

# Series 82

# Double Eccentric

## Butterfly Valve

DN50 - DN1200

ANSI CL150 / CL300

DIN PN10 / PN16 / PN25 / PN40



# Series 82 / Series MS82

(Soft seat) (Metal seat)

## High Performance Double Eccentric Butterfly Valve

Design: API 609, ASME B16.34, MSS-SP-68

Connection : Wafer, Lug, Flanged

Size : 2"~48" / DN50~DN1200

Face to Face : API 609, ISO 5752, EN-558

Pressure : Class 150/300, PN10/16/25/40

Temperature : PTFE seat -29°C ~ 160°C

Metal seat -29°C ~ 260°C

Floating Seat Retainer

Bi-directional Zero Leakage

Low Fugitive Emission System

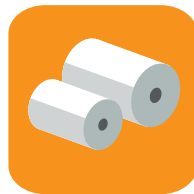
Fire-tested to API 607

High Cycle Life

## Applications



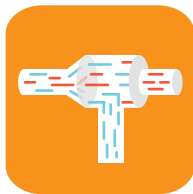
Chemistry



Pulp and Paper



Petrochemical



Air Separator  
and HVAC



Energy and  
Power Plant



Water Treatment

## FEATURES

### Gland Flange

Adjustable two-piece gland flange ensures even packing load.

### Gland Packing

Five gland packing systems to suit different applications.

### Valve Seat

Bi-directional zero leakage with soft seat. FCI 70-2 Class IV-V with wear-resistant metal seat. API 607 fire-tested with Fire-safe seat.

### Floating Retainer Ring

No-screw floating design provides positive tight shut-off of seat. Fastening this ring into internal tooth of valve body, the spring and lock pin will pop up and fix retainer ring and valve body in correct position. Surface roughness is 125-200AARH.

### Thrust Ring

Rigid S316L ring keeps stem in accurate position.

### Anti-Blow-Out Stem

Hard-chrome plated rigid one-piece-stem design offering overall strength. Stem components are ISO 5211 compliant. Stem material and disc position are marked on the top of stem.

### Self-Lubricant Bush

Bush in RPTFE+S.S.316L material reduces stem's friction factor.

### Valve Disc

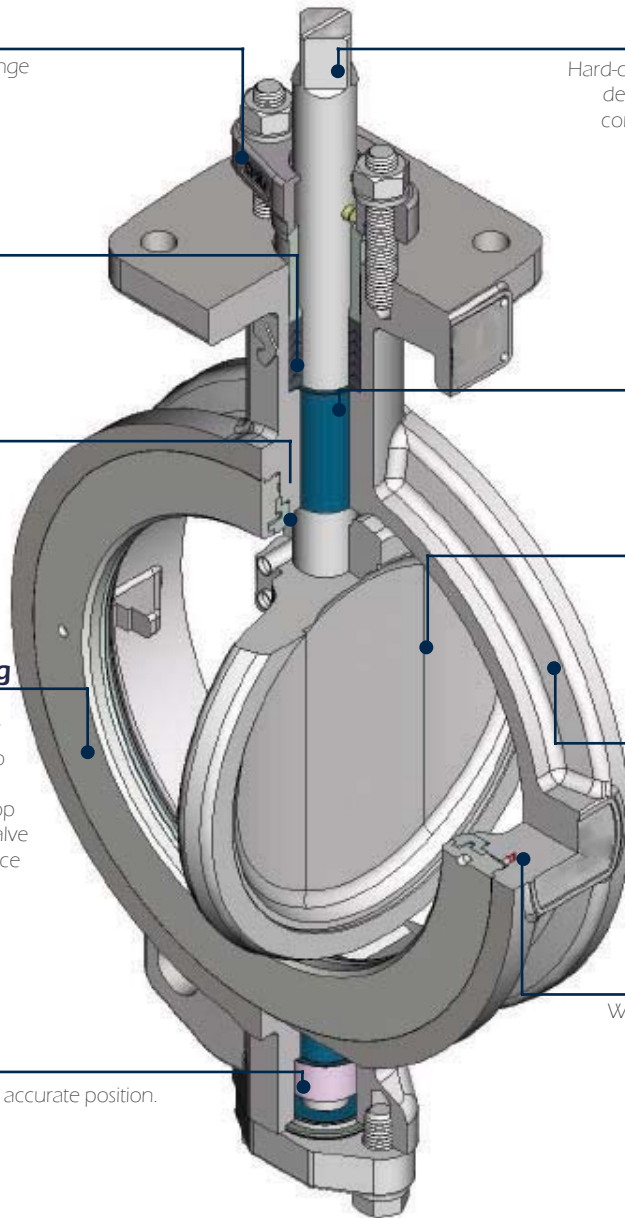
Hard-chrome plated disc with streamlined design which lowers noise and turbulence.

