SERIES Q

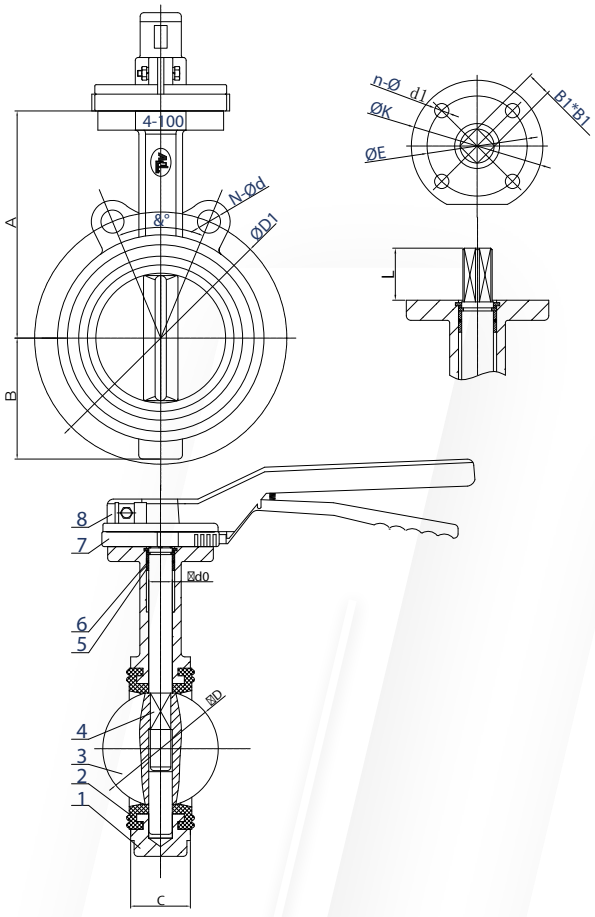
RESILIENT SEATED BUTTERFLY VALVE



www.tfv.mx



WAFER Design for 1-1/2" to 12" valves



Features / Design

1.- TFV Q Series is a concentric butterfly valve. The valve body shall be one-piece wafer or lug design with extended neck and a concentric disc and seat configuration to allow tor 2"~ 48" of piping insulation; it has a flange hole drilling per international flange standards and it is provided with a non-corrosive bushing and self-adjusting stem seal.

2.- Design & Manufacture Standard: API 609.

3.- General Features[2]:

Simple and compact construction, quick 90° on-off operation. Small size, light weight, easy installation and maintenance. It can be mounted wherever needed.

Bubbles-tight sealing with no leakage under the pressure testing. The wafer and lug valve shall be rated for bubble-tight shut-off for bidirectional service to 16 bar on sizes 2"-12" and to 10 bar on sizes 14"-48". The valve shall be tested for tight shut-off to 110% of the rated pressure.

Long service life. Standing the test of tens of thousands opening / closing operations.

Minimized operating torque, energy saving. The valve disc edge and hub on metal discs shall be spherically machined and hand polished for minimum torque and maximum sealing capability.

Locating holes. Flange locating holes shall be provided on wafer and lug bodies to allow quick and precise alignment during valve installation.

The seat shall totally encapsulate the body isolating it trom the line media and no flange gaskets shall be required - the seat is specifically designed to seal with slip-on or weldneck flanges.

Valve mounting top flanges are based on ISO 5211 standars for direct mounting of manual operators and power actuators.

4.- Ends: Wafer and lug options (ASME B16.5).

5.- Drilling per ANSI 150# - Class 200 CWP.

6.- Face to face acc. to API 609.

