

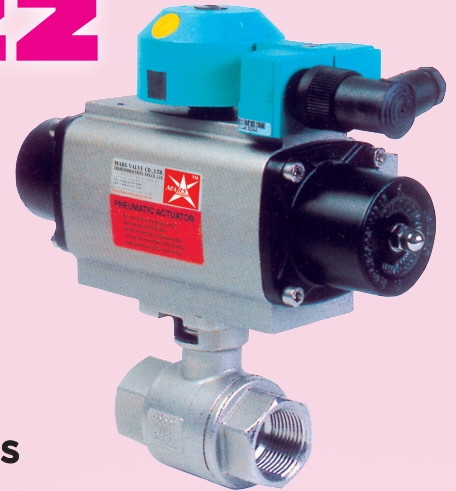


**Mars Valve – Leading the Industry
Partnering with you**

SERIES 22



SIL 3 Certified



High Performance 2-Piece Ball Valve Direct Mount of Actuators



2014/68/EU



2014/34/EU



TA-Luft
&
ISO 15848-1



EC1935/2004



Mars Direct Mount Ball Valves, Easy to Automate ! Full Port Design

Size Range: (1/4" – 3" / DN 8 – DN 80)

Pressure Rating: 1000 PSI

Body, end caps: CF8M / 1.4408, WCB / 1.0619,
Duplex, Hastelloy C

Seats: RTFE standard, various options are available:
PTFE, TFM 1600, CTFE (25%Carbon / 75%PTFE),
UHMWPE, 50/50 S/S filled PTFE, MG1241

End connections: Threaded End

Compliance Standard: NPT ASME B1.20.1,
BSPP ISO 228-1, BSPT ISO 7-1, DIN 2999,
ISO 5211, ISO 5209, EN10204-3.1

Quality Assurance: ISO 9001

Inspection and Test: API 598

Design Features

- **FOR GENERAL INDUSTRIAL AND CHEMICAL APPLICATIONS, PROVIDES SAFE, ECONOMICAL PERFORMANCE.**
- **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 triple sealing high cycle stem packing system provides extra longer service life.
- **BLOW OUT PROOF STEM**
- **ANTI-STATIC DEVICE AS STANDARD**
- **LOCKING DEVICE AS STANDARD**
- **INVESTMENT CAST BODY CONSTRUCTION**

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. O-Ring Stem Packing

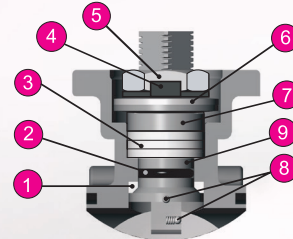
Second stage of defense against leakage. Enhances stem seal and maintains stem alignment, provides extra longer service life.

3. V-Ring Stem Packing

Third 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.

4. Lock Saddle

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



5. Stem Nut

Compress the entire stem system to enable blocking of leakage.

