



Take a
Good Look
It May Be
Your Future

SERIES 83

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

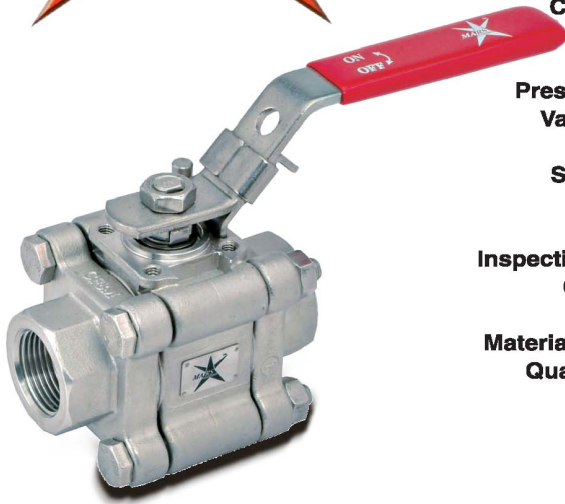
www.marsvalve.com.tw

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

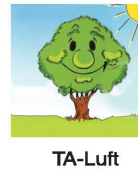
Material Certificate EN 10204 - 3.1

Quality System ISO 9001

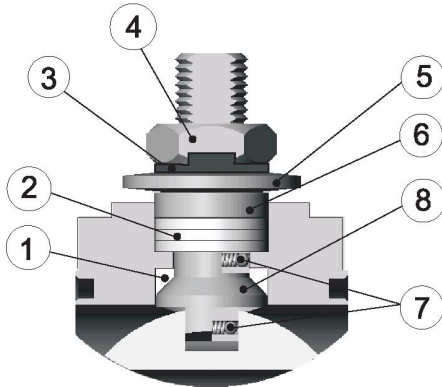
Options NACE MR - 0175

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

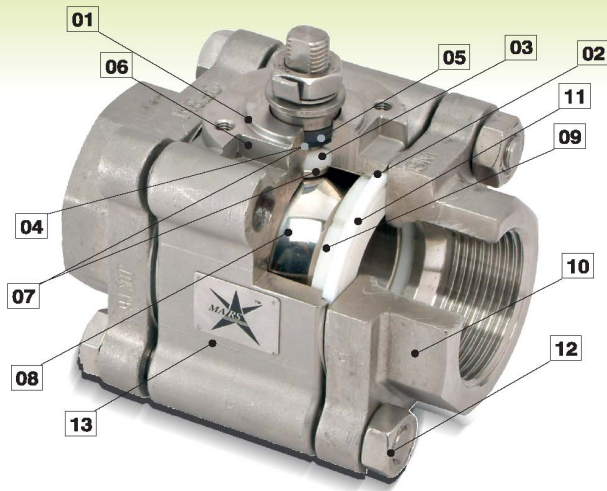
8. Super Smooth Stem Finish

Reduces seal friction and operating

Available End Connections

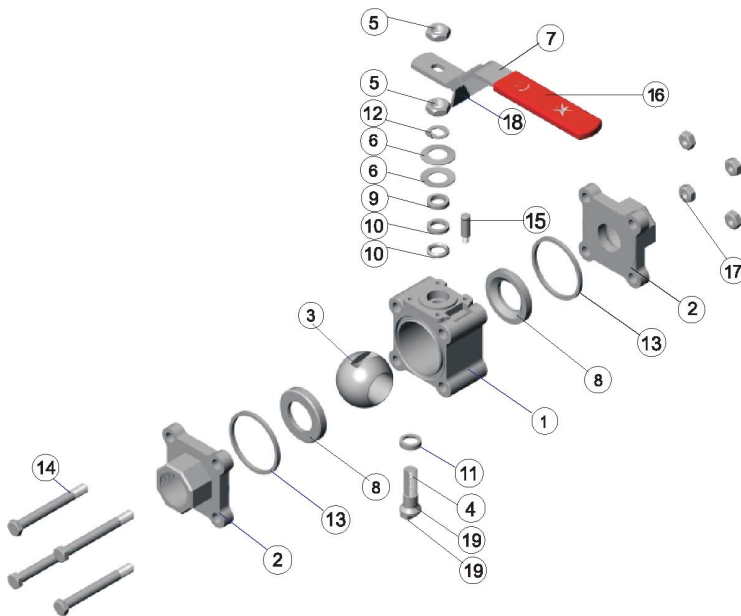


DESIGN FEATURES



- 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

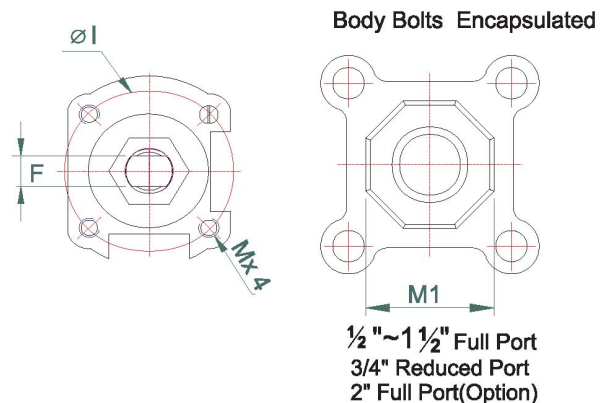
MATERIALS LIST



