XOMOX®

SEAL THE FUTURE.

SLEEVED PLUG VALVES

SERIES FEO

CRANE®

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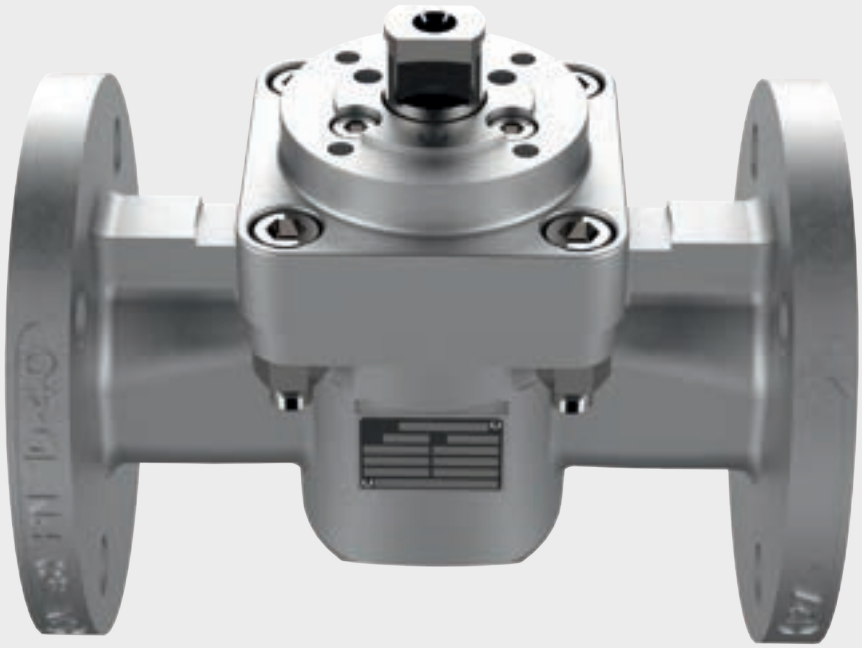
Sleeved Plug Valves Features and Benefits



- Regulatory compliance to ISO 15848-1:2015/2017 and TA-LUFT 2021
- Simplified maintenance & independent adjustment
- Certified temperature range from -60°C to 275°C
- Certified with AH – less than 20 ppm FUGITIVE EMISSIONS
- ISO 5211 top flange
- Life loaded design & triple sealing system
- No cavities, no contamination
- Superior, longer-lasting in-line sealing

Sleeved Plug Valves Product Overview

Materials

- Stainless Steel (EN 1.4408)
- Carbon Steel (EN 1.0619)
- Others on request

Size Range

- DN 15 to DN 400 ; 1/2" to 16"

Pressure Classes

- PN 10, 16, 25, 40; ASME Class 150 & 300#

Pressure Range

- 40 Bar (580 psi) DIN Valves
- 50 Bar (725 psi) ANSI Valves

Temperature Range

- Standard Temperature Range:
  -100°C to 300°C (-148°F to 572°F)
- Certified AH Temperature Range:
  -29°C to 260°C (-20°F to 500°F)
- Certified BH Temperature Range:
  -60°C to 275°C (-76°F to 527°F)

