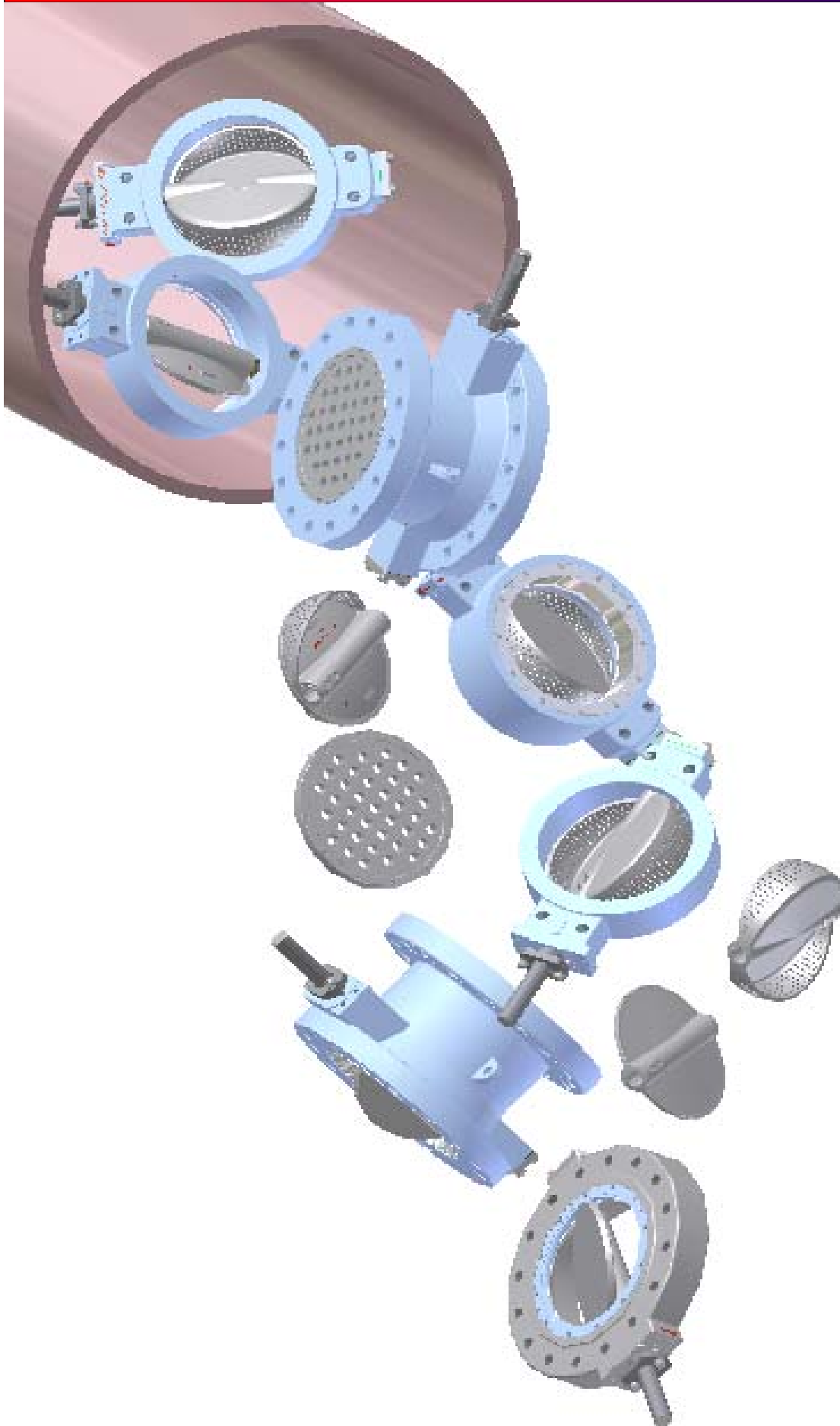




KENT INTROL CONTROL VALVES

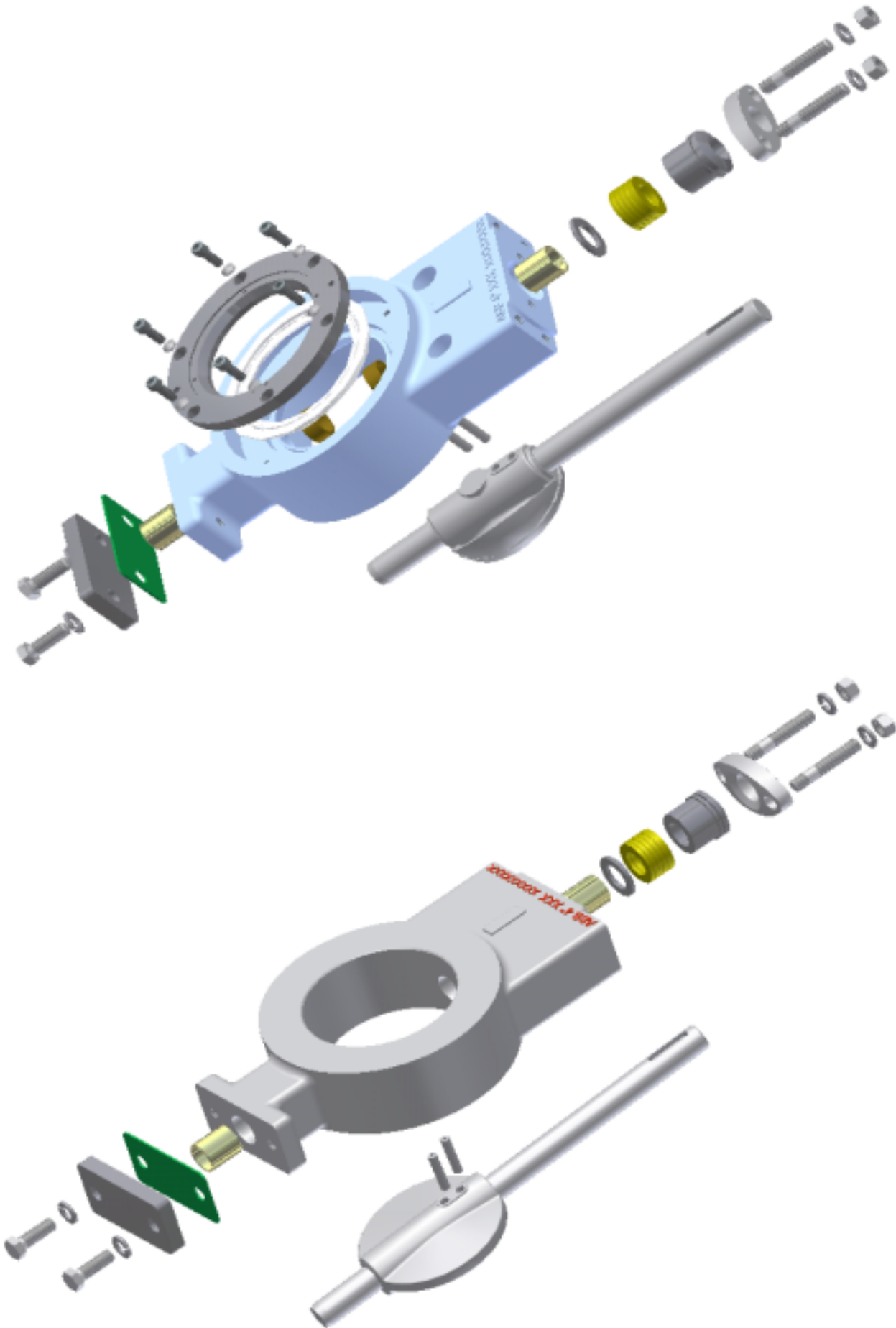


Series 63, 64, 65 & 66- Rotary Control Valves



KENT INTRROL CONTROL VALVES

Series 63,64,65 & 66- Rotary Control Valves





KENT INTROL CONTROL VALVES

Series 63, 64 and 65 High Performance Rotary Control Valves.
Series 66 Low Leakage Rotary Control Valves.
For ANSI 150 & 300LB Ratings

Features

The rotary valve has been developed by to give a flexible range of valves with many interchangeable parts and a minimum of maintenance. The construction of these valves together with options available will allow them to be used in many applications.

All seated valves have uninterrupted 360 degrees seal contact in the closed position due to the offset disc design. With the soft seated valves having a spring energised and pressure assisted seal the valve seating torques are low and seal life is long.

Valve Types

- Standard Introseal soft seated valve
- Rotrol Introseal soft seated valve
- Standard Introseal metal seated valve
- Rotrol Introseal metal seated valve
- Standard Introseal Firesafe valve
- Rotrol Introseal Firesafe valve
- Standard Class II Control valve
- Rotrol Class II Control valve

Body Styles and Ratings

Wafer, Lugged and Double Flanged connections are all available with body ratings up to ANSI 2500

Performance

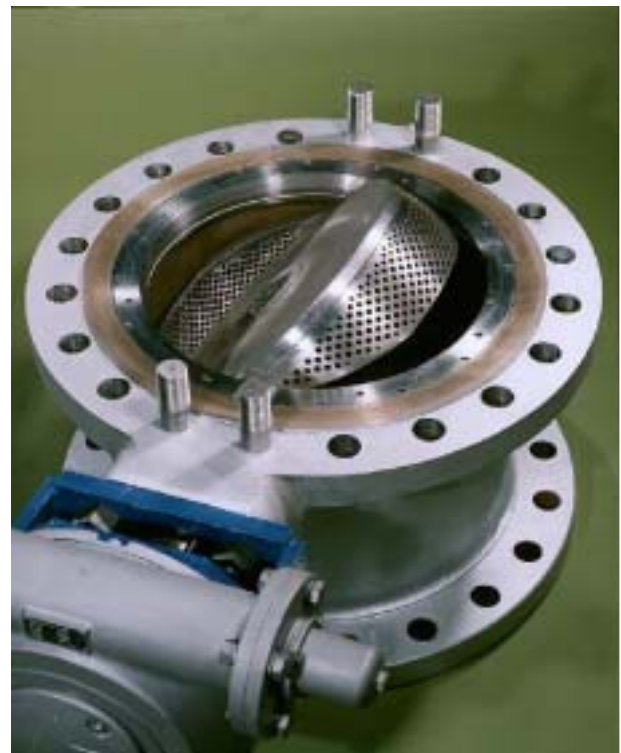
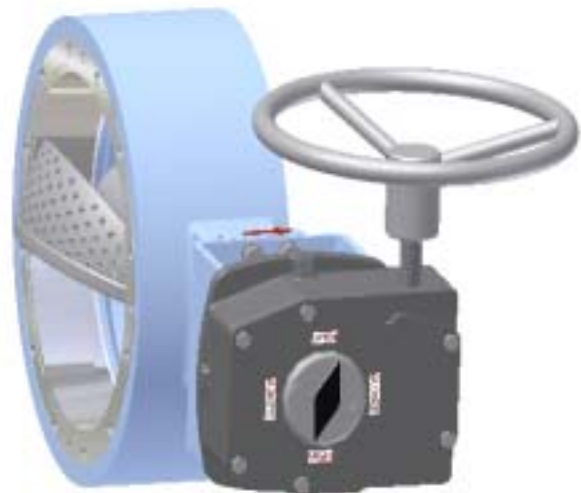
- Elimination of cavitation (Rotrol valves).
- Can control through 90 degrees (Rotrol valves).
- Excellent flow control rangeability.
- Low noise performance on both liquid and gas applications (Rotrol valves).
- Temperature ranges from -196 to +800^o C.
- Leakage rates from ASME/ANSI B16.104 (ANSI/FCI 70-2) Class II to Class VI.
- Face to face dimensions to API 609 for Wafer and Lugged valves.