### Valve Body

Compliance with API 609 & ASME B16.34.

### Lock Pin and Spring

While Retainer Ring moves to locking position, the spring pops up and pushes pin locked in Retainer Ring.



## Gland Packing Systems

### Gland Flange and Gland Bush

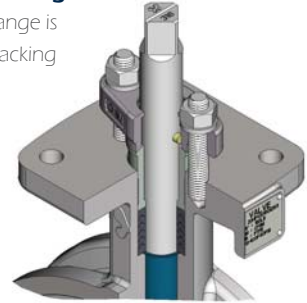
A fully adjustable two-piece gland with spherical mating surfaces ensures even packing load.



### Long Gland Bush for Positioning

Long gland bush ensures gland flange is always centered while adjusting packing gland.

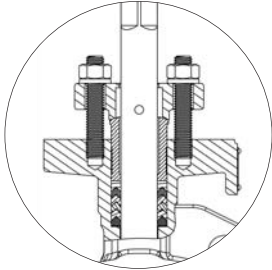
Prevents gland bush away from rubbing and jamming with the stem.



## 5 Types of Gland Packing System

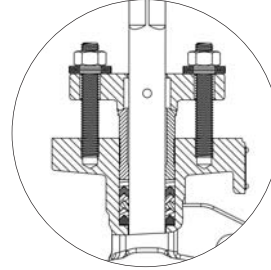
1

Standard v-ring PTFE or RPTFE



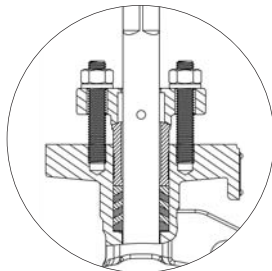
2

Live-Loaded Low Fugitive Emission V-ring PTFE or RPTFE Packing System



3

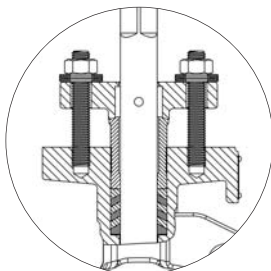
Standard GRAPHITE (Fire Safe Only)



4

Live-Loaded Low Fugitive Emission GRAPHITE

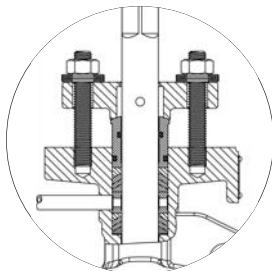
On select models.