Body Configurations

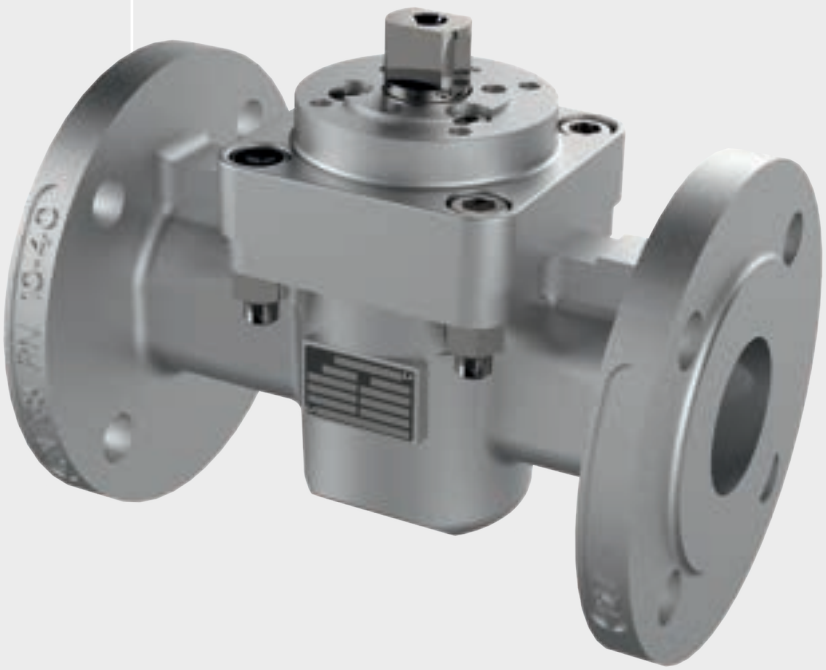
- 2-Way
- 3-Way Bottom
- 3-Way Side
- 4-Way

Configurations

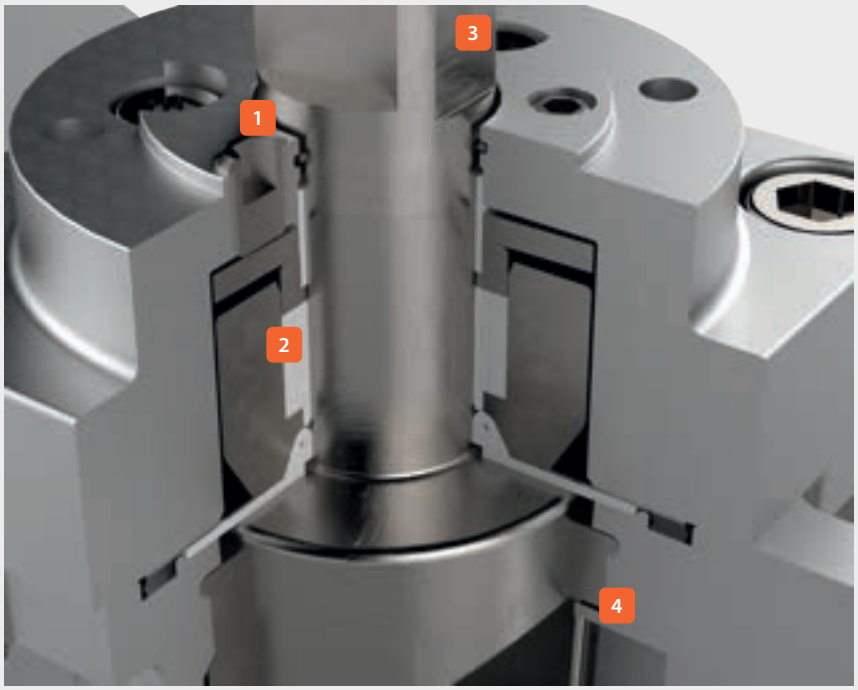
- Standard with PTFE Packings
- Firesafe FIS with Graphite Packings
- Standard & Full Port
- Heating jacket
- Control Valve
- Flanged, Welded and Screwed Ends

Typical Applications

- MDI/TDI
- Chlor-Alkali
- EDC
- VCM
- Methanol
- Phosgene
- Dry-Chlorine
- Hydrogen Cyanide
- Isocyanate
- Butadiene
- Nitrogen
- Sulfuric Acid
- Phosphoric Acid
- Ethylene Oxide
- Ethylene Glycol



Sleeved Plug Valves Design Features



1 **Adjustable live loaded design**
In case of stem seal leakage, the leakage can be stopped by tightening cover-gland screws.

2 **Three sealing elements**
Three independent seals ensure superior sealing performance and extended service life for demanding applications.

3 **Adjustable Primary Seal**
A quick turn of the top adjustment bolts keeps the sleeve tightly sealed, extending valve service life with minimal maintenance.

4 **360 degree port lips**
port lips and high pressure ribs inside the valve body ensure tight in-line seal & primary seal to atmosphere. Plug remains adjustable if necessary.

