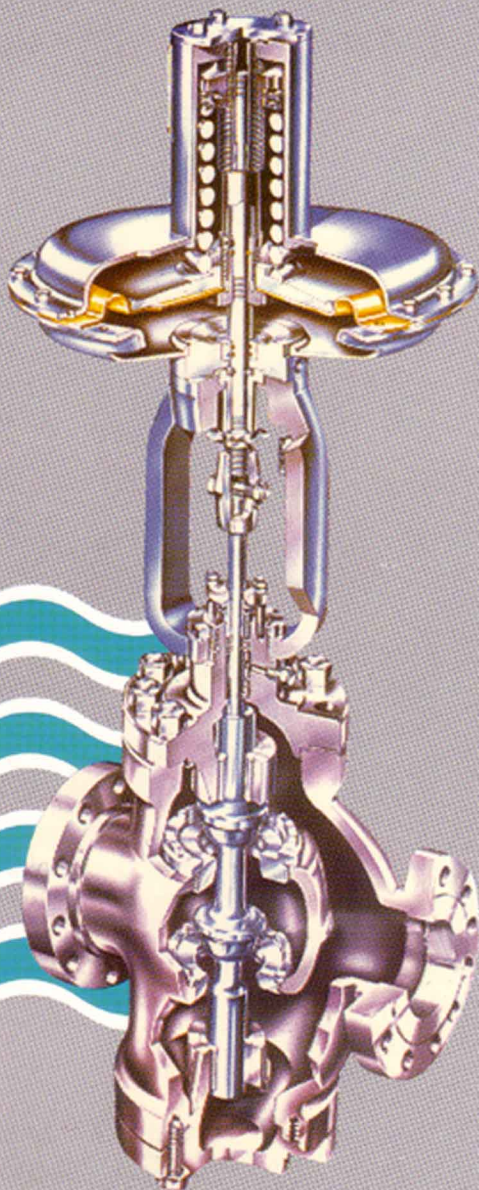




RK DOUBLE SEATED VALVE

Series 20



RK SERIES 20 DOUBLE SEATED VALVE is ideal for control valve applications where tight shut-off is not an essential requirement.

DESIGN FEATURES

- Wide range of body sizes. 1/2" - 24" (40-600 mm)
- ANSI rating of 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
- Constructed with heavy duty parts for longer life
- Various pneumatic diaphragm actuator options available along with accessories

PERFORMANCE FEATURES

- High flow capacity
- Excellent flow control rangeability
- Equal percentage and linear flow characteristics
- Anti-cavitation and low noise trim option for high pressure drop applications
- Minimum differential plug areas to reduce actuator size
- Reliable operation

ASSOCIATED BENEFITS

- Proven design
- Reduced maintenance
- Assured product quality
- Utilises over 26 years of engineering, design & application expertise

ENGINEERING DATA - SERIES 20 RANGE

Valve sizes :	1.1/2" to 24" (40-600mm)
End Connections :	ANSI, DIN, BS flanged RF, FF,RTJ Butt weld, Socket weld, and Screwed
Body Ratings :	ANSI 150 to ANSI 600 DIN/BS 4504 PN 10 to PN 100
Design Standard :	ANSI B 16.34
Trim Design Options :	Contoured and HF*
Seat Leakage :	Leakage Class III in accordance with ANSI/FCI 70.2 (0.1% of rated capacity)

Inherent Characteristics : Equal percentage or Linear

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

Series 20 valve range is suitable for majority of process application requiring a high capacity valve capable of controlling under high pressure drop conditions where tight shut-off is not essential.

Series 22 valve range compliments the Series 20 range. Series 22 accommodates a one or two size reduced HF or full sized contoured trim.

GUIDE TO TRIM OPTIONS AVAILABLE

Contoured Trim

The contoured trim design presents a symmetrical smooth profile being suitable for modulating or on/off applications, satisfying a large percentage of process control requirements.

High Friction Trim

The High Friction HF trim design has been developed for high pressure drop applications to prevent the onset of cavitation and reduce the noise level generated as a result of both liquid and gas/vapour flow.

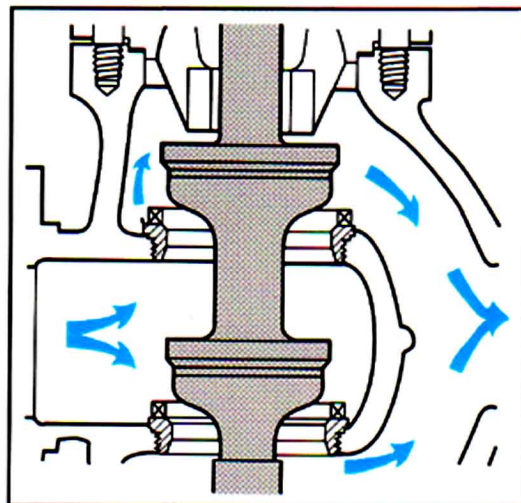


Fig. 1 Contoured Trim.

