

XOMOX®

brands you trust.



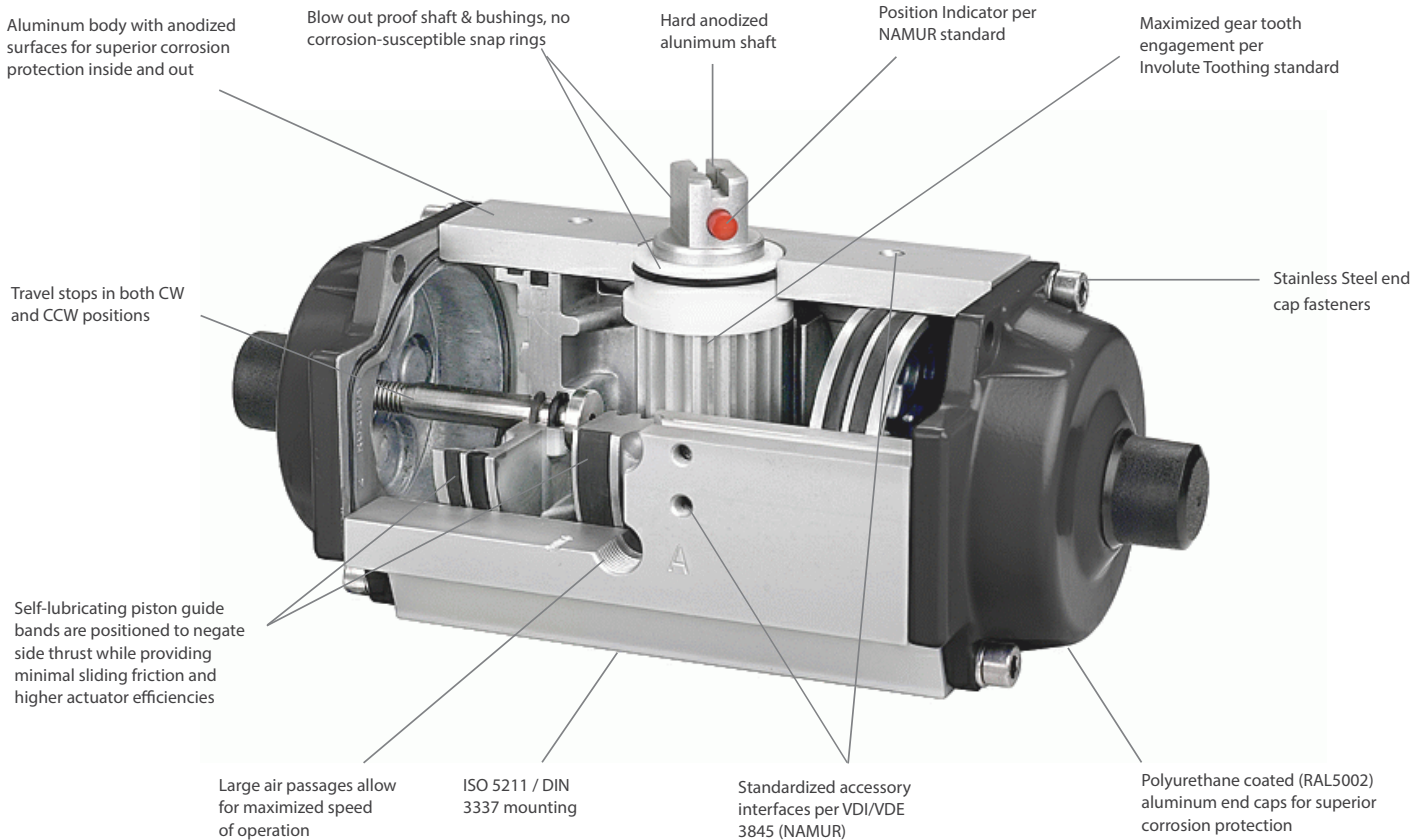
Pneumatic Rack and Pinion Actuators

CRANE®

Crane ChemPharma & Energy

www.cranecpe.com

Design Features & Benefits



BENEFITS

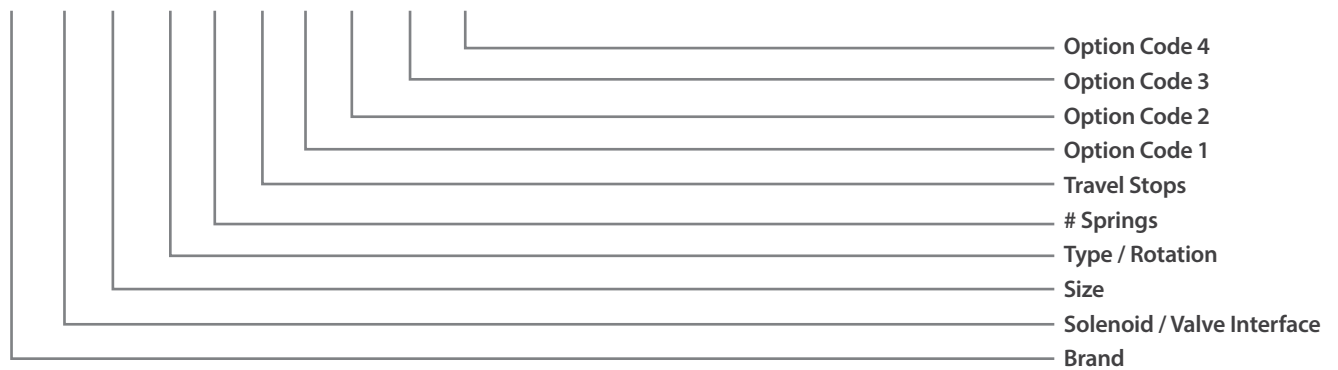
- High Quality and Reliability
- Economical
- Modular Design allows Flexible Configuration
- Improved Plant and Operator Safety
- Easy to Maintain and Service

