

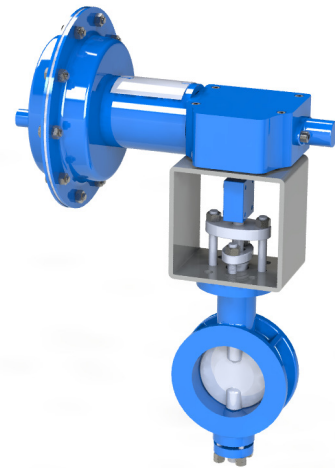
## BUTTERFLY VALVE METAL TO METAL WITH DIAPHRAGM ACTUATOR- SERIES-240

### INTRODUCTION

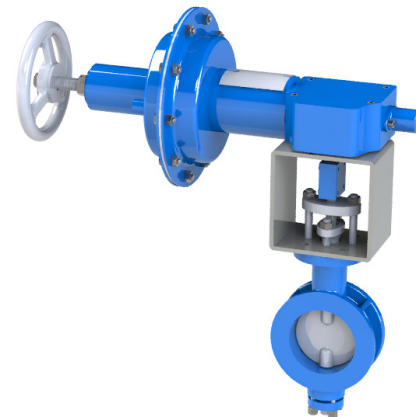
Pneucon Metal to Metal Butterfly Valve design is the most common type of rotary valve and provides low weight to Cv Ratio, Combined with simplicity of design and comparatively low cost. It is simple device to control. A single vane or wafer disc pivots in the Valve Body and find wide application for throttling in the chemical, paper & pulp, sugar Industries, cooling water circulation, water treatment Plants, compressed air, gas plant, flue gas desulphurization plants etc.

### SPECIFICATIONS

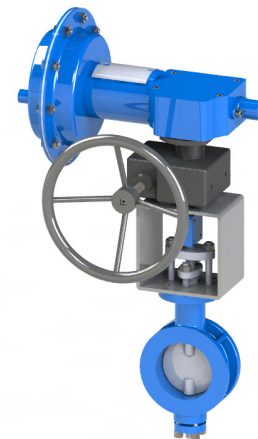
<b>DESIGN</b>	: Wafer
<b>VALVE SIZE</b>	: 50mm to 900 mm (2" to 36")
<b>RATING</b>	: PN6, PN10, PN16, Suitable to Mount between Flanges 150#
<b>OPERATING TEMP</b>	: PTFE V Rings upto 180° C Grafoil upto 600° C.
<b>END CONNECTION</b>	: Wafer type
<b>Flow Characteristic.</b>	: Throttling, On-Off.
<b>Body Material</b>	: WCB, CF8 (304), CF8M (316) etc.
<b>DISC Material</b>	: CF8 (304), CF8M (316) etc.
<b>Gland Packing</b>	: PTFE V Rings, Grafoil.
<b>Spring Range</b>	: 12-24 Psig (0.8-1.6 Kg/Cm <sup>2</sup> ) 12-36 Psig (0.8-2.4 Kg/Cm <sup>2</sup> )
<b>Air Supply</b>	: 35 Psig (2.5 Kg/Cm <sup>2</sup> ) 50 Psig (3.5 Kg/Cm <sup>2</sup> )
<b>ACTUATOR TYPE</b>	: Diaphragm(Scotch)
<b>DIAPHRAGM</b>	: Nitrile.
<b>AIR CONNECTION</b>	: 1/ 4" or 1/ 2" NPT
<b>ACCESSORIES</b>	: Valve Positioner-Pneumatic, Electro Pneumatic & Smart. Airset, Solenoid Valve, Position Transmitter, Limit & Proximity Switches with Enclosure etc. Top or Side Mounted handwheel.



