

MARS

SERIES 90D
Direct Mount
Flanged Ball Valves
1/2" to 6"
Full Port

*Easy Automation
High Performance*

TAKE A GOOD LOOK
IT MAY BE YOUR FUTURE



MARS SERIES 90D DIRECT MOUNT HIGH PERFORMANCE FLANGED BALL VALVES



Construction:	Split-Body Flanged Ball Valves, Full Port
Investment Cast:	1/2" to 6"
Sand Cast:	5" to 10"
Size Range:	1/2" to 6"
Pressure Rating:	FIG. 90D-10 ANSI 150# FIG. 90D-20 ANSI 300# FIG. 90D-30 PN 10/16 DIN F1 - EN 558-1-1 FIG. 90D-40 PN 10/16 DIN F4/F5 -EN 558- 1- 27 FIG. 90D-50 PN 25/40 DIN F1 - EN 558-1-1 FIG. 90D-60 PN 25/40 DIN F4/F5 - EN 558-1-27 FIG. 90D-70 JIS 10K
Valve Material:	Standard: ASTM A351 Gr. CF8M / DIN 1.4408 Options: WCB, 316L S/S, Titanium, Duplex , Hastelloy C, Alloy 20
Seat Material:	Standard: R-TFE / PTFE 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 Standards:	ANSI B16.34, ANSI B16.5, ANSI B16.10, API 6D, API 509, API 607, BS5351, BS6755, ISO 5211, DIN 3337, DIN 3202, DIN 2501, MSS SP25, MSS SP55
Material Certificate:	EN 10204 - 3.1
Quality System:	ISO 9001
Options:	NACE MR - 0175 Stand valve is non-fire safe design, fire safe valve is optional
APPROVALS:	

SERIES 96D ANSI CLASS 600



Direct Mount
High Performance Flanged Ball
Valves

Stainless Steel and Carbon Steel
Investment Cast Body Construction
1/2" to 2", Full Port



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

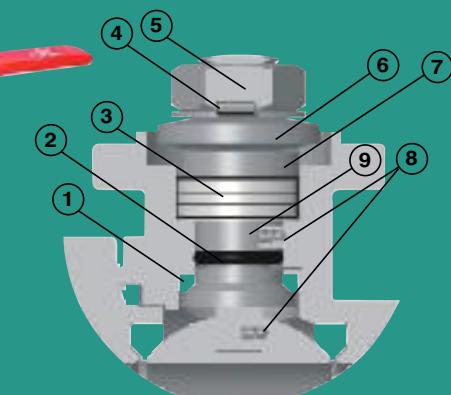
Second stage of defense against leakage.
Enhances stem seal and maintains stem alignment, provides extra longer service life

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



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

5. Stem Nut

Compresses the entire stem system to enable blocking of leakage

6. Belleville Washers

Automatically compresses 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.

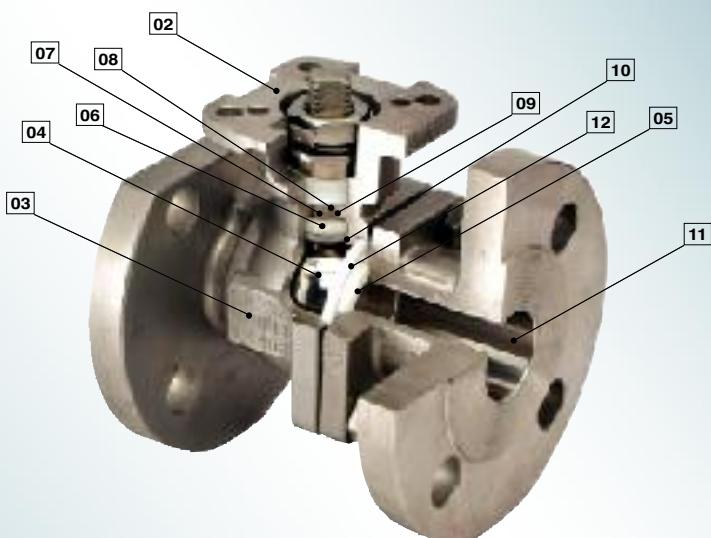
8. Anti-Static Device

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

9. Super Smooth Stem Finish

Reduces seal friction and operating torque, prolong service life.