Design Flexibility

- Can be operated by manual, electric, pneumatic or hydraulic actuators.
- Optional diffuser plates integral on Double flanged valves or loose with Wafer and Lugged valves.
- Full range of body and disc material options, with availability of hard facing.

Quality Manufacturing

- Rigorously tested to ensure specified performance on site.
- Quality assurance systems in accordance with EN ISO9001



Typical Rotrol Control Valve



KENT INTROL CONTROL VALVES

Series 63,64,65 & 66 - Rotary Control Valves

The Rotary Valves

Rotary valves have grown in popularity for the process industry in recent years. Rotary valves get their name from the rotary disc that acts as the control element. There are several reasons for using the rotary valve:

- More compact than a globe valve.
- Lighter in weight due to the compact design.
- Less expensive than a globe valve.
- Superior stem seal integrity.
- Superior seat sealing over globe valves.
- High flow co-efficients.

Our rotary control valves have been designed to comply with all the pressure and temperature ratings as used on a normal butterfly valve.

The basic materials of construction satisfy the majority of Rotary Control Valve applications. Surface coatings, overlays and heat treatments are available for steam and arduous service to provide resistance to wire drawing erosion.

The Rotrol Valve Concept

A major disadvantage of conventional butterfly and ball valves when used in throttling applications, is the effect of cavitation which can commence at quite low values of differential pressure. This, coupled with high noise emissions may result in rapid mechanical wear and early failure of the valve components.

To offset these effects, we have developed a rotary control valve with improved performance capability.

Rotrol characteristics may be changed by varying the area, number and spacing of the flow orifices. The Rotrol disc has two semi-spherical contours which generate a modified equal percentage flow characteristic and arc to the valve shaft centre line.

The innovative design incorporates a profiled vane which has cowls on its leading and trailing edges. The function of these cowls, which normally cover about one third of the 90° travel, is to split up the flow stream and dissipate the energy created by the pressure drop across the valve. This allows the valve to handle higher pressure drops and higher velocities without the onset of cavitation and noise.

The effect of the disc is particularly important in applications where variations in pressure drop occur over the range of operating conditions. It provides stable and progressively smooth operation in nearly closed valve positions and predictable response throughout its full 90° travel.

This specialised valve comes into its own in severe service applications with its variable resistance trim where the pressure drops tends to be high in the controlling position but where high capacity throughputs in the fully open position are required with minimum pressure drop.

On the double flanged design, the downstream pipework can be removed with the valve left in 'situ' giving tight shut off isolation to the upstream process when the valve is specified with the INTROSEAL design seat. Integral diffusers can also be fitted at the valve outlet to enhance the valves performance.

Another advantage of the profiled disc has been the significant reduction in the amount of torque required to operate the valve, compared to the conventional ball and butterfly types. The profiled disc breaks up the fluid pattern associated with the butterfly valve that causes large forces to build up in particularly open positions. The inherent instability of the conventional butterfly valve is not present with the Rotrol design, therefore smaller, more compact actuators may be used to operate the valve over a full 90° of travel.

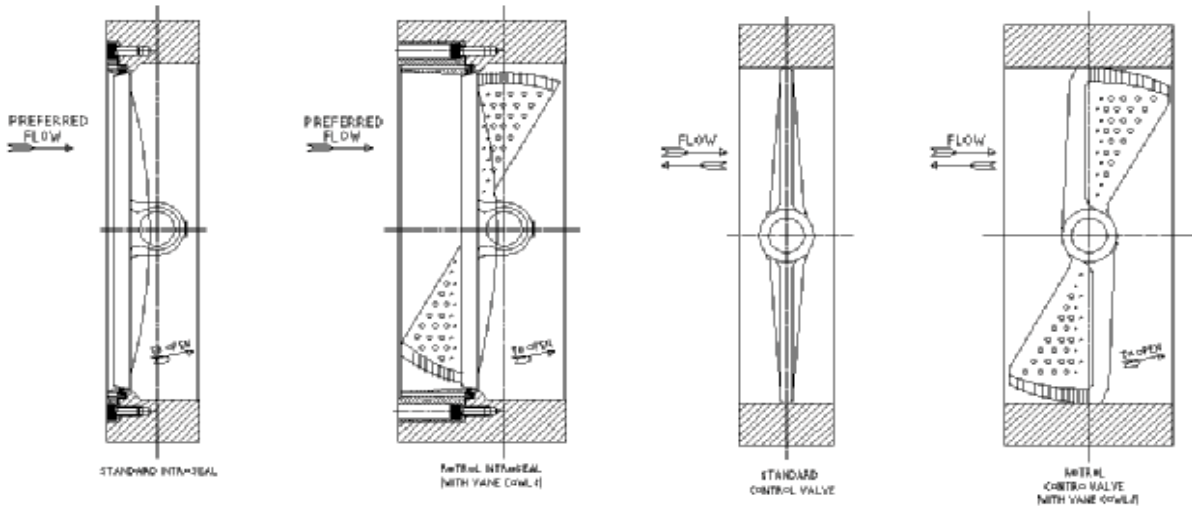
Operating torque requirements are about one half the conventional butterfly valve requirements over the major part of the control range.

On tight shut off seating versions the seating forces are significantly less than conventional ball and butterfly type valves due to the design of the disc which promotes a cam action which disengages the vane from the seat within a few degrees of opening. This improves the sealing characteristics and reduces the seat wear. This has the advantage of our being able to fit smaller actuators due to the reduced actuator forces required.

The standard class II control valve gives measured leakage values to be less than 0.5% of the maximum Cv. The design permits a high rangeability in the region of 100:1 and the standard flow/pressure characteristic follows a modified equal percentage curve. The versatile design permits other characteristic curves to be generated, particularly when the optional diffuser pack is specified. The stable valve characteristics permit repeatable smooth operation with predictable response ensuring good control over a wide range of flowrates.

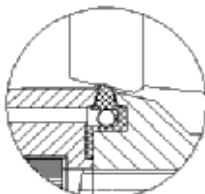
The rotary valve range is suitable for mounting all types of actuators and instruments.

DESIGN OUTLINES

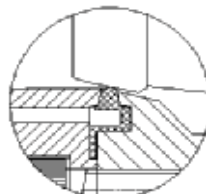


1. INTROL SEAL MEANS THE VALVE HAS A RIFT IN METAL SEAL RECESSED INTO THE BODY.
 INTROL INTROL SEAL MEANS THE VALVE DISC HAS ANTI-CAVITATION/VORTEX REDUCING COWLS.

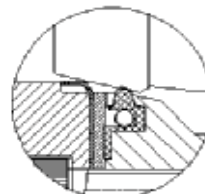
3. CONTROL VALVE MEANS THE VALVE HAS NO SEAL BETWEEN THE DISC AND THE BODY.
 INTROL CONTROL VALVE MEANS THE VALVE DISC HAS ANTI-CAVITATION/VORTEX REDUCING COWLS.



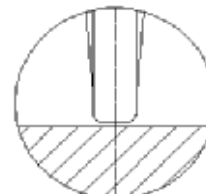
PRESSURE AND SPRING ENERGIIZED SOFT SEAL (SERIES 63)



PRESSURE ENERGIIZED METAL SEAL (SERIES 64)

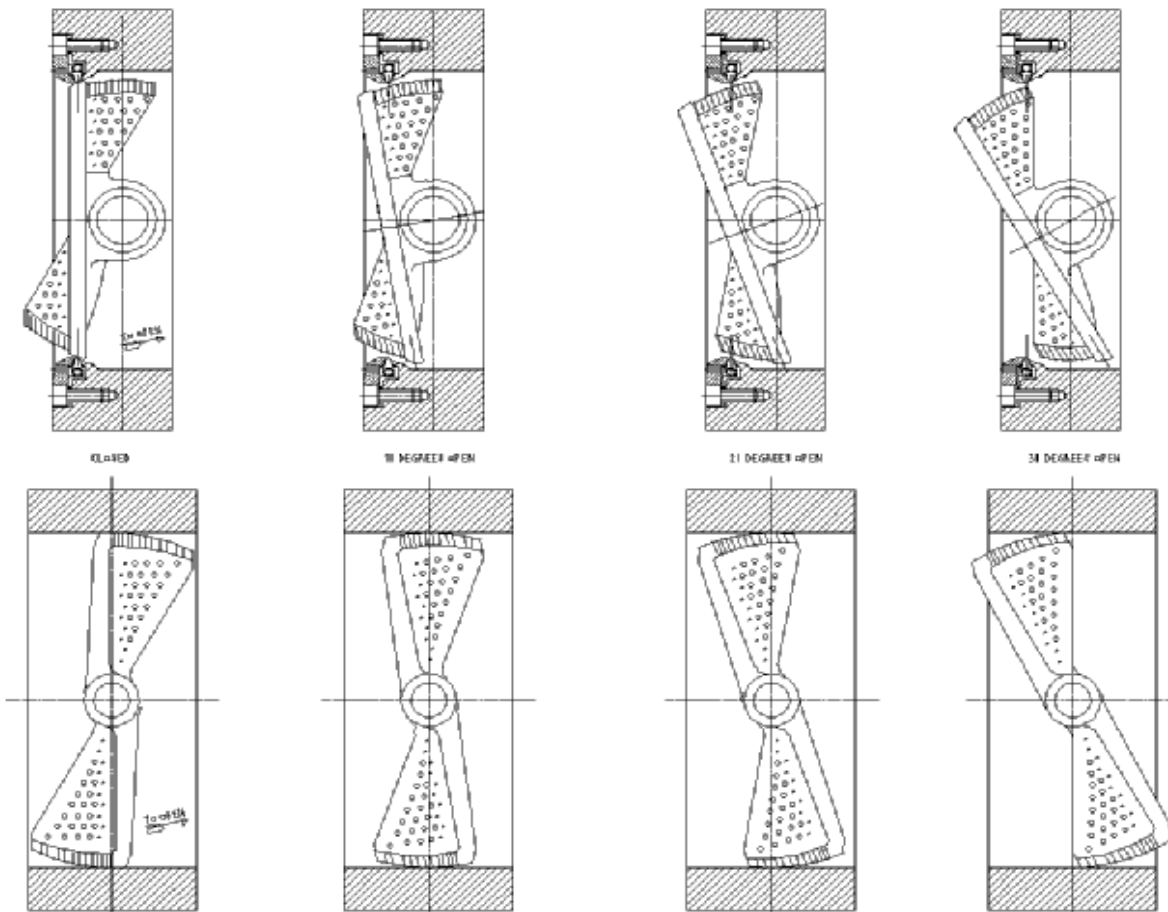


PRESSURE AND SPRING ENERGIIZED PREFACE (SERIES 65)



CONTROL VALVE (SERIES 66)

THE EFFECT OF THE COWLS OVER THE FIRST 30 DEGREES OF OPENING





KENT INTROL CONTROL VALVES

Series 63,64,65 & 66- Rotary Control Valves

Table 1. Valve Specifications

Series Number	Valve Type	ANSI Rating	Disc Configuration	Body Style	Leakage Class	Temperature (°C)
63	Introseal Soft Seat	150 & 300	Standard & Rotrol	Wafer Flanged Lugged	VI	-196 to +235
64	Introseal Metal Seat	150 & 300	Standard & Rotrol	Wafer Flanged Lugged	IV	-196 to +600
65	Introseal Firesafe	150 & 300	Standard & Rotrol	Wafer Flanged Lugged	VI	-196 to +235
66	Control (No seat)	150 & 300	Standard & Rotrol	Wafer Flanged Lugged	II	-196 to +800

Torque Requirements

Torque characteristics

Bearing friction, seal on seat friction, fluid dynamics on the disc and packing box friction are the primary factors in determining the torque requirements for a valve and are described below for convenience.