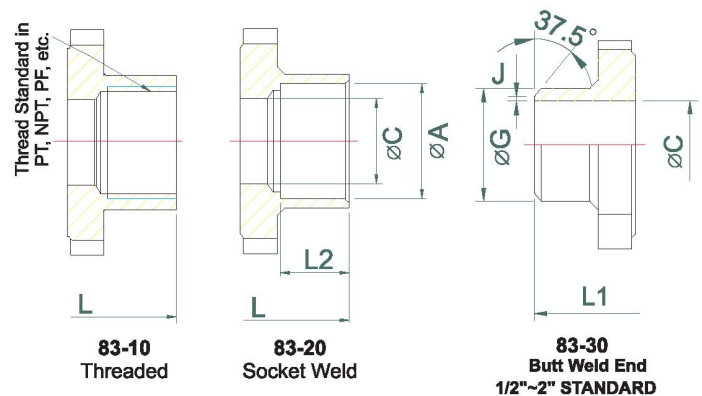
NO.	PART NAME	MATERIAL	Q'TY
1	Body	ASTM A351 Gr. CF8M	1
2	End Cap	ASTM A351 Gr. CF8M [□]	2
3	Ball	SUS316	1
4	Stem	SUS316	1
5	Stem Nut	SUS 304	2
6	Belleville Washer	SUS 301	2
7	Handle	SUS 304	1
8	Seat	RPTFE	2
9	Gland	SUS 304	1
10	Stem Packing	MG-1241	2
11	Stem Seal	RPTFE	1
12	Lock Saddle	SUS 304	1
13	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"			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")

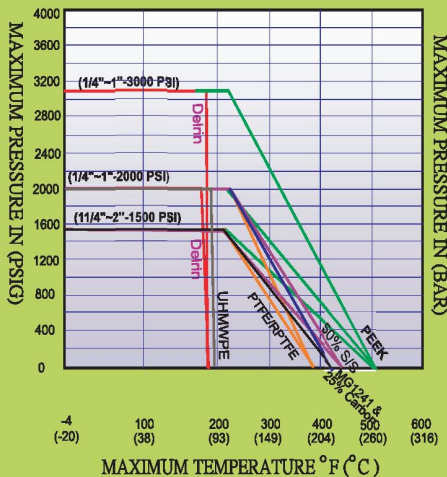
Enhance environmental protection, essential for API 607 Fire-safe qualification

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

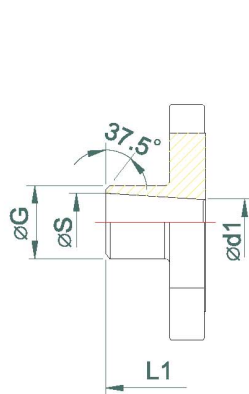
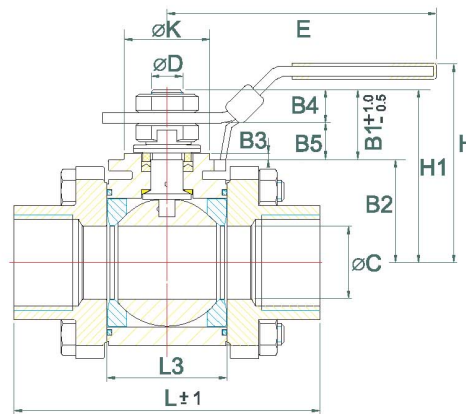
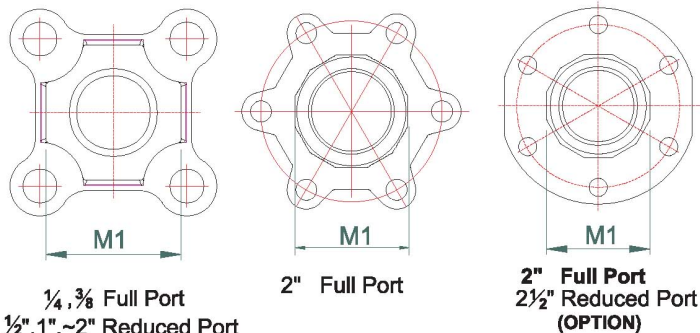