Series 90D DESIGN FEATURES



- 1. Fire-Safe Certified to API 607 4th Edition**
- 2. Dual Pattern ISO 5211 Mounting Pad With Square Shaft**
No bracket and adapter are required for actuator mounting, provides easy and low cost automation with improved cycle life.
- 3. Body Construction**
-Sizes 1/2" to 4" investment cast.
-Sizes 5" and 6" sand cast standard, 6" investment cast optional
- 4. Ball**
-Floating ball design provides pressure-assisted sealing plus temperature and wear compensation.
-Precisely machined, mirror polished solid ball 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-PORTED BALL available on request.
- 5. 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.
- 6. Mars SealMax® Stem Design**
Provides optimum stem seal and extremely high cycle life.
- 7. Super smooth stem surface**
Reduces seal friction and operating torque, prolongs service life
- 8. Blow-out proof stem**
Prevents stem from blowing out, for maximum safety.
- 9. O-Ring Stem Seal**
Enhances stem wear and maintains stem alignment.
- 10. Anti-Static Device**
Sprig loaded stem-to-ball and stem-to-body anti-static device as standard.
- 11. All wetted parts and flange surface fully machined**
- 12. Fully encapsulated body seals**
Maintenance sealing integrity from high vacuum to high pressure and temperature applications.
- 13. Interchangeable Parts with Series 90 ball valves**
End Cap, Ball, and Ball Seats are interchangeable with Series 90 Ball valves, reduces manufacturing cost and your parts inventory.

SERIES 90D STANDARD HANDLE

S.S. Handle with vinyl sleeves
(1/2" to 2 1/2")



T - Handle(3" to 6")



HANDLE OPTIONS

S . S . investment cast handle (1/2" to 2 1/2")



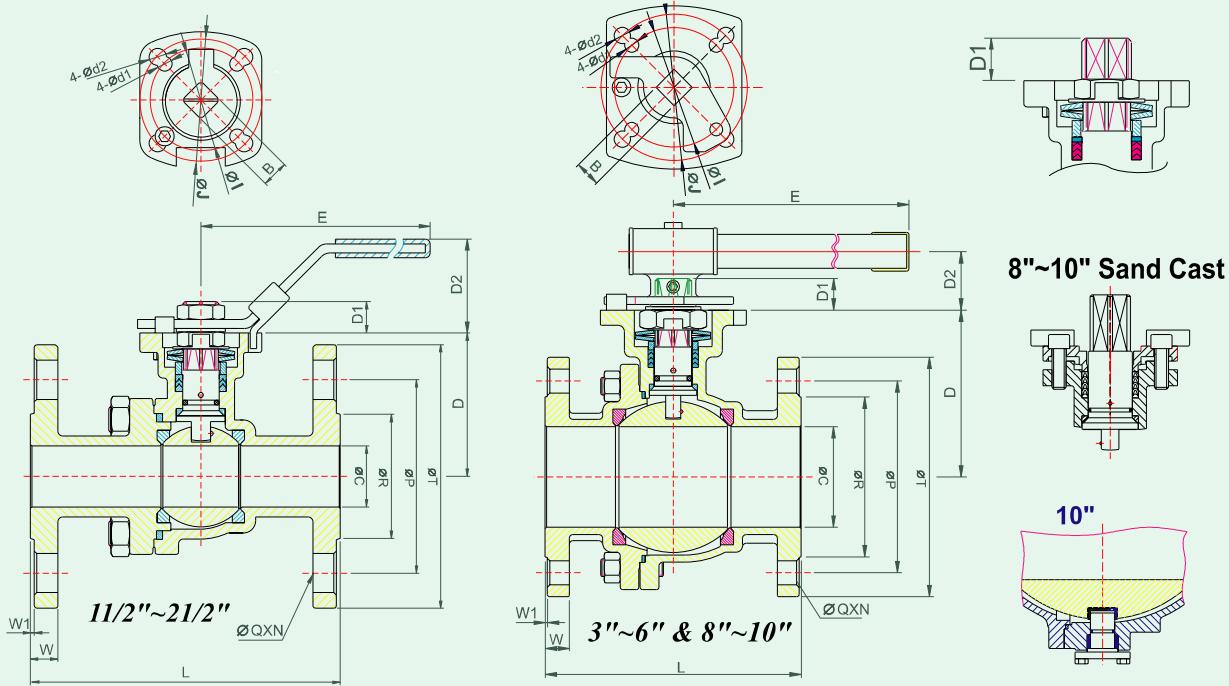
Spring Return Sliding Lock (SRSL) Handle (1/2" to 2 1/2")



No matter the orientation of the ball valves, the SRSL handle always secure handle in position, making operation safe



DIMENSIONS (mm)



90D-10 (ANSI CLASS 150)