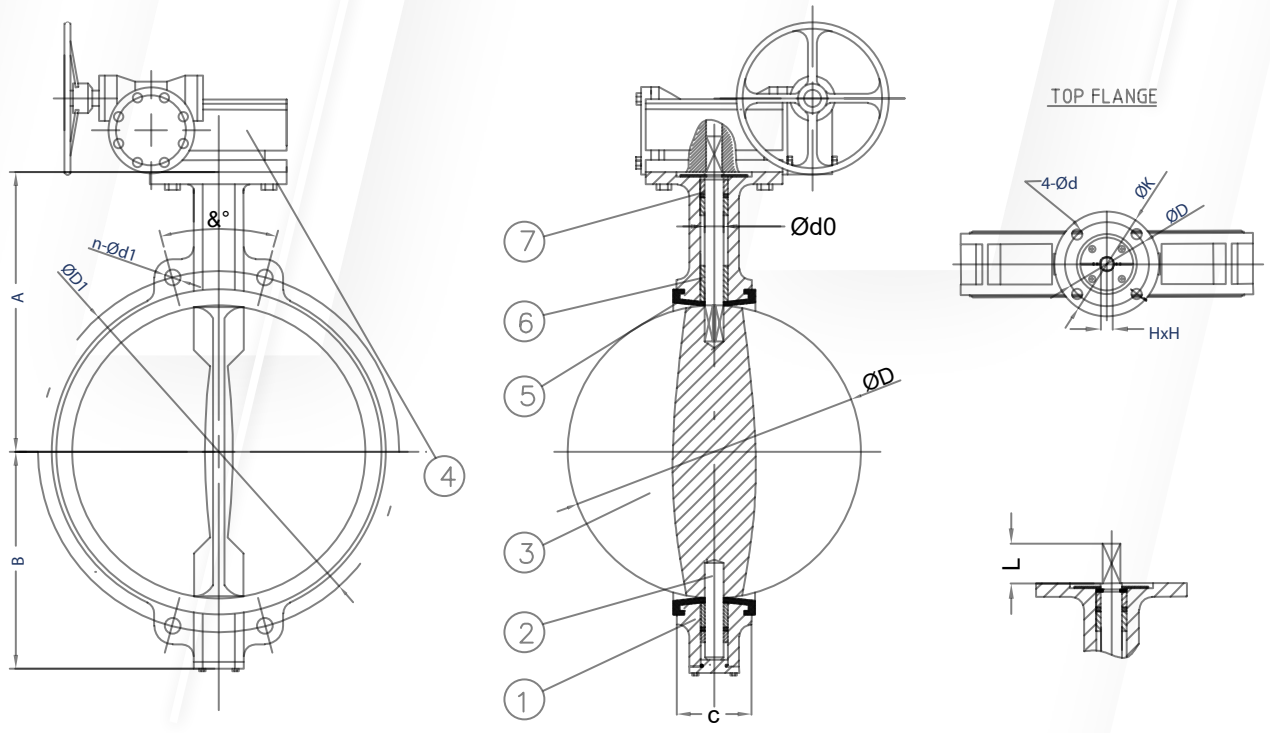
7.- Pressure & temp. rating acc. to ASME B16.34.

8.- Inspection and Test Standard: API 598.

9.- Designed with a wide selection of materials, applicable for various medium - variety of liquid and gases.

10.- Seat Materials Max. Working Temperatures:
NBR : -25 to +90°C.
EPDM : -35 to +120°C.

WAFER Design for 14" to 24" valves



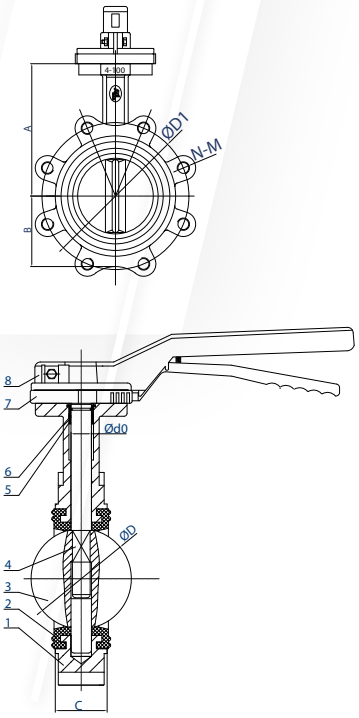
Material List (Lever)

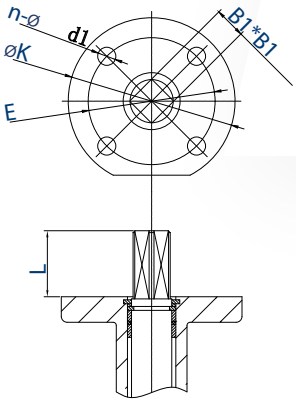
POS	DESCRIPTION	MATERIAL
1	BODY	ASTM A536 65-45-12
2	LINEAR SEAT	EPDM
3	DISC	A351 CF8M
4	STEM	SS410
5	BUSHING	PTFE
6	O-RING	NBR
7	INDICATOR	ALUMINUM ALLOY
8	LEVER	ALUMINUM ALLOY