Breakaway Torque & Cv VALUE

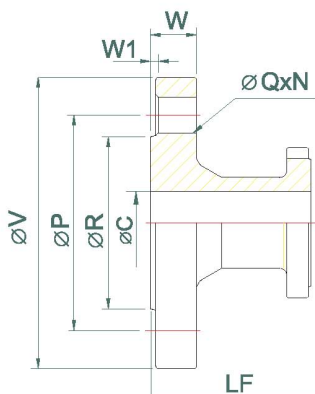
Inch	DN	Breakaway Torque (Nm)			Cv U.S.GPM
		Full-pore	Red.port	Full-port	
1/4"	8	7	-	8	-
3/8"	10	7	-	8	-
1/2"	15	8	7	15	8
3/4"	20	10	8	34	15
1"	25	14	10	56	34
1.1/4"	32	23	14	85	56
1.1/2"	40	31	23	125	85
2"	50	46	31	250	125
2.1/2"	65	-	46	-	250

* 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

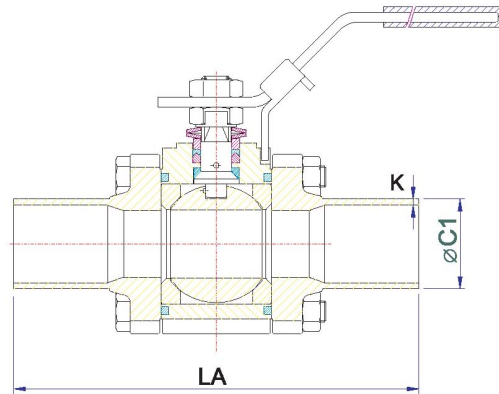
Exposed Bolts Body



83-30
Butt Weld End
1/4"-3/8" Full port
1/4"-2"-Full port SCH.40
1/2"-2 1/2"-Reduced port SCH.40
*SCH. 40 Available on request



83-50/83-5A
Flange End
(PN25/40 F1)/(PN16)



83-70
(Butt Weld) ISO
1/2"-2"

H	H1	øI	J	øK	L	L1	L2	L3	M	ød1	øS	M1	øV	øP	øR	øQ	N	W	W1	LF	øC1	K	LA	Wt. (Kg)	ISO5211														
R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	F	R	F	R												
37.2	36			25	64.8	64.8	10	20.5	M5	9.24	9.24	29.5												0.68			F03												
37.2	36			25	64.8	64.8	10	20.5	M5	10	12.53	29.5												0.68			F03												
64.3	45.1	37.2	36	36	1.6	1.6	25	25	72.5	64.8	75	64.8	10	10	24.5	20.5	M5	M5	15	10	15.76	15.76	30	29.5	95	65	45	14	4	16	2	130	21.3	2.1	140	0.83	0.68	F03	F03
71.5	51.1	45.1	36	36	1.6	1.6	25	25	85.4	72.5	90	74.8	13	13	31.4	24.5	M5	M5	20	15	20.96	20.96	36	36	105	75	58	14	4	18	2	150	26.9	2.1	140	1.37	0.86	F03	F03
76	60.6	51.1	42	36	1.6	1.6	30	25	105.3	85.4	110	89.8	13	13	41.3	31.4	M5	M5	25	20	26.64	26.64	44.5	44.5	115	85	68	14	4	18	2	160	33.7	2.3	152	2.05	1.43	F04	F03
82.3	64.3	60.6	42	42	1.6	1.6	30	30	111	105.3	115	109.4	13	13	48.4	41.3	M5	M5	32	25	35.08	35.08	54	54	140	100	78	18	4	18	2	180	42.4	2.5	165	2.74	1.97	F04	F04
87.3	77.5	64.3	50	42	1.6	1.6	35	30	127.3	111	130	114.4	13	13	56.3	48.4	M6	M5	38	32	40.94	40.94	60	60	150	110	88	18	4	18	3	200	48.3	2.5	190	3.99	2.77	F05	F04
103.6	95.5	77.5	50	50	1.6	1.6	35	35	142.8	142.8	145	142.8	16	16	71.4	56.3	M6	M6	50	38	52.51	52.51	73.2	73.2	165	125	102	18	4	20	3	230	60.3	3	203	5.83	3.95	F05	F05
121.6	95.5	50	50	50	1.6	1.6	35	35	145	145	145	145	16	16	71.4	56.3	M6	M6	50	38	52.51	52.51	73.2	73.2	165	125	102	18	4	20	3	230	60.3	3	203	5.83	3.95	F05	F05