Bearing Friction

Any pressure drop across the disc places a direct load on the shaft bearings. The projected area of the disc decreases as the valve opens thus the bearing friction varies from maximum to a minimum as the disc rotates from closed to open.

Seal on Seat Friction (Seating Torque)

Seating torque is created by the interference between the valve disc and the Introseal seal varies with the contact area and is therefore related to valve size. This torque will only exist in the closed position and does not apply to a valve without seal.

Fluid Dynamic Torque

A Rotary valve disc is only balanced in either the closed or fully open position. In all other positions a dynamic torque is created by the flow velocity over the disc surface. The cowls on the Rotrol disc largely break up this effect and the dynamic torque is much less than a conventional disc.

Packing Torque

This is the torque required to overcome the tightness of the stuffing box to seal the shaft. This torque varies with the shaft size.

Valve Selection Criteria

Series 63

For applications where 100% shut off (Class VI) is required in the closed position on liquids or gasses and where control of the flow through the pipeline is required. Can be used on temperatures ranging from -196 to +235 degrees C and pressures drops up to 100 Bar with the correct selection of materials.

Series 64

For applications where only a small leakage (Class IV) is allowed in the closed position or where an elevated temperature or an arduous service means a soft seat is not practical. These valves also can be used as control valves. Temperature ranges from -196 to +600 degrees C with pressures up to 100 Bar. Higher temperatures can be achieved but working conditions are subject to special scrutiny by our engineering department.

Series 65

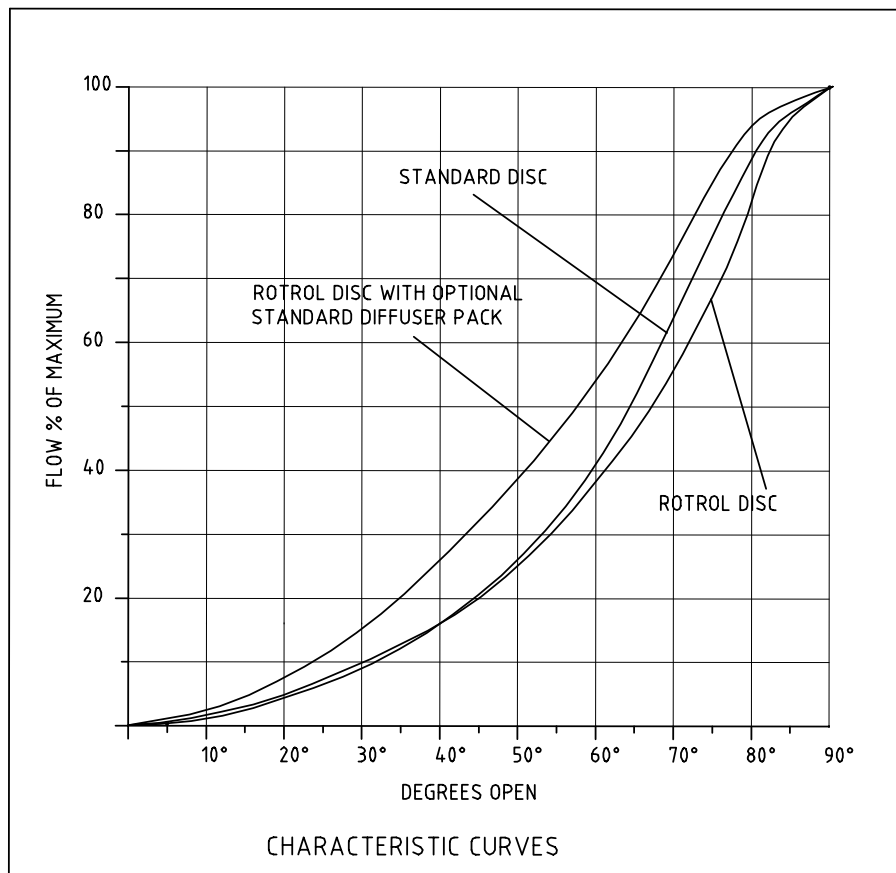
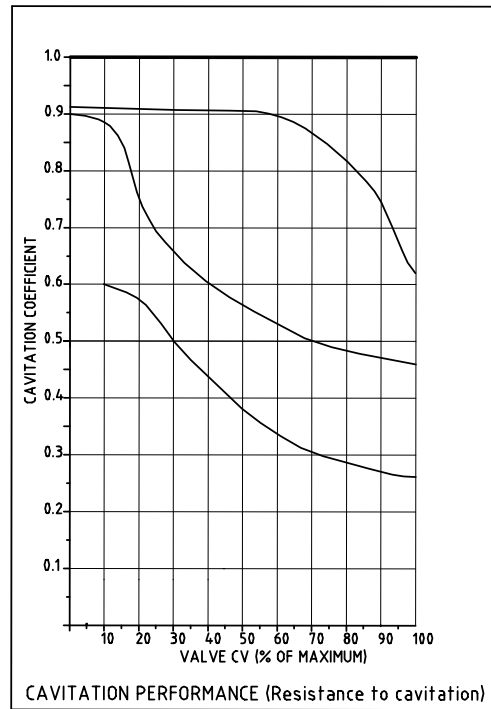
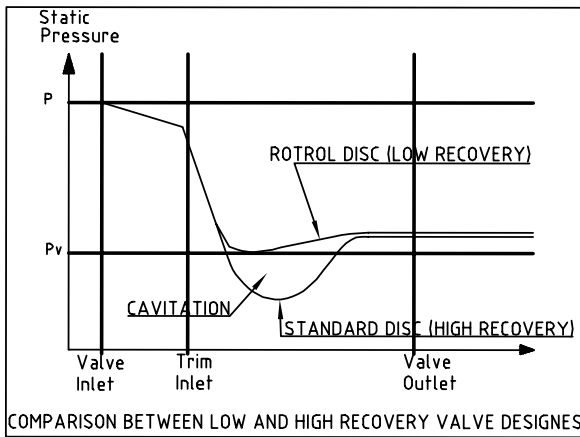
For applications where a 100% shut off is required under normal operating conditions (as Series 63) but in the event of a fire when the soft seat deteriorates a backup metal seat will still maintain the integrity of the valve by only allowing a small leakage past the metal seal in the closed position. This valve will remain operable after a fire until it is safe to remove it and overhaul its seats.

Series 66

For applications where leakage in the closed position is not a problem, but where the control of the amount of liquid or gas through the pipeline is paramount. Operating temperature ranges from -196 to + 800 degrees C with the correct selection of materials. Pressure drops of up to 150 Bar can be handled. Class II leakage in the closed position is maintained for temperatures up to 200 degrees C. Leakrate increases at temperatures above 200 degrees C.



KENT INTROL CONTROL VALVES



Series 63,64,65 & 66- Rotary Control Valves



KENT INTROL CONTROL VALVES

Series 63, 64, 65 & 66 - Rotary Control Valves

Table 2. Standard Material of Construction

Valve Body	Carbon Steel ASTM A216 WCB	Aluminium/Bronze
Disc	Carbon Steel ASTM A216 WCB or Stainless Steel ASTM A351 CF8	Monel
Shaft	17-4PH Stainless Steel	Monel
Inboard Bearings	Glacier DU	Aluminium Bronze (Graphite Impregnated)
Packing	PTFE Chevrons	PTFE Chevrons
Packing Follower and Studs	Stainless Steel	Stainless Steel
Maximum Temperature	235°C	235°C

Table 3. Recommended Maximum Velocities for Liquid Service

Trim	Valve Size		Carbon Steel		Alloy Steel		Bronze, Cu, Ni, Alloy	
	in	mm	ft/s	m/s	ft/s	m/s	ft/s	m/s
Disc	4-12	100-300	25	7.6	25	7.6	15	4.6
	14-24	350-600	15	4.6	15	4.6	9	2.7
	Above 24	Above 600	10	3	10	3	6	1.8

Table 4. Recommended Maximum Velocities for Gas/Vapour Service

Trim	Valve Size		Maximum Inlet		Maximum Outlet		Maximum Outlet Mach. No. for Required Noise Level		
	in	mm	ft/s	m/s	ft/s	m/s	>95dBA	<95dBA	<85 dBA
Disc	4-12	100-300	200	61	350	107	0.3	0.2	0.1
	14-24	350-600	100	30					
	Above 24	Above 600	80	24					

Table 5. Typical Rangeability for Series 63, 64 & 65 Valves

Valve Size		Standard Introseal		Rotrol Introseal		Rotrol Introseal with Diffuser Plate	
in	mm	0-60°	0-90°	0-60°	0-90°	0-60°	0-90°
4-10	100-250	16	35	19	48	17	34
12-18	300-450	18	40	21	53	19	39
20-36	500-900	20	45	23	58	21	44

Table 6. Typical Rangeability for Series 66 Valves

Valve Size		Standard Introseal		Rotrol Introseal		Rotrol Introseal with Diffuser Plate	
in	mm	0-60°	0-90°	0-60°	0-90°	0-60°	0-90°
4-10	100-250	32	78	19	51	21	38
12-18	300-450	34	83	21	56	23	43
20-36	500-900	36	88	23	61	25	48

