



SERIES 83

**Heavy Duty
3 Piece Ball Valves
1/4" to 2 1/2"
Full Port and
Reduced Port**

**Take a
Good Look
It May Be
Your Future**

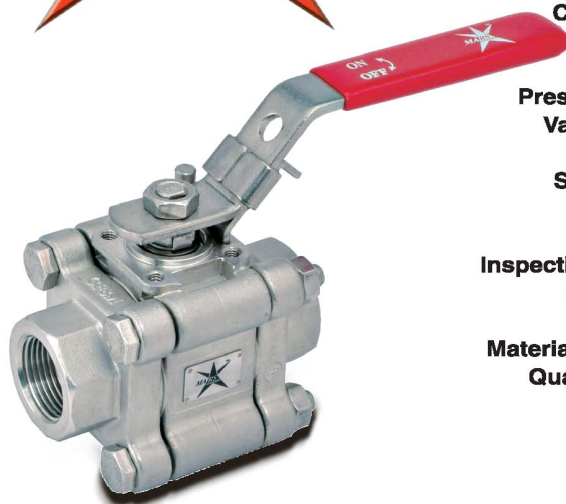
www.marsvalve.com.tw

MARS



SERIES 83

Heavy Duty Three-Piece Ball Valves

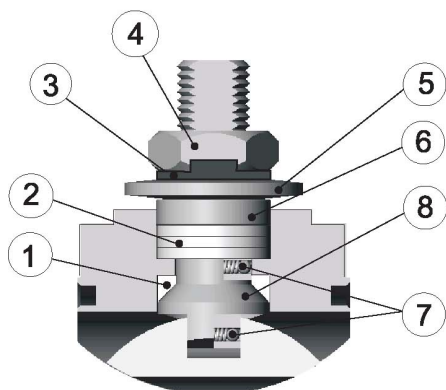


- Construction** 3-Piece In-Line Swing Out Design, Full Port or Reduced Port
- Size Range** Full Port: 1/4" to 2" (DN 8 to DN 50)
Reduced Port: 1/2" to 2 1/2" (DN 15 to DN 65)
- Pressure Rating** 3000 PSI Max.
- Valve Material** Standard: ASTM A351 Gr. CF8M / DIN 1.4408
Options: WCB, 316L S/S, Titanium, Duplex S/S, Hastelloyetc.
- Seat Material** Standard: R-TFE
Options: TFM 1600, PEEK, Carbon filled PTFE, Delrin, UHMWPE, 50/50 S/S filled PTFE, Metal Seats....and others
- Inspection and Test** API 598, BS6755 Part 1
- Compliance** ANSI B16.34, ANSI B16.25, ANSI B1.20, API 6D, API 598, API 607
- Standards** ISO 5209, ISO 5211, ISO 5752
- Material Certificate** EN 10204 - 3.1
- Quality System** ISO 9001
- Options** NACE MR - 0175
Standard valve is non-fire safe design, fire safe valve is optional

APPROVALS



Mars Unique SealMax[®] Triple-Sealing Stem Packing System - Live Loaded - Maintenance Free - Extra Long Cycle Life - TA-Luft Approved



1. Pyramidal Stem with Stem Seal

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

2. V-Ring Stem Packing

Second stage of defense against leakage. Multiple layers of V-Ring Chevron Packing expands side way as it is being compressed, blocking all air pockets to prevent leak path.

3 Lock Saddle

Stabilizes the entire stem nut to keep it from loosening during operation

4. Stem Nut

Compress the entire stem system to enable blocking of leakage

5. Belleville Washers

Automatically compress the seals to adjust for wear, pressure, and temperature fluctuations.