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**

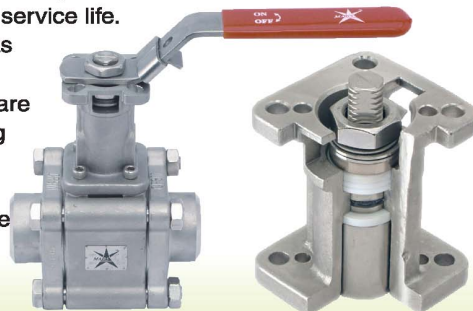
Titanium BALL VALVES

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

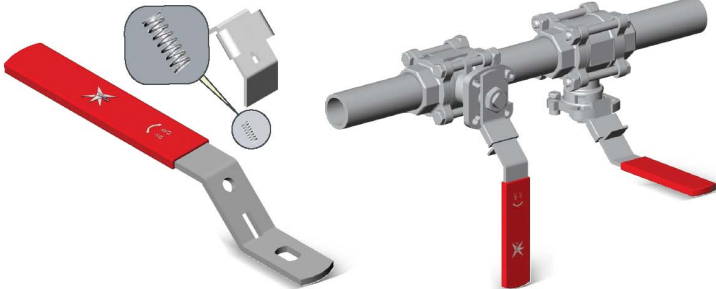
- The TSM unit designed for possible fugitive emission to meet TA-Luft requirements for a safe and clean environment, and provides a secondary stem seal for the valve stem, prolongs service life.
- The TSM unit can also function as stem extension for insulation.
- ISO 5211 mounting pad and square shaft 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



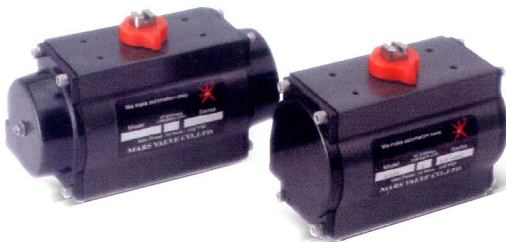
OVAL HANDLE



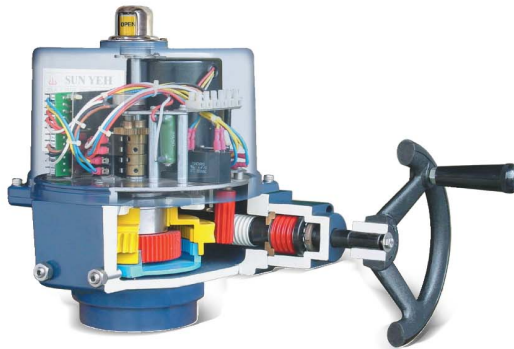
ECONOMICAL STEM EXTENSION



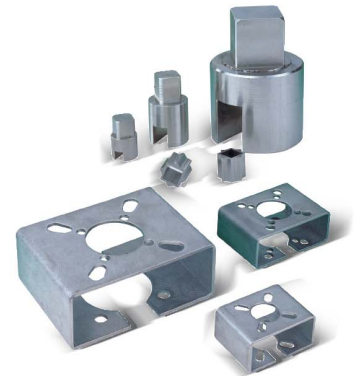
EASY AUTOMATION



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
<input checked="" type="checkbox"/> 83-10 <input type="checkbox"/> 83-20 <input type="checkbox"/> 83-30 <input type="checkbox"/> 83-50 <input type="checkbox"/> 83-70	<input checked="" type="checkbox"/> F <input type="checkbox"/> R	<input type="checkbox"/> 01) 1/4" <input type="checkbox"/> 02) 3/8" <input type="checkbox"/> 03) 1/2" <input type="checkbox"/> 04) 3/4" <input checked="" type="checkbox"/> 05) 1" <input type="checkbox"/> 06) 1 1/4" <input type="checkbox"/> 07) 1 1/2" <input type="checkbox"/> 08) 2" <input type="checkbox"/> 09) 2 1/2"	<input checked="" type="checkbox"/> S - CF8M <input type="checkbox"/> W -WCB <input type="checkbox"/> L - 316L <input type="checkbox"/> D - Duplex <input type="checkbox"/> T -Titanium <input type="checkbox"/> A - Alloy 20	<input type="checkbox"/> P PTFE <input type="checkbox"/> R R-TFE <input checked="" type="checkbox"/> T TFM1600 <input type="checkbox"/> S 50/50 S.S.+PTFE <input type="checkbox"/> M MG1241 <input type="checkbox"/> C Carbon filled PTFE <input type="checkbox"/> U UHMWPE <input type="checkbox"/> K Peek <input type="checkbox"/> D Delrin <input type="checkbox"/> A Metal	<input type="checkbox"/> A - Std. handle <input type="checkbox"/> I - Investment Cast <input type="checkbox"/> O-Oval handle <input type="checkbox"/> L -SRSL handle <input type="checkbox"/> S -SRS handle <input checked="" type="checkbox"/> X -Bare shaft



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