Material List (Gearbox)

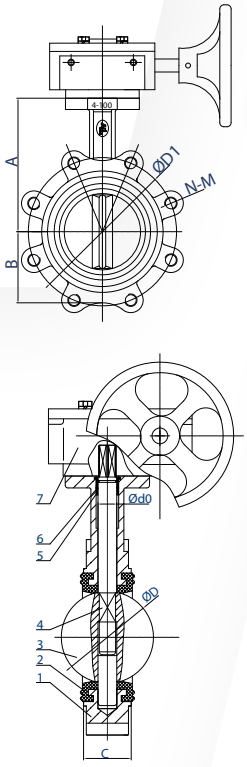
POS	DESCRIPTION	MATERIAL
1	BODY	ASTM A536 65-45-12
2	STEM	SS410
3	DISC	A351 CF8M
4	GEARBOX	COMPOSITE PARTS
5	LINER SEAT	EPDM
6	BUSHING	PTFE
7	O-RING	NBR

LUG Design for 2" to 12" valves

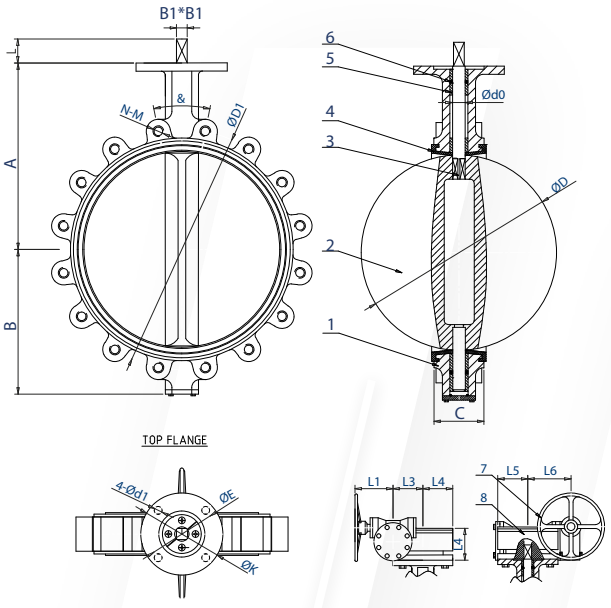




LUG Design for 14" valves



LUG Design for 16" to 24" valves



Material List

POS	DESCRIPTION	MATERIAL
1	BODY	ASTM A536 65-45-12
2	DISC	A351 CF8M
3	LINEAR SEAT	EPDM
4	UP SHAFT	SS410
5	DOWN SHAFT	SS410
6	DOWN BUSHING	FRP
7	UP BUSHING	FRP
8	O-RING	NBR
9	HALF RING	STAINLESS STEEL
10	GSKET	STAINLESS STEEL
11	SNAP SPRING	SK7
12	LEVER	STAINLESS STEEL
13	GEARBOX	COMPOSITE PARTS
14	HANDWHEEL	STANILESS STEEL
15	END COVER	ASTM A536 65-45-12

Dimensions (inches)