UNIQUE DESIGN FEATURES

- Patented, pressure balanced shaft prevent axial forces acting on the bearings. This results in high reliability, long life and low wear.
- Shaft and bearing bushings mounted from inside, are of blow-out safe design with no need for external circlips or snap rings providing high operational safety.
- Robust anodized aluminum bodies ensure even expansion under thermal influences; no jamming of the piston and a high level of corrosion protection.
- Self lubricating piston guide bands made of graphite infused teflon prevent piston tilt under load, provide longer service life due to low friction, with no maintenance required.
- Pre-compressed encapsulated springs allow for easier assembly/disassembly and provide an extra layer of safety protection against spring energy release.
- Compliance with international interface standards ISO 5211/DIN 3337 and VDE/VDI 3845 (NAMUR).
- Simple retrofitting of accessories, such as solenoid valves, limit switch, positioners, etc.
- Compact design allows extensive direct mounting orientations.

Product Configuration Code

X S 180 S 08 B 0 0 00 0



Brand	
Xomox	X

Option Code 1 - Temperature	
Standard -20° to 80°C (-4° to 176°F)	0
Low Temperature -40° to 80°C (-40° to 176°F)	1
High Temperature -20° to 140°C (-4° to 284°F)	2

Solenoid / Valve Interface	
Imperial - ¼" NPT Air Connection (VDI/VDE 3845 NAMUR) Standard ISO 5211 Interface square (0° offset)	S
Metric - G ¼" BSP Air Connection (VDI/VDE 3845 NAMUR) Standard ISO 5211 / DIN 3337 interface Diamond (45° offset)	D

Option Code 2 - Finish	
Anodized Body & Polyurethane finish (RAL 5002) End Caps	0
Consult Factory for Other Options	X

Sizes	
Model Sizes: 002, 006, 012, 025, 050, 090, 30, 180, 205, 380, 630, 960, H15	XXX

Option Code 3 - Shaft / Springs	
Anodized Aluminum Shaft / Standard Springs	0
Anodized Aluminum Shaft / Encapsulated Springs	1

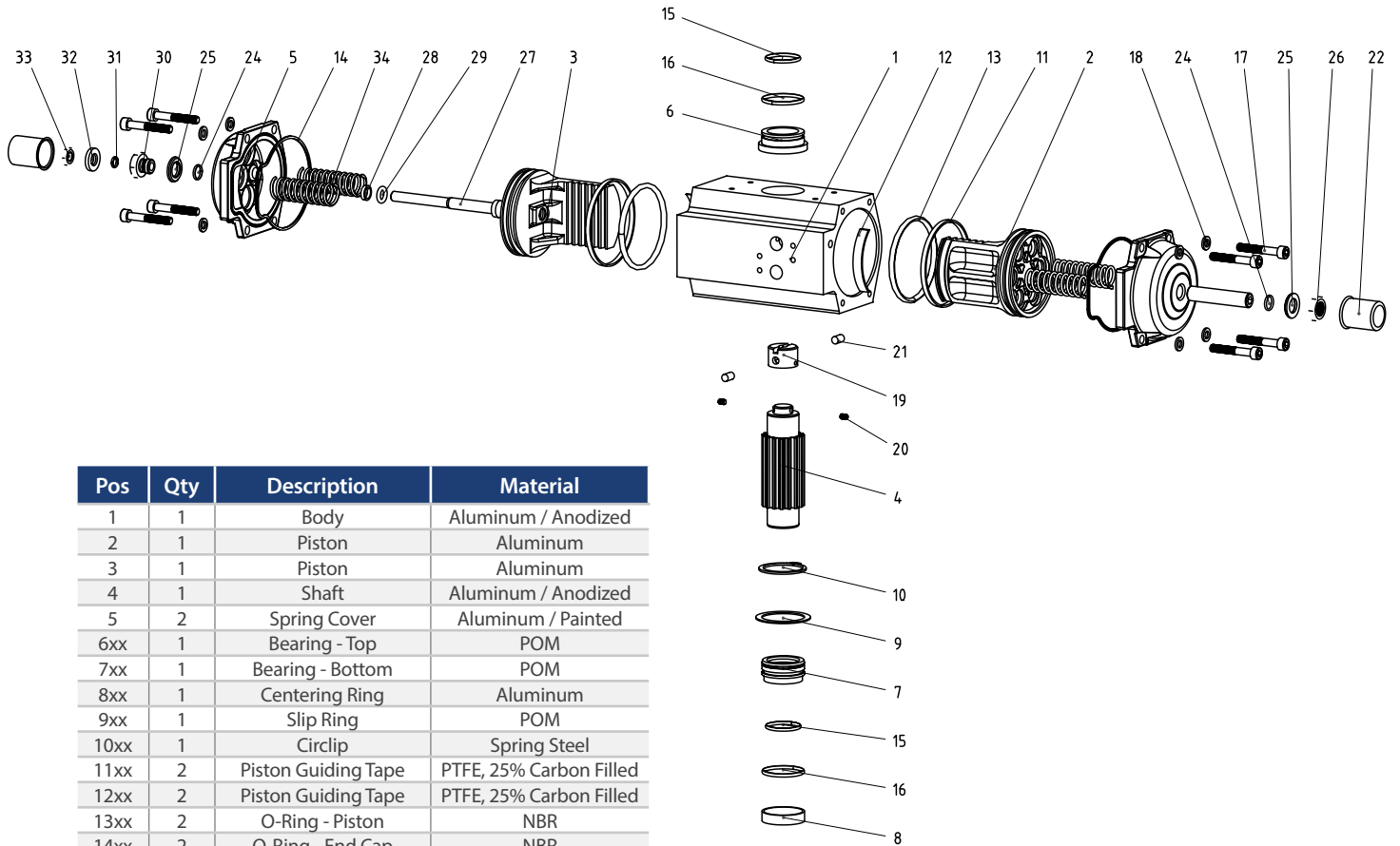
Travel Stops	
Single Travel Stop for Open position (Sizes 002 and 006)	A
Dual Travel Stops with -4/+4 degrees of travel adjustment (Sizes 012 to 180)	B
Optional external Dual Travel Stops (Sizes 205 to H15)	C

