31.1 (791)	32.4 (822)	44.60 (1077)	48.62 (1235)	-	10.5 (270)			13.30 (338)	14.19 (360)	-	23.9 (606)	24 (611)	27.5 (698)	29.86 (758)	85.51 (2172)	85.61 (2175)	96.37 (2448)	98.74 (2508)	
16 (400)		40.5 (1,029)	42.2 (1,073)	43.7 (1,111)	-	-	-	13.2 (334)	13.6 (345)	13.8 (350)	-	-	-	23.5 (599)	-	-	-	85.11 (2162)	-	-		

Table 3.3

Size	THD	Raised Face Body - lbs (kg)					
	NPT	#150	#300	#600	#900	#1500	#2500
1 (25)		17.6 (8)	19.8 (9)	22 (10)	55.1 (25)	55.1 (25)	119 (54)
1.5 (40)		41.9 (19)	44.1 (20)	46.3 (21)	97 (44)	97 (44)	145 (66)
2 (50)	50.7 (23)	50.7 (23)	58.2 (26.4)	61.7 (28)	119 (54)	119 (54)	262 (119)
3 (80)		105.4 (47.8)	117.3 (53.2)	123 (55.8)	204.2 (92.6)	243.6 (110.5)	366 (166)
4 (100)		158.7 (72)	176.4 (80)	201.7 (91.5)	338.75 (151.4)	403 (182.8)	606 (275)
6 (150)		275.6 (125)	326.3 (148)	395.1 (179.2)	577.4 (261.9)	843.9 (382.8)	1318 (598)
8 (200)		553.8 (251.2)	603.6 (273.8)	816.8 (370.5)	1021.6 (463.4)	1469.4 (666.5)	2496 (1132)
10 (250)		683 (310)	877 (398)	1281 (581)	1921 (871)	2956 (1423)	-
12 (300)		1032 (468)	1327 (602)	1847 (838)	3137 (1341)	4532 (2056)	-
16 (400)		1656 (751)	2277 (1033)	3084 (1399)	-	-	-

Table 3.4

Size	Ring Type Joint Body - lbs (kg)					
	#150	#300	#600	#900	#1500	#2500
1 (25)	17.6 (8)	19.8 (9)	22 (10)	55.1 (25)	55.1 (25)	119 (54)
1.5 (40)	41.9 (19)	44.1 (20)	46.3 (21)	97 (44)	97 (44)	145 (66)
2 (50)	51.6 (23.4)	59.5 (27)	62.2 (28.2)	120.2 (54.5)	120.2 (54.5)	225 (102)
3 (80)	107.6 (48.8)	120.6 (54.7)	124.1 (56.3)	205.7 (93.3)	245.8 (111.5)	333 (151)
4 (100)	161.6 (73.3)	182.3 (82.7)	202.6 (91.9)	335.5 (152.2)	405.4 (183.9)	575 (260.5)
6 (150)	277.8 (126)	332.6 (150.9)	397 (180.1)	578.7 (262.5)	848.1 (384.7)	1268 (575)
8 (200)	558.2 (253.2)	612.9 (278)	820.1 (372)	1026.3 (465.5)	1480.2 (671.4)	2318 (1051)
10 (250)	690 (313)	888 (403)	1285 (583)	-	-	-
12 (300)	1043 (473)	1343 (609)	1852 (840)	-	-	-
16 (400)	1669 (757)	2299 (1043)	3093 (1403)	-	-	-

Table 3.5

Size	Butt Weld End Body - lbs (kg)					
	#150	#300	#600	#900	#1500	#2500
1 (25)	15.4 (7)			39.7 (18)		99.0 (45.0)
1.5 (40)	35.3 (16)			77.2 (35)		99.0 (45.0)
2 (50)	51.4 (23.3)			86.6 (39.3)		152.0 (69.0)
3 (80)	98.3 (44.6)			185.2 (84.0)		322.0 (146.0)
4 (100)	148.2 (67.2)			316.1 (143.4)		334.0 (151.5)
6 (150)	298.7 (135.5)			647.5 (293.7)		662.0 (300.0)
8 (200)	704.8 (319.7)			1015.0 (460.4)		1422.0 (645.0)
10 (250)	807 (366)		1049 (476)	1484 (673)	2221 (1008)	-
12 (350)	1199 (544)		1572 (713)	2495 (1132)	3286 (1491)	-
16 (400)	2044 (927)		2635 (1195)	-	-	-