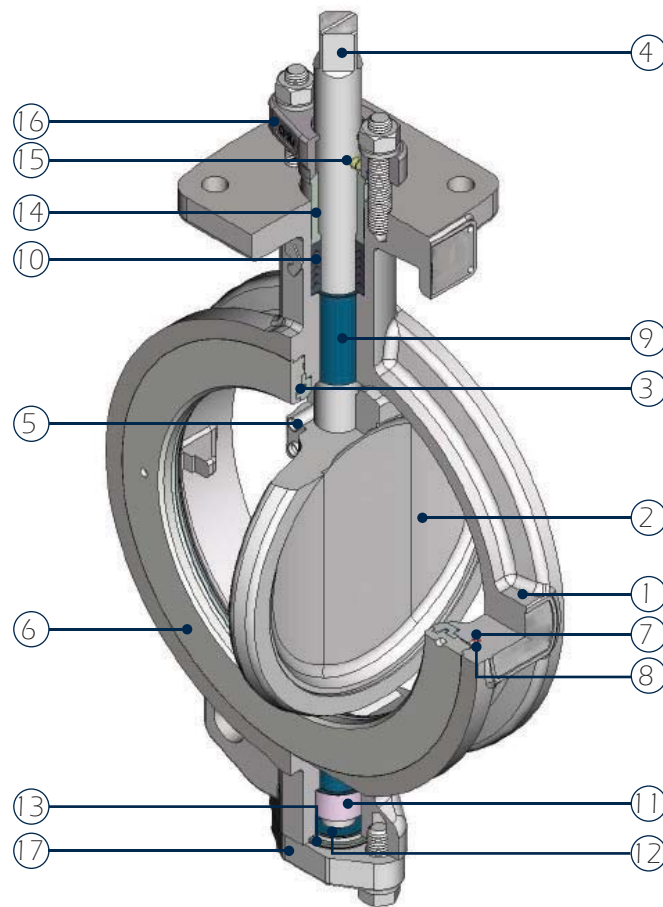


5

Live-loaded Lantern Ring

A lantern ring with double packing, provides functionality of purge and leakage-monitoring from bottom packing.



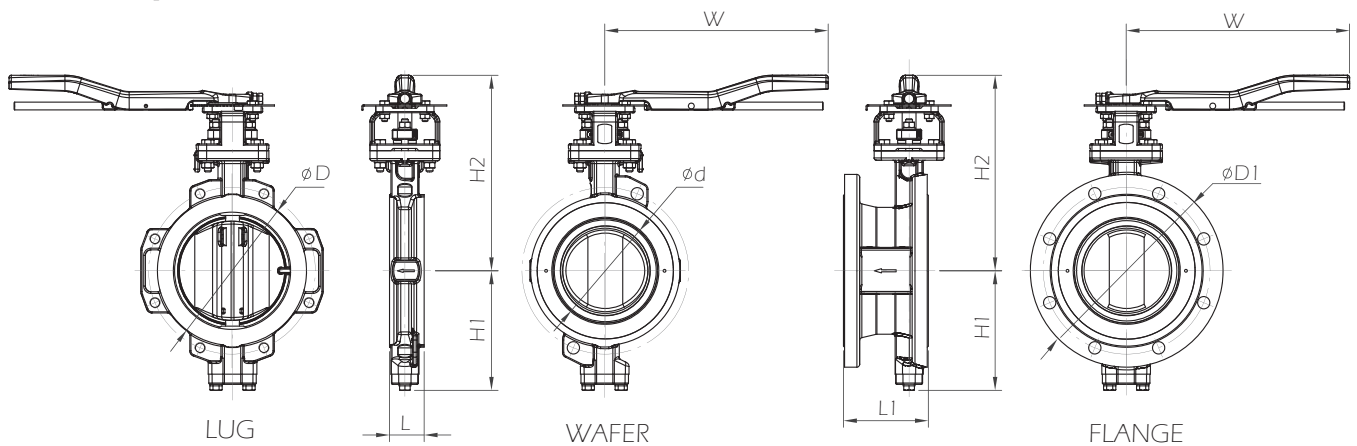


ITEM	NAME	QTY	MATERIAL		
1	Body	1	A216 Gr. WCB	A351 Gr. CF8	A351 Gr. CF8M
2	Disc	1	A351 Gr. CF8		A351 Gr. CF8M
3	Seat	1	PTFE / RPTFE / FIRE SAFE / INCONEL 718		
4	Stem	1	A182 Gr. F6A	A182 Gr. F304	A182 Gr. F316
5	Taper Pin	2	A182 Gr. F316L		
6	Retainer Ring	1	A351 Gr. CF8		A351 Gr. CF8M
7	Spring	1	A182 Gr. F316		
8	Lock Pin	1	PTFE		
9	Stem Bush	2	RTFE+S.S.316L		A182 Gr. F316
10	Gland Packing	1	PTFE	RPTFE	GRAPHITE
11	Thrust Ring	1	A351 Gr. CF8M		
12	Thrust Plate	1	PTFE+S.S.316L		
13	Gasket	1	PTFE	RPTFE	GRAPHITE
14	Gland Bush	1	A351 Gr. CF8M		
15	Anti-Blow-Out Pin	1	A182 Gr. F316		
16	Gland Flange	1	A351 Gr. CF8		
17	Bottom Cover	1	A351 Gr. CF8M		

## Remarks

- Hard Chrome Plated disc surface and stem surface.
- Low Fugitive Emission design on request.
- 17-4PH stem for Class 300 model.