Option Code 4 - Mounting Configuration	
Standard ISO F Pattern for Each Body Size	OO
Consult Factory for Optional Mounting Configurations	X

Type / Rotation	
Double Acting (No Springs)	D
Spring Return, Spring to Close (FCW)	S
Spring Return, Spring to Open (FCCW)	A

# Springs	
Double Acting, No Springs	OO
Spring Return- 01 through 18 (even combinations standard, odd combinations optional)	XX

Materials of Construction



Pos	Qty	Description	Material
1	1	Body	Aluminum / Anodized
2	1	Piston	Aluminum
3	1	Piston	Aluminum
4	1	Shaft	Aluminum / Anodized
5	2	Spring Cover	Aluminum / Painted
6xx	1	Bearing - Top	POM
7xx	1	Bearing - Bottom	POM
8xx	1	Centering Ring	Aluminum
9xx	1	Slip Ring	POM
10xx	1	Circlip	Spring Steel
11xx	2	Piston Guiding Tape	PTFE, 25% Carbon Filled
12xx	2	Piston Guiding Tape	PTFE, 25% Carbon Filled
13xx	2	O-Ring - Piston	NBR
14xx	2	O-Ring - End Cap	NBR
15xx	1	O-Ring - Shaft	NBR
16xx	2	O-Ring	NBR
17	8	End Cap Screws	Stainless Steel
18	8	Washer	Stainless Steel
19	1	Shaft head	POM
20	2	Set Screw	Stainless Steel
21	2	Indicator	Polyamid
22	2	Cap	Polyethelene
23	1	End Position	
24xx	2	O-Ring	NBR
25	1	Washer	POM
26	1	Flat Hexagon Nut	Stainless Steel
27	1	Pull Rod	Nickel Plated Steel
28xx	1	PTFE Band	PTFE, 25% Carbon Filled
29xx	1	O-Ring	NBR
30	1	Threaded Bushing	Nickel Plated Steel
31xx	1	O-Ring	NBR
32	1	Washer	Steel
33	1	Flat Hexagon Nut	Stainless Steel
34	6	Encapsulated Springs	CrSi, Alloy Coating

General Specifications

Torque Range

Double Acting: 66 in-lbs to 107531 in-lbs (8.1 Nm to 11752 Nm)

Spring Return: 42 in-lbs to 103199 in-lbs (4.5 Nm to 11263 Nm)

Pressure Range

Double Acting 40 to 120psig (2.0 to 8.0 bar)

Spring Return 87 to 120 psig (5.0 to 8.0 bar), with maximum spring set
43 to 120 psig (2.5 to 8.0 bar), reduced spring quantity

Pressure Media

- Air, dry or lubricated and inert gases
- For sub-zero applications, take appropriate measures
- Mentioned pressure levels are "gauge pressures".
Gauge pressure is equal to absolute pressure minus atmospheric pressure.