6. Belleville Washers

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

7. Gland

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

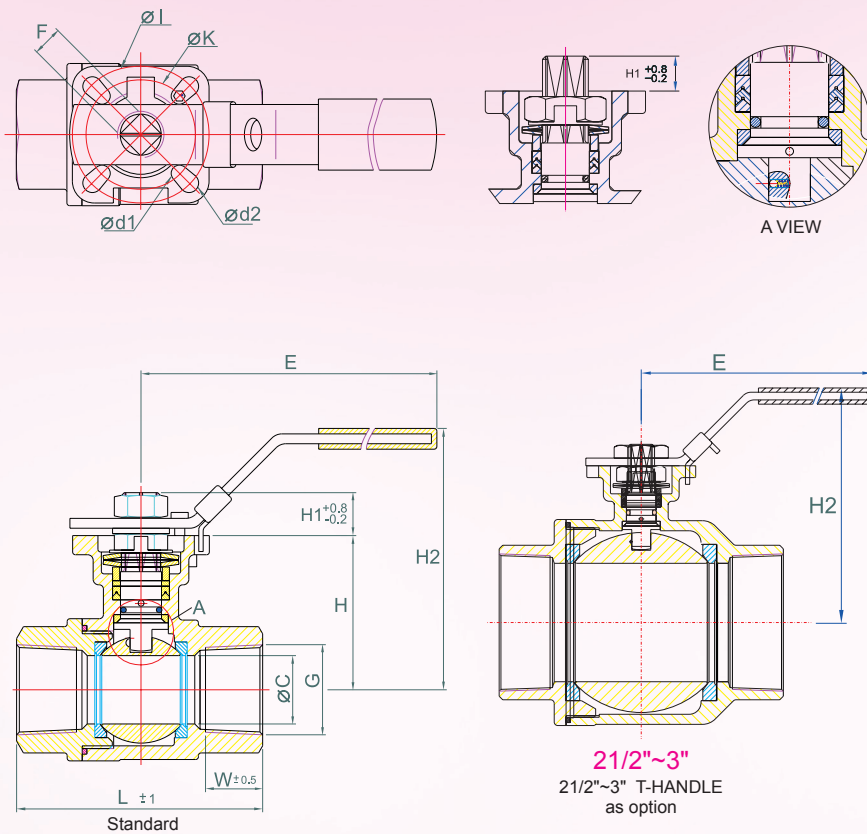
8. Anti-Static Device

Spring loaded Stem-to-Ball and Stem-to-Body as standard.

9. Super Smooth Stem Finish

Reduces seal friction and operating torque, prolongs service life.

Dimensions (mm)

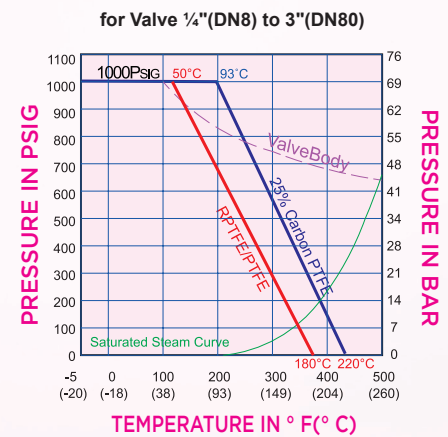


Breakaway Torque (RTFE) & Cv Value

SIZE	DN	Inch-Lb	Nm	Cv	Kv-M3/h
1/4"	8	58	7	7	6
3/8"	10	58	7	8	7
1/2"	15	58	7	15	13
3/4"	20	69	8	40	34
1"	25	127	14	70	60
1-1/4"	32	161	18	110	94
1-1/2"	40	230	26	250	213
2"	50	323	36	430	366
2-1/2"	65	484	55	700	595
3"	80	772	87	1100	935

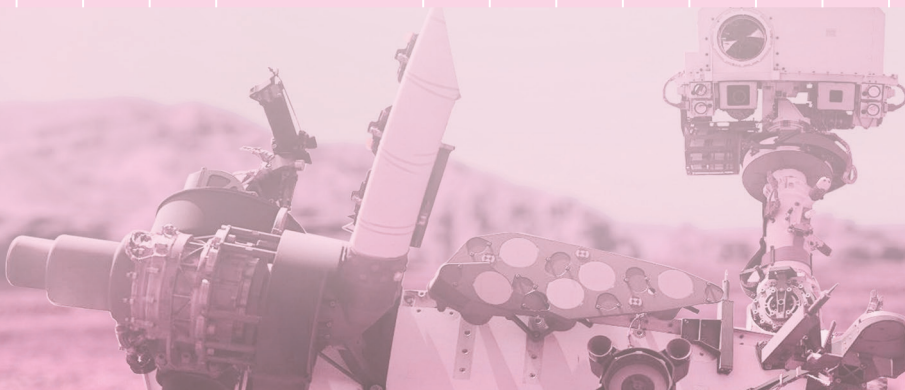
Break Away Torque
30% safety factor included.
Standard Mars valves are assembled with silicon-free based in lubricant. Torque for dry assembled valves, please consult factory.

