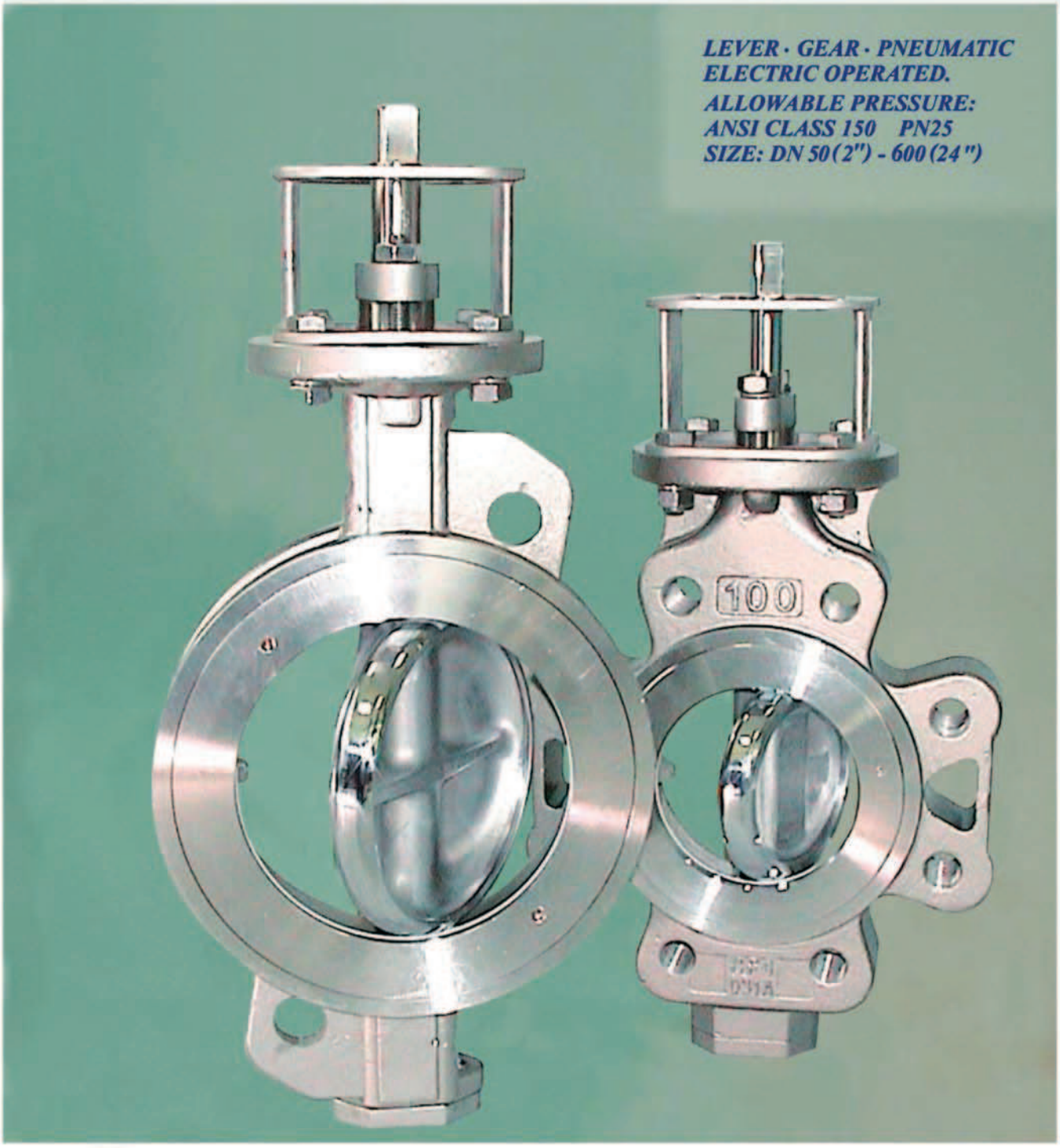
VALUE
Value in Valving

High Performance Butterfly Valves

Double Eccentric, PTFE / Metal Seated **VF-91/92/93 Series**



www.tuv.com TÜV ID:9105016048

VALUE

SPECIFICATIONS

Scope

The specification covers the design and testing of high performance double eccentric design butterfly valves.