Finish

- Body: Anodized
- End Caps: Polyurethane coated RAL shades (60-80 µm)
- Shaft: Silver Anodized
- Fasteners: Stainless Steel
- Bearings: POM

Lubrication

- KIÜBER BEM 41-132

Temperature Range

- Standard: Nitrile seals (Buna-N rubber): -4F to 176F (-20C to 80C)
- Low temperature option: -40F to 176 F (-40°C to 80°C)
- High temperature option: -20F to 248F (-20°C to 140°C)

Angle of Rotation

- Factory set at 0° to 90°



Spring Return & Double Acting Actuators

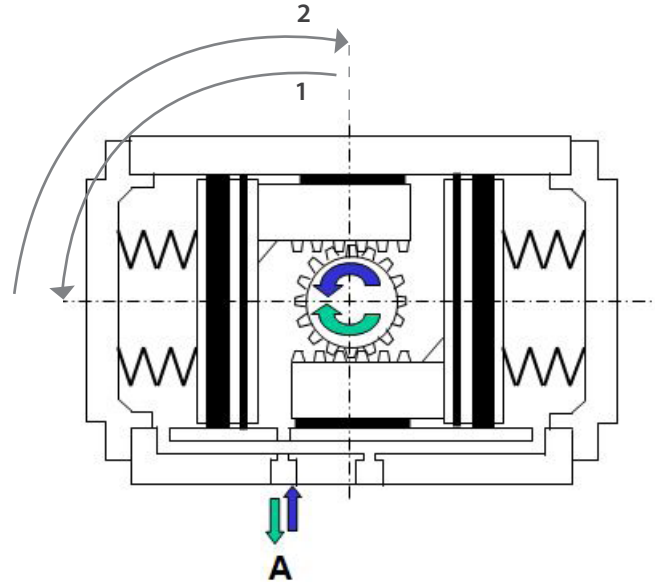
Spring Return Actuators

1. Standard (Opening) – Air at “A” causes counter clock-wise (CCW) rotation – Positive “Fail Safe” Close on air failure.

1= Central air chamber pressurized

2. Standard (Closing) – Air exhausted from “A” causes clock-wise (CW) rotation Reverse – Pinion can be changed so that Positive “Fail Safe” Open on loss of air.