**BUTTERFLY VALVE WITH  
DIAPHRAGM ACTUATOR**



**BUTTERFLY VALVE WITH  
DIAPHRAGM ACTUATOR  
WITH TMH**



**BUTTERFLY VALVE WITH  
DIAPHRAGM ACTUATOR  
WITH MOR**

**BUILT IN RELIABILITY**

### DESIGN FEATURES

- Compact & simple design, low cost and maintenance free.
- Very high Cv to body size ratio.
- Reliable smooth operation and flow control with assured product quality.
- Long Life Bellows Seal- provides for absolute gland sealing.
- Valve body is soild, heavy duty.
- Optimal disc geometry and cavity free flow passage offers minimum flow resistance and high Cv values.
- Heavy duty pins connecting valve shaft to disc avoids lost motion under high torque conditions.

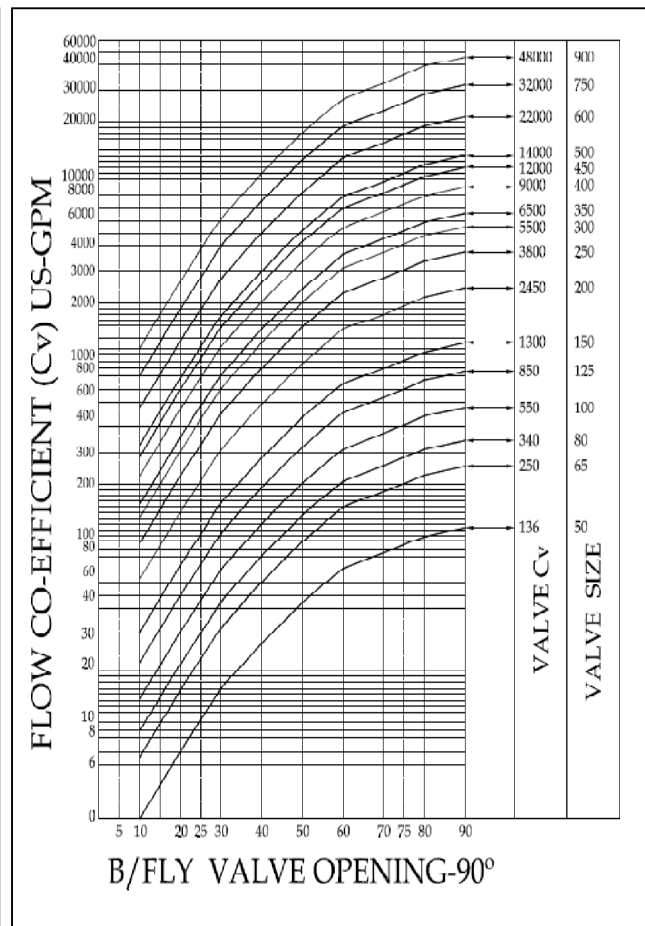
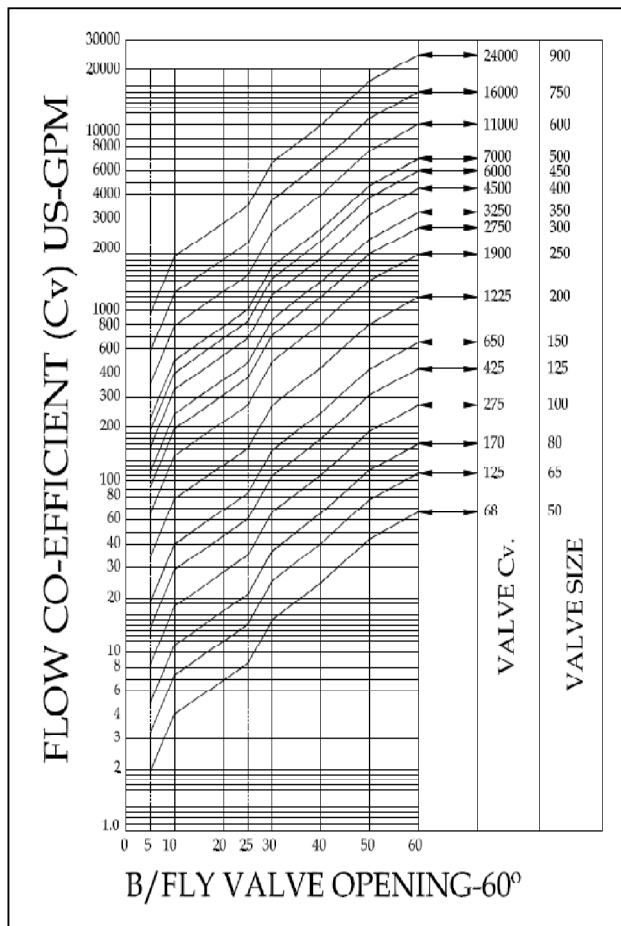
### QUALITY AND PERFORMANCE GUARANTEE

