



VALUE
VALVE USA
Value in Valving

High Performance Butterfly Valves

VF - 87 Series

TRIPLE ECCENTRIC, METAL SEATED

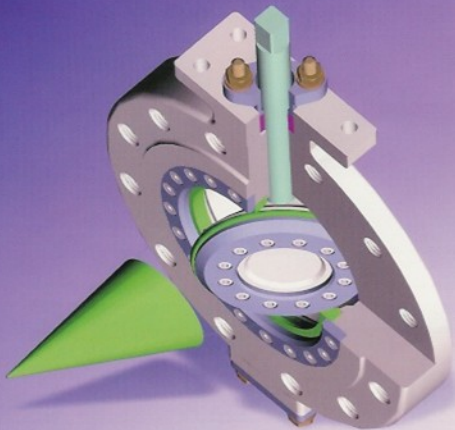
*LEVER - GEAR - PNEUMATIC
ELECTRIC OPERATED.*

ALLOWABLE PRESSURE:

ANSI CLASS 150 PN25

ANSI CLASS 300 PN50

SIZE: DN 65(2.5") - 1800(72")



DIN EN ISO-9001
Certificate 01 100-029189



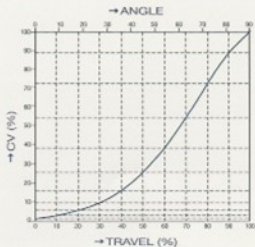
PED-97/23/EC
01 202-0209-02-0568001

Butterfly Valves & Controls Inc.

www.bvcusa.com

FLOW CHARACTERISTICS

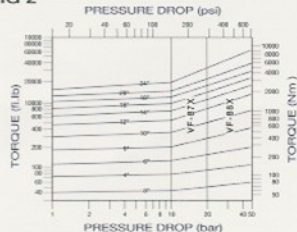
FIG 1



TYPE		VF-670 VF-673 VF-677		VF-880 VF-883 VF-887	
mm	inch	CV	KV	CV	KV
80	3"	173	148	173	148
100	4"	355	303	258	220
125	5"	655	560	550	470
150	6"	1040	888	890	760
200	8"	1980	1692	1520	1300
250	10"	3150	2692	2520	2154
300	12"	4680	4000	3665	3150
350	14"	6368	5460	5195	4440
400	16"	8312	7104	7120	6085
450	18"	10525	8995	9398	8032
500	20"	13053	11156	11350	9700
600	24"	18610	15906	16180	13830

CLOSING TORQUES

FIG 2

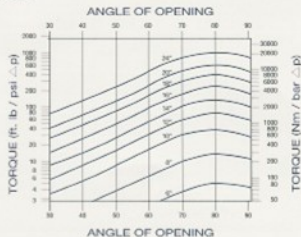


The value from Fig. 2 specifies the Actuator Torque required to close the valve. Since the valve is torque seated, the closed position is not self-locking, therefore will require the actuator to maintain torque after closing.

The values shown in Fig. 2 are valid for metal seated valves with a seal qualified to IEC 534-4 class IV. For higher tightness requirement i.e. IEC 534-4 Class IVS and V, the torque value has to be multiplied by 1.2.

DYNAMIC TORQUES

FIG 3



The Valve getting from Fig. 3 specifies the Dynamic Torque of the valve during open position. The values are valid for Bi-directional flow and are expressed in torque per Δp -unit i.e. in Nm/bar or in ft-lb/psi.

In general, the dynamic torque of seated butterfly valve is smaller than the closing torque shown in Fig. 3. Only relatively large valves working under high pressures have significant dynamic torque. The value from Fig. 3 is the product of $X_1 P_1$ resp.

$$FL^2 \times (P_1 - P_v)$$

Where X_1 : Pressure differential ratio factor

P_1 : Inlet pressure,

P_v : Saturated vapor pressure
inlet temperature (kg/cm²abs)

FL : Liquid pressure recovery factor.

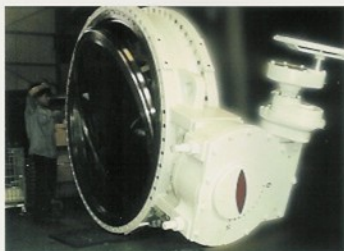
THE NEW CONCEPT FOR METAL SEATED VALVE WITH PROVED ADVANTAGES

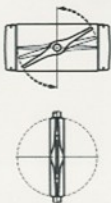
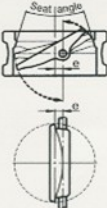
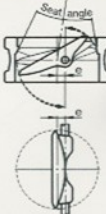
*Triple Eccentric Geometry Allows Long Life And Tight Shutoff.

*Seat Design Is "Tilted Cone" Configuration Allowing Seat To "Float" Inside Disc Profile, Forming A Elliptical Cone Shape On Closing.

*360 Degree Line Contact Between Seat And Seal Of Body And Disc Even During Wide Temperature Fluctuations.

*100% Solid Metal Seat And Body Seal Withstands Severe Services And Will Not "Washout".