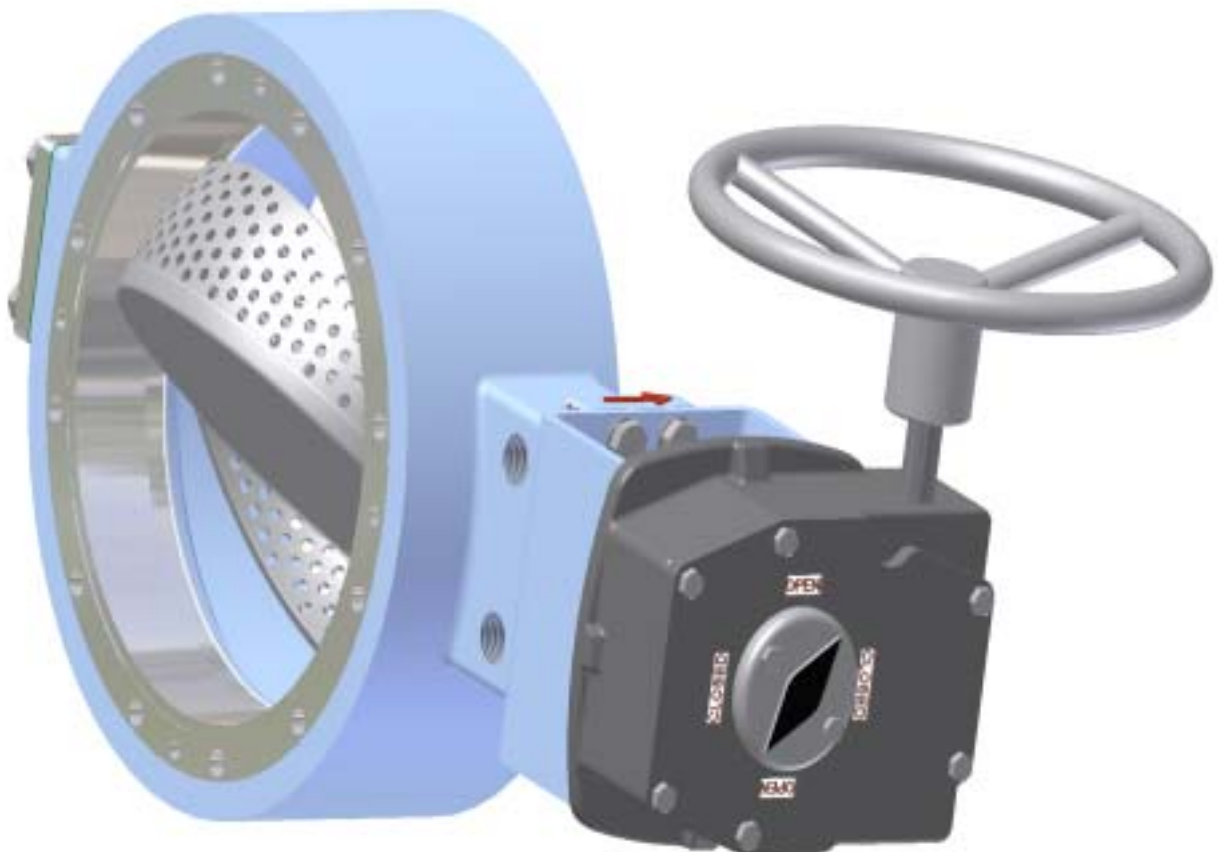


SERIES 63, 64 AND 65 CLASS 150LB AND 300LB

CV TABLES

TORQUE TABLES

DIMENSIONAL DRAWINGS





KENT INTROL CONTROL VALVES

Series 63,64,65 & 66- Rotary Control Valves

Table 7. CV Values for Series 63,64 & 65 Standard (Introseal Soft Seal, Metalseal and Firesafe)

Wafer, Lugged and Double Flanged - Class 150LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	2.5	6	12	20	31	44	60	82	100
4	100	9	23	45	75	116	165	225	308	375
6	150	28	68	135	225	349	495	675	923	1125
8	200	56	135	270	450	698	990	1350	1845	2250
10	250	89	215	429	715	1108	1573	2145	2932	3575
12	300	133	320	639	1065	1651	2343	3195	4367	5325
14	350	153	366	732	1220	1891	2684	3660	5002	6100
16	400	211	507	1014	1690	2620	3718	5070	6929	8450
18	450	270	648	1296	2160	3348	4752	6480	8856	10800
20	500	338	810	1620	2700	4185	5940	8100	11070	13500
24	600	513	1230	2460	4100	6355	9020	12300	16810	20500
28	700	725	1740	3480	5800	8990	12760	17400	23780	29000
30	750	831	1995	3990	6650	10308	14630	19950	27265	33250
32	800	959	2303	4605	7675	11896	16885	23025	31468	38375
36	900	1197	2873	5745	9575	14841	21065	28725	39258	47875

Table 8. CV Values for Series 63,64 & 65 Rotrol (Introseal Soft Seal, Metalseal and Firesafe)
(CV at 90 = 40% of Standard Introseal Valve)

Wafer, Lugged and Double Flanged - Class 150LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	1.9	7.7	13	21	33	39	57	86	100
4	100	3	12	20	32	50	59	86	129	150
6	150	9	35	59	95	149	176	257	387	450
8	200	17	69	117	189	297	351	513	774	900
10	250	27	110	186	300	472	558	815	1230	1430
12	300	40	164	277	447	703	831	1214	1832	2130
14	350	46	188	317	512	805	952	1391	2098	2440
16	400	64	260	439	710	1115	1318	1927	2907	3380
18	450	82	333	562	907	1426	1685	2462	3715	4320
20	500	103	416	702	1134	1782	2106	3078	4644	5400
24	600	156	631	1066	1722	2706	3198	4674	7052	8200
28	700	220	893	1508	2436	3828	4524	6612	9976	11600
30	750	253	1024	1729	2793	4389	5187	7581	11438	13300
32	800	292	1182	1996	3224	5066	5987	8750	13201	15350
36	900	364	1475	2490	4022	6320	7469	10916	16469	19150



KENT INTROL CONTROL VALVES

Series 63, 64, 65 & 66 - Rotary Control Valves

Table 9. CV Values for Series 63,64 & 65 Rotrol (Introseal Soft Seal, Metalseal and Firesafe) With Integral or Loose Baffle Plates (CV at 90 = 75% of Rotrol Valve)

Wafer, Lugged and Double Flanged - Class 150LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	2.5	10.3	17.3	27.7	41.5	48.5	66.5	88.5	100
4	100	3	12	20	31	47	55	75	100	113
6	150	9	35	59	93	140	164	224	299	338
8	200	17	69	117	187	280	327	449	597	675
10	250	27	110	186	297	445	520	713	949	1073
12	300	40	164	277	443	663	775	1062	1414	1598
14	350	46	188	317	507	759	888	1217	1620	1830
16	400	64	260	440	702	1052	1229	1686	2243	2535
18	450	82	333	562	897	1345	1571	2155	2867	3240
20	500	103	416	702	1122	1681	1964	2693	3585	4050
24	600	156	632	1066	1704	2552	2983	4090	5443	6150
28	700	221	893	1509	2410	3611	4220	5786	7700	8700
30	750	253	1024	1730	2763	4140	4838	6633	8828	9975
32	800	292	1182	1996	3189	4778	5584	7656	10189	11513
36	900	364	1475	2490	3978	5960	6966	9551	12711	14363

Table 10. CV Values for Series 63,64 & 65 Standard (Introseal Soft Seal, Metalseal and Firesafe)

Wafer, Lugged and Double Flanged - Class 300LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	2.5	6	12	20	31	44	60	82	100
4	100	9	23	45	75	116	165	225	308	375
6	150	25	61	122	203	315	447	609	832	1015
8	200	51	122	243	405	628	891	1215	1661	2025
10	250	80	193	386	644	998	1416	1931	2639	3218
12	300	120	288	575	959	1486	2109	2876	3930	4793
14	350	137	329	659	1098	1702	2416	3294	4502	5490
16	400	190	456	913	1521	2358	3346	4563	6236	7605
18	450	236	567	1134	1890	2930	4158	5670	7749	9450
20	500	295	709	1417	2362	3662	5197	7087	9686	11812
24	600	436	1046	2091	3485	5402	7667	10455	14289	17425
28	700	616	1479	2958	4930	7642	10846	14790	20213	24650
30	750	707	1696	3391	5652	8761	12435	16957	23175	28262
32	800	815	1957	3914	6524	10112	14352	19571	26747	32618
36	900	1017	2442	4883	8139	12615	17905	24416	33368	40693



KENT INTROL CONTROL VALVES

Series 63,64,65 & 66- Rotary Control Valves

Table 11. CV Values for Series 63,64 & 65 Rotrol (Introseal Soft Seal, Metalseal and Firesafe)
(CV at 90 = 40% of Standard Introseal Valve)

Wafer, Lugged and Double Flanged - Class 300LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	1.9	7.7	13	21	33	39	57	86	100
4	100	3	12	20	32	50	59	86	129	150
6	150	8	31	53	85	134	158	231	349	406
8	200	15	62	105	170	267	316	462	697	810
10	250	24	99	167	270	425	502	734	1107	1287
12	300	36	148	249	403	633	748	1093	1649	1917
14	350	42	169	285	461	725	856	1252	1889	2196
16	400	58	234	395	639	1004	1186	1734	2616	3042
18	450	72	291	491	794	1247	1474	2155	3251	3780
20	500	90	364	614	992	1559	1843	2693	4063	4725
24	600	132	537	906	1464	2300	2718	3973	5994	6970
28	700	187	759	1282	2071	3254	3845	5620	8480	9860
30	750	215	870	1470	2374	3731	4409	6444	9722	11305
32	800	248	1005	1696	2740	4306	5088	7437	11221	13047
36	900	309	1253	2116	3418	5371	6348	9278	13998	16277

Table 12. CV Values for Series 63,64 & 65 Rotrol (Introseal Soft Seal, Metalseal and Firesafe) With Integral or Loose Baffle Plates (CV at 90 = 75% of Rotrol Valve)

Wafer, Lugged and Double Flanged - Class 300LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	2.5	10.3	17.3	27.7	41.5	48.5	66.5	88.5	100
4	100	3	12	20	31	47	55	75	100	113
6	150	8	31	53	84	126	148	202	269	305
8	200	15	62	105	168	252	295	404	538	608
10	250	24	99	167	267	401	468	642	854	965
12	300	36	148	249	398	597	697	956	1273	1438
14	350	42	169	286	456	684	799	1095	1458	1647
16	400	58	234	396	632	947	1107	1517	2019	2282
18	450	72	291	492	785	1177	1375	1885	2509	2835
20	500	90	364	614	982	1471	1719	2356	3136	3544
24	600	133	537	906	1448	2169	2535	3476	4626	5228
28	700	187	759	1282	2048	3069	3587	4918	6545	7395
30	750	215	871	1470	2349	3519	4112	5638	7504	8479
32	800	248	1005	1697	2711	4061	4746	6507	8660	9785
36	900	309	1254	2117	3382	5066	5921	8118	10804	12208



KENT INTROL CONTROL VALVES

Series 63, 64, 65 & 66- Rotary Control Valves

Table 13. Torque Values to Unseat the Valve from Closed Position (150LB Rating)

Valve Bore		Shaft Size	Unseating (Lbs.Ins)			Packing (Lbs.Ins)	Friction (Lbs.Ins)
in	mm		Series 63 Soft Seated	Series 64 Metal Seated (Up to 200 ° C)	Series 65 Fire Safe		
4	100	0.75	180+(0.9xDp)	360+(0.9xDp)	225+(1.12xDp)	74	0.51xDp
6	150	0.75	264+(1.32xDp)	520+(1.32xDp)	330+(1.56xDp)	74	1.4xDp
8	200	1	438+(2.19xDp)	875+(2.19xDp)	548+(2.74xDp)	99	3.3xDp
10	250	1	660+(3.3xDp)	1950+(4.87xDp)	825+(4.12xDp)	99	5.0xDp
12	300	1.25	1050+(5.05xDp)	3150+(7.87xDp)	1312+(6.56xDp)	124	9.2xDp
14	350	1.5	1400+(7xDp)	4200+(10.5xDp)	1750+(8.75xDp)	222	15xDp
16	400	1.5	1920+(9.6xDp)	5800+(14.5xDp)	2400+(12xDp)	222	18.5xDp
18	450	1.75	2400+(12xDp)	7200+(18xDp)	3000+(15xDp)	259	28.5xDp
20	500	2	2910+(14.5xDp)	9000+(22.5xDp)	3638+(18.20xDp)	296	40xDp
24	600	2.25	4400+(22xDp)	13200+(33xDp)	5500+(22xDp)	334	67xDp
28	700	2.5	5750+(28.75xDp)	17100+(42.75xDp)	7187+(35.93xDp)	371	103xDp
30	750	3	6600+(33xDp)	19800+(49.5xDp)	8250+(41.25xDp)	445	144xDp
32	800	3	7650+(38.25xDp)	23000+(57.5xDp)	9560+(47.8xDp)	445	165xDp
36	900	3	9900+(49.5xDp)	29700+(74.25xDp)	12375+(61.85xDp)	445	210xDp

Note:

Dp (Pressure Drop) in PSI.