## Lever Operated



### Class 150/PN10/PN16

Operator chosen based on dP=10 Bar

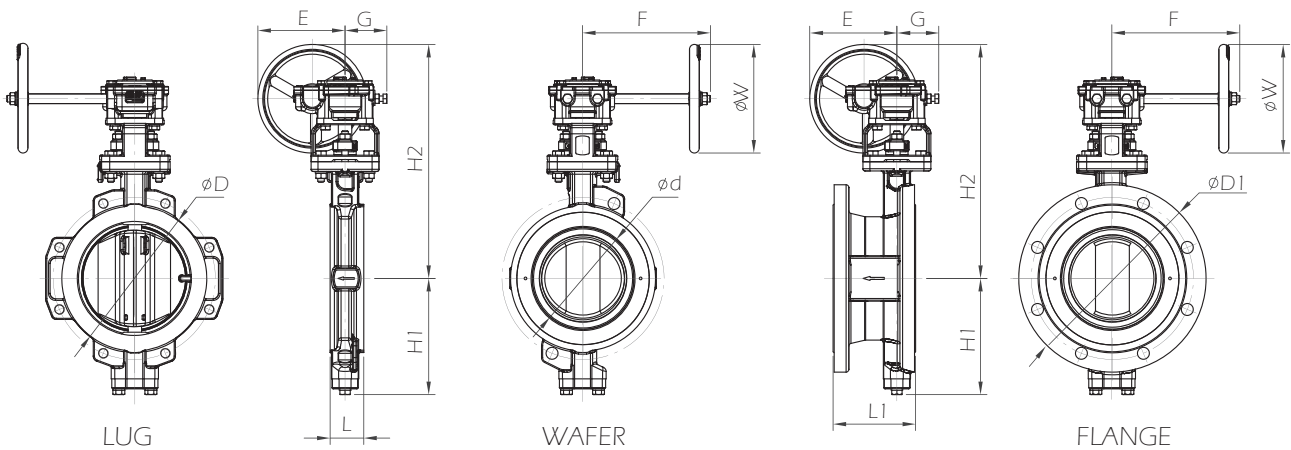
SIZE		L	L1	D	D1	d	H1	H2	W	Weight (kg)		
mm	in									Wafer	Lug	Flange
50	2	45	-	95	150	46	118	248	220	8	9	-
65	2.5	48	-	112	180	61	126	256	220	9	10	-
80	3	48	114	126	190	76	134	260	220	10	11	16
100	4	54	127	155	230	96	144	270	220	11	15	21
125	5	57	-	184	255	118	178	290	300	15	21	-
150	6	57	140	215	280	143	190	305	300	17	23	31
200	8	62	152	267	345	188	214	350	400	25	34	50

### Class 300/PN40

Operator chosen based on dP=20 Bar

SIZE		L	L1	D	D1	d	H1	H2	W	Weight (kg)		
mm	in									Wafer	Lug	Flange
50	2	45	-	95	-	46	118	248	220	8	10	-
65	2.5	48	-	112	-	61	126	252	220	9	11	-
80	3	48	114	126	190	76	134	260	220	10	13	16
100	4	54	127	155	230	96	144	270	220	11	15	21
125	5	57	-	184	-	118	178	290	300	15	21	-
150	6	59	140	224	318	143	199	335	400	23	31	47