- Produced with Quality Systems accredited to ISO 9001: 2008 by Bureau Veritas.
- Full material certification available for all major component Parts.
- Full guarantee on design and Performance.
- All testing are performed to the requirements of ANSI B16.34.

### VALVE SIZING CO-EFFICIENT Cv RATING (Series.240)

SIZE (mm)	50	65	80	100	125	150	200	250	300	350	400	450	500	600	750	900
Cv AT FULL BORE 60°	68	125	170	275	425	650	1225	1900	2750	3250	4500	6000	7000	11000	16000	24000
90°	136	250	340	550	850	1300	2450	3800	5500	6500	9000	12000	14000	22000	32000	48000

### DEGREE OF OPENING Vs FLOW CO-EFFICIENT



**BUILT IN RELIABILITY**

### VALVE SIZING AND ACTUATOR SELECTION FOR BUTTERFLY VALVE

Valve Size		Cv in USGPM		Torque Required at $\alpha^\circ$ $T\alpha^\circ = A \times \Delta P\alpha^\circ + B$				Maximum Allowable Torque for 304/316 Shaft	shaft dia	
				a			B			
INCH	MM	60°	90°	0°	60°	90°		IN-LB	INCH	MM
2	50	65	130	0.2	1	2.75	36	225	1/2	15
2.1/2	65	120	240	0.3	1.86	5.26	36	225	1/2	15
3	80	160	320	0.44	3.14	9.04	36	225	1/2	15
4	100	280	560	1	7.4	21.4	50	430	5/8	16
5	125	430	860	1.56	14.06	41.36	50	430	5/8	16
6	150	640	1280	2.63	24.13	71.63	65	745	3/4	20
8	200	1200	2400	6.23	57.23	169.23	100	1764	3/4	20
10	250	1850	3700	9.81	109.81	329.81	100	1764	3/4	20
12	300	2700	5400	14.4	187.4	562.4	100	1764	1	25
14	350	3300	6600	27	272	790	184	3438	1	25
16	400	4400	8800	35.3	405.3	1195.3	184	3438	1	25
18	450	6250	12500	52.7	587.7	1762.7	232	5508	1.1/4	32
20	500	6900	13800	64.4	784.4	2374.4	235	5508	1.1/4	32
24	600	10000	20000	108	1368	4158	282	14130	1.1/2	38
30	750	16300	32600	212	2732	8262	396	26640	1.1/2	38
36	900	24200	48400	300	4580	14000	396	26640	2.1/2	63

#### AVAILABLE TORQUE & TRAVEL FOR 90° ACTUATOR (Lbs-in)

Actuator	Actuator Model	C/C	Torque
30	PDR-030-28-90°	25	300
55	PDR – 055-38-90°	33	732
95	PDR – 095-38-90°	33	1264
140	PDR – 140-57-90°	49	2764
140	PMR – 140G-90-90°	68.5	3864
300	PDR – 300-90-90°	77.5	9372