SIZE	ØC	B	E	D	D1	D2	ØI	ØJ	L	N	ØP	ØQ	ØR	ØT	W	W1	Ød1	Ød2	Wt(kg)	ISO5211
1/2"	15.0	11	165	46.7	9.9	36	42	50	108.3	4	60.5	16	35.1	88.9	11.2	1.6	6.5	7	1.81	F04/F05
3/4"	20.0	11	165	51.2	9.9	36	42	50	117.3	4	69.9	16	42.9	98.6	11.2	1.6	6.5	7	2.19	F04/F05
1"	25.0	11	165	58.8	10.3	36	42	50	127.1	4	79.2	16	50.8	108	11.2	1.6	6.5	7	2.91	F04/F05
11/4"	32.0	14	215	72.6	12.9	49	50	70	139.7	4	88.9	16	63.5	117.3	12.7	1.6	7.5	9	3.96	F05/F07
11/2"	38.0	17/19	262	89.1	19	58	70	102	165.1	4	98.6	16	73.2	127	14.3	1.6	10	12	6.40	F07/F10
2"	50.0	17/19	262	96.6	19	58	70	102	178.3	4	120.7	19	91.9	152.4	15.9	1.6	10	12	9.19	F07/F10
21/2"	65.0	17/19	262	116	19	58	70	102	190	4	139.7	19	104.6	177.8	17.6	1.6	10	12	14.3	F07/F10
3"	80	22	365	132.5	23	46.2	102	125	203.5	4	152.4	19	127	190.5	19	1.6	12	14	19.5	F10/F12
4"	100	22	365	157	23	46.2	102	125	228.6	8	190.5	19	157.2	228.6	23.9	1.6	12	14	31.0	F10/F12
5"	125	27	750	192.7	28.5	66.5	125	140	355.6	8	215.9	22.2	185.7	254	23.9	1.6	14	18	55.7	F12/F14
6"	150	27	750	210.2	28.5	66.5	125	140	393.7	8	241.3	22.2	215.9	279.4	25.4	1.6	14	18	75.0	F12/F14
8"	201	36	955	265	40	61	140	165	457.2	8	298.5	22.2	269.7	343	28.5	1.6	18	22	-	F14/F16
10"	252	36	955	300	40	61	140	165	533.4	12	362	25.4	324	406.4	30.3	1.6	18	22	-	F14/F16

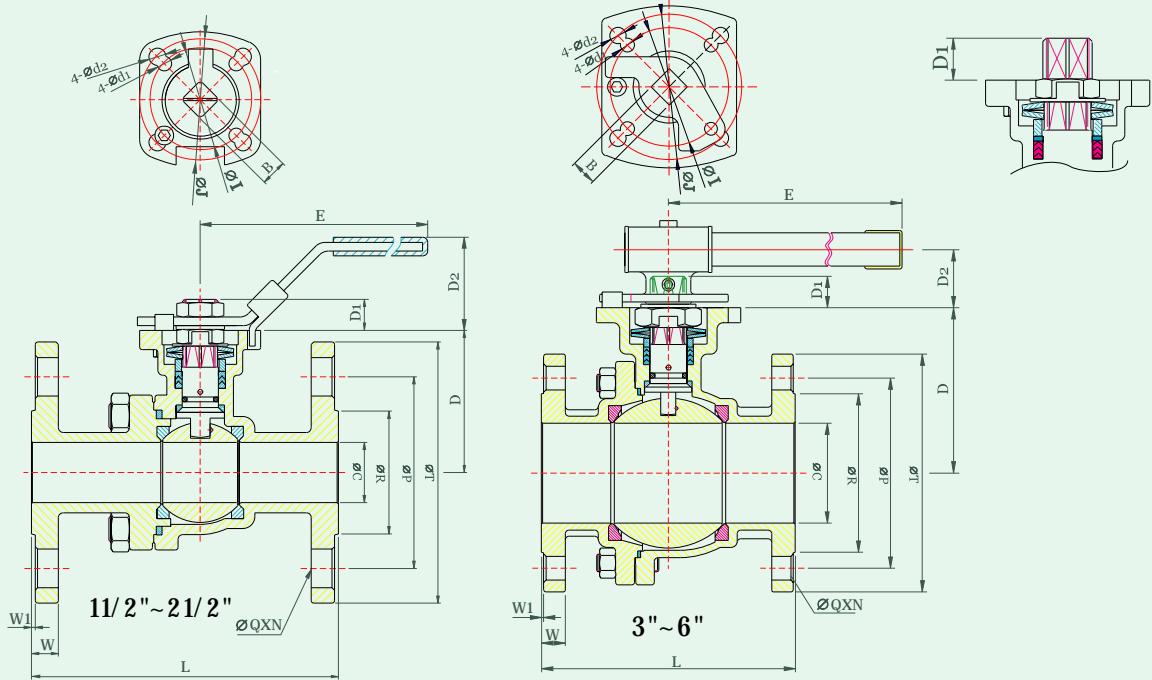
90D-20 (ANSI CLASS 300)