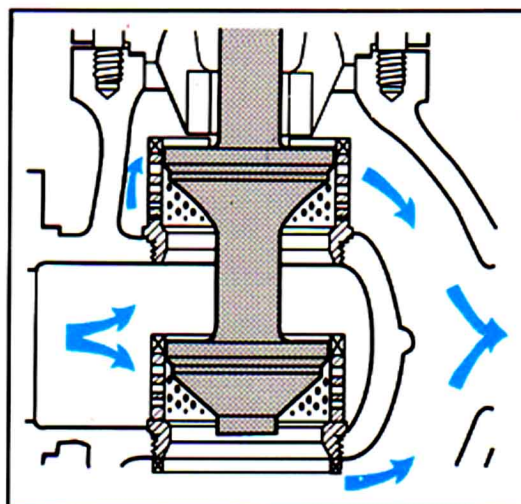


Fig. 2 High Friction Trim.

Table 1 Series 20 and 22 Cv Values

Valve Size		Trim Size	Contoured Trim		High Friction-HF Trim	
In	mm	In	Equal %	Linear	Equal %	Linear
1. 1/2	40	1. 1/2	38	38	*38	*38
		1. 1/4	25	25	25	25
		1	18	18	-	-
2	50	2	67	67	*67	*67
		1. 1/2	38	38	38	38
		1. 1/4	25	25	25	25
3	80	3	144	144	*144	*144
		2. 1/2	105	105	105	105
		2	67	67	67	67
4	100	4	258	258	*258	*258
		3	144	144	144	144
		2. 1/2	105	105	105	105
6	150	6	535	575	*535	*575
		5	385	405	385	405
		4	258	258	258	258
8	200	8	865	1012	*865	*1012
		6	535	575	535	575
		5	385	405	385	405
10	250	10	1375	1456	*1375	*1456
		8	865	1012	865	1012
		6	535	575	535	575
12	300	12	1725	1850	*1725	*1850
		10	1375	1456	1375	1456
		8	865	1012	865	1012
14	350	14	2525	2689	*2150	*2330
		12	1725	1850	1725	1850
		10	1375	1456	1375	1456
16	400	16	3290	3504	*2800	*2987
		14	2525	2689	2150	2330
18	450	18	4200	4473	*3560	*3809
		16	3290	3504	2800	2987
20	500	20	5170	5506	*4380	*4687
		18	4200	4473	3560	3809
24	600	24	7420	7902	*6310	*6770
		22	6250	6656	5320	5719

* Series 20 only

Table 2. Recommended Maximum Velocities for Liquid Service.

Valve Rating	Trim Style	Valve Size		Maximum Velocity					
		in	mm	Carbon steel		Alloy steel		Bronze, Cu/Ni Alloys	
				ft/s	m/s	ft/s	m/s	ft/s	m/s
Upto and Including ANSI 600 (PN 100)	Contoured	1 ^{1/2} -2	40-50	41	12.5	46	14	25	7.6
		3-6	80-150	34	10.4	34	10.4	20	6.2
		8-14	200-350	29	8.9	29	8.9	17	5.2
		16-18	400-450	22	6.7	22	6.7	13	4
		20	500	18	5.5	18	5.5	11	3.4
	24	600	12	3.7	12	3.7	7	2.1	
	HF	1 ^{1/2} -12	40-300	43	13.1	52	15.8	26	7.9
		14-20	350-500	35	10.7	43	13.1	21	6.4
		24	600	25	7.6	35	10.7	15	4.6

Table 3. Recommended Maximum Velocities for Gas/Vapour Flow.

Valve Rating	Trim Style	Valve Size		Maximum inlet Velocity		Maximum outlet Velocity		Max. outlet Mach no. for predicted noise level		
		in	mm	ft/s	m/s	ft/s	m/s	>95 dBA	<95 dBA	<85 dBA
Upto and Including ANSI 600 (PN 100)	Contoured	1 ^{1/2} -2	40-50	340	104	830	253	0.65	0.5	0.3
		3-6	80-150	295	90					
		8-14	200-350	285	81					
		16-18	400-450	190	58					
		20	500	150	46					
	24	600	115	35						
	HF	1 ^{1/2} -12	40-300	475	144					
		14-20	350-500							
		24	600							