Table 3.6

CIR 3100 - Ordering Code

1&2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Model	Body Style	Trim Type	Size	Rating	End Conn.	Bonnet & Flow Type	Trim & Char.	Cv	Packing type	Body Matl	Trim Matl	Compliance	Special	Actuator Type	Actuator Model	Acc's Qty
31	1	1	3	A	A	1	A	A	1	A	A	1	X	A	1	1

Position - 1&2 | Model

31

Position - 3 | Body Style

1 - Cast-Globe 3 - Forged-Globe
2 - Cast-Angle 4 - Forged-Angle

Position - 4 | Trim Type

1 - Unbalance - Top Guided
2 - Unbalanced - Cage Guided
3 - Balanced - Cage Guided - Omni Seal
4 - Balanced - Cage Guided - Graphite Seal
5 - Pilot Balanced - Cage Guided

Position - 5 | Size

3 - 1" 7 - 4" A - 10"
4 - 1.5" 8 - 6" B - 12"
5 - 2" 9 - 8" D - 16"
6 - 3"

Position - 6 | Rating

A - 150# F - 2500# L - 900# SPL
B - 300# G - 4500# M - 1500# SPL
C - 600# H - 150# SPL N - 2500# SPL
D - 900# J - 300# SPL Z - Special
E - 1500# K - 600# SPL

Position - 7 | End Connection

A - RF R - BWE 40 1 - BWE XS
B - RTJ U - BWE 60 5 - BWE 160
G - SWE V - BWE 80 Z - Special
H - THD

Position - 8 | Bonnet & Flow Type

1 - Standard - UTP Z - Special/other
2 - Standard - OTP

Position - 9 | Trim & characteristics

A - Micro Flow <1 Cv
B - Cont. Plug - Linear
C - Cont. Plug - Equal %
D - Cont. Plug - Modified
E - Drilled Cone - Linear
F - Drilled Cone - Equal %
G - Drilled Cone - Modified
H - Standard - Linear
J - Standard - Equal %
K - Les Sonic I - Linear
L - Les Sonic II - Linear
M - Les Cav I - Linear
N - Les Cav II - Linear

P - Zick Twist - Linear
Q - Zick Twist - Modified
R - MZ Plug - Modified
Z - Special/Custom

Position -10 | Cv

A - 10% E - 50% J - 90%
B - 20% F - 60% K - 100%
C - 30% G - 70% Z - Custom
D - 40% H - 80%

Position -11 | Packing type

1 - STD. - PTFE
2 - STD. - GRAPH
3 - STD. - DBL PTFE
4 - STD. - DBL GRAPH
5 - Live Loaded - PTFE
6 - Live Loaded - Graphite
7 - Low Emission - Graphite (CL B)
Z - Special

Position -12 | Body Matl

A - A216 Gr WCC - Globe
B - A352 Gr LCC - Globe
C - A217 Gr WC6 - Globe
D - A217 Gr WC9 - Globe
E - A217 Gr C12A - Globe
F - A351 Gr CF8M - Globe
G - A216 Gr WCC - Angle
H - A352 Gr LCC - Angle
J - A217 Gr WC6 - Angle
K - A217 Gr WC9 - Angle
L - A217 Gr C12A - Angle
M - A351 Gr CF8M - Angle
N - A 105 - Globe
P - A182 Gr F11 - Globe
Q - A182 Gr F22 - Globe
R - A182 Gr F91 - Globe
S - A182 Gr F316 - Globe
T - A 105 - Angle
U - A182 Gr F11 - Angle
V - A182 Gr F22 - Angle
W - A182 Gr F91 - Angle
Y - A182 Gr F316 - Angle
Z - Special