Pressure Vs. Temperature Chart

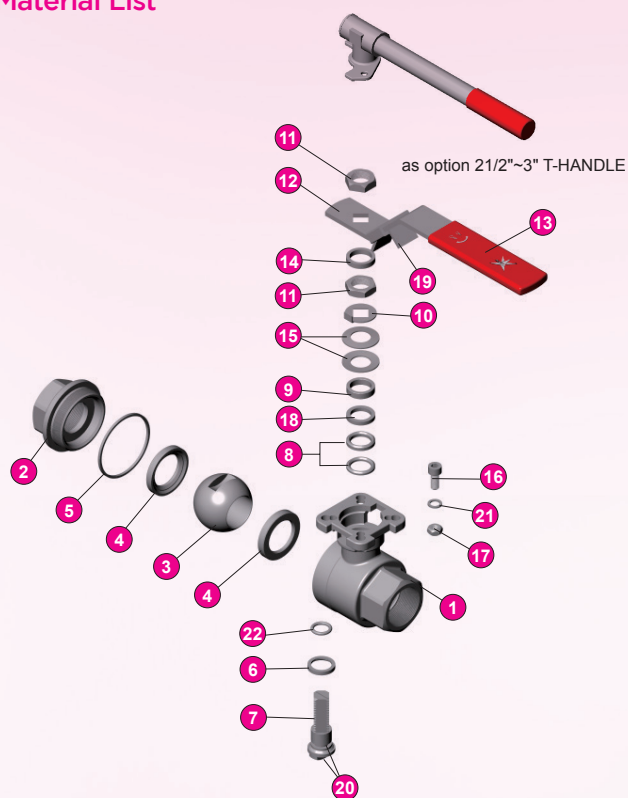


** Size 1/4" to 3/4" ISO 5211 standard configuration is F03/F04, F03/F04/F05 as option.

SIZE	ØC	Ød1	Ød2	E	F	G	H	H1	H2	ØI	ØK	L	W	Wt(kg)	ISO5211
1/4"	11.5	6	6	139	9	1/4" NPT or BSP	38.6	6.6	74	42	36	65.0	15	0.53	F03/F04 **F03/F04/F05
3/8"	12.5	6	6	139	9	3/8" NPT or BSP	38.6	6.6	74	42	36	65.0	15	0.51	F03/F04 **F03/F04/F05
1/2"	15.0	6	6	139	9	1/2" NPT or BSP	38.6	6.6	74	42	36	65.0	16	0.46	F03/F04 **F03/F04/F05
3/4"	20.0	6	6	139	9	3/4" NPT or BSP	46.1	7.1	82	42	36	74.6	17	0.60	F03/F04 **F03/F04/F05
1"	25.0	6.5	7	165	11	1" NPT or BSP	56.6	10.9	96	50	42	88	21	1.09	F04/F05
1 1/4"	32.0	6.5	7	165	11	1 1/4" NPT or BSP	61.0	10.9	100	50	42	102.0	22	1.50	F04/F05
1 1/2"	38.0	7.5	9	215	14	1 1/2" NPT or BSP	77.5	13.9	127	70	50	110.0	22.5	2.55	F05/F07
2"	50.0	7.5	9	215	14	2" NPT or BSP	85.2	13.9	134	70	50	125.0	26	3.60	F05/F07
2 1/2"	65.0	10	12	263	17	2 1/2" NPT or BSP	108.7	16.8	167	102	70	160.6	31	7.43	F07/F10
3"	80.0	10	12	313	17	3" NPT or BSP	117.4	18.1	175	102	70	178.0	34	10.35	F07/F10



Material List



NO.	PART NAME	MATERIAL	Q'TY
1	Body	CF8M	1
2	End Cap	CF8M	1
3	Ball	SUS 316 / CF8M	1
4	Seat	PTFE/RPTFE	2
5	Joint Gasket	PTFE	1
6	Stem Seal	RPTFE	1
7	Stem	SUS 316	1
8	Stem Packing	PTFE	*
9	Gland	SUS 304	1
10	Lock Saddle	SUS 304	1
11	Stem Nut	SUS 304	2
12	Handle	SUS 304	1
13	Handle Sleeve	VINYL	1
14	Stem Washer	SUS 304	1
15	Belleville Washer	SUS 301	2
16	Stop Pin	SUS 304	1
17	Pin Nut	SUS 304	1
18	Stem Packing	25% GLASS FIBER FILLED+ PTFE	1
19	Locking Device	SUS 304	1
20	Antistatic Device	SUS 316	2
21	Washer	SUS 304	1
22	O-RING	VITON	1

* For 1/4"~1/2"-1pcs, For 3/4"-2"-2pcs, For 2 1/2"~3"-3pcs.