2= Spring stroke



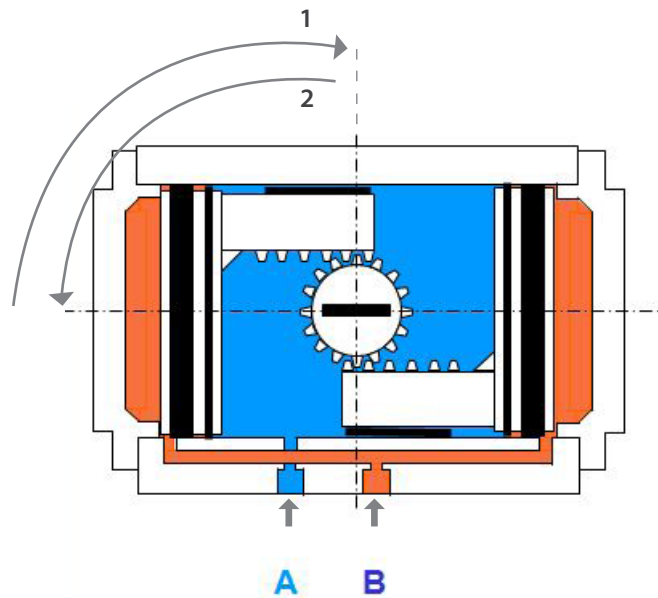
Double Acting Actuators

1. Standard (Closing) – Air at “B” causes clock-wise (CW) rotation.

1= Central air chamber pressurized

2. Reverse (opening) - Air at "A" causes counter clock-wise (CCW) rotation.

2= Spring stroke



NOTE: Views are from above

XRP Double Acting Torques - Imperial Units

	Spring	Spring		40 psig		60 psig		80 psig		100 psig		120 psig	
	Quantity	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
XS 002	02	16	8	58	50	91	83	124	116	157	149	N/A*	N/A*
	04	32	16	50	34	83	67	116	100	149	133	N/A*	N/A*
	06	48	24	42	18	75	51	108	84	141	117	N/A*	N/A*
	08	64	32			67	35	100	68	133	101	N/A*	N/A*
	10	80	40			59	19	92	52	125	85	N/A*	N/A*
	12	96	48					84	36	117	69	N/A*	N/A*
XS 006	02	36	18	133	115	209	190	284	266	360	342	N/A*	N/A*
	04	73	36	115	78	190	154	266	230	342	305	N/A*	N/A*
	06	109	55	97	42	172	118	248	193	324	269	N/A*	N/A*
	08	146	73			154	81	230	157	305	232	N/A*	N/A*
	10	182	91			136	45	211	120	287	196	N/A*	N/A*
	12	219	109					193	84	269	159	N/A*	N/A*
XS 012	02	73	36	265	228	415	379	565	529	716	680	866	830
	04	145	73	228	156	379	306	529	457	680	607	830	757
	06	218	109	192	83	342	234	493	384	643	534	794	685
	08	290	145			306	161	457	311	607	462	757	612
	10	363	181			207	88	420	239	571	389	721	540
	12	435	218					384	166	534	317	685	467
XS 025	02	142	71	515	444	808	737	1100	1030	1393	1322	1686	1615
	04	283	142	444	302	737	595	1030	888	1322	1181	1615	1474
	06	425	212	373	161	666	454	959	746	1252	1039	1544	1332
	08	566	283			595	312	888	605	1181	898	1474	1190
	10	708	354			524	170	817	463	1110	756	1403	1049
	12	850	425					746	322	1039	614	1332	907
XS 050	02	259	130	952	822	1493	1363	2034	1904	2574	2445	3115	2985
	04	519	259	822	563	1363	1104	1904	1644	2445	2185	2985	2726
	06	778	389	692	303	1233	844	1774	1385	2315	1926	2856	2467
	08	1038	519			1104	585	1644	1125	2185	1666	2726	2207
	10	1297	649			974	325	1515	866	2055	1407	2596	1948
	12	1557	778					1385	606	1926	1147	2467	1688
XS 090	02	474	237	1820	1583	2849	2612	3878	3641	4907	4670	5936	5699
	04	949	474	1583	1109	2612	2138	3641	3167	4670	4195	5699	5224
	06	1423	712	1346	635	2375	1663	3404	2692	4433	3721	5461	4750
	08	1897	949			2138	1189	3167	2218	4195	3247	5224	4276
	10	2372	1186			1901	715	2929	1744	3958	2772	4987	3801
	12	2846	1423					2692	1269	3721	2298	4750	3327
XS 130	02	719	359	2772	2413	4338	3978	5903	5544	7469	7110	9034	8675
	04	1437	719	2413	1694	3978	3260	5544	4825	7110	6391	8675	7957
	06	2156	1078	2053	975	3619	2541	5185	4107	6750	5672	8316	7238
	08	2847	1437			3260	1822	4825	3388	6391	4954	7957	6519
	10	3593	1797			2900	1104	4466	2669	6032	4235	7597	5801
	12	4312	2156					4107	1951	5672	3516	7238	5082

NOTES:

All torque values are inch-pounds for pressure supply listed.

Torque values are same for both Spring Fail Clockwise, FCW (XRP style S) & Counterclockwise, FCCW, (XRP style A).

Recommended Safety Factor = 20% for single acting actuators.

* Max Pressure 100 psig

XRP Spring Return Torques - Imperial Units

	Spring	Spring		40 psig		60 psig		80 psig		100 psig		120 psig	
	Quantity	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
XS 180	02	945	473	3643	3170	5701	5228	7759	7286	9816	9344	11874	11401
	04	1890	945	3170	2225	5228	4283	7286	6341	9344	8399	11401	10456
	06	2836	1418	2698	1280	4756	3338	6813	5396	8871	7453	10929	9511
	08	3781	1890			4283	2393	6341	4450	8399	6508	10456	8566
	10	4726	2363			3810	1447	5868	3505	7926	5563	9984	7621
	12	5671	2836					5396	2560	7453	4618	9511	6676
XS 205	02	1490	745	5422	4677	8505	7760	11589	10844	14673	13927	17756	17011
	04	2981	1490	4677	3186	7760	6270	10844	9354	13927	12437	17011	15521
	06	4471	2236	3932	1696	7015	4780	10099	7863	13182	10947	16266	14030
	08	5961	2981			6270	3289	9354	6373	12437	9456	15521	12540
	10	7452	3726			5525	1799	8608	4883	11692	7966	14775	11050
	12	8942	4471					7863	3392	10947	6476	14030	9559
XS 380	02	2237	1119	8137	7018	12765	11646	17393	16274	22020	20902	26648	25530
	04	4475	2237	7018	4781	11646	9409	16274	14037	20902	18665	25530	23292
	06	6712	3356	5900	2544	10528	7172	15155	11799	19783	16427	24411	21055
	08	8949	4475			9409	4934	14037	9562	18665	14190	23292	18818
	10	11186	5593			8290	2697	12918	7325	17546	11953	22174	16581
	12	13424	6712					11799	5088	16427	9715	21055	14343
XS 630	02	3728	1864	13554	11690	21263	19400	28972	27109	36681	34818	44391	42527
	04	7455	3728	11690	7963	19400	15672	27109	23381	34818	31090	42527	38799
	06	11183	5591	9827	4235	17536	11944	25245	19653	32954	27362	40663	35071
	08	14910	7455			15672	8217	23381	15926	31090	23635	38799	31344
	10	18638	9319			13808	4489	21517	12198	29226	19907	36935	27616
	12	22366	11183					19653	8471	27362	16180	35071	23889
XS 960	03	5591	2796	20620	17825	32328	29532	44036	41240	55744	52948	67452	64656
	06	11183	5591	17825	12233	29532	23941	41240	35649	52948	47357	64656	59065
	09	16774	8387	15029	6642	26737	18350	38445	30058	50153	41766	61861	53474
	12	22366	11183			23941	12758	35649	24466	47357	36174	59065	47882
	15	27957	13979			21145	7167	32853	18875	44561	30583	56269	42291
	18	33549	16774					30058	13283	41766	24991	53474	36699
XS H15	02	8663	4331	31512	27181	49434	45103	67356	63024	85278	80946	103199	98868
	04	17325	8663	27181	18518	45103	36440	63024	54362	80946	72284	98868	90205
	06	25988	12994	22849	9855	40771	27777	58693	45699	76615	63621	94537	81543
	08	34651	17325			36440	19114	54362	37036	72284	54958	90205	72880
	10	43314	21657			32109	10452	50030	28374	67952	46295	85874	64217
	12	51976	25988					45699	19711	63621	37633	81543	55554

NOTES:

All torque values are inch-pounds for pressure supply listed.

