



We Make Automation Easy

**SERIES 77**

**DIRECT MOUNT  
HIGH PERFORMANCE  
3-PIECE BALL VALVES**

**DIRECT MOUNTING OF  
ACTUATOR TO VALVES**



**DESIGN ADVANTAGES**

- **PATENTED ISO 5211 DIRECT MOUNT PAD**  
Allows direct mounting of pneumatic and electric actuators, no brackets and couplings needed, easy and low cost for automated service.
- **EXTRA HIGH CYCLE LIFE**  
Mars maintenance free live loaded double sealing high cycle stem packing system provides extra longer service life.
- **BLOW OUT PROOF STEM**
- **3-PIECE SWING OUT DESIGN**
- **ANTI-STATIC DEVICE**  
Standard applied between stem and body, stem and ball
- **ALL STAINLESS STEEL WELD ENDS IN 316L**  
Reduces inter-granular corrosion in welding
- **WIDE RANGE OF SEAT AND SEAL MATERIALS AVAILABLE**

**SPECIFICATIONS**

Construction : 3-piece body , Full Bore  
 Size : 1/4" to 4" ( DN 8 to DN 100 )  
 Ends : Threaded, Socket Weld, Butt Weld, Extended Butt Weld, Flanged End.  
 Body : CF8M, WCB / 1.4408, 1.0619  
 Ball & Stem : 316 S.S.  
 Seats : Reinforced Teflon  
 Rating : 1/4" ~ 2" 1000 PSI / PN 64  
 2 1/2" ~ 4" 800 PSI / PN 50  
 Temperature : -60° F ~ 420° F (R-PTFE)

**STANDARDS**

ANSI/ASME B16.34 , B16.25 , B1.20.1  
 API : 6D , 598  
 ISO : 5211/1 , 5209 , 5752 , 7/1 , 261  
 DIN : 3357 , 50.049-3.1B  
 MSS : SP25 , SP72  
 BS : 5351

**VALVE FIG. NO. AND END CONNECTIONS**

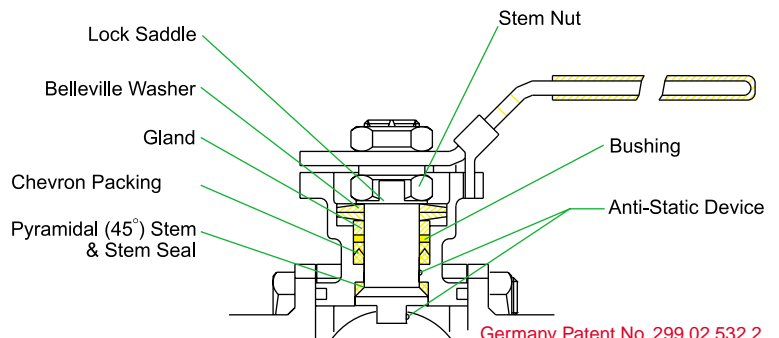
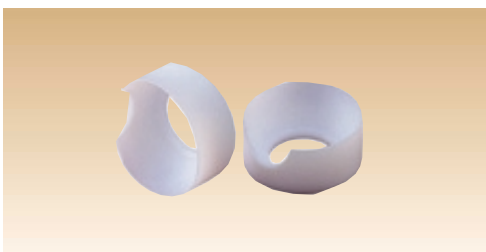
- FIG. 77-10 THREADED END
- FIG. 77-20 SOCKET WELD
- FIG. 77-30 BUTT WELD
- FIG. 77-40 EXTENDED BUTT WELD
- FIG. 77-50 FLANGED END ( PN 25/40 F1 )

**OPTION**

- ◆ **SANITARY BALL VALVES**  
Tri-Clamp Ends  
Tube OD BW



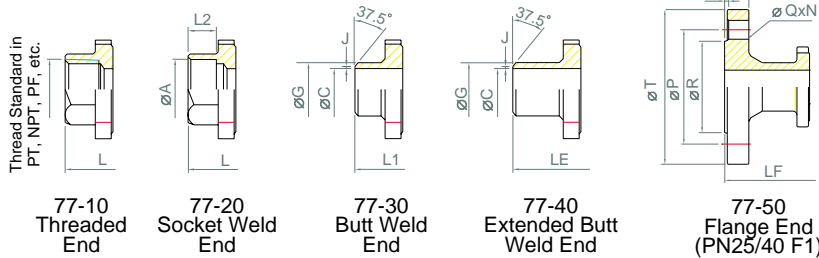
- ◆ **CAVITY FILLERS**



Germany Patent No. 299 02 532.2  
 United States Patent No. 5,954,088  
 China Patent No. ZL 98 2 09161.3

**MAINTENANCE FREE LIVE LOADED DOUBLE SEALING HIGH CYCLE STEM SYSTEM**

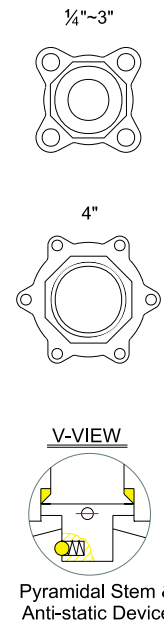
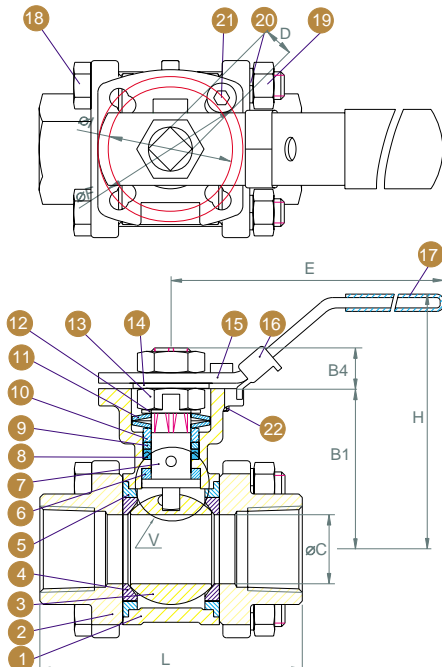
Our high cycle stem design is accomplished by double sealing system. The **45° Pyramidal Segment Ring** in conjunction with a seal that fits on top of the Pyramidal segment provides the primary seal. Most of the media in the pipeline is contained by this seal. As a precautionary measure the V-Ring Chevron packing provides the secondary sealing. On top of the stem is a set of Belleville Washers that automatically adjusts compression of the seal to compensate for wear, pressure, or temperature fluctuations.