5 **Cavity free design**
The SPV design **eliminates body cavities,** preventing media buildup and sticking for cleaner, more reliable valve performance.

6 **Compliant to ISO 15848-1 AH CO3 SSA0 RT – 260°C, BH CO3 SSA0 -60°C – 275°C & TA-Luft 2021 Compliant**

- Less than 20 PPM emissions
- CO3 = 2500 Mechanical cycles; 4 Thermal Cycles
- 0 Adjustments

Sleeved Plug Valves Typical Applications

XOMOX® 127 FE0 - Performance Chart

Function	ON / Off	●
	Throttling	●
	Diversion	●
Media Types	Clean Liquids & Gases	●
	Dirty Liquids & Gases	●
	Corrosive Liquids & Gases	●
	Hazardous Liquids & Gases	●
	Viscous Liquids	●
	Scaling Liquids & Slurries	●
	Abrasive Slurries	●
	Fibrous Slurries	●
	High Pressure Steam (>150 lbs.)	●
	Low Pressure Steam (<150 lbs.)	●
	Dry Materials	●
	Food / Pharmaceutical	●
	Vacuum Service	●
Application Requirements	High Flow Capacity	●
	Low Torque	●
	Fire Tested	●
	Fugitive Emission Control	●
	Reduced Maintenance	●
	Extended Service Life	●
	Size Range (DIN)	DIN 15 -DIN 400
	Pressure Rating (DIN and ANSI Classes)	PN10-40, Class150& 300
	High Temperature	530°F (275°C)
	Low Temperature	-76°F (-60°C)
	Unique Features and Benefits	Exceptional fugitive emissions control: ISO15848-1 AH CO3 392°F (200°C) SSA 0

● Well Suited
● Appropriate Application
● Limited Application

Typical Applications

Chlor-Akali

- Chlorine & Derivatives
- Caustic Soda & Derivatives

Olefins

- Ethylene & Derivatives
- Ethylene Oxide & Derivatives
- Butadiene & Derivatives
- Propylene & Derivatives

Aromatics

- Styrene & Derivatives
- Benzene & Derivatives
- Toluene & Derivatives
- Xylene & Derivatives

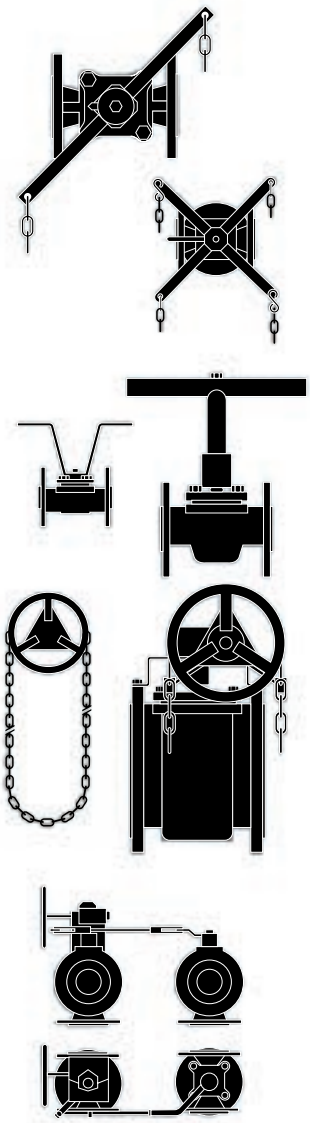
Sleeved Plug Valves Automation & Manual Operators

Manual Operators

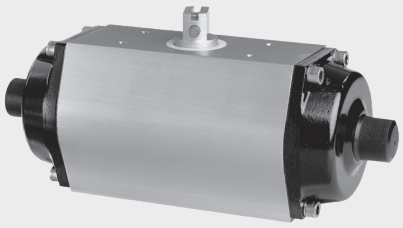
A wide variety of handle and gear operators are available.

You can choose from chain wrenches, T-wrenches, chain wheels, and tandem adapters.

Talk with your TUFLIN®/XOMOX® Sales about your specific requirements, sizing, and how to order.



