



RK THREE WAY VALVE

Series 30



RK SERIES 30 THREE WAY VALVE

is ideal for blending two separate flows by having two inlets and a common outlet, or dividing a flow into two proportional parts by having one common inlet and two outlets.

DESIGN FEATURES

- Wide range of body sizes 1/2" - 12" (15 - 300 mm)
- Pressure rating of Class 150 to 600 (PN 10 - PN 100)
- End connections to suit any pipework configuration as per standards.
- Full range of body and trim materials.
- Wide range of interchangeable trim sizes.
- Option of inner or outer seated design minimises flow instability.
- Constructed with heavy duty parts for longer life.
- Various pneumatic diaphragm actuator options available along with accessories.

PERFORMANCE FEATURES

- High flow capacity.
- Tight shut-off better than ANSI Class IV.
- High rangeability.
- Linear 'V' port flow characteristics.
- Reliable operation.

ASSOCIATED BENEFITS

- Proven design
- Reduced maintenance.
- Assured product quality.
- Utilises over 4 decades of engineering design & application expertise.

ENGINEERING DATA - SERIES 30 RANGE

Valve sizes	: Series 30A: 1/2" to 12" Series 30B: 2" to 12"
End Connections	: ASME, DIN, BS flanged RF, FF, RTJ Butt weld, Socket weld, and Screwed
Body Ratings	: ASME Class 150 to 600 DIN/BS 4504 PN 10 to PN 100
Design Standard	: ASME B 16.34
Trim Design	: 'V' port, Inside seating in 30A Outside seating in 30B
Seat Leakage	: Leakage Class IV in accordance with ANSI / FCI 70-2

Inherent Characteristics	: Linear (Modulating Duty)
Material Combinations	: A wide range of body / bonnet and trim materials are available
Bonnet Options	: Standard, Normalising and Bellows Seal
Actuator	: Spring opposed pneumatic diaphragm as standard.
Accessories	: Valve positioner, Airset, Limit Switches, I/P converter, Air Lock, Volume booster, Solenoid valves and Position transmitter.

GUIDE TO VALVE SELECTION

This range of valves has been designed in two forms designated 30A and 30B.

The Series 30A valve incorporating an inside seating trim is used for all mixing application and may be used for selected diverting duty.

The Series 30B valve incorporates an outside seating trim which is specifically designed for high duty diverting service application.

GUIDE TO BONNET SELECTION

Selection of the bonnet is undertaken on the basis of both the operating temperature range and fluid media being handled.

Where fluid working temperatures below - 20°C (4°F) and above 250°C (482°F) are specified, Normalising Bonnets are recommended to protect the valve packing against extremes of temperature.

The Bellows Seal Bonnet option ensures absolute sealing of the process fluid within their rated pressure and temperature ranges.

SERIES - 30 A

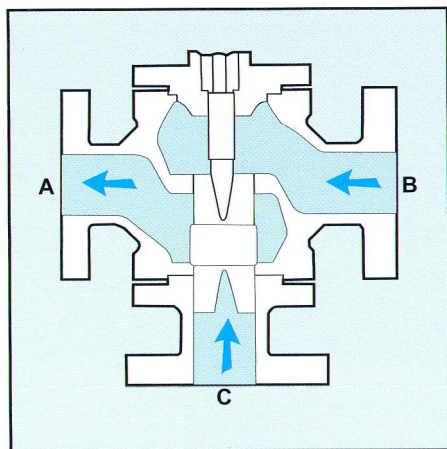


Fig. 1 Mixing Service

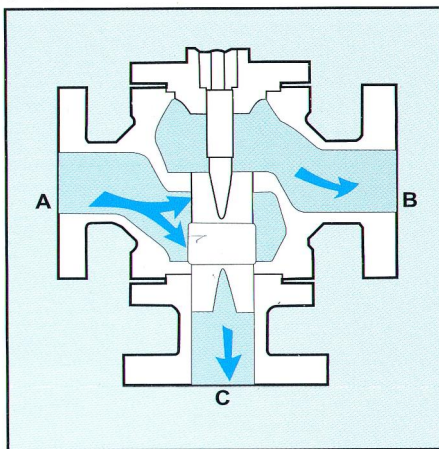


Fig. 2 Diverting Service
Selected Applications

SERIES - 30 B

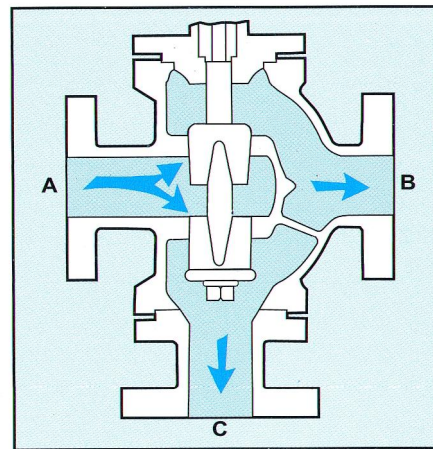


Fig. 3 Diverting Service

GUIDE TO ACTUATOR SELECTION

Unbalanced forces

Under certain operating conditions it could be argued that both Series 30 A and 30 B are partially balanced. However, this is not the case when either type is in the closed

position. The maximum differential pressures at valve shut-off, across the closed port, with specified RK actuators are given in Tables 1 & 2 for the three applications.