Torque values are same for both Spring Fail Clockwise, FCW (XRP style S) & Counterclockwise, FCCW, (XRP style A).

Recommended Safety Factor = 20% for single acting actuators.

XRP Double Acting Torques

XOMOX XRP DOUBLE ACTING TORQUE (in-lbs)

Model	40 psig	60 psig	80psig	100 psig	120 psig
XS 002 D00A	66	99	132	165	N/A*
XS 006 D00A	151	227	303	378	N/A*
XS 012 D00B	301	451	602	752	903
XS 025 D00B	586	878	1171	1464	1757
XS 050 D00B	1082	1622	2163	2704	3245
XS 090 D00B	2058	3086	4115	5144	6173
XS 130 D00B	3131	4697	6263	7828	9394
XS 180 D00B	4116	6173	8231	10289	12347
XS 205 D00A	6167	9251	12334	15418	18501
XS 380 D00A	9256	13883	18511	23139	27767
XS 630 D00A	15418	23127	30836	38545	46254
XS 960 D00A	23416	35124	46832	58540	70248
XS H15 D00A	35844	53765	71687	89609	107531

NOTES:

All torque values are inch-pounds for pressure supply listed.
 Recommended Safety Factor = 10% for double acting actuators.
 * Max Pressure 100 psig

XOMOX XRP DOUBLE ACTING TORQUE (Nm)

Model	3 Bar	3.5 Bar	4 Bar	4.2 Bar	5 Bar	6 Bar	7 Bar	8 Bar
XS 002 D00A	8.1	9.5	10.8	11.5	13.5	16.2	18.9	N/A*
XS 006 D00A	18.6	21.7	24.8	26.4	31.0	37.2	43.4	N/A*
XS 012 D00B	37	43	49	52.3	62	74	86	99
XS 025 D00B	72	83.5	95	101	119	143	167	191
XS 050 D00B	133	155	177	188.3	222	266	310	364
XS 090 D00B	253	295	337	358	421	505	589	673
XS 130 D00B	385	449	513	545.3	642	770	898	1026
XS 180 D00B	506	590.0	675	717	843	1012	1181	1350
XS 205 D00A	758	884.5	1011	1074.3	1264	1517	1770	2023
XS 380 D00A	1138	1327.5	1517	1611.8	1896	2275	2654	3033
XS 630 D00A	1896	2212	2528	2685.8	3159	3791	4423	5055
XS 960 D00A	2879	3359	3839	4079	4799	5758	6718	7677
XS H15 D00A	4407	5141.5	5876	6243	7345	8814	10283	11752

NOTES:

All torque values are Newton-meters for pressure supply listed.
 Recommended Safety Factor = 10% for double acting actuators.
 * Max Pressure 7 Bar

