



TYPE MARS: M99



We Make Automation Easy
SERIES 99

**DIRECT MOUNT
HIGH PERFORMANCE
COMPACT BALL VALVE
DN 25 TO DN 100**

**DIRECT MOUNTING OF
ACTUATOR TO VALVES**

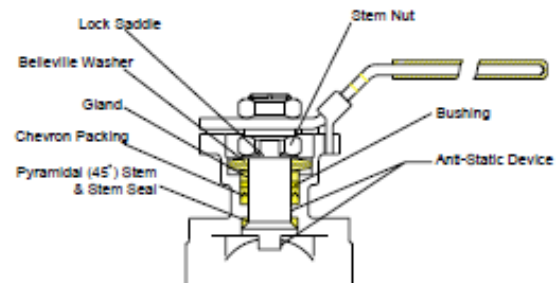


DESIGN ADVANTAGES

- **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.
- **COMPACT SPACE SAVING DESIGN, AS AN ALTERNATIVE OF SPLIT BODY BALL VALVES**
- **BLOW OUT PROOF STEM**
- **ANTI-STATIC DEVICE AS STANDARD**
- **FIRE SAFE DESIGN COMPLY WITH BS6755 AND API 607**
- **WIDE RANGE OF SEAT AND SEAL MATERIAL AVAILABLE**
- **INVESTMENT CAST BODY CONSTRUCTION**

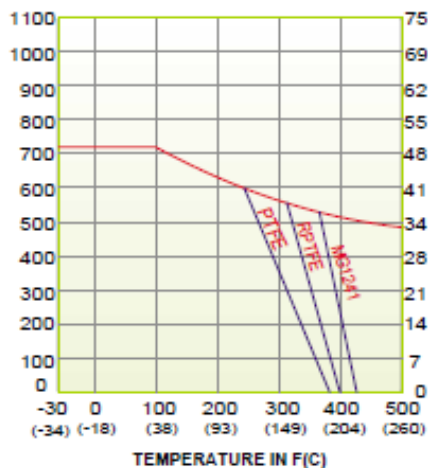
SPECIFICATIONS

Construction : One Piece Body, Full bore
 Sizes : DN 25 TO DN 100
 Body : DIN 1.4408, DIN 1.6019 (GS-C25)
 Ball & Stem : 316 S.S.
 Seat : PTFE
 Rating : PN 10/16, PN 25/40
 Temperature : -60° F ~ 400° F (R-PTFE)



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

Pressure Vs. Temperature Chart



MAINTENANCE FREE LIVE LOADED DOUBLE SEALING HIGH CYCLE STEM DESIGN PROVIDES OPTIMUM SEALS

1. PYRAMIDAL STEM WITH STEM SEAL

First stage of defense against leakage. The 45 degree slope of the stem accompany by the stem seal effectively blocks all leak path from forming during rotation.

2. V-RING STEM PACKING

Second stage of defense against leakage. Triple layers of V-Ring Chevron packing expands side ways as it is being compressed, blocking all air pockets thus preventing leak path. The grinding effect of metal to PTFE contact.

3. GLAND

Made of stainless steel, equally distributes the compressive force on the packing and the seal.

4. BELLEVILLE WASHER

Release stored compressive energy for automatic compensation of seals due to wear and tear fluctuation of temperature and pressure.

5. LOCK SADDLE

Stabilizes the stem nut to keep it from loosening.

6. STEM NUT

Compress the entire stem system to enable blocking of leakage.

7. ANTI-STATIC DEVICE

Standard applied between stem and ball, stem and body.

BREAK AWAY TORQUE in Nm

DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
16	19	30	33	54	66	81



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MATERIALS LIST

NO.	PART NAME	MATERIAL	Q'TY
1	Body	1.4408 GS-C25	1
2	End Cap	1.4408 GS-C25	2
3	Ball	SUS316	1
4	Seat	PTFE	2
5	Joint Gasket	PTFE	1
6	Stem Seal	RPTFE	1
7	Stem	SUS 316	1
8	Gland Packing	PTFE/RPTFE	2
9	Bushing	50% S.S FILLED PTFE	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	Stop Pin	SUS 304	1
19	Pin Nut	SUS 304	1
20	Antistatic - Device	SUS 304	2

DIMENSIONS (mm)

* Dimension For PN16

DN	ØB	*ØB	ØC	ØD	E	F	H1	*H1	H2	*H2	H3	ØI	ØK	*ØK	ØK1	*ØK1	L	ØM	*ØM	N	*N	W	*W	W1	W1g	ISO5211
25	115	115	25	50	167	11	65	65	12.6	12.6	77.6	40	85	85	68	68	50	M12	M12	4	4	16	16	2	2.76	F04/F05
32	140	140	32	50	167	11	77	77	14.0	14.0	91.0	40	100	100	78	78	60	M16	M16	4	4	16	16	3	4.11	F04/F05
40	150	150	38	70	187	14	85.5	85.5	17.5	17.5	103.0	50	110	110	88	88	65	M16	M16	4	4	15	15	3	5.22	F05/F07
50	165	165	50	70	187	14	93	93	17.5	17.5	110.5	50	125	125	102	102	80	M16	M16	4	4	17	17	3	7.00	F05/F07
65	185	185	65	102	263	17	109.7	109.7	15.8	15.8	125.5	70	145	145	122	122	110	M16	M16	8	4	19	19	3	11.60	F07/F07
80	200	200	80	102	263	17	119.5	119.5	16.0	16.0	135.5	70	160	160	138	138	120	M16	M16	8	8	21	21	3	14.66	F07/F07
100	235	220	100	102	313	17	132.7	130.4	17.8	20.1	150.5	70	190	180	162	158	150	M20	M16	8	8	21	17	3	23.30	F07/F07

HOW TO ORDER

99-20 10 S P

VALVE TYPE	SIZE	MATERIAL	SEAT	HANDLE
99-10	PN 10/16	05 DN 25	S VIRGIN PTFE	NONE
99-20	PN 25/40	06 DN 32	R R-PTFE	X WITH HANDLE
		07 DN 40	S 50/50 S.S. filled PTFE	WITHOUT HANDLE
		08 DN 50	C Carbon filled PTFE	
		09 DN 65	D Delrin	
		10 DN 80	M MG1241	
		11 DN 100	U UHMWPE	
		OTHER MATERIALS PLEASE CONSULT FACTORY		PLEASE SPECIFY IF NO HANDLE NEEDED