#### AVAILABLE TORQUE & TRAVEL FOR 60° ACTUATOR (Lbs-in)

Actuator	Actuator Mode	C/C	Torque
55	PDR – 055-38-60°	45.5	1008
95	PDR – 095-38-60°	45.5	1744
140	PDR – 140-57-60°	68.5	3864
140	PMR – 140G-90-60°	96.5	5444
300	PDR – 300-90-60°	105.5	12756

### TESTING AND INSPECTION

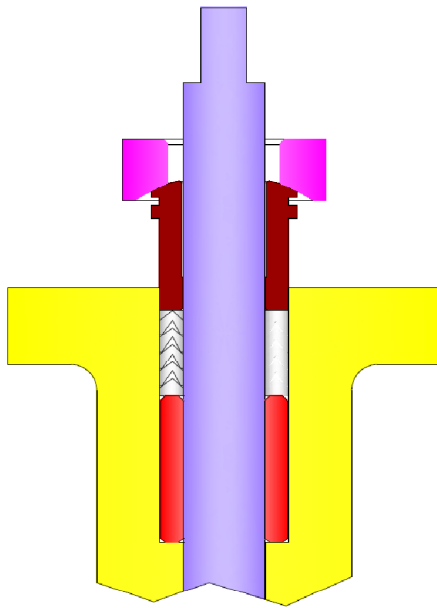
Test	Test Pressure	Test Stds	Test Medium	Acceptance Criteria
Hydro Test	30 bar (ANSI 150#)	API 598	Water	No Leakage
Seat Leakage Test	Max $\Delta P$ Shut Off	FCI 70-2	Water	Class II & III

**BUILT IN RELIABILITY**

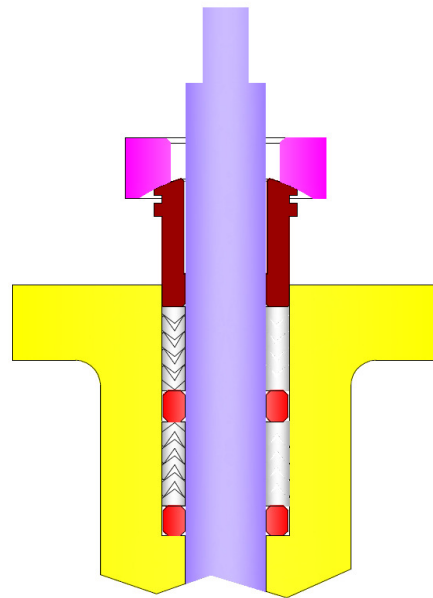
## GLAND PACKING OPTIONS

Pneucon offers Single & Double set of V-PTFE rings (upto 180°C) & Graphite Moulded rings (>200°C upto 600°C) as standard. Inverted V-fered for vacuum application with upper set of V-Rings positioned PTFE packings are reverse direction. Low fugitive Emission packings are provided on the LFE packing arrangement request comprises of live loaded packings. The packing gland is loaded with spring washers to maintain a continuous compressive lead to gland packings as shown in figure below.