Position -13 | Trim Matl

A - SS 410 Hardened
B - SS 410 Nitrided
C - SS 316 Nitrided
D - SS316 + Stellite

E - CA6NM Hardened
F - 440C Hardened
G - DIN 1.4122 + Nitriding
Z - Special

Position -14 | Compliance

1 - IBR X - NA
2 - PED / CE Z - Special/other
3 - NACE

Position -15 | Special

X - NA S - Special

Position -16 | Actuator Type

A - Multi Spring & Diaphragm w/o HW
B - Multi Spring & Diaphragm w/ TMH
C - Multi Spring & Diaphragm w/ SMH
D - Single Spring & Diaphragm w/o HW
E - Single Spring & Diaphragm w/ TMH
F - Single Spring & Diaphragm w/ SMH
G - Piston - SASR w/o HW
H - Piston - SASR w/ SMH
J - Piston - DASR w/o HW
K - Piston - DASR w/ SMH
L - Piston - DA w/o HW
M - Piston - DA w/ SMH
N - Electric
P - Hydraulic
Q - Electro-Hydraulic
R - Manual Handwheel
X - None
Z - Special

Position -17 | Actuator Model

1 - ST-6115 C - S-700 N - SMH 400
2 - ST-6135 D - S-960 P - SMH 500
3 - ST-6160 E - S-1400 Q - 12"
4 - ST-6175 F - PA150 R - 14"
5 - M-230 G - PA250 S - 16"
6 - M-385 H - PA330 T - 20"
7 - M-700 J - PA400 U - 24"
8 - M-1400 K - PA500 X - None
9 - S-225 L - SMH 250 Z - Special
A - S-320 M - SMH 330
B - S-550

Position -18 | Accessories

1 - 1 5 - 5 9 - 9
2 - 2 6 - 6 X - NA
3 - 3 7 - 7 Z - Other
4 - 4 8 - 8

SPECIFICATION RTK 3100

Plant Name : Project Name : End User : Application :

Tag No: Qty: Fluid : Critical Pressure :

Sizing Properties	Units	Min Flow	Norm Flow	Max Flow	Shut-Off
Flow Rate					—
Inlet Pressure					—
Outlet Pressure					—
Inlet Temperature					—
Vapor Pressure					—
Rel. Density					—
Absolute Viscosity					—
Specific Heat Ratio					—
Molecular Weight					—
Compressibility Factor					—
Allowable Noise (dBA)					—

SERVICE/CONDITIONS

LINE

VALVE/BODY/BONNET

TRIM

LOC.

ACTUATOR

POSITIONER

AIR SET

SOL

SWITCHES

TEST

Input Signal
Type/Protocol
Gauges
By-Pass
Position Feedback
Certification / Compliance

Range
Filter
Gauge
Set Pressure

Type
Quantity
Voltage
Certification / Compliance

Type
Contacts/Rating
Actuation Points
Certification / Compliance

Hydrotest
Seat Leakage
Special Testing

Special Notes

OUR CREDENTIALS

ISO 9001-2015

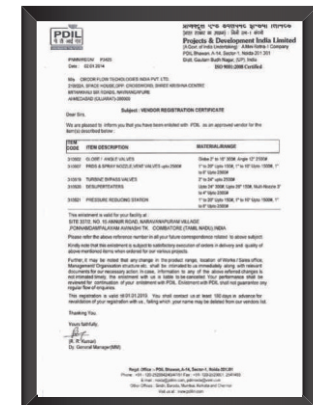
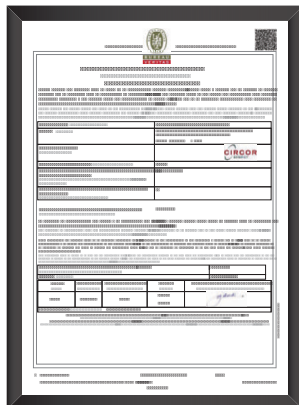
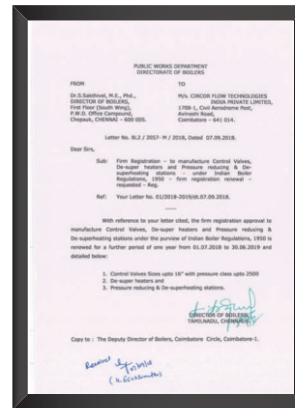
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Certified PED 2014/68/EU & CE Marked

China TSG approved

Enlisted / Approved by major customers





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