SIZE	ØC	B	E	D	D1	D2	ØI	ØJ	L	N	ØP	ØQ	ØR	ØT	W	W1	Ød1	Ød2	Wt(kg)	ISO5211
1/2"	15.0	11	165	48.7	9.9	36	42	50	139.7	4	66.5	16	35.1	95.3	14.3	1.6	6.5	7	2.3	F04/F05
3/4"	20.0	11	165	63.5	10.3	36	42	50	152.4	4	82.6	19	42.9	117.3	15.8	1.6	6.5	7	3.9	F04/F05
1"	25.0	11	165	63.5	10.3	36	42	50	165.1	4	88.9	19	50.8	124	17.6	1.6	6.5	7	5.0	F04/F05
11/2"	38.0	17/19	262	89.1	19	58	70	102	190.5	4	114.3	22.2	73.2	155.4	20.6	1.6	10	12	10.05	F07/F10
2"	50.0	17/19	262	96.6	19	58	70	102	215.9	8	127	19	91.9	165.1	22.4	1.6	10	12	12.56	F07/F10
21/2"	65.0	17/19	262	116	19	58	70	102	241.3	8	149.4	22.2	104.6	190.5	25.4	1.6	10	12	19.72	F07/F10
3"	80	22	365	132.5	23	46.2	102	125	282.4	8	168.2	22.2	127	209.6	28.5	1.6	12	14	27.5	F10/F12
4"	100	22	365	157	23	46.2	102	125	304.8	8	200.2	22.2	157.2	254	31.8	1.6	12	14	44.2	F10/F12
6"	150	27	750	210.2	28.5	66.5	125	140	403.2	12	269.7	22.2	215.9	317.5	36.6	1.6	14	18	99.4	F12/F14

96D (ANSI CLASS 600)

SIZE	ØC	B	E	D	D1	D2	ØI	ØJ	L	N	ØP	ØQ	ØR	ØT	W	W1	Ød1	Ød2	Wt(kg)	ISO5211
1/2"	15.0	11	213	48.7	9.9	48	42	50	165	4	66.5	16	35.1	95.3	20.6	6.4	6.5	7	2.87	F04/F05
3/4"	20.0	11	213	63.5	10.3	48	42	50	190.3	4	82.6	19	42.9	117.3	22.1	6.4	6.5	7	4.65	F04/F05
1"	25.0	14	263.5	68.1	12.9	49	50	70	215.9	4	88.9	19	50.8	124	23.9	6.4	7.5	9	6.11	F05/F07
11/2"	38.0	17/19	313	89.1	19	58	70	102	241.3	4	114.3	22.2	73.2	155.4	28.7	6.4	10	12	12.23	F07/F10
2"	50.0	17/19	313	96.6	19	58	70	102	292.1	8	127	19	91.9	165.1	31.8	6.4	10	12	17.2	F07/F10

DIMENSIONS (mm)



90D-30 F1 (PN10/16) / 90D-40 F4 / F5 (PN10/16)

SIZE	$\varnothing C$	B	E	D	D1	D2	$\varnothing I$	$\varnothing J$	F4	L	F_5	*F1	N	$\varnothing P$	$\varnothing Q$	$\varnothing R$	$\varnothing T$	W	W1	$\varnothing d1$	$\varnothing d2$	Wt(kg)	ISO5211
1/2"	15.0	11	165	48.7	9.9	36	42	50	115		130		4	65	14	45	95	16	2	6	7	2.35	F04/F05
3/4"	20.0	11	165	53.7	9.9	36	42	50	120		150		4	75	14	58	105	18	2	6	7	3.05	F04/F05
1"	25.0	11	165	58.8	10.3	36	42	50	125		160		4	85	14	68	115	18	2	6	7	3.89	F04/F05
1 1/4"	32.0	14	215	72.6	12.9	49	50	70	130		180		4	100	18	78	140	18	2	7.5	9	5.78	F05/F07
1 1/2"	38.0	17	262	89.1	19	58	70	102	140		200		4	110	18	88	150	18	3	10	12	7.88	F07/F10
2"	50.0	17	262	96.6	19	58	70	102	150		230		4	125	18	102	165	20	3	10	12	10.16	F07/F10
2 1/2"	65	17	262	116	19	58	70	102	170		290		4	145	18	122	185	18	3	10	12	14.67	F07/F10
3"	80	22	365	132.5	23	46.2	102	125	180		310		8	160	18	138	200	20	3	12	14	19.58	F10/F12
4"	100	22	365	157	23	46.2	102	125	190		350		8	180	18	158	220	20	3	12	14	27.25	F10/F12
5"	125	27	750	192.7	28.5	66.5	125	140		325	400		8	210	18	188	250	22	3	14	18	53.43	F12/F14
6"	150	27	750	210.2	28.5	66.5	125	140		350	480		8	240	22	212	285	22	3	14	18	69.38	F12/F14