6. Gland

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

7. Anti-Static Device

Stem-to-Ball and Stem-to-Body as standard

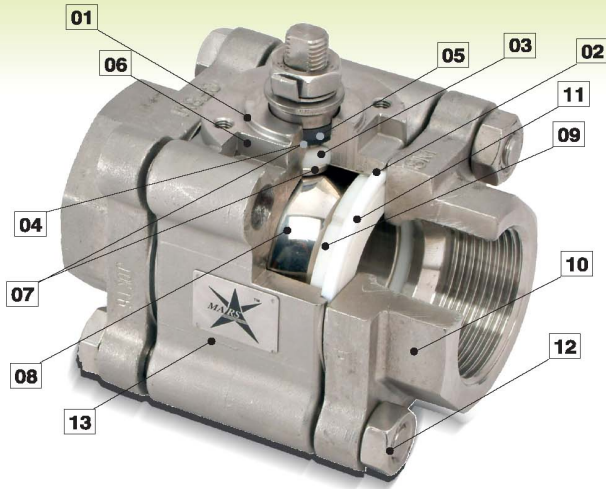
8. Super Smooth Stem Finish

Reduces seal friction and operating

Available End Connections

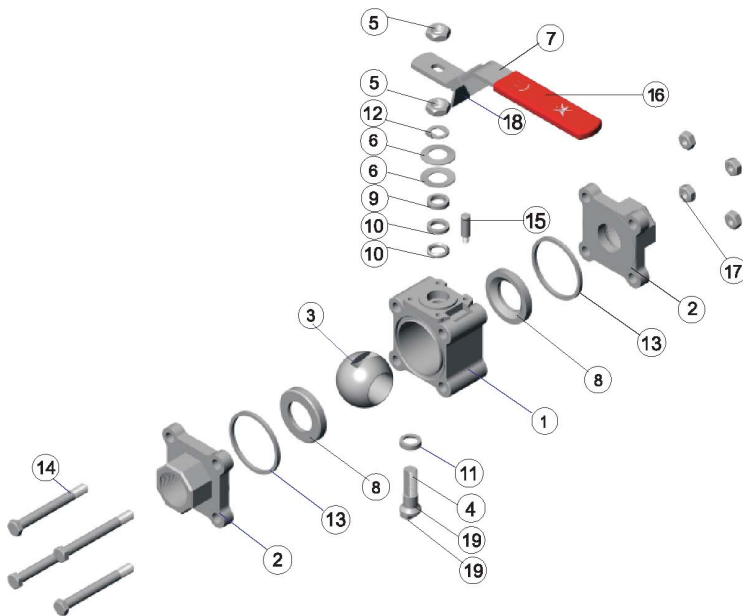


DESIGN FEATURES



- 01. Fully machined ISO 5211 Mounting Pad**
Tapped and drilled, ease of automation
- 02. Fire-Safe Certified to API 607 4th Edition**
- 03. MARS SealMax® Stem Design**
Provides optimum stem seal and extremely high cycle life
- 04. Blow-Out Proof Stem**
Prevents stem from blowing-out, for maximum safety.
- 05. Super smooth stem surface**
Reduces seal friction and operating torque
- 06. Locking Device Standard**
- 07. Anti-Static Device**
Standard applied between stem-to-body and stem-to-ball
- 08. Ball**
 - Precisely machined, mirror finished ball surface for bubble tight shutoff with less operating torque
 - A relief hole in stem slot to balance the pressure in the body cavity ensures tight shutoff and long service life
 - V-PORT control valves available on request