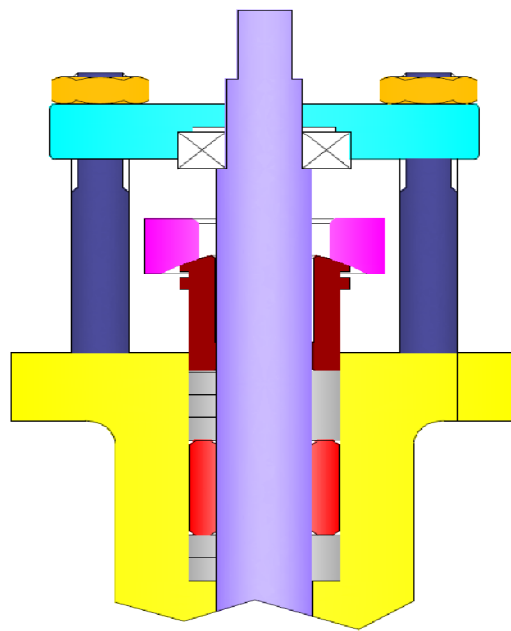
### ➤ SINGLE V-PTFE GLAND PACKING



### ➤ INVERTED V-PTFE GLAND PACKING FOR VACUUM APPLICATION



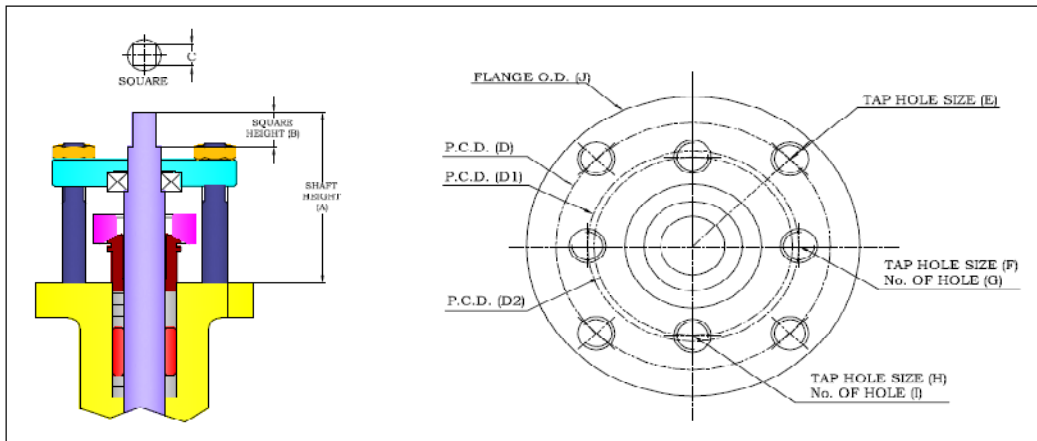
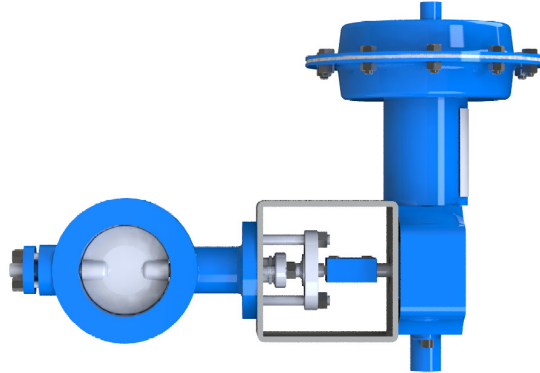
### ➤ GRAFOIL GLAND PACKING