## Gear Operated



### Class 150/PN10/PN16

Operator chosen based on  $dP=10$  Bar

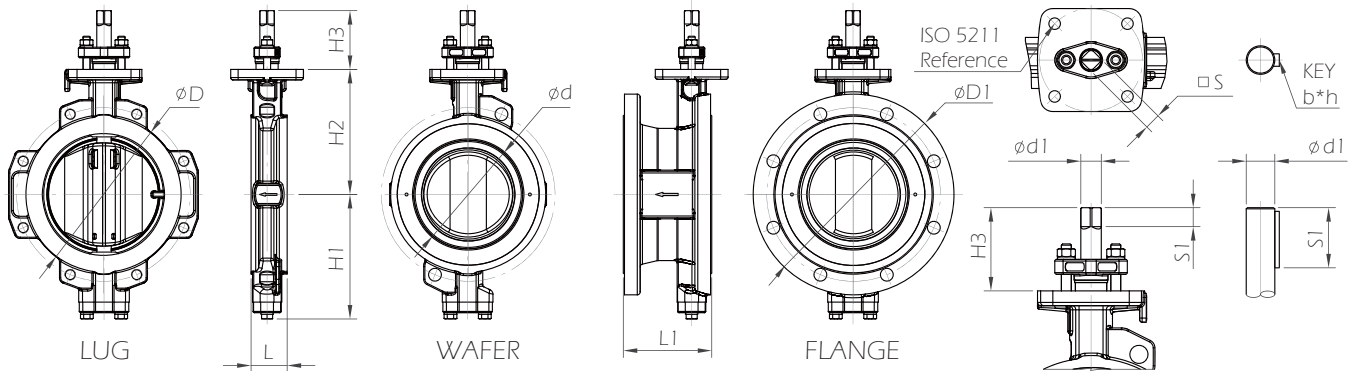
SIZE		L	L1	D	D1	d	H1	H2	W	G	E	F	Weight (kg)		
mm	in												Wafer	Lug	Flange
50	2	45	-	95	150	46	118	282	100	66	97	133	10	11	-
65	2.5	48	-	112	180	61	126	290	100	66	97	133	11	12	-
80	3	48	114	126	190	76	134	319	150	66	122	133	12	13	18
100	4	54	127	155	230	96	144	329	150	66	122	133	13	17	23
125	5	57	-	184	255	118	178	349	150	66	122	133	16	22	-
150	6	57	140	215	280	143	190	364	150	66	122	133	18	24	32
200	8	62	152	267	345	188	214	431	200	77	161	236	28	37	53
250	10	70	165	326	405	236	254	476	200	77	161	236	40	55	71
300	12	81	178	375	485	281	298	529	200	94	183	236	60	81	111
350	14	92	190	416	535	320	328	559	200	94	183	236	77	104	140
400	16	102	216	480	595	371	377	690	300	120	257	324	121	160	196
450	18	114	222	534	635	420	402	715	300	120	257	324	154	196	229
500	20	127	229	588	700	469	437	750	300	120	257	324	194	265	286
600	24	154	267	692	815	549	492	888	400	153	352	374	327	430	457
700	28	165	292	800	927	655	570	963	400	153	352	374	437	577	686
750	30	190	318	857	984	698	605	1165	600	185	512	446	606	716	889
800	32	190	318	910	1060	755	630	1190	600	185	512	446	647	864	1014
900	36	203	330	1000	1168	870	690	1230	600	185	512	446	763	963	1282
1000	40	216	410	1115	1289	943	768	1360	600	185	512	446	1050	1330	1651
1100	44	254	410	1220	1403	1045	818	1410	600	185	512	446	1287	1639	2173
1200	48	254	470	1330	1510	1145	884	1475	600	185	512	446	1513	1898	2651

### Class 300/PN40

Operator chosen based on  $dP=20$  Bar

SIZE		L	L1	D	D1	d	H1	H2	W	G	E	F	Weight (kg)		
mm	in												Wafer	Lug	Flange
50	2	45	-	95	-	46	118	282	100	66	97	133	10	12	-
65	2.5	48	-	112	-	61	126	290	100	66	97	133	11	13	-
80	3	48	114	126	190	76	134	319	150	66	122	133	12	15	18
100	4	54	127	155	230	96	144	329	150	66	122	133	13	17	23
125	5	57	-	184	-	118	178	349	150	66	122	133	16	22	-
150	6	59	140	224	318	143	199	416	200	77	161	236	26	34	50
200	8	73	152	280	381	188	234	456	200	77	161	236	36	51	76
250	10	83	165	345	445	236	278	509	200	94	183	236	64	83	107
300	12	92	178	395	521	281	318	549	200	94	183	236	84	114	161
350	14	117	190	440	585	320	367	680	300	120	257	324	128	184	215
400	16	133	216	495	648	371	392	705	300	120	257	324	171	241	283
450	18	149	222	560	712	420	437	833	400	153	352	374	266	368	464
500	20	159	229	622	775	469	465	858	400	153	352	374	323	447	578
600	24	181	267	720	915	549	535	1095	600	185	512	446	528	739	906