Applicable Standards

The following standards shall apply

ANSI B16.5 :	Pipe Flanges and Flanged Fittings (24"size and smaller)
ANSI B16.34 :	Valves-Flanged and Butt welding End.
ANSI/FCI 70-2 :	Control Valve Seat leakage.
MSS SP-25 :	Standard Marking System for Valves, Fittings, Flanges and Unions
MSS SP-61 :	Pressure Testing of Steel Valves
MSS SP-68 :	High Pressure-Offset Seat Butterfly Valves
API 598 :	Valve Inspection and Testing
API 609 :	Butterfly Valves, Lug-Type and Wafer-Type
API 607 :	Fire Test for Soft-seated Quarter-turn Valves
PED :	Pressure Equipment Directive Module H
ISO 5208 :	Inspection regulation of valve
ISO 5211 :	Part-turn actuator attachment
ISO 5752 :	Face-to-Face and center-to-face dimensions
ISO 9001 :	Quality assurance system

Design Features

1. Valves are high performance with offset seat and double eccentric disc design.
2. Valve seats are designed for full pressure, bi-directional sealing.
3. Valve is equipped with upper and lower low friction bearings.
4. One-Piece shaft design equipped with Blow-Out Proof and Anti-Static devices.
5. Patented Seat Retainer Ring fixed without bolts and offering complete uninterrupted seal face.
6. Valve has integral body stop to prevent over travel

Inspection and test

1. Valves shall be hydrostatically shell tested as per ANSI B16.34、MSS SP-61、API 598、and ISO 5208
2. Valves shall be seat tested per MSS SP-61 or ISO 5208 No leakage is permitted for resilient seated valves. And allowable leakage of metal seated valves are as per ANSI/FCI 70-2.
3. API 598 testing available upon request.
4. Valves with other then 17-4PH stems, tested to MSS SP-61 or ISO 5208 only.

Materials

1. Stainless steel valves shall be constructed from materials below :
   Body-ASTM A351 CF8 or CF8M
   Disc-ASTM A351 CF8 or CF8M
2. Carbon steel valves shall be constructed form materials below
   Body-ASTM A105 or A216 WCB
   Disc-ASTM A351 CF8 or CF8M
3. Stem material shall be one of the following ASTM A564 Type 630 (17-4PH)
   A182 F304 or F316

VF-930 MATERIALS

VALUE

ANSI CLASS 150 LB
ISO PN10~PN25
JIS 10K、16K、20K

Construction Details

Stem (10) - One-Piece design with ISO 5211 square drive.

Packing (7) - Graphite packing suit for high temperature service.

Retainer (4) - Patented design of square thread, ensures an un-inrerupted sealing face. Flange face equipped with 125 - 200 AARH finish and is compatible with both flat and spiral wound gaskets.

Integral Disc stop (1) - To prevent disc from over travel.

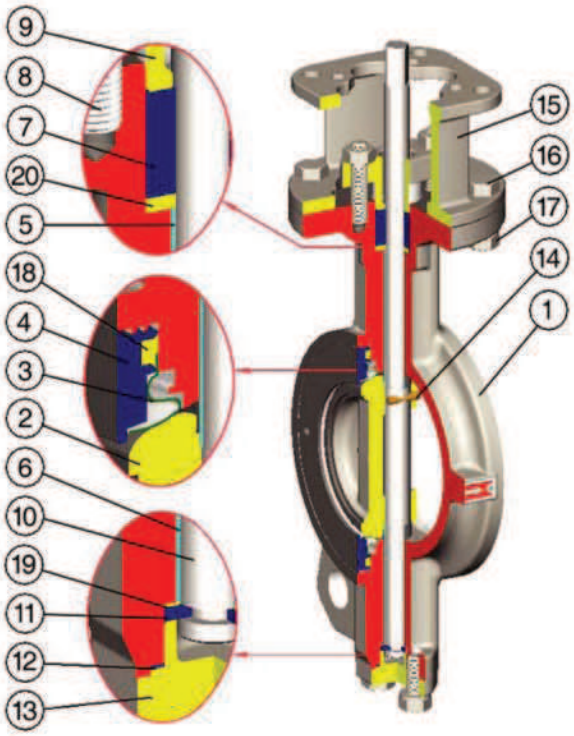
Metal Seat (3) - Bi-direction self sealing metal seat design for leakage rated at Class IV per ANSI FCI 70-2 or better. (Retaining ring fixed at upstream when dead end service.)