The total torque to open = (Unseating Torque+Packing Torque+Frictional Torque)

Table 14. Torque Values to Unseat the Valve from Closed Position (300LB Rating)

Valve Bore		Shaft Size	Unseating (Lbs.Ins)			Packing (Lbs.Ins)	Friction (Lbs.Ins)
in	mm		Series 63 Soft Seated	Series 64 Metal Seated (Up to 200 ° C)	Series 65 Fire Safe		
4	100	0.75	180+(0.9xDp)	360+(0.9xDp)	225+(1.12xDp)	74	0.51xDp
6	150	1	264+(1.32xDp)	520+(1.32xDp)	330+(1.56xDp)	99	1.7xDp
8	200	1.25	438+(2.19xDp)	875+(2.19xDp)	548+(2.74xDp)	124	4.1xDp
10	250	1.25	660+(3.3xDp)	1950+(4.87xDp)	825+(4.12xDp)	124	6.3xDp
12	300	1.5	1050+(5.05xDp)	3150+(7.87xDp)	1312+(6.56xDp)	222	11xDp
14	350	2	1400+(7xDp)	4200+(10.5xDp)	1750+(8.75xDp)	296	20xDp
16	400	2	1920+(9.6xDp)	5800+(14.5xDp)	2400+(12xDp)	296	24.7xDp
18	450	2.25	2400+(12xDp)	7200+(18xDp)	3000+(15xDp)	334	36xDp
20	500	2.75	2910+(14.5xDp)	9000+(22.5xDp)	3638+(18.20xDp)	408	56xDp
24	600	3	4400+(22xDp)	13200+(33xDp)	5500+(22xDp)	445	89xDp
28	700	3.5	5750+(28.75xDp)	17100+(42.75xDp)	7187+(35.93xDp)	519	145xDp
30	750	3.5	6600+(33xDp)	19800+(49.5xDp)	8250+(41.25xDp)	519	168xDp
32	800	3.5	7650+(38.25xDp)	23000+(57.5xDp)	9560+(47.8xDp)	519	192xDp
36	900	3.5	9900+(49.5xDp)	29700+(74.25xDp)	12375+(61.85xDp)	519	245xDp

Note:

Dp (Pressure Drop) in PSI.

The torque to open = (Unseating Torque+Packing Torque+Frictional Torque)

Conversion: 1 Lbs.Ins = 0.1129Nm

1 Nm = 8.85 Lbs.Ins

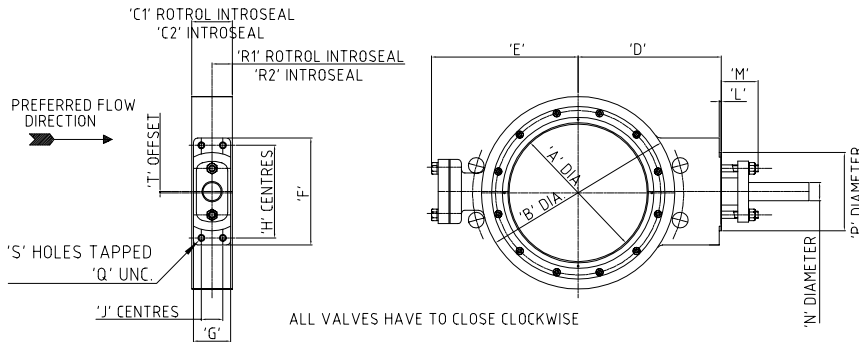


Table 15. Class 150LB Wafer Valves (Series 63,64 and 65)

Valve Size		Dimensions																		
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S	T
4	100	87	160	60	54	145	145	120	44	100	25	3	45	3/4"	90	3/8"	24.5	24.5	4	1
6	150	138	215	80	59	185	180	150	50	130	30	3	45	3/4"	105	3/8"	26	26	4	1
8	200	188	270	95	64	200	205	170	52	145	35	3	55	1"	105	3/8"	30	27.5	4	2
10	250	238	324	130	72	230	240	170	64	145	35	3	55	1"	105	1/2"	47.5	34.5	4	2
12	300	287	382	145	81	270	270	170	72	145	35	3	55	1 1/4"	105	1/2"	49	37	4	2
14	350	328	426	169	92	308	295	170	80	145	45	3	55	1 1/2"	105	5/8"	60	41.5	4	2
16	400	365	474	185	102	340	335	170	80	145	45	3	55	1 1/2"	105	5/8"	70	51	4	2
18	450	415	535	214	114	360	365	260	100	210	60	3	60	1 3/4"	170	3/4"	80	57	4	2
20	500	465	590	240	127	395	390	260	100	210	60	3	65	2"	170	3/4"	90	63.5	4	2
24	600	563	695	290	154	480	460	260	125	210	90	3	65	2 1/4"	170	3/4"	110	77	4	2
28	700	665	805	340	165	540	530	260	150	210	100	3	65	2 1/2"	170	1"	136	82.5	6	3
30	750	715	860	365	165	565	550	260	150	210	100	3	65	3"	170	1"	135	79	6	3
32	800	763	920	385	190	600	590	260	150	210	100	3	65	3"	170	1"	144	95	6	3
36	900	863	1028	430	200	655	645	260	150	210	100	3	65	3"	170	1"	165	100	6	3

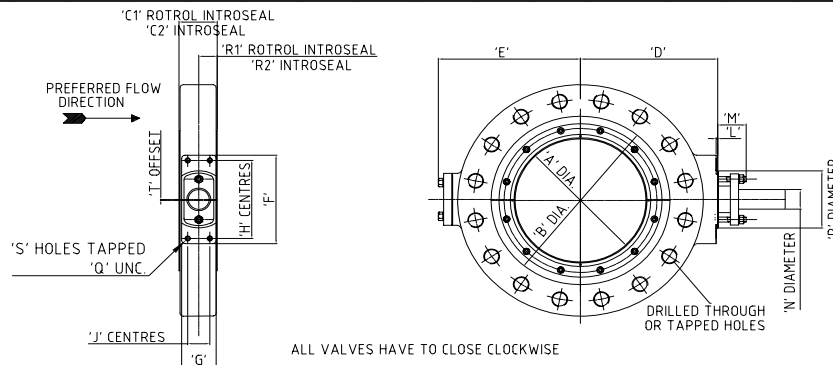


Table 16. Class 150LB Wafer Lugged Valves (Series 63,64 and 65)

Valve Size		Dimensions																		
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S	T
4	100	87	160	60	54	145	145	120	44	100	25	3	45	3/4"	90	3/8"	24.5	24.5	4	1
6	150	138	215	80	59	185	180	150	50	130	30	3	45	3/4"	105	3/8"	26	26	4	1
8	200	188	270	95	64	200	205	170	52	145	35	3	55	1"	105	3/8"	30	27.5	4	2
10	250	238	324	130	72	230	240	170	64	145	35	3	55	1"	105	1/2"	47.5	34.5	4	2
12	300	287	381	145	81	270	270	170	72	145	35	3	55	1 1/4"	105	1/2"	49	37	4	2
14	350	328	413	169	92	308	295	170	80	145	45	3	55	1 1/2"	105	5/8"	60	41.5	4	2
16	400	365	470	185	102	340	335	170	80	145	45	3	55	1 1/2"	105	5/8"	70	51	4	2
18	450	415	533	214	114	360	360	260	100	210	60	3	60	1 3/4"	170	3/4"	80	57	4	2
20	500	465	590	-	127	395	390	260	100	210	60	3	65	2"	170	3/4"	-	63.5	4	2
24	600	563	692	-	154	480	460	260	125	210	90	3	65	2 1/4"	170	3/4"	-	87	4	2
28	700	665	801	-	165	540	530	260	150	210	100	3	65	2 1/2"	170	1"	-	82.5	6	3
30	750	715	860	-	165	565	550	260	150	210	100	3	65	3"	170	1"	-	79	6	3
32	800	763	915	-	190	600	590	260	150	210	100	3	65	3"	170	1"	-	95	6	3
36	900	863	1022	-	200	655	645	260	150	210	100	3	65	3"	170	1"	-	100	6	3

Note: Only available to 18" 450mm for Rotrol Introseals - sizes above that are flanged.



KENT INTROL CONTROL VALVES

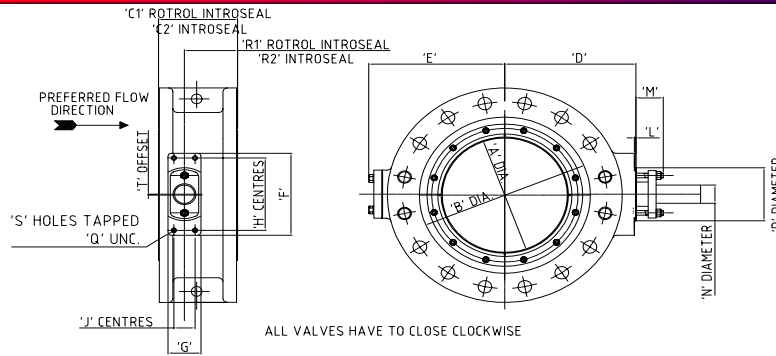


Table 17. Class 150LB Flanged Valves (Series 63,64 and 65)

Valve Size		Dimensions																		
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S	T
4	100	87	160	127	127	145	145	120	44	100	25	3	45	3/4"	90	3/8"	77	77	4	1
6	150	138	215	140	140	185	180	150	50	130	30	3	45	3/4"	105	3/8"	86	86	4	1
8	200	188	270	152	152	200	205	170	52	145	35	3	55	1"	105	3/8"	87	87	4	2
10	250	238	324	165	165	230	240	170	64	145	35	3	55	1"	105	1/2"	82	82	4	2
12	300	287	381	178	178	270	270	170	72	145	35	3	55	1 1/4"	105	1/2"	82	82	4	2
14	350	328	413	190	190	308	295	170	80	145	45	3	55	1 1/2"	105	5/8"	81	81	4	2
16	400	365	470	223	216	340	335	170	80	145	45	3	55	1 1/2"	105	5/8"	108	108	4	2
18	450	415	533	250	222	360	365	260	100	210	60	3	60	1 3/4"	170	3/4"	111	111	4	2
20	500	465	590	265	229	395	390	260	100	210	60	3	65	2"	170	3/4"	115	115	4	2
24	600	563	692	313	267	480	460	260	125	210	90	3	65	2 1/4"	170	3/4"	134	134	4	2
28	700	665	801	350	292	540	530	260	150	210	100	3	65	2 1/2"	170	1"	146	146	6	3
30	750	715	857	380	318	565	550	260	150	210	100	3	65	3"	170	1"	159	159	6	3
32	800	763	915	400	318	600	590	260	150	210	100	3	65	3"	170	1"	159	159	6	3
36	900	863	1022	430	330	655	645	260	150	210	100	3	65	3"	170	1"	165	165	6	3

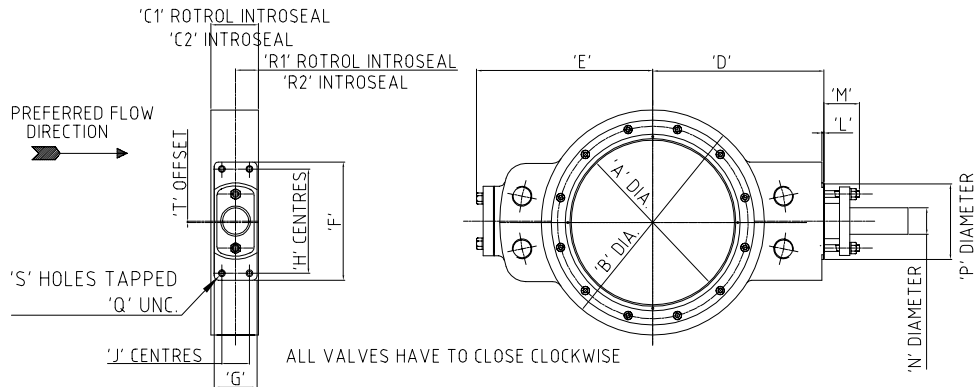


Table 18. Class 300LB Wafer Valves (Series 63,64 and 65)