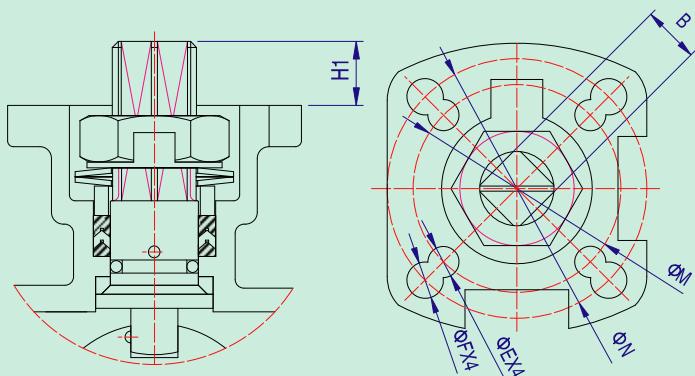
90D- 50 F1 (PN25/40) / 90D-60 F4 / F5 (PN25/40)

SIZE	$\varnothing C$	B	E	D	D1	D2	$\varnothing I$	$\varnothing J$	F4	L	F_5	*F1	N	$\varnothing P$	$\varnothing Q$	$\varnothing R$	$\varnothing T$	W	W1	$\varnothing d1$	$\varnothing d2$	Wt(kg)	ISO5211
1/2"	15.0	11	165	48.7	9.9	36	42	50	115		130		4	65	14	45	95	16	2	6	7	2.35	F04/F05
3/4"	20.0	11	165	53.7	9.9	36	42	50	120		150		4	75	14	58	105	18	2	6	7	3.05	F04/F05
1"	25.0	11	165	58.8	10.3	36	42	50	125		160		4	85	14	68	115	18	2	6	7	3.89	F04/F05
1 1/4"	32.0	14	215	72.6	12.9	49	50	70	130		180		4	100	18	78	140	18	2	7.5	9	5.78	F05/F07
1 1/2"	38.0	17	262	89.1	19	58	70	102	140		200		4	110	18	88	150	18	3	10	12	7.88	F07/F10
2"	50.0	17	262	96.6	19	58	70	102	150		230		4	125	18	102	165	20	3	10	12	10.16	F07/F10
2 1/2"	65	17	262	116	19	58	70	102	170		290		8	145	18	122	185	22	3	10	12	-	F07/F10
3"	80	22	365	132.5	23	46.2	102	125	180		310		8	160	18	138	200	24	3	12	14	21.58	F10/F12
4"	100	22	365	157	23	46.2	102	125	190		350		8	190	22	162	235	24	3	12	14	30.63	F10/F12
5"	125	27	750	210.2	28.5	66.5	125	140		350	480		8	250	26	218	300	28	3	14	18	79.31	F12/F14

90D - 70 (JIS10K)

SIZE	$\varnothing C$	B	E	D	D1	D2	$\varnothing I$	$\varnothing J$	L	N	$\varnothing P$	$\varnothing Q$	$\varnothing R$	$\varnothing T$	W	W1	$\varnothing d1$	$\varnothing d2$	ISO5211
1/2"	15.0	11	165	46.7	9.9	36	42	50	108	4	70	15	52	95	12	1	6.5	7	F04/F05
3/4"	20.0	11	165	51.2	9.9	36	42	50	117	4	75	15	58	100	14	1	6.5	7	F04/F05
1"	25.0	11	165	58.8	10.3	36	42	50	127	4	90	19	70	125	14	1	6.5	7	F04/F05
1 1/4"	32.0	14	215	72.6	12.9	49	50	70	140	4	100	19	80	135	16	2	7.5	9	F05/F07
1 1/2"	38.0	17	262	89.1	19	58	70	102	165	4	105	19	85	140	16	2	10	12	F07/F10
2"	50.0	17	262	96.6	19	58	70	102	178	4	120	19	100	155	16	2	10	12	F07/F10
2 1/2"	65.0	17	262	116	19	58	70	102	190	4	140	19	120	175	18	2	10	12	F07/F10
3"	80	22	365	132.5	23	46.2	102	125	203	8	150	19	130	185	18	2.0	12	14	F10/F12
4"	100	22	365	157	23	46.2	102	125	229	8	175	19	155	210	18	2.0	12	14	F10/F12

MARS TOP WORKS MAKE AUTOMATION AS EASY AS IT GETS



DIMENSION(mm)