Thrust Ring (11) - Anti blow out shaft and Anti static design.

Bearings (5&6) - Upper and Lower bearings are constructed of 316 SS Nitrided.

Yoke (15) - Investment Cast, per ISO 5211.

Fugitive Emissions Packing System is available on customer required.

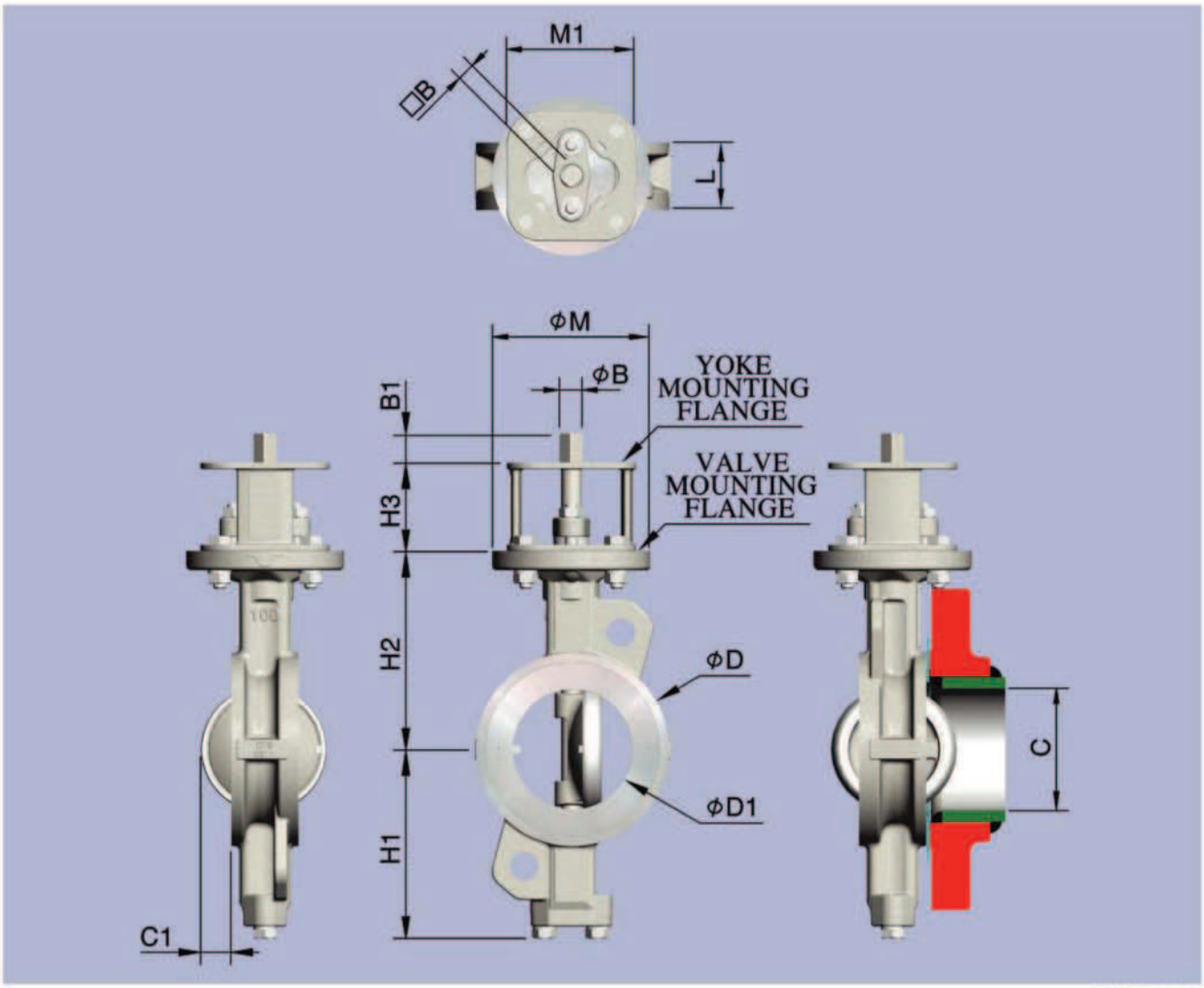


No.	Name	Materials	Specification JIS	Specification ASTM	Remark
1	BODY	CARBON STEEL	SC480	A216 Gr. WCB	
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Disc edgeequipped with hard chrome plated
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
3	METAL SEAT	STAINLESS STEEL	SUS 316	A240 Gr. 316	Nitrided
4	RETAINER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
5	BUSHING	STAINLESS STEEL	SUS 316	A182 Gr. F316	Nitrided
6	BUSHING	STAINLESS STEEL	SUS 316	A182 Gr. F316	Nitrided
7	GLAND PACKING	GRAPHITE			
8	STUD	STAINLESS STEEL	SUS 304	A193 Gr. B8	
9	GLAND	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
10	STEM	STAINLESS STEEL	SUS 410	A182 Gr. F6a	Stem equipped with hard chrome plated
			SUS 304	A182 Gr. F304	
			SUS 316	A182 Gr. F316	
			SUS 630	A564 Gr. 630	
			XM-19	A479 Gr. XM-19	
11	THRUST RING	STAINLESS STEEL	SUS 316	A240 Gr. 316	
12	SEAL	GRAPHITE			
13	BOTTOM COVER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
		CARBON STEEL	SC480	A216 Gr. WCB	
14	PIN	STAINLESS STEEL	SUS 316	A182 Gr. F316	
15	YOKE	DUCTILE IRON	FCD 450	A536 Gr. 65-45-12	For 24" valve only
		CARBON STEEL	SC480	A216 Gr. WCB	Regular
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Option
16	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	
17	NUT	STAINLESS STEEL	SUS 304	A194 Gr. 8	
18	GASKET	GRAPHITE			