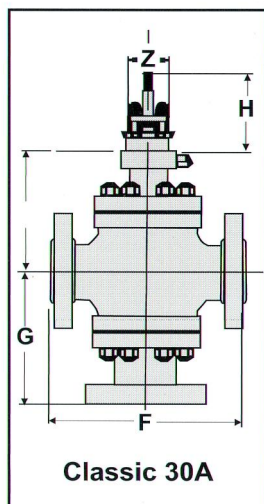
NOTE : A035 Actuator can be used on vavves 1" for On-Off application.

TABLE 1 Series 30A - Mixing Service (All Applications) and Series 30B - Diverting Service (High Duty)

Body Size		Trim Size	Unbalanced Area	Actuator Size in ²		MaxΔ p at Shut-Off							
						Standard Actuator Spring Range				Oversize Actuator Spring Range			
						3-15 psi 0.2-1.0 kg/cm ²		6 -30 psi Bench Set 9-33 psi 0.4 - 2.0 kg/cm ² Bench Set 0.6-2.2 kg/cm ²		3-15 psi 0.2-1.0 kg/cm ²		6 -30 psi 0.4 - 2.0 kg/cm ²	
in	mm	in	in ²	Standard	Oversize	psi	kg/cm ²	psi	kg/cm ²	psi	kg/cm ²	psi	kg/cm ²
1/2	15	1/4	0.248	38	75	350	24.6	1270	89	800	56	1500	105
		3/8	0.406			208	14.6	770	54	480	34	1035	73
		1/2	0.406			208	14.6	770	54	480	34	1035	73
3/4	20	3/4	0.601	38	75	136	9.5	515	36	320	22.5	695	49
1	25	1	0.601	38	75	136	9.5	515	36	320	22.5	695	49
1.1/2	40	1.1/4	0.785	38	75	57	4.0	348	24.5	200	14.1	485	34
		1.1/2	1.227			33	2.3	219	15.4	124	8.7	307	21.6
2	50	2	2.074	38	75	16	1.2	126	8.9	70	4.9	178	12.6
3	80	2.1/2	3.546	75	150	29	2.0	156	10.9	92	6.5	219	15.4
		3	4.676			21	1.5	117	8.2	70	4.9	165	11.6
4	100	4	9.621	75	150	4.5	0.3	50	3.5	28	2.0	75	5.3
6	150	5	12.57	150	300	15	1.1	87	6.1	50	3.5	123	8.6
		6	21.65			7.8	0.6	50	3.5	29	2.0	70	4.9
8	200	8	39.87	150	300	3.4	0.2	26	1.8	15	1.0	37	2.6
10	250	10	70.88	300	-	6.7	0.5	32	2.3	N / A		N / A	
12	300	12	78.54	300	-	6.0	0.4	29	2.0	N / A		N / A	

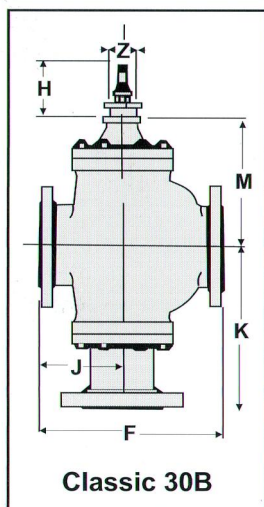
N/A - Not Available

NOTE : Series 30 B available above 2" only

DIMENSIONS - SERIES 30
RATINGS : ASME CLASS 150 - 600 (NP 10-100)