## Bare Shaft



## Class 150/PN10/PN16

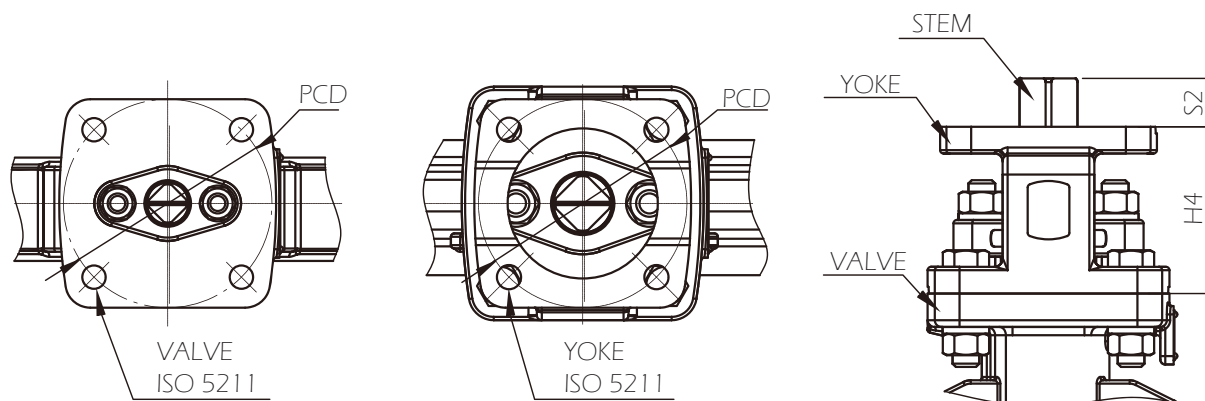
SIZE		L	L1	D	D1	d	H1	H2	H3	S1	d1	S (b*h)	ISO 5211	Weight (kg)		
mm	in													Wafer	Lug	Flange
50	2	45	-	95	150	46	118	128	86	18	18	14	F10	6	7	-
65	2.5	48	-	112	180	61	126	136	86	18	18	14	F10	7	8	-
80	3	48	114	126	190	76	134	140	86	18	18	14	F10	8	9	14
100	4	54	127	155	230	96	144	150	86	18	18	14	F10	9	13	19
125	5	57	-	184	255	118	178	170	89	21	22	17	F10	12	18	-
150	6	57	140	215	280	143	190	185	89	21	22	17	F10	14	20	28
200	8	62	152	267	345	188	214	215	101	23	25	19	F12	20	29	45
250	10	70	165	326	405	236	254	260	104	26	28	22	F12	32	47	63
300	12	81	178	375	485	281	298	290	129	31	35	27	F14	48	69	99
350	14	92	190	416	535	320	328	320	134	36	42	32	F14	65	92	128
400	16	102	216	480	595	371	377	370	158	40	50	36	F16	98	137	173
450	18.0	114	222	534	635	420	402	395	158	40	50	36	F16	131	173	206
500	20	127	229	588	700	469	437	430	168	50	60	46	F16	171	242	263
600	24	154	267	692	815	549	492	480	240	90	65	18*12	F25	275	378	405
700	28	165	292	800	927	655	570	555	245	95	75	20*12	F25	385	525	634
750	30	190	318	857	984	698	605	600	300	100	85	25*14	F30	510	620	793
800	32	190	318	910	1060	755	630	625	310	110	90	25*14	F30	551	768	918
900	36	203	330	1000	1168	870	690	665	320	120	100	28*16	F30	667	867	1186
1000	40	216	410	1115	1289	943	768	765	360	130	115	32*18	F35	936	1216	1537
1100	44	254	410	1220	1403	1045	818	815	360	130	115	32*18	F35	1173	1525	2059
1200	48	254	470	1330	1510	1145	884	880	360	130	125	36*20	F35	1399	1784	2537

## Class 300/PN40

SIZE		L	L1	D	D1	d	H1	H2	H3	S1	d1	S (b*h)	ISO 5211	Weight (kg)		
mm	in													Wafer	Lug	Flange
50	2	45	-	95	-	46	118	128	86	18	18	14	F10	6	8	-
65	2.5	48	-	112	-	61	126	136	86	18	18	14	F10	7	9	-
80	3	48	114	126	190	76	134	140	86	18	18	14	F10	8	11	14
100	4	54	127	155	230	96	144	150	86	18	18	14	F10	9	13	19
125	5	57	-	184	-	118	178	170	89	21	22	17	F10	12	18	-
150	6	59	140	224	318	143	199	200	101	23	25	19	F12	18	26	42
200	8	73	152	280	381	188	234	240	104	26	28	22	F12	28	43	68
250	10	83	165	345	445	236	278	270	129	31	35	27	F14	52	71	95
300	12	92	178	395	521	281	318	310	134	36	42	32	F14	72	102	149
350	14	117	190	440	585	320	367	360	158	40	50	36	F16	105	161	192
400	16	133	216	495	648	371	392	385	168	50	60	46	F16	148	218	260
450	18.0	149	222	560	712	420	437	425	240	90	65	18*12	F25	214	316	412
500	20	159	229	622	775	469	465	450	245	95	75	20*12	F25	271	395	526
600	24	181	267	720	915	549	535	530	310	110	90	25*14	F30	432	643	810