19	WASHER	STAINLESS STEEL	SUS 316	A240 Gr. 316	
20	WASHER	STAINLESS STEEL	SUS 316	A240 Gr. 316	

VF-9_ WAFER TYPE DIMENSION

VALUE

ASME CLASS 150LB
ISO PN10~PN25
JIS 10K、16K



Unit:mm

Size	Face to Face	Dimensions							Mounting flange (ISO 5211) Valve		Yoke			Shaft end			Suitable pipe flange	Weight
mm	L	H1	H2	H3	ϕD	ϕD1	C	C1	Type	ϕM	Type		M1	ϕB	□B	B1	★	kg
50	43	99	118	60	92	37	49.5	2	F07	90	F07	F05	70	14	11	18	ACDEFKMN	3.9
65	46	110	125	60	108	63	62.3	15	F07	90	F07	F05	70	14	11	18	ABCDEFGHKMNP	4.5
80	47	128	140	70	126	78	65.9	22	F10	125	F10	F07	102	18	14	23	ABCDEFGHKMNP	7
100	53	150	157	70	153	95	93	25	F10	125	F10	F07	102	18	14	23	ABCDEFGHKMNP	9
125	57	163	170	70	184	118	120	36	F10	125	F10	F07	102	22	17	23	ABCDEFGHKMNP	12
150	56	176	185	70	212	143	149	50	F10	125	F10	F07	102	22	17	23	ACDEFKMNP	13.5
200	62	206	220	80	268	188	196	70	F12	150	F12	F10	125	25	19	28	ACDEFKMNP	22
250	68	238	260	80	326	236	243	90	F12	150	F12	F10	125	28	22	28	ACDEFKMNP	32
300	78	269	290	100	375	282	289	106	F14	175	F14	F12	160	35	27	37	ACDEFKMNP	48
350	78/92	306	326	100	416	322	329	125	F14	175	F14	F12	160	36	27	37	ACDEFKMNP	66
400	102	342	370	120	476	371	377	140	F16	210	F16	F14	195	48	36	47	ACDEFKMNP	107
450	114	370	395	120	534	418	423	157	F16	210	F16	F14	195	48	36	47	ACDEFKMNP	130
500	127	399	430	120	588	466	471	177	F16	210	F16	F14	195	60	46	56	ACDEFKMNP	163
600	154	455	490	150	692	570	572	210	F25	300	F16	-	300	60	46	56	ACDEFKMN	278
600	154	455	490	150	692	570	572	210	F25	300	F25	-	300	60	46	56	ACDEFKMN	278

★A: 150LB B: 300LB C: PN10 D:PN16 E: PN20 F: PN25 G: PN40 H: PN50 K: 10K
M: 16K N: B.S. 10 TABLE E P:20K

Pipe limit size > C