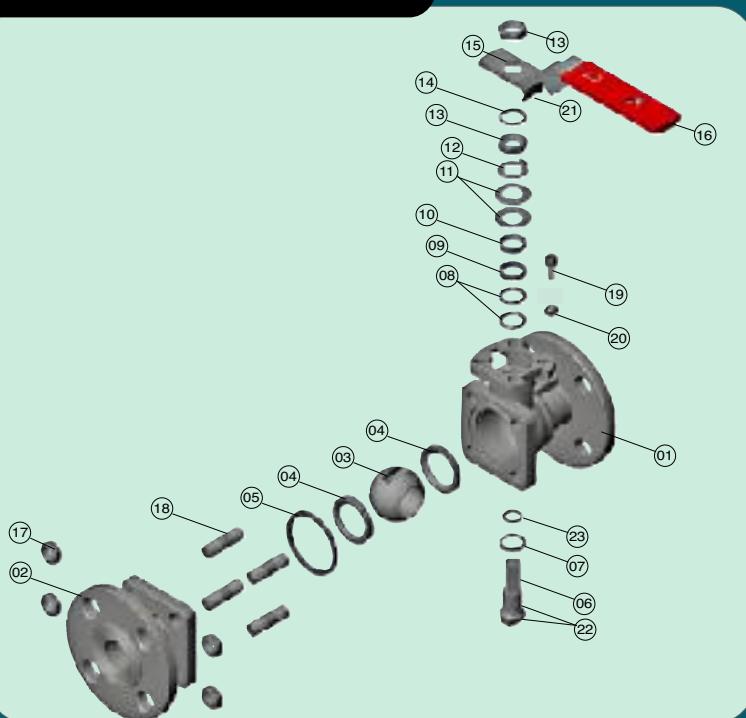
SIZE	B	H1	* H1	ØM	ØN	ØE	#	E	ØF	ISO5211
1/2"	11	9.9	9.9	42	50	6.5	6	7	F04/F05	
3/4"	11	9.9	10.3	42	50	6.5	6	7	F04/F05	
1"	11	10.3	10.3	42	50	6.5	6	7	F04/F05	
1-1/4"	14	12.9	12.9	50	70	7.5	7.5	9	F05/F07	
1-1/2"	17	19	19	70	102	10	10	12	F07/F10	
2"	17	19	19	70	102	10	10	12	F07/F10	
2-1/2"	17	19	19	70	102	10	10	12	F07/F10	
3"	22	23	23	102	125	12	12	14	F10/F12	
4"	22	23	23	102	125	12	12	14	F10/F12	
5"	27	28.5	-	125	140	14	14	18	F12/F14	
6"	27	28.5	28.5	125	140	14	14	18	F12/F14	
8"	36	40	-	140	165	18	-	22	F14/F16	
10"	36	40	-	140	165	18	-	22	F14/F16	

90D-10 Series 1/2"-10"
90D-20 Series 1/2"-6"
90D-3040 Series 1/2"-6"
90D-5060 Series 1/2"-6"

* Dimensions for 90D-20

#Dimensions for 90D-30/40/50/60

MATERIALS OF CONSTRUCTION



NO.	PART NAME	MATERIAL	Q'TY
1	Body	CF8M / WCB	1
2	Cap	CF8M / WCB	1
3	Ball	SUS316	1
4	Seat	RPTFE	2
5	Joint Gasket	PTFE	1
6	Stem	SUS316	1
7	Stem Seal	RPTFE	1
8	Gland Packing	PTFE	§
9	Gland Packing	25% Glass Fiber 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	Handle Sleeve	VINYL	1
17	Bolt Nut	SUS 304	*
18	Bolt	SUS 304	*
19	Stop Pin	SUS 304	1
20	Pin Nut	SUS 304	1
21	Locking Device	SUS 304	1
22	Anti-static Device	SUS 304	2
23	O-RING	VITON	1

§ For 1/2"-11/4"- 2pcs, 11/2"-6- 3pcs.

* For 1/2"-2"-4pcs of bolt, and bolt nuts.

* For 2 1/2"-5"- 8 pcs of stud and nuts

For 6"- 10pcs of stud and nuts

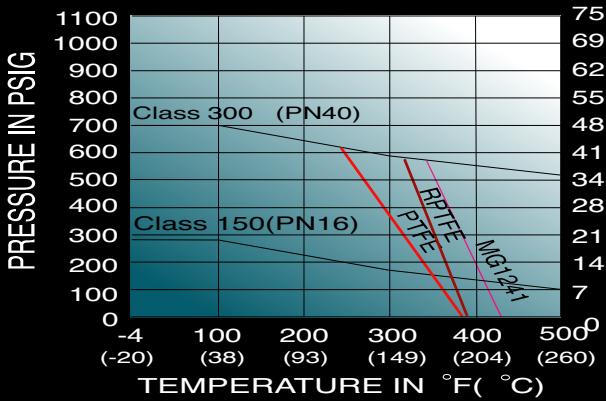
Valve Size		Break Away Torque (R-PTFE Seats)		Cv
Inches	DN	In / Lb	Nm	G.P.M.
1/2"	15	92	10	28
3/4"	20	127	14	50
1"	25	150	17	95
1 1/4"	32	207	23	132
1 1/2"	40	357	40	260
2"	50	392	44	485
2 1/2"	65	518	59	800
3"	80	852	96	1250
4"	100	1302	147	2250
5"	125	2073	234	3620
6"	100	2188	247	5400

* 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



PRESSURE IN BAR

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

SERIES 90D and SERIES 96D 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, and 90°V are standard, others on request

SERIES 90D/96D with HEATING JACKET

Jacketed ball valves prevent solidification and blockage in use of hot water, steam, or other appropriate heating medium