## Yoke (Optional for direct-mounting)

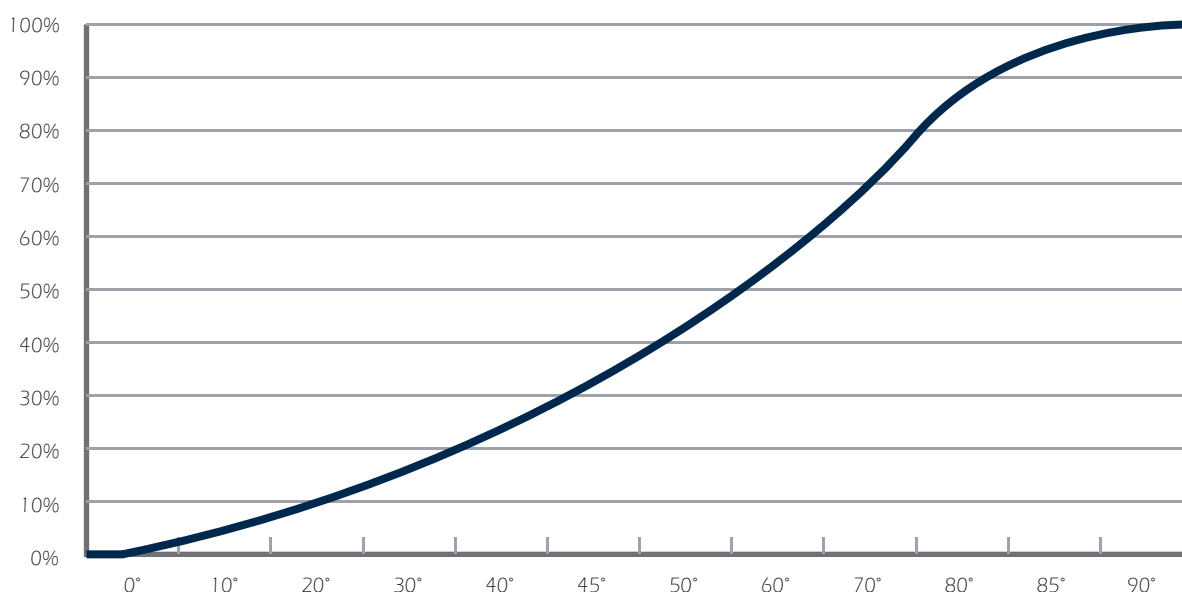


### Class 150/PN10/PN16

SIZE		H4	S2	Yoke		Valve
mm	in			ISO 5211	PCD	ISO 5211
50	2	70	16	F07	70	F10
65	2.5	70	16	F07	70	F10
80	3	70	16	F07	70	F10
100	4	70	16	F07	70	F10
125	5	70	19	F07	70	F10
150	6	70	19	F07	70	F10
200	8	80	21	F10	102	F12
250	10	80	24	F10	102	F12
300	12	100	29	F12	125	F14
350	14	100	34	F12	125	F14
400	16.0	120	38	F14	140	F16
450	18	120	38	F14	140	F16
500	20	120	48	F14	140	F16
600	24	150	90	F16	165	F25
700	28	150	95	F16	165	F25
750	30	200	100	F25	254	F30
800	32	200	110	F25	254	F30
900	36	200	120	F25	254	F30
1000	40	230	130	F30	298	F35
1100	44.0	230	130	F30	298	F35
1200	48	230	130	F30	298	F35