### MATERIALS LIST

NO.	PART NAME	MATERIAL	QTY
1	Body	CF8M WCB	1
2	End Cap	CF8M WCB	2
3	Ball	SUS316	1
4	Seat	RPTFE	2
5	Joint Gasket	PTFE	2
6	Stem Seal	RPTFE	1
7	Stem	SUS 316	1
8	Gland Packing	MG1241	2
9	Bushing	#	1
10	Gland Bush	SUS 304	1
11	Belleville Washer	SUS 301	2
12	Stop Washer	SUS 304	1
13	Stem Nut	SUS 304	2
14	Stem Washer	SUS 304	1
15	Handle	SUS 304	1
16	Locking Device	SUS 304	1
17	Handle Sleeve	Vinyl	1
18	Bolt	SUS 304	*
19	Bolt Nut	SUS 304	f
20	Bolt Washer	SUS 304	f
21	Stop Pin	SUS 304	1
22	Pin Nut	SUS 304	1

# 25% Glass Fiber Filled + PTFE  
 \* For 1/4" to 2"-4pcs of bolts(single ended external thread)  
 \* For 2 1/2" to 3"-4pcs of bolts(double ended external thread)  
 \* For 4"-6pcs of bolts(double ended external thread)  
 f For 1/4" to 2"-4pcs  
 For 2 1/2" to 3"-8pcs  
 For 4" -12pcs



### DIMENSIONS (mm)

SIZE	ØA	B1	B4	ØC	D	E	ØF	ØG	H	ØI	J	L	L1	L2	LE	LF	N	ØP	ØQ	ØR	ØT	W	W1	W(kg)	ISO5211	
1/4"	14.1	42.1	8.65	11.6	9.0	139	42	16.2	78	36	1.6	63.5	62.5	10	225									0.64	F03/F04	
3/8"	17.6	42.1	8.65	12.7	9.0	139	42	17.5	78	36	1.6	63.5	62.5	10	225										0.62	F03/F04
1/2"	21.7	42.1	8.65	15.0	9.0	139	42	22.7	78	36	1.6	65.5	65.5	10	225	130	4	65	14	45	95	16	2	0.66	F03/F04	
3/4"	27.3	48.0	8.45	20.0	9.0	139	42	27.5	83	36	1.6	76.2	76.2	13	225	150	4	75	14	58	105	18	2	0.83	F03/F04	
1"	34.1	56.6	11.4	25.0	11.0	165	50	33.5	96	42	1.6	86.0	86.0	13	245	160	4	85	14	68	115	18	2	1.25	F04/F05	
1 1/4"	42.8	60.9	11.4	32.0	11.0	165	50	42.0	100	42	1.6	102.8	102.8	13	255	180	4	100	18	78	140	18	2	1.89	F04/F05	
1 1/2"	48.7	77.5	13.9	38.0	14.0	215	70	48.6	127	50	1.6	119.0	119.0	13	260	200	4	110	18	88	150	18	3	3.17	F05/F07	
2"	61.0	85.2	13.9	50.0	14.0	215	70	60.5	135	50	1.6	131.4	131.4	16	275	230	4	125	18	102	165	20	3	4.44	F05/F07	
2 1/2"	ANSI 73.5 PN 76.6	108.7	16.8	65.0	17.0	262	102	76.3	167	70	2	164.0	164.0	16	334	290	8	145	18	122	185	22	3	8.91	F07/F10	
3"	90.0	117.7	17.8	80.0	17.0	262	102	90.0	176	70	2	182.5	182.5	16	354	310	8	160	18	138	200	24	3	11.76	F07/F10	
4"	115.2	132.6	16.8	100	17.0	312	102	116.0	191	70	3.5	235.6	236.2	20		350	8	190	22	162	235	24	3	21.50	F07/F10	

### BREAK AWAY TORQUE & Cv VALUES

SIZE	BREAK AWAY TORQUE		Cv U.S.GPM
	Nm	In / lbs.	
1/4"	3	27	8
3/8"	3	27	10
1/2"	3	27	12
3/4"	7	62	32
1"	12	106	56
1 1/4"	15	133	82
1 1/2"	20	177	120
2"	23	204	240
2 1/2"	35	310	320
3"	55	487	580
4"	85	753	1020

### HOW TO ORDER

STYLE		SIZE	BODY MATERIAL	SEAT	
77-10	Threadend Ends	01 1/4"	S CF8M	P	PTFE
77-20	Socket Weld	02 3/8"	W WCB	R	R-PTFE
77-30	Butt Weld	03 1/2"	L 316L	S	50/50 S.S. filled PTFE
77-40	Ext. Butt Weld	04 3/4"	F CF8	C	Carbon filled PTFE
77-50	Flanged End	05 1"		D	Delrin
		06 1 1/4"		M	MG1241
		07 1 1/2"		U	UHMWPE
		08 2"			
		09 2 1/2"			
10 3"					
11 4"					



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