SERIES 90D/96D with METAL SEATS

Bubble Tight Shut-Off

- Ball and Seat material: 316 S/S
- Chrome Carbide Ball and Stem: Hardness 63 to 65 Rc
- Tungsten Carbide Ball and Stem: Hardness 70 to 74 Rc



Double Block and Bleeding Ball Valves

Stainless Steel or Carbon Steel

Size Range: 1/2" to 4"

Pressure Rating: ANSI Class 150

Face to face: According to ANSI Class 150



Easy Automation with
Mars
Patented Direct Mount
Design

SERIES 90D/96D Titanium BALL VALVES

Light weight, Excellent for Corrosion Resistance



Other special alloy available on request

Monel
Hastelloy C
Alloy 20
Duplex

SERIES 90D & SERIES 96D With Mars "TSM" unit adds extra safety and Long Service Life

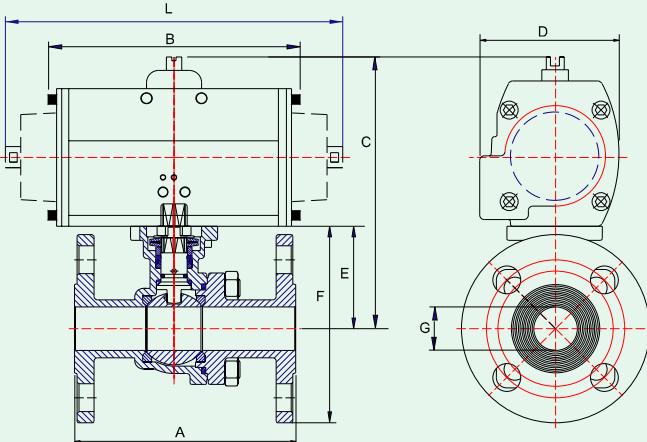
TSM Design Advantages:

- Secondary Seal for possible fugitive emission to meet TA-Luft requirement for a safe and clean environment
- 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

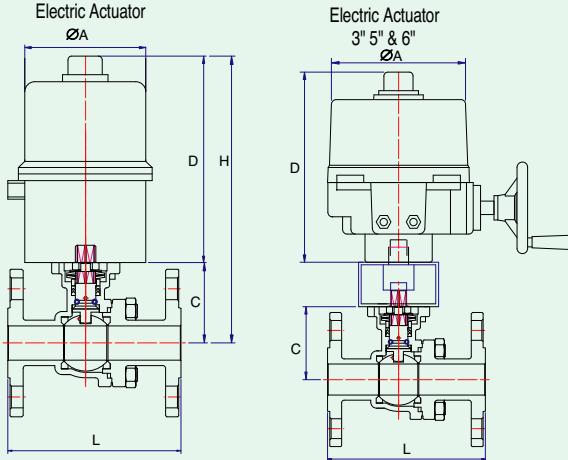


Mars Valve offers single-reliable-source for a complete line of ball valves, actuators, and accessories to meet your automation requirements.

Series 90D Ball Valves with PowerMars Electric Actuator



Series 90D Ball Valves with AirMars Pneumatic Actuator



90D-10 / 20 Double-Acting

* Dimensions for 90D-20

Size	A	* A	B	C	* C	D	E	* E	F	* F	G	Actuator	Wt(Kg)	Wt(Kg)
1/2"	108.3	139.7	144.3	145.7	147.7	81.4	46.7	48.7	91.2	96.4	DN15	A-250	3.24	3.7
3/4"	117.3	152.4	144.3	150.2	162.5	81.4	51.2	63.5	100.5	122.2	DN20	A-250	3.58	5.3
1"	127.1	165.1	144.3	157.8	162.5	81.4	58.8	63.5	112.8	125.5	DN25	A-250	4.41	6.39
1 1/4"	139.7	-	149.2	190.6	-	95	72.6	-	-	-	DN32	A-450	6.16	-
1 1/2"	165.1	190.5	183	230.1	230.1	119	89.1	89.1	152.6	166.8	DN40	A-1000	9.65	13.07
2"	178.3	215.9	183	237.6	237.6	119	96.6	96.6	172.8	179.2	DN50	A-1000	12.35	15.58
2 1/2"	190	241.3	183	257	257	119	116	116	204.9	211.3	DN65	A-1000	17.25	22.74
3"	203.5	282.4	259.6	293.5	293.5	140.5	132.5	132.5	227.8	237.3	DN80	A-2250	25.8	33.23
4"	228.5	304.8	256.9	318	318	140.5	157	157	271.3	284	DN100	A-2250	37.3	51.63
5"	355.6	-	304.3	388.7	-	185.2	192.7	-	326.7	-	DN125	A-3650	67.72	-
6"	393.7	403.2	304.3	406.2	406.2	185.2	210.2	210.2	362.2	368.9	DN150	A-3650	88	111.4