Valve Size		Dimensions																		
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S	T
4	100	87	160	60	54	145	145	120	44	100	25	3	45	3/4"	80	3/8"	24.5	24.5	4	1
6	150	138	216	80	59	185	180	150	50	130	30	3	55	1"	105	3/8"	26	26	4	1
8	200	188	270	100	73	225	220	170	64	145	35	3	55	1 1/4"	105	3/8"	35	36.5	4	2
10	250	238	324	128	83	250	265	170	70	145	35	3	55	1 1/4"	105	1/2"	45	45	4	2
12	300	287	382	145	92	285	285	170	80	145	35	3	55	1 1/2"	105	1/2"	49	48	4	2
14	350	328	426	170	117	325	340	250	100	210	60	3	65	2"	170	3/4"	59	59	4	2
16	400	365	474	190	133	350	360	260	100	210	60	3	65	2"	170	3/4"	66.5	66.5	4	2
18	450	415	535	215	149	400	400	260	100	210	60	3	65	2 1/4"	170	3/4"	74.5	74.5	4	2
20	500	465	590	240	159	430	430	260	125	210	90	3	65	2 3/4"	170	3/4"	79.5	79.5	6	2
24	600	563	695	282	181	530	505	260	150	210	90	3	65	3"	170	3/4"	90	90	6	2
28	700	665	805	340	209	595	580	260	150	210	100	3	65	3 1/2"	170	1"	115	104	6	3
30	750	715	860	350	241	625	605	260	150	210	100	3	65	3 1/2"	170	1"	120	120	6	3
32	800	763	920	385	241	650	640	260	150	210	100	3	65	3 1/2"	170	1"	144	120	6	3
36	900	863	1028	440	260	710	700	260	150	210	100	3	65	3 1/2"	170	1"	165	130	6	3

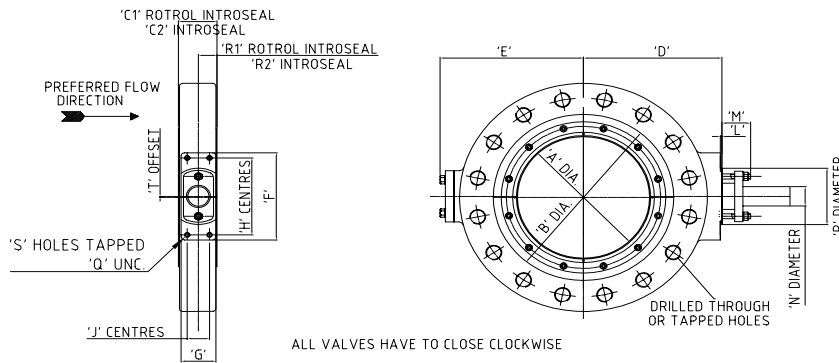


Table 19. Class 300LB Wafer Lugged Valves (Series 63,64 and 65)

Valve Size		Dimensions																		
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S	T
4	100	87	160	60	54	145	145	120	44	100	25	3	45	3/4"	80	3/8"	24.5	24.5	4	1
6	150	138	216	80	59	185	180	150	50	130	30	3	55	1"	105	3/8"	26	26	4	1
8	200	188	270	100	73	225	220	170	64	145	35	3	55	1 1/4"	105	1/2"	35	36.5	4	1
10	250	238	324	128	83	250	265	170	70	145	35	3	55	1 1/4"	105	1/2"	45	45	4	2
12	300	287	381	145	92	285	285	170	80	145	35	3	55	1 1/2"	105	1/2"	49	48	4	2
14	350	328	413	170	117	325	340	260	100	210	60	3	65	2"	170	3/4"	59	59	4	2
16	400	365	470	190	133	350	360	260	100	210	60	3	65	2"	170	3/4"	66.5	66.5	4	2
18	450	415	535	215	149	400	400	260	100	210	60	3	60	2 1/4"	170	3/4"	74.5	74.5	4	2
20	500	465	590	-	159	430	430	260	125	210	90	3	65	2 3/4"	170	3/4"	-	79.5	6	2
24	600	563	692	-	181	530	505	260	150	210	90	3	65	3"	170	3/4"	-	90	6	2
28	700	665	801	-	209	595	580	260	150	210	100	3	65	3 1/2"	170	1"	-	104	6	3
30	750	715	857	-	241	625	605	260	150	210	100	3	65	3 1/2"	170	1"	-	120	6	3
32	800	763	915	-	241	650	640	260	150	210	100	3	65	3 1/2"	170	1"	-	120	6	3
36	900	863	1022	-	260	710	700	260	150	2100	100	3	65	3 1/2"	170	1"	-	130	6	3

Note: Only available to 18" 450mm for Rotrol Introseals - sizes above that are flanged.

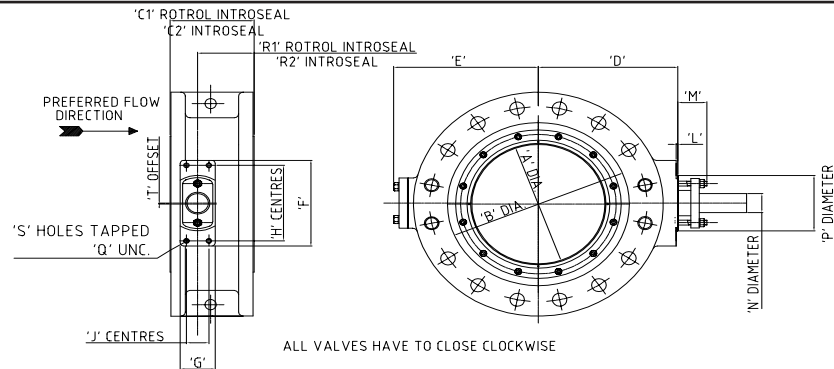


Table 20. Class 300LB Double Flanged (Series 63,64 and 65)

Valve Size		Dimensions																		
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S	T
4	100	87	160	127	127	145	145	120	44	100	25	3	45	3/4"	80	3/8"	77	77	4	1
6	150	138	216	140	140	185	180	150	50	130	30	3	45	1"	105	3/8"	80	80	4	1
8	200	188	270	152	152	225	220	170	64	145	35	3	55	1 1/4"	105	1/2"	87	87	4	2
10	250	238	324	165	165	250	265	170	70	145	35	3	55	1 1/4"	105	1/2"	82	82	4	2
12	300	287	381	178	178	285	285	170	80	145	35	3	55	1 1/2"	105	1/2"	82	82	4	2
14	350	328	413	207	190	325	340	260	100	210	60	3	55	2"	170	3/4"	95	95	4	2
16	400	365	470	231	216	350	360	260	100	210	60	3	55	2"	170	3/4"	108	108	4	2
18	450	415	535	250	222	400	400	260	100	210	60	3	60	2 1/4"	170	3/4"	111	111	4	2
20	500	465	590	275	229	430	430	260	125	210	90	3	65	2 3/4"	170	3/4"	114	114	6	2
24	600	563	692	325	267	530	505	260	150	210	90	3	65	3"	170	3/4"	134	134	6	2
28	700	665	801	371	292	595	570	260	150	210	100	3	65	3 1/2"	170	1"	146	146	6	3
30	750	715	857	390	318	625	605	260	150	210	100	3	65	3 1/2"	170	1"	159	159	6	3
32	800	763	915	400	318	650	640	260	150	210	100	3	65	3 1/2"	170	1"	159	159	6	3
36	900	863	1022	440	330	710	700	260	150	210	100	3	65	3 1/2"	170	1"	165	165	6	3



SERIES 66 CLASS 150LB AND 300LB

CV TABLES

TORQUE TABLES

DIMENSIONAL DRAWINGS





KENT INTROL CONTROL VALVES

Series 63, 64, 65 & 66 - Rotary Control Valves

Table 21. CV Values for Series 66 Standard (Swing Through Class II Valves)

Wafer, Lugged and Double Flanged - Class 150LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	1.2	4.2	9	16	26	41	64	89	100
4	100	9	30	64	114	185	292	456	634	712
6	150	19	68	145	258	420	662	1034	1437	1615
8	200	34	120	257	456	741	1169	1824	2537	2850
10	250	54	188	402	714	1161	1831	2858	3974	4465
12	300	78	271	581	1034	1680	2649	4134	5749	6460
14	350	97	339	727	1292	2100	3311	5168	7187	8075
16	400	129	451	966	1718	2791	4401	6870	9554	10735
18	450	164	575	1231	2189	3557	5609	8755	12175	13680
20	500	200	698	1496	2660	4323	6816	10640	14796	16625
24	600	291	1017	2180	3876	6299	9932	15504	21560	24225
28	700	396	1385	2967	5274	8571	13516	21098	29339	32965
30	750	456	1596	3420	6080	9880	15580	24320	33820	38000
32	800	523	1831	3924	6977	11337	17878	27907	38808	43605
36	900	667	2334	5002	8892	14450	22786	35568	49462	55575

Table 22. CV Values for Series 66 Rotrol (Swing Through Class II Valves)
Cv at 90 = 40% of Standard Valve)

Wafer, Lugged and Double Flanged - Class 150LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	1.8	5	10	16	25	38	55	80	100
4	100	5	14	28	46	71	108	157	228	285
6	150	12	32	65	103	162	245	355	517	646
8	200	21	57	114	182	285	433	627	912	1140
10	250	32	89	179	286	447	679	982	1429	1786
12	300	47	129	258	413	646	982	1421	2067	2584
14	350	58	162	323	517	808	1227	1777	2584	3230
16	400	77	215	429	687	1074	1632	2362	3435	4294
18	450	98	274	547	876	1368	2079	3010	4378	5472
20	500	120	333	665	1064	1663	2527	3658	5320	6650
24	600	174	485	969	1550	2423	2682	5330	7752	9690
28	700	237	659	1319	2110	3297	5011	7252	10549	13186
30	750	274	760	1520	2432	3800	5776	8360	12160	15200
32	800	314	872	1744	2791	4361	6628	9593	13954	17444
36	900	400	1112	2223	3557	5558	8447	12227	17784	22230



KENT INTROL CONTROL VALVES

Table 23. CV Values for Series 66 Rotrol (Swing Through Class II Valves) With Integral or Loose Baffle Plates (CV at 90 = 65% of Rotrol Valve)

Wafer, Lugged and Double Flanged - Class 150LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	2.3	9.2	15	22	37	54	74	94	100
4	100	5	17	28	41	68	100	137	174	185
6	150	10	39	63	92	155	227	311	395	420
8	200	20	68	111	163	274	400	548	697	741
10	250	27	107	174	255	430	627	859	1091	1161
12	300	39	155	252	370	621	907	1243	1579	1680
14	350	48	194	315	462	777	1134	1554	1974	2100
16	400	64	258	419	614	1033	1507	2065	2624	2791
18	450	82	328	534	782	1316	1921	2632	3343	3557
20	500	100	399	648	951	1599	2334	3199	4063	4323
24	600	145	582	945	1386	2330	3401	4661	5921	6299
28	700	198	791	1286	1886	3171	4628	6342	8057	8571
30	750	228	912	1482	2174	3656	5335	7311	9287	9880
32	800	262	1047	1701	2494	4195	6122	8390	10657	11337
36	900	334	1334	2167	3179	5346	7803	10693	13583	14450