WAFER TYPE - CLASS 150#

SIZE	A (In)	B (In)	F±1.5 (In)	C±2 (In)	D (In)	d0 (In)	L (In)	ISO5211	K (In)	E (In)	n-Ød1 (In)	N-Ø2 (In)	ØD1 (In)	a° (In)	B1*B1 (In)	Torque (lb*In)	CV (USGPM)	Weight (lb)
1.5	4.724	2.244	10.472	1.299	1.646	0.496	1.693	F07	3.465	2.756	4 - 3/8	2 - 3/4	3.799	90	0.354	133	62	13.9
2	5.551	2.126	0.512	1.654	2.075	0.496	1.693	F07	3.465	2.756	4 - 3/8	2 - 3/4	4.748	90	0.354	159	115	7.3
2.5	5.906	2.362	0.512	1.760	2.535	0.496	1.693	F07	3.465	2.756	4 - 3/8	2 - 3/4	5.500	90	0.354	212	196	8.2
3	6.220	2.677	0.512	1.811	3.106	0.496	1.693	F07	3.465	2.756	4 - 3/8	2 - 3/4	6.000	90	0.354	292	302	9.3
4	6.929	3.661	0.551	2.087	4.098	0.621	1.693	F07	3.465	2.756	4 - 3/8	2 - 3/4	7.500	45	0.433	363	600	13.1
5	7.480	3.937	0.551	2.205	4.858	0.745	1.693	F07	3.465	2.756	4 - 3/8	2 - 7/8	8.500	45	0.551	575	1022	17.2
6	8.110	4.528	0.551	2.205	6.130	0.745	1.693	F07	3.465	2.756	4 - 3/8	2 - 7/8	9.500	45	0.551	929	1579	19.5
8	9.567	5.748	0.669	2.386	7.972	0.870	1.811	F10	4.921	4.016	4 - 1/2	2 - 7/8	11.748	45	0.669	1699	3136	35.8
10	10.787	7.126	0.709	2.677	9.862	1.120	1.811	F10	4.921	4.016	4 - 1/2	2 - 1	14.248	30	0.866	2859	5340	54.0
12	12.283	8.504	0.709	3.071	11.870	1.244	1.811	F10	4.921	4.016	4 - 1/2	2 - 1	17.000	30	0.866	4337	8250	70.5
14"	14.488	10.512	/	3.071	13.122	1.244	1.772	F10	4.921	4.016	4 - 1/2	4 - 1 1/8	18.748	30	0.866	4868	11917	103.6
16"	15.748	12.165	/	4.016	14.984	1.494	1.969	F14	6.890	5.512	4 - 3/4	4 - 1 1/8	21.248	22.5	1.063	6682	16388	191.8
18"	16.614	12.913	/	4.488	17.094	1.687	1.969	F14	6.890	5.512	4 - 3/4	4 - 1 1/4	22.748	22.5	1.063	8957	21705	222.7
20"	18.898	14.213	/	5.000	19.425	1.800	2.362	F14	6.890	5.512	4 - 3/4	4 - 1 1/4	25.000	18	1.417	11949	27908	262.3
24"	22.126	18.071	/	6.063	22.524	2.125	2.362	F16	8.268	6.496	4 - 1	4 - 1 3/8	29.500	18	1.417	19560	43116	487.2

LUG TYPE - CLASS 150#

SIZE	A (In)	B (In)	F±1.5 (In)	C±2 (In)	D (In)	d0 (In)	L (In)	ISO5211	K (In)	E (In)	n-Ød1 (In)	N-Ø2 (In)	ØD1 (In)	a° (In)	B1*B1 (In)	Torque (lb*In)	CV (USGPM)	Weight (lb)
1.5	5.079	2.244	0.472	1.496	1.646	0.496	1.693	F07	3.465	2.756	4 - 3/8	4-1/2"-13UNC	98.5	90	0.354	133	62	13.9
2	5.551	2.126	0.512	1.693	2.075	0.496	1.693	F07	3.465	2.756	4 - 3/8	4-5/8"-11UNC	120.6	90	0.354	159	115	16.1
2.5	5.906	2.362	0.512	1.811	2.535	0.496	1.693	F07	3.465	2.756	4 - 3/8	4-5/8"-11UNC	139.7	90	0.354	212	196	17.4
3	6.220	2.677	0.512	1.811	3.106	0.496	1.693	F07	3.465	2.756	4 - 3/8	4-5/8"-11UNC	152.4	90	0.354	292	302	20.5
4	6.929	3.661	0.551	2.047	4.098	0.621	1.693	F07	3.465	2.756	4 - 3/8	8-5/8"-11UNC	190.5	45	0.433	363	600	24.3
5	7.480	3.937	0.551	2.205	4.858	0.745	1.693	F07	3.465	2.756	4 - 3/8	8-3/4"-10UNC	215.9	45	0.551	575	1022	29.3
6	8.110	4.528	0.551	2.205	6.130	0.745	1.693	F07	3.465	2.756	4 - 3/8	8-3/4"-10UNC	241.3	45	0.551	929	1579	34.6
8	9.567	5.748	0.669	2.362	7.972	0.870	1.811	F10	4.921	4.016	4 - 1/2	8-3/4"-10UNC	298.4	45	0.669	1699	3136	58.9
10	10.787	7.126	0.709	2.677	9.862	1.120	1.811	F10	4.921	4.016	4 - 1/2	12-7/8"-9UNC	361.9	30	0.866	2859	5340	95.9
12	12.283	8.504	0.709	3.071	11.870	1.252	1.811	F10	4.921	4.016	4 - 1/2	12-7/8"-9UNC	431.8	30	0.866	4337	8250	130.1
14	14.488	10.512	/	3.071	13.122	1.244	1.772	F10	4.921	4.016	4 - 1/2	12-1"-8UNC	476.2	30	0.866	4868	11917	147.3
16"	15.748	12.165	/	4.016	14.921	1.494	1.969	F14	6.890	5.512	4 - 3/4	16-1"-8UNC	540	22.5	1.063	7523	16388	260.1
18"	16.614	12.913	/	4.488	17.087	1.687	1.969	F14	6.890	5.512	4 - 3/4	16-1 1/8"-7UNC	578	22.5	1.063	9718	21705	321.9
20"	18.898	14.213	/	5.000	19.370	1.800	2.362	F14	6.890	5.512	4 - 3/4	20-1 1/8"-7UNC	635	18	1.417	11949	27908	383.6
24"	18.898	18.071	/	6.063	22.520	2.125	2.362	F16	8.268	6.496	4 - 1	20-1 1/4"-7UNC	749.5	18	1.417	19914	43116	650.4