XRP Spring Return Torques - Metric Units

	Spring		Spring		3 Bar		3.5 Bar		4 Bar		4.2 Bar		5 Bar		6 Bar		7 Bar		8 Bar		
	Quantity	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
XS 002	02	1.8	0.9	7.2	6.3	8.6	7.7	9.9	9.0	10.6	9.7	12.6	11.7	15.3	14.4	18.0	17.1	N/A*	N/A*		
	04	3.6	1.8	6.3	4.5	7.7	5.9	9.0	7.2	9.7	7.9	11.7	9.9	14.4	12.6	17.1	15.3	N/A*	N/A*		
	06	5.4	2.7	5.4	2.7	6.8	4.1	8.1	5.4	8.8	6.1	10.8	8.1	13.5	10.8	16.2	13.5	N/A*	N/A*		
	08	7.2	3.6	4.5	0.9	5.9	2.3	7.2	3.6	7.9	4.3	9.9	6.3	12.6	9.0	15.3	11.7	N/A*	N/A*		
	10	8	4.5					6.3	2.8	7.0	3.5	9.0	5.5	11.7	8.2	14.4	10.9	N/A*	N/A*		
12	10.8	5.4										8.1	2.7	10.8	5.4	13.5	8.1	N/A*	N/A*		
XS 006	02	4	2	16.6	14.6	19.6	17.7	22.6	20.8	24.2	22.4	29.0	27.0	35.2	33.2	41.4	39.4	N/A*	N/A*		
	04	8.2	4.1	14.5	10.4	17.6	13.5	20.7	16.6	22.3	18.2	26.9	22.8	33.1	29.0	39.3	35.2	N/A*	N/A*		
	06	12.2	6.1	12.5	6.4	15.6	9.5	18.7	12.6	20.3	14.2	24.9	18.8	31.1	25.0	37.3	31.2	N/A*	N/A*		
	08	16.4	8.2	10.4	2.2	13.5	5.3	16.6	8.4	18.2	10.0	22.8	14.6	29.0	20.8	35.2	27.0	N/A*	N/A*		
	10	20.6	10.3					14.5	4.2	16.1	5.8	20.7	10.4	26.9	16.6	33.1	22.8	N/A*	N/A*		
12	24.6	12.3										18.7	6.4	24.9	12.6	31.1	18.8	N/A*	N/A*		
XS 012	02	8.3	4.1	32.9	28.7	39.1	34.9	45.2	41.0	48.3	44.1	57.5	53.3	69.9	65.7	82.2	78.0	94.5	90.3		
	04	16.6	8.2	28.8	20.4	35.0	26.6	41.1	32.7	44.2	35.8	53.4	45.0	65.8	57.4	78.1	69.7	90.4	82.0		
	06	24.9	12.3	24.7	12.1	30.9	18.3	37.0	24.4	40.1	27.5	49.3	36.7	61.7	49.1	74.0	61.4	86.3	73.7		
	08	33.2	16.4	20.6	3.8	26.8	10.0	32.9	16.1	36.0	19.2	45.2	28.4	57.6	40.8	69.9	53.1	82.2	65.4		
	10	41.5	20.5					28.8	7.8	31.9	10.9	41.1	20.1	53.5	32.5	65.8	44.8	78.1	57.1		
12	49.8	24.6										37.0	11.8	49.4	24.2	61.7	36.5	74.0	48.8		
XS 025	02	16	8	64	56	76	68	87	79	93	85	111	103	135	127	159	151	183	175		
	04	32	16	56	40	68	52	79	63	85	69	103	87	127	111	151	135	175	159		
	06	48	24	48	24	60	36	71	47	77	53	95	71	119	95	143	119	167	143		
	08	64	32	40	8	52	20	63	31	69	37	87	55	111	79	135	103	159	127		
	10	80	40					55	15	61	21	79	39	103	63	127	87	151	111		
12	96	48										71	23	95	47	119	71	143	95		
XS 050	02	30	15	118	103	140	125	162	147	173	158	207	192	251	236	295	280	349	334		
	04	59	29	104	74	126	96	148	118	159	129	193	163	237	207	281	251	335	305		
	06	89	44	89	44	111	66	133	88	144	99	178	133	222	177	266	221	320	275		
	08	118	58	75	15	97	37	119	59	130	70	164	104	208	148	252	192	306	246		
	10	148	73					104	29	115	40	149	74	193	118	237	162	291	216		
12	178	88										134	44	178	88	222	132	276	186		
XS 090	02	56	27	226	197	268	239	310	281	331	302	394	365	478	449	562	533	646	617		
	04	112	53	200	141	242	183	284	225	305	246	368	309	452	393	536	477	602	561		
	06	168	80	173	85	215	127	257	169	278	190	341	253	425	337	509	421	593	505		
	08	224	107	146	29	188	71	230	113	251	134	314	197	398	281	482	365	566	449		
	10	280	134					203	57	224	78	287	141	371	225	455	309	539	393		
12	336	160										261	85	345	169	429	253	513	337		
XS 130	02	84	41	344	301	408	365	472	429	504	461	601	558	729	686	857	814	985	942		
	04	169	81	304	216	368	280	432	344	464	376	561	473	689	601	817	729	945	857		
	06	253	122	263	132	327	196	391	260	423	292	520	389	648	517	776	645	904	773		
	08	337	162	223	48	287	112	351	176	383	208	480	305	608	433	736	561	864	689		
	10	422	203					310	91	342	123	439	220	567	348	695	476	823	604		
12	506	244										398	136	526	264	654	392	782	520		

NOTES:

All torque values are Newton-meters for pressure supply listed.

Torque values are same for both Spring Fail Clockwise, FCW (XRP style S) & Counterclockwise, FCCW, (XRP style A).

Recommended Safety Factor = 20% for single acting actuators.