Table 24. CV Values for Series 66 Standard (Swing Through Class II Valves)

Wafer, Lugged and Double Flanged - Class 300LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	1.2	4.2	9	16	26	41	64	89	100
4	100	9	30	64	114	185	292	456	634	712
6	150	19	68	145	258	420	662	1034	1437	1615
8	200	31	108	231	410	667	1052	1642	2283	2565
10	250	48	169	362	643	1045	1648	2572	3576	4019
12	300	70	244	523	930	1512	2384	3721	5174	5814
14	350	87	305	654	1163	1890	2980	4651	6468	7268
16	400	116	406	870	1546	2512	3961	6183	8599	9662
18	450	144	503	1077	1915	3112	4908	7661	10653	11970
20	500	175	611	1309	2328	3782	5964	9310	12947	14547
24	600	247	865	1853	3295	5354	8442	13178	18326	20591
28	700	336	1177	2522	4483	7285	11488	17933	24938	28020
30	750	388	1357	2907	5168	8398	13243	20672	28747	32300
32	800	445	1557	3336	5930	9637	15196	23721	32987	37064
36	900	567	1984	4251	7558	12282	19368	30233	42042	47239

Series 63, 64, 65 & 66 - Rotary Control Valves



KENT INTROL CONTROL VALVES

Series 63,64,65 & 66- Rotary Control Valves

Table 25. CV Values for Series 66 Rotrol (Swing Through Class II Valves)
Cv at 90 = 40% of Standard Valve

Wafer, Lugged and Double Flanged - Class 300LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	1.8	5	10	16	25	38	55	80	100
4	100	5	14	28	46	71	108	157	228	285
6	150	12	32	65	103	162	245	355	517	646
8	200	18	51	103	164	257	390	564	821	1026
10	250	29	80	161	257	402	611	884	1286	1607
12	300	42	116	233	372	581	884	1279	1860	2326
14	350	52	145	291	465	727	1105	1599	2326	2907
16	400	70	193	386	618	966	1469	2126	3092	3865
18	450	86	239	479	766	1197	1819	2633	3830	4788
20	500	105	291	582	931	1455	2211	3200	4655	5819
24	600	148	412	824	1318	2059	3130	4530	6589	8237
28	700	202	560	1121	1793	2802	4259	6164	8966	11208
30	750	233	646	1292	2067	3230	4910	7106	10336	12920
32	800	267	741	1483	2372	3706	5634	8154	11861	14826
36	900	340	945	1890	3023	4724	7180	10393	15116	18896

Table 26. CV Values for Series 66 Rotrol (Swing Through Class II Valves) With Integral or Loose Baffle Plates (CV at 90 = 60% of Rotrol Valve)

Wafer, Lugged and Double Flanged - Class 300LB										
Valve Size		Angle of Opening								
		10	20	30	40	50	60	70	80	90
		Percentage of 90 degree CV								
in	mm	2.3	9.2	15	22	37	54	74	94	100
4	100	4	16	26	38	63	92	126	161	171
6	150	9	36	58	85	143	209	287	364	388
8	200	14	57	92	135	228	332	456	579	616
10	250	22	89	145	212	357	521	714	907	964
12	300	32	129	209	307	516	753	1033	1312	1395
14	350	40	161	262	384	645	942	1291	1640	1744
16	400	54	214	348	510	858	1252	1716	2180	2319
18	450	66	265	431	632	1063	1551	2126	2700	2873
20	500	81	322	524	768	1292	1885	2654	3282	3491
24	600	114	456	741	1087	1829	2669	3657	4645	4942
28	700	155	621	1009	1479	2488	3631	4976	6321	6725
30	750	179	716	1163	1705	2868	4186	5736	7287	7752
32	800	205	821	1334	1957	3291	4804	6583	8362	8895
36	900	262	1047	1701	2494	4195	6122	8390	10657	11337

Table 27. Packing Torque

Shaft Size (in)	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	3	3.5
Torque (Lbs. Ins.)	37	74	99	124	222	259	296	334	371	408	445	519



KENT INTROL CONTROL VALVES

Series 63, 64, 65 & 66 - Rotary Control Valves

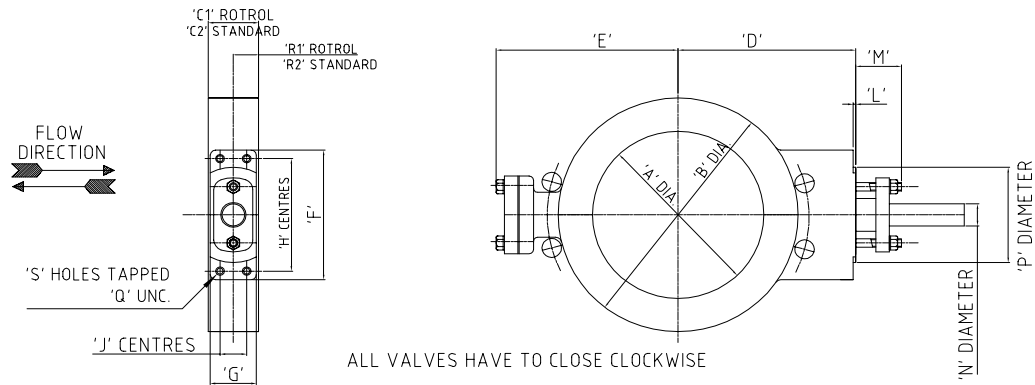


Table 30. Class 150LB Wafer Valves (Series 66)

Valve Size		Dimensions																	
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S
4	100	102	160	60	54	145	145	120	38	100	25	3	40	1/2"	90	3/8"	30	24.5	4
6	150	152	215	80	59	185	180	150	50	130	30	3	45	3/4"	105	3/8"	40	26	4
8	200	203	270	110	64	200	205	170	52	145	35	3	45	3/4"	105	3/8"	55	27.5	4
10	250	254	324	130	72	230	240	170	64	145	35	3	55	1"	105	1/2"	65	34.5	4
12	300	305	382	164	81	270	270	170	64	145	35	3	55	1"	105	1/2"	82	44	4
14	350	340	426	170	92	308	295	170	80	145	45	3	55	1 1/4"	105	5/8"	85	41.5	4
16	400	390	474	216	102	340	335	170	80	145	45	3	55	1 1/4"	105	5/8"	108	51	4
18	450	440	535	222	114	360	365	260	100	210	60	3	60	1 1/2"	170	3/4"	111	57	4
20	500	490	590	229	127	395	390	260	100	210	60	3	65	1 1/2"	170	3/4"	114.5	63.5	4
24	600	590	695	300	154	480	460	260	125	210	90	3	65	1 3/4"	170	3/4"	150	77	4
28	700	690	805	360	165	540	530	260	150	210	100	3	65	2"	170	1"	180	82.5	6
30	750	740	860	380	165	565	550	260	150	210	100	3	65	2"	170	1"	190	82.5	6
32	800	790	920	400	190	600	590	260	150	210	100	3	65	2 1/2"	170	1"	200	95	6
36	900	890	1027	460	200	655	645	260	150	210	100	3	65	2 1/2"	170	1"	230	100	6

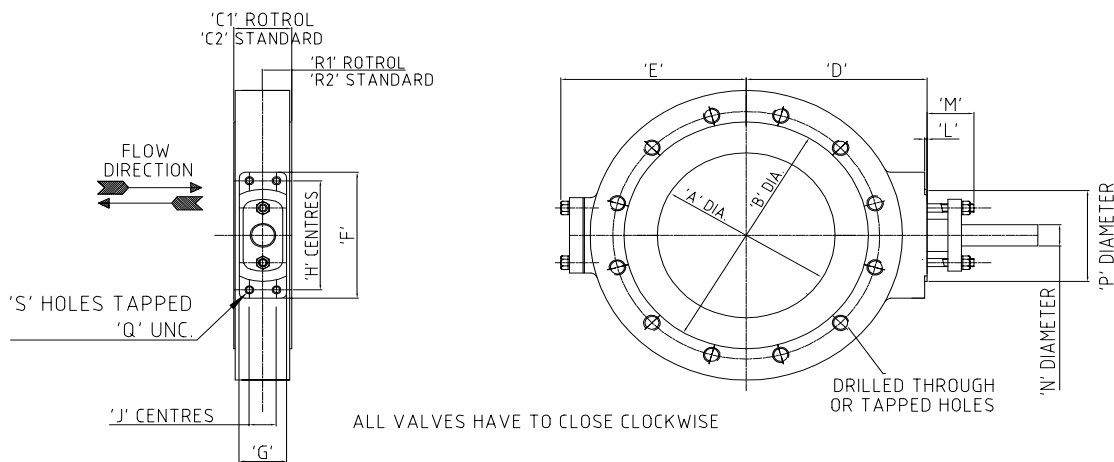


Table 31. Class 150LB Wafer Lugged Valves (Series 66)

Valve Size		Dimensions																	
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S
4	100	102	160	60	54	145	145	120	44	100	25	3	40	1/2"	90	3/8"	30	24.5	4
6	150	152	215	80	59	185	180	150	50	130	30	3	45	3/4"	105	3/8"	40	26	4
8	200	203	270	110	64	200	205	170	52	145	35	3	45	3/4"	105	3/8"	55	27.5	4
10	250	254	324	130	72	230	240	170	64	145	35	3	55	1"	105	1/2"	65	34.5	4
12	300	305	381	164	81	270	270	170	72	145	35	3	55	1"	105	1/2"	82	44	4
14	350	340	413	170	92	308	295	170	80	145	45	3	55	1 1/4"	105	5/8"	85	41.5	4
16	400	390	474	216	102	340	335	170	80	145	45	3	55	1 1/4"	105	5/8"	108	51	4
18	450	440	533	222	114	360	365	260	100	210	60	3	60	1 1/2"	170	3/4"	111	57	4
20	500	490	590	-	127	395	390	260	100	210	60	3	65	1 1/2"	170	3/4"	-	63.5	4
24	600	590	692	-	154	480	460	260	125	210	90	3	65	1 3/4"	170	3/4"	-	77	4
28	700	690	801	-	165	540	530	260	150	210	100	3	65	2"	170	1"	-	82.5	6
30	750	740	860	-	165	565	550	260	150	210	100	3	65	2"	170	1"	-	82.5	6
32	800	790	915	-	190	600	590	260	150	210	100	3	65	2 1/2"	170	1"	-	95	6
36	900	890	1022	-	200	655	645	260	150	210	100	3	65	2 1/2"	170	1"	-	100	6

Note: Only available to 18" 450mm for Rotrol Introseals - sizes above that are flanged