MATERIALS LIST



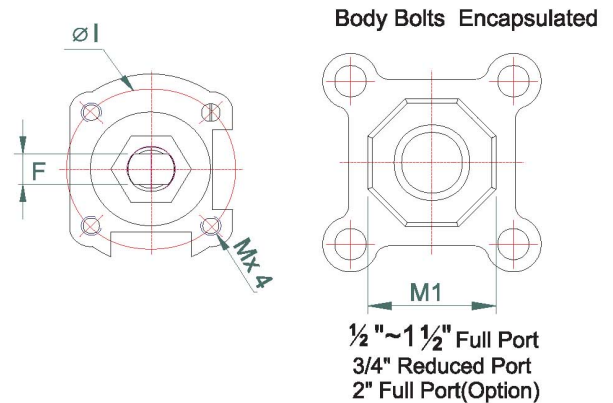
NO.	PART NAME	MATERIAL	Q'TY
1	Body	ASTM A351 Gr. CF8M	1
2	End Cap	ASTM A351 Gr. CF8M [□]	2
3	Ball	SUS316	1
4	Stem	SUS316	1
5	Stem Nut	SUS 304	2
6	Belleville Washer	SUS 301	2
7	Handle	SUS 304	1
8	Seat	RPTFE	2
9	Gland	SUS 304	1
10	Stem Packing	MG-1241	2
11	Stem Seal	RPTFE	1
12	Lock Saddle	SUS 304	1
13	Joint Gasket	PTFE	2
14	Bolt	SUS 304	*
15	Stop Pin	SUS 304	1
16	Handle Sleeve	Vinyl	1
17	Bolt Nut	SUS 304	f
18	Locking Device	SUS 304	1
19	Anti-Static Device	SUS 316	2

□ Socket weld and butt weld uses CF3M material

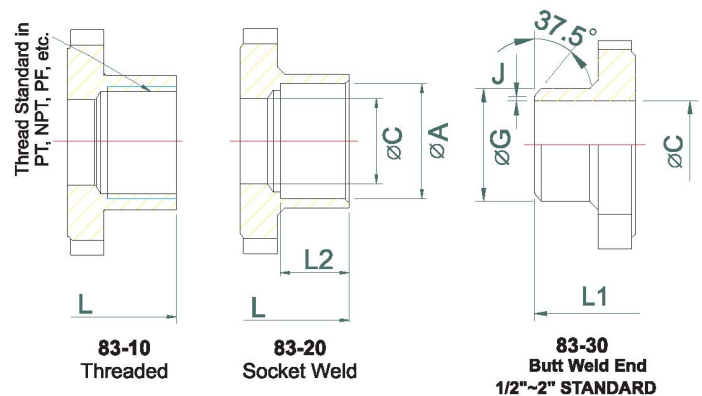
* For 1/4" to 1 1/2" - 4pcs ; For 2" - 6pcs

f For 1/4" to 1 1/2" - 4pcs ; For 2" - 6pcs

DIMENSIONS



END CAP OPTIONS



DIMENSIONS (mm)

SIZE	øA		B1		B2		B3		B4		B5		øC		øD		E		F		øG		H
	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	
1/4"	14.3		7.4		29.8		0.5		6.1		1.3		10		9.5		134		6.5		13.7		64.3
3/8"	17.6		7.4		29.8		0.5		6.1		1.3		10		9.5		134		6.5		17.5		64.3
1/2"	21.9	21.9	16.1	7.4	29	29.8	2	0.5	7.3	6.1	8.8	1.3	15	10	9.5	9.5	134	134	6.5	6.5	21.7	21.7	71.5
3/4"	27.3	27.3	18.1	16.1	33	29	2	2	8.8	7.3	9.3	8.8	20	15	9.5	9.5	134	134	6.5	6.5	27.2	27.2	76
1"	33.9	33.9	24.6	18.1	36	33	2	2	11	8.8	13.6	9.3	25	20	11.1	9.5	170	134	8.0	6.5	34.0	34.0	82.3
1 1/4"	42.8	42.8	24.3	24.6	40	36	2	2	9.7	11	14.6	13.6	32	25	11.1	11.1	170	170	8.0	8.0	42.7	42.7	87.3
1 1/2"	48.9	48.9	30.2	24.3	47.3	40	2.2	2	12.2	9.7	18	14.6	38	32	14.3	11.1	207	170	9.7	8.0	48.6	48.6	103.6
2"	61.3	63	26	30.2	69.5	47.3	1.5	2.2	12.6	12.2	13.4	18	50	38	14.3	14.3	207	207	9.7	9.7	60.5	60.5	121.6
2 1/2"	ANSI 74 PN 28.9			26		69.5		1.5		12.6		13.4		50		14.3		207		9.7		76.1	

*Dimension For Round End Cap

Seats

-Features with relief slots to relieve pressure in upstream, reducing seat wear and valve torque
-Wide range of materials available to suit various applications

-METAL SEATS available on request

Stainless Steel Welded Ends in 316L Standard

Reduces inter-granular corrosion in welding.