Dimensions (Milimeters)

WAFER TYPE - CLASS 150#

SIZE	A (mm)	B (mm)	F±1.5 (mm)	C±2 (mm)	D (mm)	d0 (mm)	L (mm)	ISO5211	K (mm)	E (mm)	n-Ød1 (mm)	N-Ø2 (mm)	ØD1 (mm)	a°	B1*B1 (mm)	Torque (N.m)	CV (USGPM)	Wiegth (Kg)
1.5	120	57	12	33	41.8	12.6	43	F07	88	70	4 - 10	2 - 19	96.5	90	9	15	62	6.3
2	141	54	13	42.0	52.7	12.60	43	F07	88	70	4 - 10	2 - 19	120.6	90	9	18	115	3.3
2.5	150	60	13	44.7	64.4	12.60	43	F07	88	70	4 - 10	2 - 19	139.7	90	9	24	196	3.7
3	158	68	13	46.0	78.9	12.60	43	F07	88	70	4 - 10	2 - 19	152.4	90	9	33	302	4.2
4	176	93	14	53.0	104.1	15.77	43	F07	88	70	4 - 10	2 - 19	190.5	45	11	41	600	5.95
5	190	100	14	56.0	123.4	18.92	43	F07	88	70	4 - 10	2 - 22.4	215.9	45	14	65	1022	7.8
6	206	115	14	56.0	155.7	18.92	43	F07	88	70	4 - 10	2 - 22.4	241.3	45	14	105	1579	8.85
8	243	146	17	60.6	202.5	22.10	46	F10	125	102	4 - 12	2 - 22.4	298.4	45	17	192	3136	16.25
10	274	181	18	68.0	250.5	28.45	46	F10	125	102	4 - 12	2 - 25.4	361.9	30	22	323	5340	24.5
12	312	216	18	78.0	301.5	31.60	46	F10	125	102	4 - 12	2 - 25.4	431.8	30	22	490	8250	32.
14"	368	267	/	78	333.3	31.6	45	F10	125	102	4 - 12	4 - 28.4	476.2	30	22	550	11917	47
16"	400	309	/	102	380.6	37.95	50	F14	175	140	4 - 18	4 - 28.4	539.7	22.5	27	755	16388	87
18"	422	328	/	114	434.2	42.86	50	F14	175	140	4 - 18	4 - 31.8	577.8	22.5	27	1012	21705	101
20"	480	361	/	127	493.4	45.72	60	F14	175	140	4 - 18	4 - 31.8	635	18	36	1350	27908	119
24"	562	459	/	154	572.1	53.98	60	F16	210	165	4 - 23	4 - 35.1	749.3	18	36	2210	43116	221