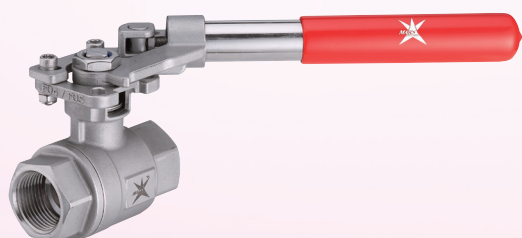
Series 22 High Performance V-Port Control Ball Valves

Mars V-Port ball valves are used for control the flow. It delivers a precise flow control while retaining the durability and tight shutoff characteristics of a ball valve, excellent for regulating service. It is a compact and economical solution compared to traditional systems.

Available in 30°, 60°, and 90° V-notch configurations. Mars V-Port ball valves feature an integrated V-notch machined directly into the ball, not a seat insert, this design not only improves flow characteristics but also eliminates the need for frequent seat replacement.

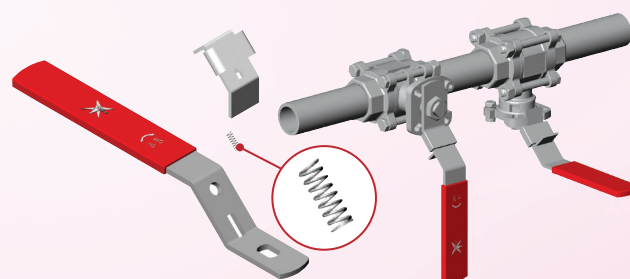


Spring Return Safety Handle (SRS Handle)



The SRS Handle is a spring energized handle, the ball valve will return to pre-determined closed or open position when an operator disengages from handle, provides safe and positive fail close or open operation, creating a reliable sampling, filling, dispensing, and pressure relief valve.

Spring Return Sliding Lock Handle (SRSL)

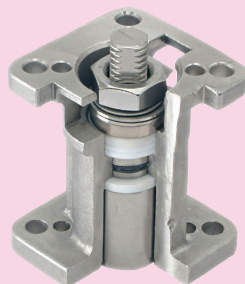


Regardless of the orientation of the ball valves, the SRSL handle always secures handle in position, making valve operation safe.

Series 22 With MARS TSM Unit

The TSM unit designed for possible Fugitive emission, provides a secondary stem seal to prolong service life.

The TSM unit can also function as stem extension for insulation.



POWER MARS ELECTRIC ACTUATORS APPROVALS: CSA, CE, RoHS, REACH

Material:	Aluminum alloy
Torque ranges:	35 Nm/310 in-lb to 4,500 Nm/40,000 in-lb
NEMA rating:	NEMA 4x,5
IP rating:	IP 67 / IP 68
Manual override:	Included
Duty cycle:	30%
Control:	On / Off
Ambient temperature:	-30 to 65°C
Cable entries:	2 x 1/2" PS
(Options: 2x3/4"PF, 2x1/2"NPT, 2x3/4"NPT,2xM20)	



HOW TO ORDER ■ 22-10 SP03B

22-10	S	P	03	B
VALVE	BODY MATERIAL	SEAT MATERIAL	SIZE	HANDLE STYLE
■ 22-10	■ S - CF8M ☐ W - WCB ☐ A5 - Duplex ☐ C6 - Hastelloy C	■ P - PTFE ☐ R - RTFE ☐ T - TFM1600 ☐ S - 50/50 S.S.+PTFE ☐ M - MG1241 ☐ C - Carbon filled PTFE ☐ U - UHMWPE	☐ 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" ☐ 10) 3"	☐ Std. handle ☐ O - Oval handle ☐ L - SRSL handle ☐ S - SRS handle ■ B - Bare shaft



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