Fully Encapsulated Body Seats

Permits in line welding without disassembly, maintains sealing integrity from high vacuum to high pressure and temperature applications.

Encapsulated Body Bolts(up to 2")

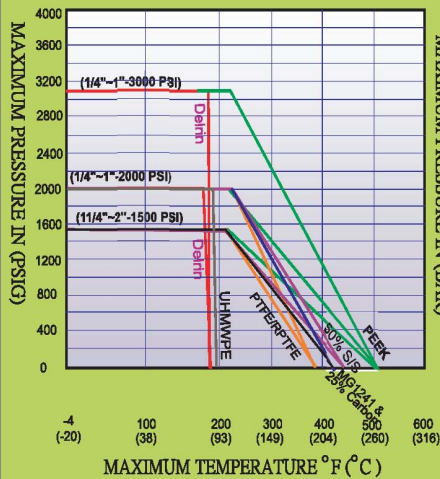
Enhance environmental protection, essential for API 607 Fire-safe qualification

3-Piece Swing-Out Design

Interchangeable parts with Series 88 ball valves

End Caps, Ball, and Ball Seats are interchangeable with Series 88 ball valves, reduce your parts inventory.

SEAT RATING CHART
PRESSURE-TEMPERATURE DATA





MARS OPTIONAL VALVE ACCESSORIES INCREASE PRODUCTIVITY AND GIVE YOU MORE CONTROL OVER YOUR INDUSTRIAL PROCESS



SERIES 83C
Cryogenic Ball Valves
 For low temperature to
 -196°C
 1/2" to 2", Full or
 Reduced Port

V-Control Ball Valves

Mars V-Control Ball valves match the control performance of globe valve, excellent for modulating service, but Mars V-Control ball valves are more compact, lighter weight, and much less expensive than globe valves.



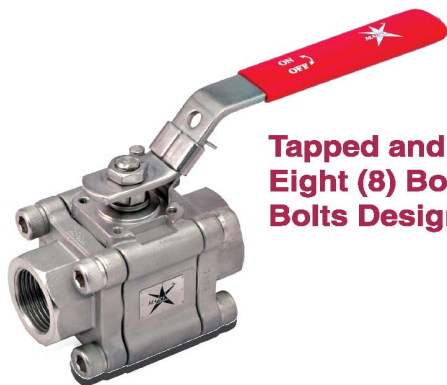
30°V , 60°V, 90°V
 30°V, 60°V, 90°V are standard, others on request



With Heating Jacket
 Jacket ball valve prevents solidification and blockage in use of hot water, steam, or other appropriate heating or cooling medium

3-Way Diverter Ball Valves

For Diversion, Mixing, and Blending applications
 Side Entry: T-Port, L-Port
 Bottom Entry: T-Port, L-Port, LL-Port



Tapped and Drilled
Eight (8) Body
Bolts Design

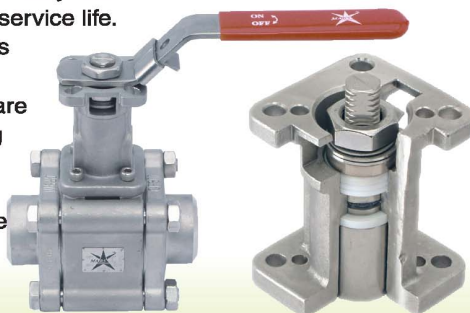
Titanium BALL VALVES

Light weight, Excellent for
 Corrosion Resistance
Other special alloy
available on request
 Monel, Hastelloy C,
 Alloy 20, Duplex