90D-10 / 20 Spring-Return

* Dimensions for 90D-20

Size	A	* A	L	C	* C	D	E	* E	F	* F	G	Actuator	Wt(Kg)	Wt(Kg)
1/2"	108.3	139.7	205.6	164.7	166.7	95	46.7	48.7	91.2	96.4	DN15	A-450SR4	4.54	5.0
3/4"	117.3	152.4	205.6	169.2	181.5	95	51.2	63.5	100.5	122.2	DN20	A-450SR4	4.88	6.6
1"	127.1	165.1	205.6	176.8	181.5	95	58.8	63.5	112.8	125.5	DN25	A-450SR4	5.71	7.69
1 1/4"	139.7	-	250	213.6	-	119	72.6	-	-	-	DN32	A-1000SR4	9.16	-
1 1/2"	165.1	190.5	355	251.0	250.1	140.5	89.1	89.1	152.6	166.8	DN40	A-2250SR4	15.95	19.37
2"	178.3	215.9	355	257.6	257.6	140.5	96.6	96.6	172.8	179.2	DN50	A-2250SR4	18.65	21.88
2 1/2"	190	241.3	355	277	277	140.5	116	116	204.9	211.3	DN65	A-2250SR4	23.55	29.04
3"	203.5	282.4	422	326.5	326.5	185.2	132.5	132.5	227.8	237.3	DN80	A-3650SR4	36.3	43.73
4"	228.5	304.8	422	353	353	185.2	157	157	271.3	284	DN100	A-3650SR4	47.8	62.13
5"	355.6	-	487	408.7	-	204.8	192.7	-	326.7	-	DN125	A-5000SR4	78.22	-
6"	393.7	403.2	487	426.2	426.2	204.8	210.2	210.2	362.2	368.9	DN150	A-5000SR4	98.50	118.9

90D-30 / 40 / 50 / 60

Double-Acting

PN16/40

Valve Size	F4/F5	A	B	C	D	E	F	G	Actuator	Wt(Kg)
1/2"	115	130	144.3	147.7	81.4	48.7	96.2	DN15	A-250	3.75
3/4"	120	150	144.3	152.7	81.4	53.7	106.2	DN20	A-250	4.45
1"	125	160	144.3	157.8	81.4	58.8	116.3	DN25	A-250	5.29
1 1/4"	130	180	149.2	190.6	95	72.6	142.6	DN32	A-450	7.60
1 1/2"	140	200	183	230.1	119	89.1	164.1	DN40	A-1000	10.90
2"	150	230	183	237.6	119	96.6	179.1	DN50	A-1000	13.18
2 1/2"	170	290	183	257	140.5	116	208.5	DN65	A-1000	17.69
3"	180	310	259.6	293.5	140.5	132.5	232.5	DN80	A-2250	25.94
4"	190	350	259.6	318	140.5	157	267	DN100	A-2250	33.61
5"	325	400	304.3	388.7	185.2	192.7	326.7	DN125	A-3650	65
6"	350	480	304.3	406.2	185.2	210.2	362.2	DN150	A-3650	81

90D-30 / 40 / 50 / 60

Spring-Return

PN16/40

Valve Size	F4/F5	A	B	C	D	E	F	G	Actuator	Wt(Kg)
1/2"	115	130	205.6	166.7	95	48.7	96.2	DN15	A-450SR4	5.05
3/4"	120	150	205.6	171.7	95	53.7	106.2	DN20	A-450SR4	5.75
1"	125	160	205.6	176.8	95	58.8	116.3	DN25	A-450SR4	6.59
1 1/4"	130	180	250	213.6	119	72.6	142.6	DN32	A-1000SR4	10.6
1 1/2"	140	200	355	250.1	140.5	89.1	164.1	DN40	A-2250SR4	17.2
2"	150	230	355	257.6	140.5	96.6	179.1	DN50	A-2250SR4	19.48
2 1/2"	170	290	355	277	140.5	116	208.5	DN65	A-2250SR4	23.99
3"	180	310	422	328.5	185.2	132.5	232.5	DN80	A-3650SR4	36.44
4"	190	350	422	353	185.2	157	267	DN100	A-3650SR4	44.11
5"	325	400	487	408.7	204.8	192.7	326.7	DN125	A-5000SR4	75.5
6"	350	480	487	426.2	204.8	210.2	362.2	DN150	A-5000SR4	91.5

Distributed by:



MARS VALVE CO., LTD.
TRANSWORLD STEEL ENT.CO., LTD.

7F-6, NO. 200, SEC.4, WEN-SHIN ROAD,
TAICHUNG, TAIWAN, R.O.C.
TEL:+886-4-2297 3808
FAX:+886-4-2297 3608
E-mail: mars@marsvalve.com.tw
<http://www.marsvalve.com.tw>