## Cv Flow Coefficient

Cv curve %



### Class 150/PN10/PN16

SIZE		Cv										
mm	in	10°	20°	30°	40°	45°	50°	60°	70°	80°	85°	90°
50	2	0	8	22	36	44	51	60	69	72	70	70
65	2.5	2	16	38	61	71	83	109	135	146	152	150
80	3	6	33	62	94	108	118	143	176	208	230	227
100	4	16	58	106	155	178	213	274	349	433	465	473
125	5	20	94	167	230	263	310	391	488	561	604	605
150	6	40	147	242	335	382	422	560	729	925	975	1010
200	8	66	237	368	509	606	712	985	1296	1640	1715	2004
250	10	139	390	595	807	963	1168	1606	2134	2814	3180	3199
300	12	204	548	820	1138	1357	1591	2219	3067	4085	4484	4672
350	14	264	674	972	1386	1658	1994	2840	3925	5164	5828	5947
400	16.0	384	864	1196	1765	2155	2611	3755	5105	6975	7920	8182
450	18	508	1092	1551	2341	2881	3522	5125	7134	9511	10599	11548
500	20	626	1294	1792	2651	3304	4082	5919	8256	11429	13126	13813
600	24	1047	2251	3178	4563	5543	6568	9277	12932	17093	18328	19021

### Class 300/PN40

SIZE		Cv										
mm	in	10°	20°	30°	40°	45°	50°	60°	70°	80°	85°	90°
80	3	6	33	62	94	108	118	143	176	208	230	227
100	4.0	16	58	106	155	178	213	274	349	433	465	473
125	5	20	94	167	230	263	310	391	488	561	604	605
150	6	37	137	225	312	355	393	521	678	860	907	939
200	8	62	220	343	473	563	662	916	1206	1525	1595	1864
250	10.0	129	362	554	750	896	1087	1493	1985	2617	2957	2975
300	12	190	510	762	1059	1262	1480	2064	2852	3799	4170	4345
350	14	246	627	904	1289	1542	1854	2641	3650	4803	5420	5531
400	16	357	803	1112	1642	2004	2428	3492	4748	6487	7365	7609
450	18.0	473	1015	1442	2177	2679	3275	4766	6634	8845	9857	10739
500	20	583	1204	1667	2466	3073	3797	5504	7678	10629	12207	12846
600	24	974	2093	2956	4244	5155	6108	8627	12027	15897	17045	17689

# Automation Accessories

## Pneumatic Actuators

### VT Series – Rack & Pinion Type

The VT Series rack & pinion actuators are reliable quality products, which can be relied on to perform faultlessly under any difficult circumstances. For double-acting mode, the actuator is available in 11 sizes. Under the provision of common power supply (80 psi), the output torque ranges from 8.02 to 2877 Nm (71 to 25469 in-lbs). For single-acting, also known as spring return type, 10 sizes are available.



## Electric Actuators

### Jexme Series

The Jexme electric actuators are made in new sizes from 34.3 to 597.8 Nm (303.6 to 5290.8 in-lbs), which are generally applied for ball valves with maximum size 6", and butterfly valves with maximum size 12", and are available in on-off or modulating versions, with a choice of duty cycles. All models include standard manual override, visual position indicator, torque limiter and adjustable-position switches.



### BS Series Scotch Yoke Actuator

Starting from size of DN300, it is recommended to equipped with scotch yoke actuator for Series 83 triple eccentric butterfly valve. One advantage of scotch yoke actuator is the moderate price level with larger size when comparing with traditional rack & pinion actuator type. In addition, air pilot valve and quick exhaust valve should be added for optimize performance in pair with Series 83 triple eccentric butterfly valve.



## How to order

VALVE TYPE	PORT	BODY MATERIAL	SEAT	TRIM	TYPE OF CONNECTION	PRESSURE RATING	SPECIAL REQUEST	SIZE OF CONNECTION	OTHER
A	B	C	D	E	F	G	H	I	J



Taiwan  
5F-1, No. 936,  
Sec. 4, Wen-Sin Road  
Taichung City 406, Taiwan  
T +886 (4) 2231 0059  
F +886 (4) 2236 0236

Shanghai  
Rm. 1803-A, No.  
678, Gu-Bei Rd.,  
Shanghai, China  
T +86 (21) 5777 3810  
F +86 (21) 5777 3819

**DIE ERSTE INDUSTRY CO., LTD.**  
www.die-erste.com | sales@die-erste.com

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