LUG TYPE - CLASS 150#

SIZE	A (mm)	B (mm)	F±1.5 (mm)	C±2 (mm)	D (mm)	d0 (mm)	L (mm)	ISO5211	ØK (mm)	E (mm)	n-Ød1 (mm)	N-M (mm)	ØD1 (mm)	a°	B1*B1 (mm)	Torque (N.m)	CV (USGPM)	Wiegth (Kg)
1.5	129	57	12	38	41.8	12.6	43	F07	88	70	4-10	4-1/2"-13UNC	98.5	90	09	15	62	6.3
2	141	54	13	43	52.7	12.6	43	F07	88	70	4-10	4-5/8"-11UNC	120.6	90	9	18	115	7.3
2.5	150	60	13	46	64.4	12.6	43	F07	88	70	4-10	4-5/8"-11UNC	139.7	90	9	24	196	7.9
3	158	68	13	46	78.9	12.6	43	F07	88	70	4-10	4-5/8"-11UNC	152.4	90	9	33	302	9.3
4	176	93	14	52	104.1	15.77	43	F07	88	70	4-10	8-5/8"-11UNC	190.5	45	11	41	600	11
5	190	100	14	56	123.4	18.92	43	F07	88	70	4-10	8-3/4"-10UNC	215.9	45	14	65	1022	13.3
6	206	115	14	56	155.7	18.92	43	F07	88	70	4-10	8-3/4"-10UNC	241.3	45	14	105	1579	15.7
8	243	146	17	60	202.5	22.1	46	F10	125	102	4-12	8-3/4"-10UNC	298.4	45	17	192	3136	26.7
10	274	181	18	68	250.5	28.45	46	F10	125	102	4-12	12-7/8"-9UNC	361.9	30	22	323	5340	43.5
12	312	216	18	78	301.5	31.8	46	F10	125	102	4-12	12-7/8"-9UNC	431.8	30	22	490	8250	59
14	368	267	/	78	333.3	31.6	45	F10	125	102	4 - 12	12-1"-8UNC	476.2	30	22	550	11917	66.8
16"	400	309	/	102	379	37.95	50	F14	175	140	4 - 18	16-1"-8UNC	540	22.5	27	850	16388	118
18"	422	328	/	114	434	42.86	50	F14	175	140	4 - 18	16-1 1/8"-7UNC	578	22.5	27	1098	21705	146
20"	480	361	/	127	492	45.72	60	F14	175	140	4 - 18	20-1 1/8"-7UNC	635	18	36	1350	27908	174
24"	480	459	/	154	572	53.98	60	F16	210	165	4 - 23	20-1 1/4"-7UNC	749.5	18	36	2250	43116	295

How to Order

DESIGN (SERIES)		SPECIAL FEATURES	
Q	Resilient Seated Butterfly Valve	NN	None
		NS	NSF / ANSI 61

MATERIAL					
BODY[1]		TRIM[2]		SEAT[3]	
2	WCB	1	Bronze Aluminium	E	EPDM
6	DI	3	316SS	B	NBR
		4	304SS	V	Viton
		6	DI	N	Neoprene
		7	DI + Nylon	H	Hypalon
				P	PTFE

ENDS		CLASS		SIZE[4]		OPERATION	
L	Lug	0	ANSI 150#[5]	02	2"	L	Manual Lever Operator
W	Wafer			02.5	2 1/2"	B	Bare Shaft
				03	3"	G	Gear Operator
				04	4"	P	Preumatic Actuator
				05	5"	E	Electric Actuator
				06	6"		
				08	8"		
				10	10"		
				12	12"		
				14	14"		
				16	16"		
				18	18"		
				20	20"		
				22	22"		
				24	24"		

Example:

Resilient Seated Butterfly Valve, Body Ductil Iron, Disc CF8M, Seat EPDM, Wafer 150# Size 6" with Lever.

QNN66EW006L

NOTES:
(1) Please contact for more available materials.
(2) Please contact for more available materials.
(3) Please contact for more available materials (e.g. natural rubber, poychloroprene, silicon rubber, etc.).
(4) Please contact for more available sizes.
(5) (5) CWP stands for Cold Working Pressure and is an indication of the pressure rating for valves at a temperature up to 100°F. Drilling per ANSI 150# (200 CWP from 2" to 24").
* Nylon 11 coating can be certified to NSF / ANSI 61 for water service.