Actuators – Automation Accessories



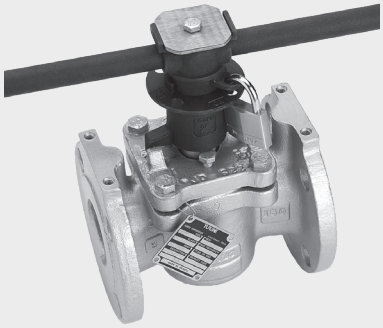
XOMOX® XRP Actuators.

The unique features of the XOMOX® XRP Pneumatic Rack & Pinion Actuators include:

- A balanced pinion which does not require an external retaining clip to prevent the pinion from blowing out.
- Individual single point adjustment for both the CW and CCW directions.
- 98 degrees of total travel on the most popular sizes.
- Vertically aligned air passages allow increased air flow minimizing cycle time.

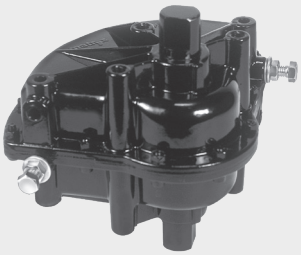
XOMOX® Limit Switches.

A wide variety of switching options and other automation accessories are available.



Locking Devices.

Specify whether the valve is to be locked open, closed, or both. (The lock is not supplied.)



MATRYX® Vane Actuators.

Matryx Vane Actuators provide the most reliable and efficient remote control of any type of rotary operation. They are used for ball, plug, and butterfly valves as well as other mechanisms such as dampers, switches, and safety devices. They are available up to 30,000 in-lbs of torque.

Sleeved Plug Valves ISO 15848 Standard

INTERNATIONAL	**ISO**
STANDARD	**15848-1**

Example Description Tables

ISO 15848 – 1 BH CO3 200°C 392°F – SSA0

Part Composition	
Part 1: Design • **System of classification and procedures of qualification for the tests of the valve type**	Part 2: Industrial (Production) • Acceptance tests in production of the valves • Non-destructive

Number of Adjustments
0 / 1 / 2 / 3

Temperature Classes				
(T -196 °C)	**(T -40 °C)**	**(T RT)**	**(T 200 °C)**	**(T 400 °C)**
-320°F	-40°F	Room temperature, °F	392°F	752°F
-196°C	-40°C	Room temperature, °C	200°C	400°C

Class	Measured Leak Rate a mg s-1 m-1	Remarks
A[b]	**≤ 10-5**	**Typically achieved with bellow seals or and equivalent stem (shaft) sealing system for quarter turn valves**
B	≤ 10^{-4}	Typically achieved with PTFE based packings or elastomeric seals
C	≤10-2	Typically achieved with flexible graphite based packings
a Expressed in mg s-1 m-1 measured with total leakage method b Class A can be measured only with helium using the vacuum method		

Classification	Minimum number of mechanical cycles
CO1	800 cycles, with two thermal cycles (except for RT)
CO2	1,500 cycles, with three thermal cycles
CO3	**2,500 cycles, with four thermal cycles**

Test Fluid	Class
H - Helium	**AH, BH, CH**
M - Methane	AM, BM, CM
When the test fluid is **helium**, classes are identified as **AH, BH** and **CH.** When the test fluid is methane, classes are identified as **AM, BM** and **CM.**	

Manufacturing valves will be subjected to the ISO 15848-2 test as described in the norm. This is a non-destructive test that intends to address the performance of the valves (Please refer to ISO 15848 norm).

Sleeved Plug Valves How to Order

DN25 – PN40 | **–127** | **– FE0** | **– 025** | **– 025** | **– P1** | **– Y**

Size & Class

See Quick Reference Selection Table on the next page

Figure Number

See reference table for figure number selection

Top Seal Config

Standard	STD
ISO	ISO
FE0	FE0
XP3	XP3
ISO Firesafe	ISF
3D Firesafe	3DF
FE0 Firesafe	FEF
XP3 Firesafe	XPF
High Pressure	HP
High Pressure Firesafe	HPF

Operator

Less Operator	N
Wrench	W
Wrench with locking device	Y
Gear	G
Gear with locking device	Z
Actuator	A

Sleeve

PTFE	P1
15% RPTFE	P2
25% RPTFE	P3
PFA	P6
UHMWPE	P8
PTFE X	P16
PTFE XC	P17
PTFE XV	P18
PTFE XXC	P20
Other (Specify)	PX

Body / Plug

Alloy 20 / 1.4451	038
Ductile Iron / GGG40.3	003
Carbon Steel / 1.0619	010
Monel / M35-1	046
Nickel / CZ-100	050
CF8M / 1.4408	025
Hastelloy B / N7M	145
CD4MCuN / 1.4507	146
Inconel / CY40	048
Other (Specify)	X

Materials

The following are ASTM designations for materials listed elsewhere in this datasheet.