Body Size	*FLANGED CONNECTIONS											
	CLASS 150 RF NP 10-16				CLASS 300 RF NP 25-40				CLASS 600 RF NP 64-100			
	F	G	J	K	F	G	J	K	F	G	J	K
1/2 15	7 1/4 184	6 1/4 159	-	-	7 1/2 191	6 1/4 159	-	-	8 203	6 1/4 159	-	-
3/4 20	7 1/4 184	6 1/4 159	-	-	7 5/8 194	6 1/4 159	-	-	8 1/8 206	6 1/4 159	-	-
1 25	7 1/4 184	6 1/4 159	-	-	7 3/4 197	6 1/4 159	-	-	8 1/4 210	6 1/4 159	-	-
1 1/2 40	8 3/4 223	6 3/8 162	-	-	9 1/4 235	6 3/8 162	-	-	9 7/8 251	6 3/8 162	-	-
2 50	10 254	7 1/16 180	-	-	10 1/2 267	7 1/16 180	-	-	11 1/4 286	7 1/16 180	-	-
3 80	11 3/4 299	8 3/16 208	5 1/4 133	10 7/8 276	12 1/2 318	8 3/16 208	5 5/8 143	10 7/8 276	13 1/4 337	8 3/16 208	6 152	10 7/8 276
4 100	13 7/8 352	10 7/16 265	6 3/16 157	13 1/8 333	14 1/2 368	10 7/16 265	6 1/2 165	13 1/8 333	15 1/2 394	10 7/16 265	7 178	13 1/8 333
6 150	17 3/4 451	12 13/16 325	7 15/16 202	15 5/8 397	18 5/8 473	12 13/16 325	8 3/8 213	15 5/8 397	20 508	13 7/8 352	9 229	16 5/16 414
8 200	21 3/8 543	15 11/16 398	9 1/4 235	19 483	22 3/8 568	15 11/16 398	9 3/4 248	19 483	24 610	16 7/16 418	10 5/8 270	19 13/16 503
10 250	26 1/2 673	16 7/16 418	10 1/2 267	21 1/4 540	27 7/8 708	16 7/16 418	11 3/16 284	21 1/4 540	29 5/8 752	17 5/16 440	12 1/16 306	22 1/8 562
12 300	29 737	17 1/16 433	11 1/8 283	22 1/8 562	30 1/2 775	17 1/16 433	11 7/8 302	22 1/8 562	32 1/4 819	17 15/16 455	12 3/4 324	23 584

* Face to Face Dimensions in accordance with ISA S-75.08.01-2002



Body Size	BONNETS						Stem Up Position	BONNET MOUNT DIA	Travel	Stem Conn. Dia	Std. Actuator Size
	Standard		Normalising		Bellows						
	L	M	L	M	L	M	H	Z			
1/2 15	5 ^{1/2} 140	-	8 ^{3/4} 222	-	12 ^{3/4} 324	-	4 ^{5/8} 117	2 ^{1/8} 54	1 ^{1/8} 28	3/8 9.5	38
3/4 20	5 ^{1/2} 140	-	8 ^{3/4} 222	-	12 ^{3/4} 324	-	4 ^{5/8} 117	2 ^{1/8} 54	1 ^{1/8} 28	3/8 9.5	38
1 25	5 ^{1/2} 140	-	8 ^{3/4} 222	-	12 ^{3/4} 324	-	4 ^{5/8} 117	2 ^{1/8} 54	1 ^{1/8} 28	3/8 9.5	38
1 1/2 40	6 ^{1/4} 159	-	11 ^{1/2} 292	-	13 ^{15/16} 354	-	4 ^{5/8} 117	2 ^{1/8} 54	1 ^{1/8} 28	1/2 12.7	38
2 50	6 ^{5/8} 168	-	11 ^{3/4} 294	-	14 ^{1/4} 362	-	4 ^{5/8} 117	2 ^{1/8} 54	1 ^{1/8} 28	1/2 12.7	38
3 80	8 203	9 ^{1/2} 241	12 ^{7/8} 327	14 ^{3/8} 365	18 ^{5/16} 465	19 ^{13/16} 503	5 ^{5/8} 143	2 ^{13/16} 71	1 ^{1/2} 38	5/8 16	75
4 100	8 ^{1/8} 206	10 ^{5/8} 270	14 356	16 ^{1/2} 420	18 ^{3/8} 467	20 ^{13/16} 531	5 ^{5/8} 143	2 ^{13/16} 71	1 ^{1/2} 38	3/4 19	75
6 150	10 ^{7/8} 276	13 ^{1/2} 343	15 ^{3/8} 390	18 457	26 ^{7/8} 683	29 ^{1/2} 750	7 ^{3/4} 197	3 ^{9/16} 90	2 ^{1/4} 57	1 25.4	150
8 200	11 ^{3/4} 298	14 ^{7/8} 378	17 ^{3/8} 441	20 ^{1/2} 520	27 ^{5/16} 694	30 ^{7/16} 773	7 ^{3/4} 197	3 ^{9/16} 90	2 ^{1/4} 57	1 25.4	150
10 250	15 ^{1/2} 394	20 ^{1/4} 515	25 635	29 ^{3/4} 756	36 ^{7/16} 926	41 ^{1/4} 1047	9 229	3 ^{9/16} 90	3 ^{1/2} 89	1 ^{1/4} 31.8	300
12 300	15 ^{1/2} 394	20 ^{3/8} 518	26 ^{11/16} 678	31 ^{9/16} 802	36 ^{15/16} 938	41 ^{13/16} 1062	9 229	3 ^{9/16} 90	3 ^{1/2} 89	1 ^{1/4} 31.8	300

Imperial dimension Ins. in bold letters. Metric dimensions mm in blue colour.

The Company's Policy is one of continuous improvement and the right is reserved to modify the specifications contained herein without notice.



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