With Mars "TSM" Unit adds Extra Safety and Long Service Life

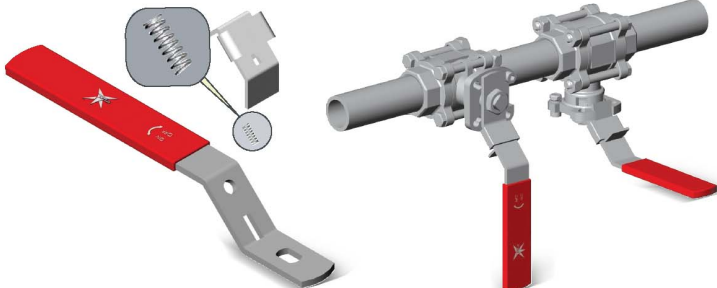
- The TSM unit designed for possible fugitive emission to meet TA-Luft requirements for a safe and clean environment, and provides a secondary stem seal for the valve stem, prolongs service life.
- The TSM unit can also function as stem extension for insulation.
- ISO 5211 mounting pad and square shaft for direct actuator mounting with no brackets and adapters, ease of automation.
- Cast bosses for monitoring device



SERIES 83 HANDLE OPTIONS

SPRING RETURN SLIDING LOCK (SRSL) HANDLE MAKES OPERATION SAFE

No matter the orientation of the ball valves, the SRSL Handle always secures handle in position



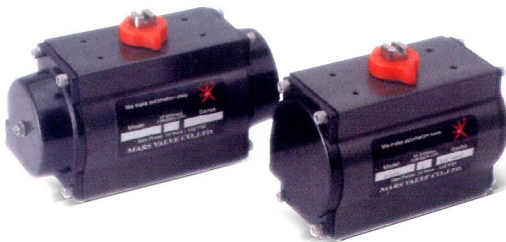
OVAL HANDLE



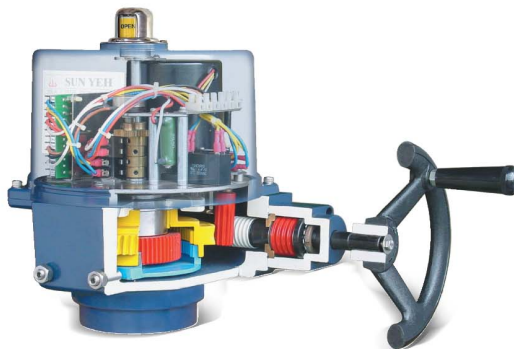
ECONOMICAL STEM EXTENSION



EASY AUTOMATION



AirMars Pneumatic Actuator



PowerMars Electric Actuator



Brackets & Couplings

HOW TO ORDER ☒ 83-10 F05STX

83-10	F	05	S	T	X
VALVE	PORT TYPE	SIZE	BODY MATERIAL	SEAT MATERIAL	HANDLE STYLE
☒ 83-10 ☐ 83-20 ☐ 83-30 ☐ 83-50 ☐ 83-70	☒ F ☐ R	☐ 01) 1/4" ☐ 02) 3/8" ☐ 03) 1/2" ☐ 04) 3/4" ☒ 05) 1" ☐ 06) 1 1/4" ☐ 07) 1 1/2" ☐ 08) 2" ☐ 09) 2 1/2"	☒ S - CF8M ☐ W - WCB ☐ L - 316L ☐ D - Duplex ☐ T - Titanium ☐ A - Alloy 20	☐ P PTFE ☐ R R-TFE ☒ T TFM1600 ☐ S 50/50 S.S.+PTFE ☐ M MG1241 ☐ C Carbon filled PTFE ☐ U UHMWPE ☐ K Peek ☐ D Delrin ☐ A Metal	☐ A - Std. handle ☐ I - Investment Cast ☐ O - Oval handle ☐ L - SRSL handle ☐ S - SRS handle ☒ X - Bare shaft



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