Carbon steel	1.0619
302 stainless steel	EN I.4310
304 stainless steel	EN 1.4301
304 stainless steel	EN I.4308
304L stainless steel	EN I.4306
316 stainless steel	EN 1.4408
316L stainless steel	EN 1.4409
Alloy 20	1.445l
Bronze	EN CC49IK
CD4MCuN	EN I.4507
Ductile Iron	GGG40.3
Hastelloy B	N7M
Hastelloy C	ASTM A494 CW6M
Inconel	CY40
Nickel	CZ-100
CF8M	1.4408
Monel	M35-1
Bronze	ASTM BI 48 Gr.958
Titanium	ASTM B367 Gr. C-3
Zirconium	ASTM B752 Gr. 702

Other ferrous and non-ferrous materials are available upon application.

Sleeved Plug Valves Order Code

Valve Size	Order Code
NPS 1/2″	0,50"
NPS 3/4″	0,75"
NPS 1″	1,00"
NPS 1,5″	1,50"
NPS 2″	2,00"
NPS 3″	3,00"
NPS 4″	4,00"
NPS 5″	5,00"
NPS 6"	6,00"
NPS 8"	8,00"
NPS 10"	10,0"
NPS 12"	12,0"
NPS 14"	14,0"
NPS 16"	16,0"
NPS 18"	18,0"
NPS 20"	20,0"
NPS 24"	24,0"
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 065	65
DN 080	80
DN 100	100
DN 125	125
DN 150	150
DN 200	200
DN 250	250
DN 300	300
DN 350	350
DN 400	400

Pressure Class	Order Code
Class 150	#0150
Class 300	#0300
Class 600	#0600
Class 900	#0900
Class 1500	#1500
Class 2500	#2500
PN 10	PN10
PN 16	PN16
PN 20	PN20
PN 25	PN25
PN 40	PN40
PN 50	PN50
PN 63	PN63
PN 100	PN100
PN 110	PN110
PN 160	PN160
PN 250	PN250
Special	XXXX

Valve Figure Number	Order Code
Three Way Flanged Class 150 ANSI	037
Four Way Flanged Class 150 ANSI	047
Two Way Flanged Class 150 ANSI	067
Two Way Flanged DIN	127
Three Way Flanged DIN	137
Three Way Flanged DIN	177
Four Way Flanged DIN	147
Three Way Flanged Class 300 ANSI	0337
Four Way Flanged Class 300 ANSI	0347
Two Way Flanged Class 300 ANSI	0367
Three Way Flanged Class 600 ANSI	0637
Four Way Flanged Class 600 ANSI	0647
Two Way Flanged Class 600 ANSI	0667
Two Way Flanged DIN L-TORQ	L127
Two Way Flanged Class 150 ANSI L-TORQ	L067
Two Way Flanged Class 300 ANSI L-TORQ	L0367

Tufline® automated valve packages assure single-source responsibility for flow control equipment.

With the XOMOX® family of valves, actuators, and control accessories, combined with our problem solving expertise, you are assured of valve packages that will provide optimum performance in your application.

CRANE ChemPharma & Energy, XOMOX®
Automation & Service Centers

Our Automation & Service Centers are strategically located to provide comprehensive:

- Automated valve packing
- Valve modification
- Valve repair
- Application counseling

For more information, fast response, comprehensive service, and knowledgeable technical help, please contact your CRANE ChemPharma & Energy, XOMOX® Automation & Service Center.

CRANE

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CPE-XOMOX-SPV-FE0-BU-EN-A4-2026_01_01