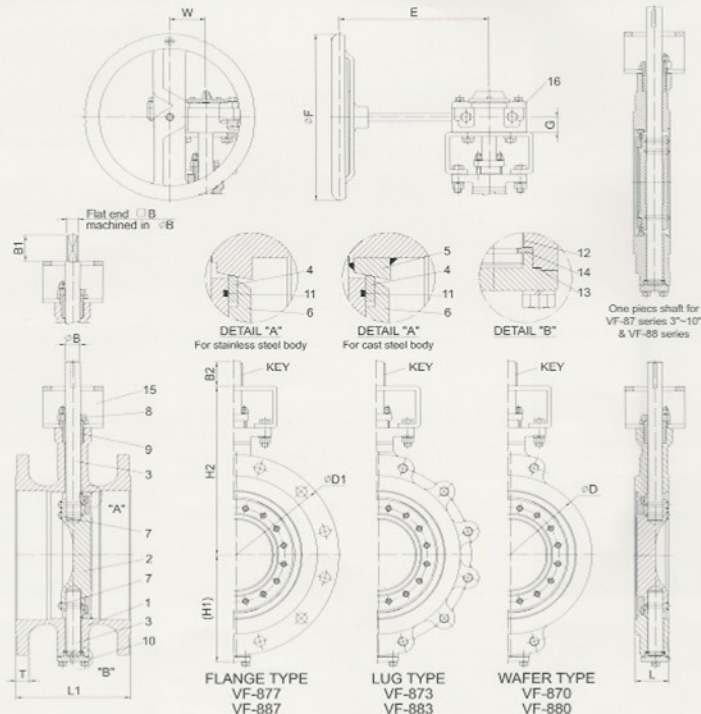


CENTRIC	DOUBLE ECCENTRIC	TRIPLE ECCENTRIC
		
<ul style="list-style-type: none"> * Valve with soft seat * Not for High Temperatures 	<ul style="list-style-type: none"> * Valve with Soft Seat * Good For High Cycles * Not For High Temperatures 	<ul style="list-style-type: none"> * Valve With 100% Metal Seat * Good For High Cycles * Good For Severe Services * Good For High Temperatures

No.	Name	Materials	
		ASTM	JIS
1	BODY	A216WCB	SC49
		A351 CF8	SCS13
		A351 CF8M	SCS14
2	DISC	A216WCB	SC49
		A351 CF8	SCS13
		A351 CF8M	SCS14
3	STEM	17-4 PH	SUS630
4	DISC EDGE	A240 304	SUS304
		A240 316	SUS316
5	BODY SEAT	A240 304	SUS304
		A240 316	SUS316
6	DISC SET RING	A216WCB	SC49
		A351 CF8	SCS13
		A351 CF8M	SCS14
7	PIN	A182 F316	SUS316

Special material on request, such as Inconel, monel.

No.	Name	Materials	
		ASTM	JIS
8	GLAND	A351 CF8	SCS13
		A351 CF8M	SCS14
9	GLAND PACKING	PTFE+GRAPHITE GRAPHITE	
10	BOTTOM COVER	A216WCB	SC49
		A351 CF8	SCS13
		A351 CF8M	SCS14
11	GASKET	VITON	<220°C
		GRAPHITE	>220°C
12	BUSHING	PTFE+SS316	<220°C
		A182 F 316	>220°C
13	GASKET	PTFE+GRAPHITE	<220°C
		GRAPHITE	>220°C
14	THRUST UNIT	A240 316	SUS316
15	YOKE	A240 304	SUS304
16	GEAR BOX	A128-B	FC200



VF-870, VF-873, VF-877.

Please consult to factory if the valve size larger than 600 mm.

Size													Mounting flange (ISO 5211)	Shaft				
Mm	in	L	L1	H1	H2	φD	φD1	T	E	φF	G	W	ISO	φB	B	B1	B2	KEY
80	3	1.85	7.09	4.37	8.50	4.92	7.52	0.94	6.10	5.91	1.46	1.61	F07	0.63	0.43	0.75		
100	4	2.09	7.48	5.12	9.25	6.10	9.02	0.94	6.10	5.91	1.46	1.61	F07	0.63	0.43	1.18		
125	5	2.20	7.87	5.59	10.04	7.28	10.00	0.94	6.10	5.91	1.46	1.61	F07	0.74	0.55	1.18		
150	6	2.20	8.27	6.10	10.24	8.46	10.98	1.00	6.10	5.91	1.46	1.61	F07	0.74	0.55	1.18		
200	8	2.44	9.06	7.36	11.50	10.43	13.50	1.14	7.68	7.87	1.63	2.48	F10	0.98	0.75	1.38		
250	10	2.72	9.84	8.58	12.72	12.80	15.98	1.20	9.13	12.20	1.61	2.40	F12	1.10	0.87	1.38	1.97	31x.31
300	12	3.11	10.63	10.12	15.98	15.04	19.02	1.25	11.02	15.75	2.05	3.19	F14	1.37	1.06	1.97	2.36	39x.31
350	14	3.11 3.62	11.42	11.22	16.46	16.34	21.06	1.35	11.02	1.75	2.05	3.19	F14	1.64	1.06	1.97	2.36	47x.31
400	16	4.02	12.20	12.36	19.21	18.50	23.50	1.44	12.99	15.75	2.20	4.84	F16	1.76	1.26	1.97	2.36	47x.31
450	18	4.49	12.99	13.19	22.36	20.87	25.00	1.57	12.99	15.75	2.20	4.84	F16	1.96	1.42	1.97	3.54	63x.39
500	20	5.00	13.78	15.28	24.21	23.03	27.56	1.69	12.99	15.75	2.20	4.84	F16	2.15	1.81	2.36	3.54	63x.39
600	24	6.06	15.35	16.61	23.66	27.24	32.01	1.87	14.57	15.75	5.71	6.30	F25	2.55			3.54	71x.47