**BUILT IN RELIABILITY**

## DIAPHRAGM ACTUATOR

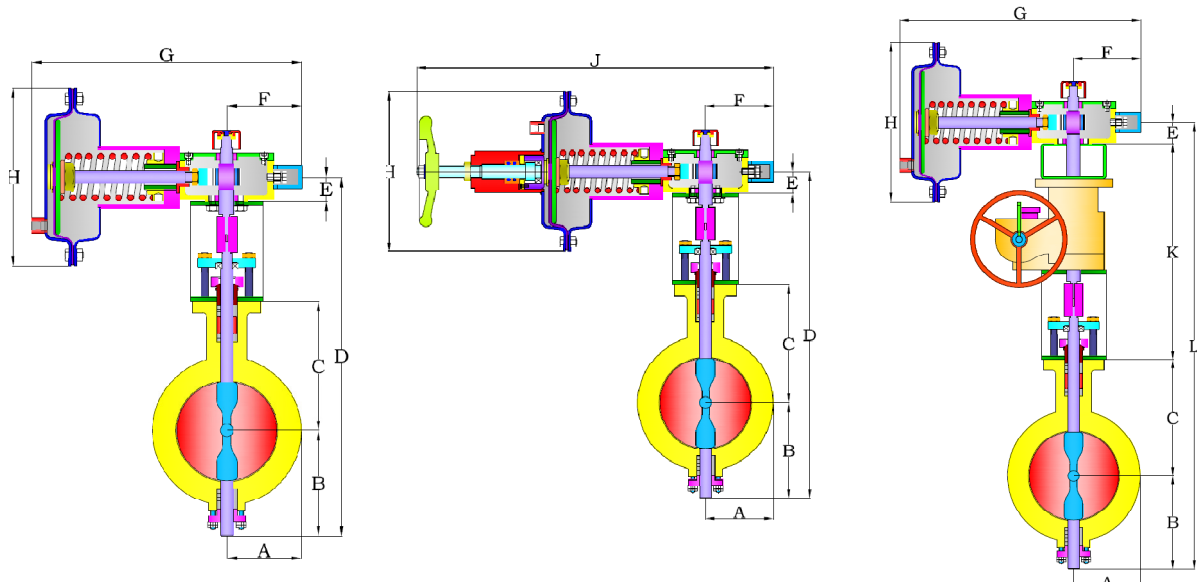
Series PDR Actuator are Diaphragm operated rotary actuator. Rotary Valve viz Butterfly valve, Ball Valve, Plug Valve are suitable for regulating and on-off application. The actuator provide accurate, safe & reliable valve operation at low supply pressure. Heavy duty lever arrangement offers great stability under high torque and shock conditions. Low friction operation allows ore accurate control, low maintenance and long service life.



### ACTUATOR MOUNTING DETAIL\*

VALVE SIZE	SHAFT HEIGHT	SQUARE HEIGHT	SQUARE	P.C.D.	P.C.D.	P.C.D.	TAP HOLE SIZE	TAP HOLE SIZE	NO. OF HOLES	TAP HOLE SIZE	NO. OF HOLES	FLANGE O.D.
	A	B	C	D	D1	D2	E	F	G	H	I	J
2"												
2.1/2"						35	3/8" UNC	3/8" UNC		5/16" UNC		Ø85
3"	75	15	9	70	55							Ø90
4"												Ø85
5"												
6"	80	20				50.8		3/8" UNC	2	3/8" UNC	2	
8"			11				1/2" UNC					
10"	85			90	65							Ø110
12"		25										
14"	105		14			65		7/16" UNC		7/16" UNC		
16"												

\* :- For Higher Sizes Dimensions Shall be Furnished on request



**\* DIMENSION OF METAL TO METAL BUTTERFLY VALVE (SERIES-240)**

VALVE SIZE	ACTUATOR MODEL	MOR	A	F / F	B	C	D	E	F	G	H	J	K	L
2"	PDS-030	100	50	45	89	98	341	30	95	333	220	488	290	507
2.1/2"	PDS-030	100	55	47	96	112	363	30	95	333	220	488	290	528
3"	PDS-030	100	64	47	105	119	378	30	95	333	220	488	290	544
4"	PDS 030	100	78	48	111	133	399	30	95	333	220	488	290	564
5"	PDS-030	100	93	54	130	162	447	30	95	333	220	488	290	612
6"	PDS-055	450	108	56	151	168	475	32	108	439	288	647	310	661
8"	PDS-055	450	135	61	177	198	532	32	108	439	288	647	310	717
10"	PDS-095	450	154	67	204	236	596	32	108	471	371	678	310	782
12"	PDS-140	450	190	70	224	277	696	45	175	672	443	958	335	881
14"	PDS-140	750	209	89	241	298	734	45	175	672	443	958	335	919
16"	PDS-140	1000	235	105	280	336	811	45	175	672	443	958	335	996
18"	PMS-140	1000	267	110	413	409	1017	45	175	767	443	1053	335	1202
20"	PMS-140	1000	292	79	500	430	1125	45	175	767	443	1053	335	1310
24"	PMS-140	1000	346	154	540	445	1205	45	175	767	443	1053	335	1365

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



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