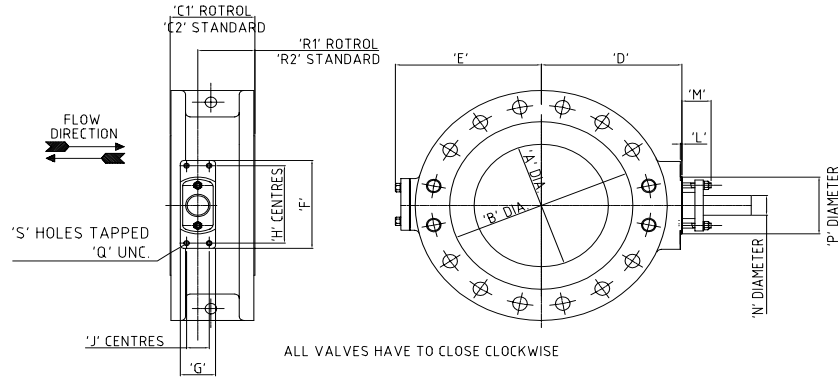


Table 32. Class 150LB Flanged Valves(Series 66)

Valve Size		Dimensions																	
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S
4	100	102	160	127	127	145	145	120	44	100	25	3	40	1/2"	90	3/8"	77	77	4
6	150	152	215	140	140	185	180	150	50	130	30	3	45	3/4"	105	3/8"	86	86	4
8	200	203	270	152	152	200	205	170	52	145	35	3	45	3/4"	105	3/8"	87	87	4
10	250	254	324	165	165	230	240	170	64	145	35	3	55	1"	105	1/2"	82	82	4
12	300	305	381	178	178	270	270	170	72	145	35	3	55	1"	105	1/2"	82	82	4
14	350	340	413	190	190	308	295	170	80	145	45	3	55	1 1/4"	105	5/8"	81	81	4
16	400	390	470	216	216	340	335	170	80	145	45	3	55	1 1/4"	105	5/8"	108	108	4
18	450	440	533	222	222	360	365	260	100	210	60	3	60	1 1/2"	170	3/4"	111	111	4
20	500	490	590	229	229	395	390	260	100	210	60	3	65	1 1/2"	170	3/4"	114.5	114.5	4
24	600	590	692	300	267	480	460	260	125	210	90	3	65	1 3/4"	170	3/4"	150	133.5	4
28	700	690	801	360	292	540	530	260	150	210	100	3	65	2"	170	1"	180	146	6
30	750	740	857	380	318	565	550	260	150	210	100	3	65	2"	170	1"	190	159	6
32	800	790	915	400	318	600	590	260	150	210	100	3	65	2 1/2"	170	1"	200	159	6
36	900	890	1022	460	330	655	645	260	150	210	100	3	65	2 1/2"	170	1"	230	165	6

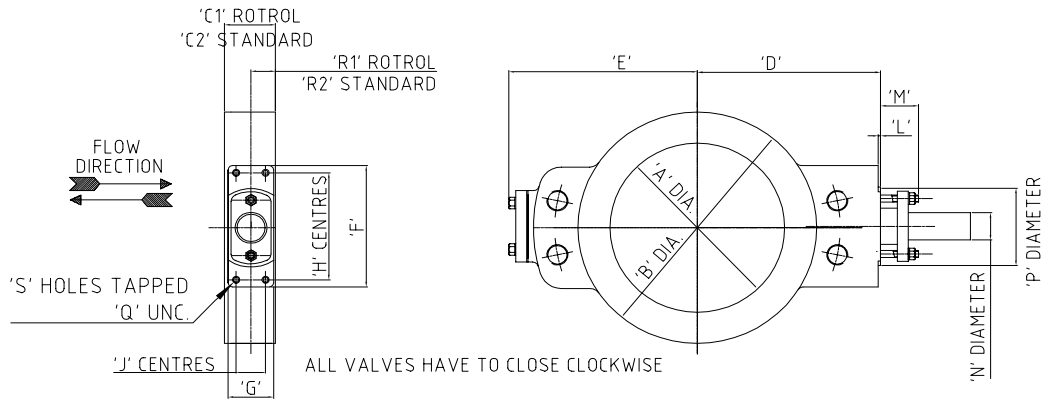


Table 33. Class 300LB Wafer Valves(Series 66)

Valve Size		Dimensions																	
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S
4	100	102	160	60	54	145	145	120	44	100	25	3	45	3/4"	80	3/8"	30	24.5	4
6	150	152	216	80	59	185	180	150	50	130	30	3	55	1"	105	3/8"	40	26	4
8	200	203	270	110	73	225	220	170	64	145	35	3	55	1"	105	1/2"	55	36.5	4
10	250	254	324	130	83	250	265	170	70	145	35	3	55	1 1/4"	105	1/2"	65	45.5	4
12	300	305	382	164	92	285	285	170	80	145	35	3	55	1 1/2"	105	1/2"	82	48	4
14	350	340	426	170	117	325	340	260	100	210	60	3	65	1 3/4"	170	3/4"	85	58.5	4
16	400	390	474	216	133	350	360	260	100	210	60	3	65	2"	170	3/4"	108	66.5	4
18	450	430	535	222	149	400	400	260	100	210	60	3	65	2 1/4"	170	3/4"	111	74.5	4
20	500	480	590	229	159	430	430	260	125	210	90	3	65	2 1/2"	170	3/4"	114.5	79.5	6
24	600	580	695	300	181	530	505	260	150	210	90	3	65	3"	170	3/4"	150	90.5	6
28	700	685	805	360	209	595	580	260	150	210	100	3	65	3"	170	1"	180	104.5	6
30	750	735	860	380	241	625	605	260	150	210	100	3	65	3"	170	1"	190	120.5	6
32	800	785	920	400	241	650	640	260	150	210	100	3	65	3"	170	1"	200	120.5	6
36	900	985	1027	460	260	710	700	260	150	210	100	3	65	3"	170	1"	230	130	6

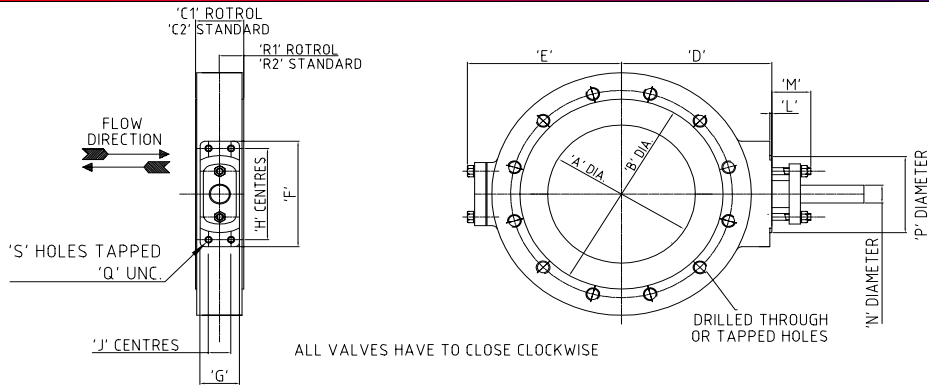


Table 34. Class 300LB Wafer Lugged Valves(Series 66)

Valve Size		Dimensions																	
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S
4	100	102	160	60	54	145	145	120	44	100	25	3	45	3/4"	90	3/8"	30	24.5	4
6	150	152	216	80	59	185	180	150	50	130	30	3	55	1"	105	3/8"	40	26	4
8	200	203	270	110	73	225	220	170	64	145	35	3	55	1"	105	1/2"	55	36.5	4
10	250	254	324	130	83	250	265	170	70	145	35	3	55	1 1/4"	105	1/2"	65	45.5	4
12	300	305	381	164	92	285	285	170	80	145	35	3	55	1 1/2"	105	1/2"	82	48	4
14	350	340	413	170	117	325	340	260	100	210	60	3	55	1 3/4"	170	3/4"	85	58.5	4
16	400	390	470	216	133	350	360	260	100	210	60	3	65	2"	170	3/4"	108	66.5	4
18	450	430	535	222	149	400	400	260	100	210	60	3	65	2 1/4"	170	3/4"	111	74.5	4
20	500	480	590	-	159	430	430	260	125	210	90	3	65	2 1/2"	170	3/4"	-	79.5	6
24	600	580	692	-	181	530	505	260	150	210	90	3	65	3"	170	3/4"	-	90.5	6
28	700	685	801	-	209	595	580	260	150	210	100	3	65	3"	170	1"	-	104.5	6
30	750	735	857	-	241	625	605	260	150	210	100	3	65	3"	170	1"	-	120.5	6
32	800	785	915	-	241	650	640	260	150	210	100	3	65	3"	170	1"	-	120.5	6
36	900	885	1022	-	260	710	700	260	150	210	100	3	65	3"	170	1"	-	130	6

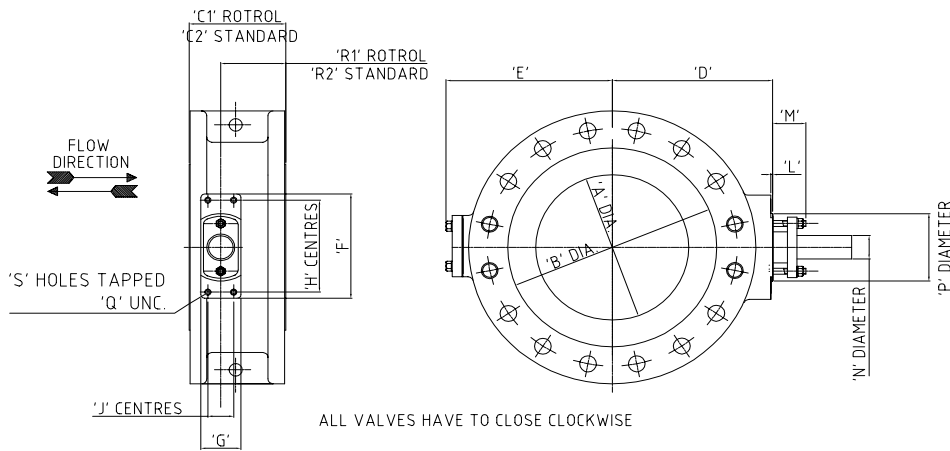


Table 35. Class 300LB Flanged Valves(Series 66)

Valve Size		Dimensions																	
in	mm	A	B	C1	C2	D	E	F	G	H	J	L	M	N	P	Q	R1	R2	S
4	100	102	160	127	127	145	145	120	44	100	25	3	45	3/4"	90	3/8"	77	77	4
6	150	152	215	140	140	185	180	150	50	130	30	3	55	1"	105	3/8"	80	80	4
8	200	203	270	152	152	225	220	170	64	145	35	3	55	1"	105	1/2"	87	87	4
10	250	254	324	165	165	250	265	170	70	145	35	3	55	1 1/4"	105	1/2"	82	82	4
12	300	305	381	178	178	285	285	170	80	145	35	3	55	1 1/2"	105	1/2"	82	82	4
14	350	340	413	190	190	325	340	260	100	210	60	3	65	1 3/4"	170	3/4"	95	95	4
16	400	390	470	216	216	350	360	260	100	210	60	3	65	2"	170	3/4"	108	108	4
18	450	430	535	222	222	400	400	260	100	210	60	3	65	2 1/4"	170	3/4"	111	111	4
20	500	480	590	229	229	430	430	260	125	210	90	3	65	2 1/2"	170	3/4"	114.5	114.5	6
24	600	580	692	300	267	530	505	260	150	210	90	3	65	3"	170	3/4"	150	133.5	6
28	700	685	801	360	292	595	580	260	150	210	100	3	65	3"	170	1"	180	146	6
30	750	735	857	380	318	625	605	260	150	210	100	3	65	3"	170	1"	190	159	6
32	800	785	915	400	318	650	640	260	150	210	100	3	65	3"	170	1"	200	159	6
36	900	885	1022	460	330	710	700	260	150	210	100	3	65	3"	170	1"	230	165	6



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