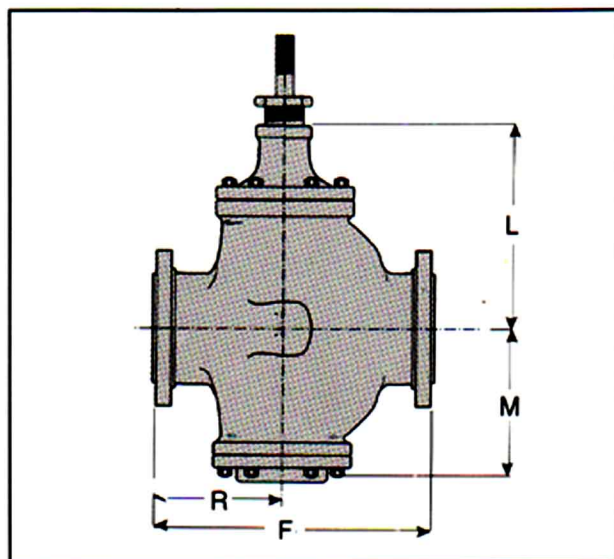


Fig. 3. Series 20 Dimensions

NOTES :

1. FACE TO FACE DIMENSIONS COMPLY WITH ISA S75.03 1984.
2. FACE TO FACE DIMENSIONS EXCLUDE RTJ FLANGES.
3. THE COMPANY RESERVE THE RIGHT TO CONFIRM DIMENSIONS ON CERTIFIED DRAWINGS.
4. CF INDICATES CONSULT FACTORY.

Table 4. Series 20 Outline Dimensions.

Body Size Ins (mm)	Face to Face Dimension (RF Flanges) Ins (mm)						Centerline to Bonnet mount Ins (mm)			Centerline to Base Ins (mm) M	Travel Ins (mm)	Nett Weight (kg)		
	ANSI 150 PN 10-16		ANSI 300 PN 25-40		ANSI 600 PN 64-100		Standard	Normalising	Bellows			ANSI 150 PN 10-16	ANSI 300 PN 25-40	ANSI 600 PN 64-100
	F	R	F	R	F	R	L	L	L					
1 1/2 40	8 3/4 222	4 1/8 105	9 1/4 235	4 3/8 111	9 7/8 251	4 3/4 121	7 7/16 189	12 11/16 322	15 1/8 384	5 1/2 140	1 1/8 28	34	38	49
2 50	10 254	4 5/8 117	10 1/2 267	4 7/8 124	11 1/4 286	5 1/4 133	7 7/8 200	13 330	15 1/2 394	5 7/8 149	1 1/8 28	46	49	55
3 80	11 3/4 298	5 1/4 133	12 1/2 318	5 5/8 143	13 1/4 337	6 152	9 1/2 241	14 3/8 365	19 13/16 503	7 5/8 194	1 1/2 38	81	87	103
4 100	13 7/8 352	6 1/8 156	14 1/2 368	6 3/8 162	15 1/2 394	6 7/8 175	10 5/8 270	16 1/2 419	20 13/16 529	10 254	1 1/2 38	129	138	158
6 150	17 3/4 451	7 15/16 202	18 5/8 473	8 3/8 213	20 508	9 229	13 1/2 343	18 457	29 1/2 749	11 3/8 289	2 1/4 57	187	200	270
8 200	21 3/8 543	9 1/4 235	22 3/8 568	9 3/4 248	24 610	10 5/8 270	14 7/8 378	20 1/2 521	30 7/16 773	13 7/16 341	2 1/4 57	332	358	528
10 250	26 1/2 673	10 1/2 267	27 7/8 708	11 3/16 284	29 5/8 752	12 1/16 306	20 1/4 514	29 3/4 756	41 1/4 1048	17 3/8 441	3 1/2 89	577	632	902
12 300	29 737	11 1/8 283	30 1/2 775	11 7/8 302	32 1/4 819	12 3/4 324	20 3/8 518	31 9/16 802	41 13/16 1062	18 1/2 470	3 1/2 89	873	930	1254
14 350	35 889	14 5/8 371	36 1/2 927	15 3/8 391	38 1/4 972	16 1/4 413	22 1/2 572	34 3/4 883	45 1/8 1146	18 5/8 473	3 1/2 89	1225	1280	1650
16 400	40 1016	18 457	41 5/8 1057	18 13/16 478	43 5/8 1108	19 1/8 486	31 787	39 1/4 997	49 5/8 1260	27 1/2 698	3 1/2 89	1600	1675	2060
18 450	45 3/8 1153	18 3/16 462	47 1194	19 483	49 1/4 1251	20 5/8 524	30 1/4 768	43 1/8 1095	55 1397	29 1/2 749	4 102	1944	2075	2450
20 500	54 1372	23 1/16 586	55 5/8 1413	23 7/8 606	58 1473	25 1/16 637	35 1/2 902	49 1/2 1257	59 1/2 1511	34 3/4 883	5 127	2310	2450	CF
24 600	58 1/4 1480	24 3/8 619	60 1524	25 1/2 648	63 1600	27 686	48 1219	56 1/2 1435	65 1/8 1654	46 1/4 1175	5 127	CF	CF	CF

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



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