* 14" Face to face dimension $\frac{3.11"}{3.62"}$ is according to ISO 5752 TABLE 5 SHORT, API 609 TABLE 2.

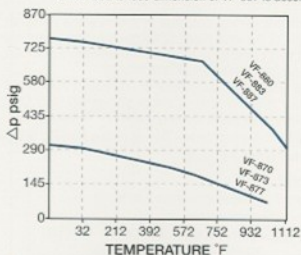
- Note: 1. The face to face dimension of VF-870 & VF-873 is according to ISO 5752 TABLE 5 SHORT.
2. The face to face dimension of VF-877 is according to ISO5752 TABLE 4 LONG SERIES.

VF-880, VF-883, VF-887.

Please consult to factory if the valve size larger than 600 mm.

Size													Mounting flange (ISO 5211)	Shaft				
Mm	in	L	L1	H1	H2	φD	φD1	T	E	φF	G	W	ISO	φB	B	B1	B2	Key
80	3	1.89	7.09	8.86	8.86	5.31	8.27	1.14	6.10	5.91	1.46	1.61	F07	0.63	0.43	0.75		
100	4	2.13	7.48	8.46	9.72	6.30	10.00	1.26	6.10	5.91	1.46	1.61	F07	0.74	0.55	1.18		
125	5	2.20	7.87	6.97	10.24	7.68	11.05	1.38	7.68	7.87	1.63	2.48	F10	0.74	0.55	1.18		
150	6	2.40	8.27	7.60	10.94	9.06	12.52	1.46	7.68	7.87	1.63	2.48	F10	0.98	0.75	1.18		
200	8	2.95	9.06	9.06	12.24	10.83	15.00	1.63	7.68	12.20	1.61	2.40	F12	1.25	0.87	1.38	1.97	31x.31
250	10	3.35	9.84	10.31	14.29	13.58	17.52	1.81	11.02	15.75	2.05	3.19	F14	1.48	1.06	1.97	2.36	39x.31
300	12	3.70	10.63	11.85	16.14	15.55	20.51	2.01	11.02	15.75	2.05	3.19	F14	1.76	1.26	1.97	2.36	47x.31
350	14	4.61	11.42	13.34	19.41	17.32	22.99	2.13	12.09	15.75	2.20	4.84	F16	1.96	1.42	1.97	2.36	63x.39
400	16	5.24	12.20	14.57	20.67	19.49	25.51	2.36	12.09	15.75	2.20	4.84	F16	2.35			2.36	71x.47
450	18	5.87	12.99	15.59	22.48	22.05	27.99	2.35	12.09	15.75	2.20	4.84	F16	2.55			3.54	71x.47
500	20	6.26	13.78	17.13	23.74	24.21	30.51	2.50	14.57	15.75	5.71	6.30	F25	2.94			4.72	79x.47
600	24	7.13	15.35	19.92	26.46	28.35	36.02	2.76	18.54	23.62	7.72	7.76	F30	3.52			5.91	98x.55

- Note: 1. The face to face dimension of VF-880 & VF-883 is according to API 609 TABLE 2 CLASS 300.
2. The face to face dimension of VF-887 is according to ISO5752 TABLE 4 LONG SERIES.



Please consult factory if the working temperature is above 450°F

SEAT LEAK RATE

STANDARD	CLASS	%CVS %KVS
ANSI B 16.104	KL V	0.000005%
IEC 534-4 Kl.	Kl. V	0.000007%
MSS-SP 72	50%	0.000080%
IEC 534-4 Kl.	Kl. IV S2	0.000180%
MSS-SP 72	100%	0.000200%
MSS-SP 72	300%	0.000600%
IEC 534-4 Kl.	Kl. IV S1	0.004500%
IEC 534-4 Kl.	Kl. IV	0.010000%

Effective leak rates based on $\Delta p=3.5\text{kg air}$, at a α -value of the rated valve cv



VALUE
VALVE USA
Value in Valving

Butterfly Valves & Controls Inc.

671 Industrial Blvd
Grapevine, Texas 76051
Phone: 817-421-5343
Facs: 817-416-6270
E-mail: sales@bvcusa.com
<http://www.bvcusa.com>