XRP Spring Return Torques - Metric Units

	Spring	Spring		3 Bar		3.5 Bar		4 Bar		4.2 Bar		5 Bar		6 Bar		7 Bar		8 Bar	
	Quantity	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
XS 180	02	111	53	453	395	538	480	622	564	664	606	790	732	959	901	1128	1070	1297	1239
	04	222	107	399	284	484	369	568	453	610	495	736	621	905	790	1074	959	1243	1128
	06	332	160	346	174	431	259	515	343	557	385	683	511	852	680	1021	849	1190	1018
	08	443	213	293	63	378	148	462	232	504	274	630	400	799	569	968	738	1137	907
	10	554	267					408	121	450	163	576	289	745	458	914	627	1083	796
	12	665	320										523	178	692	347	861	516	1030
XS 205	02	169	84	674	589	801	716	927	842	990	905	1180	1095	1433	1348	1686	1601	1939	1854
	04	337	169	589	421	716	548	842	674	905	737	1095	927	1348	1180	1601	1433	1854	1686
	06	506	253	505	252	632	379	758	505	821	568	1011	758	1264	1011	1517	1264	1770	1517
	08	674	337	421	84	548	211	674	337	737	400	927	590	1180	843	1433	1096	1686	1349
	10	843	421					590	168	653	231	843	421	1096	674	1349	927	1602	1180
	12	1011	506										758	253	1011	506	1264	759	1517
XS 380	02	253	126	1012	885	1202	1075	1391	1264	1486	1359	1770	1643	2149	2022	2528	2401	2907	2780
	04	506	253	885	632	1075	822	1264	1011	1359	1106	1643	1390	2022	1769	2401	2148	2780	2527
	06	756	379	759	382	949	572	1138	761	1233	856	1517	1140	1896	1519	2275	1898	2654	2277
	08	1011	506	632	127	822	317	1011	506	1106	601	1390	885	1796	1264	2148	1643	2527	2022
	10	1264	632					885	253	980	348	1264	632	1643	1011	2022	1390	2401	1769
	12	1517	758									1138	379	1517	758	1896	1137	2275	1516
XS 630	02	421	211	1685	1475	2001	1791	2317	2107	2475	2265	2948	2738	3580	3370	4212	4002	4844	4634
	04	843	421	1475	1053	1791	1369	2107	1685	2265	1843	2738	2316	3370	2948	4002	3580	4634	4212
	06	1264	632	1264	632	1580	948	1896	1264	2054	1422	2527	1895	3159	2527	3791	3159	4423	3791
	08	1685	843	1053	211	1369	527	1685	843	1843	1001	2316	1474	2948	2106	3580	2738	4212	3370
	10	2107	1053					1475	421	1633	579	2106	1052	2738	1684	3370	2316	4002	2948
	12	2528	1264										1895	631	2527	1263	3159	1895	3791
XS 960	02	632	316	2563	2247	3043	2727	3523	3207	3763	3447	4483	4167	5442	5126	6402	6086	7361	7045
	04	1264	632	2247	1615	2727	2095	3207	2575	3447	2815	4167	3535	5126	4494	6086	5454	7045	6413
	06	1896	948	1931	983	2411	1463	2891	1943	3131	2183	3851	2903	4810	3862	5770	4822	6729	5781
	08	2528	1264	1615	351	2095	831	2575	1311	2815	1551	3535	2271	4494	3230	5454	4190	6413	5149
	10	3160	1580					2259	679	2499	919	3219	1639	4178	2598	5138	3558	6097	4517
	12	3792	1896										2903	1007	3862	1966	4822	2926	5781
XS H15	02	979	489	3918	3428	4653	4163	5387	4897	5754	5264	6856	6366	8325	7835	9794	9304	11263	10773
	04	1958	979	3428	2449	4163	3184	4897	3918	5264	4285	6366	5387	7835	6856	9304	8325	10773	9794
	06	2937	1468	2939	1470	3674	2205	4408	2939	4775	3306	5877	4408	7346	5877	8815	7346	10284	8815
	08	3616	1958	2449	791	3184	1526	3918	2260	4285	2627	5387	3729	6856	5198	8325	6667	9794	8136
	10	4894	2447					3429	982	3796	1349	4898	2451	6367	3920	7836	5389	9305	6858
	12	5873	2937										4408	1472	5877	2941	7346	4410	8815

NOTES:

All torque values are Newton-meters for pressure supply listed.

Torque values are same for both Spring Fail Clockwise, FCW (XRP style S) & Counterclockwise, FCCW, (XRP style A).

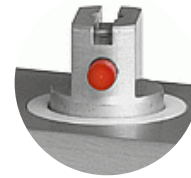
Recommended Safety Factor = 20% for single acting actuators.

* Max Pressure 7 Bar

Additional Features & Options

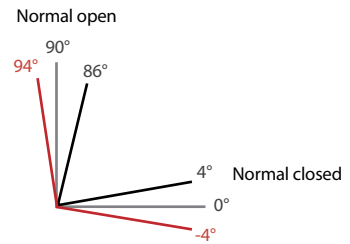
Visual Indicator

The position indicator is per the NAMUR standard providing local 90 degree indication and allows for the connection of a larger limit switch box with indicator.



Limit Stops

Adjustable limit stops for both open and closed positions provide 8 degrees of travel protection (4 degrees over-travel / 4 degrees under-travel)



Environmental Protection

Various types of coatings are available to help protect the actuator from harsh environmental conditions such as salt spray, chemicals, acids, fire, etc.

High/Low temperature kits allow the conversion of a standard actuator into either a high temperature version or low temperature version to meet extended operating temperature requirements.

The High temperature version incorporates special grease, Viton o-rings, seals, and metallic bearings suitable for operation up to 248 degrees F (120 degrees C)

The Low temperature version incorporates special grease, EPDM o-rings, and metallic bearings suitable for operation down to -40 degrees F (-40 degrees C)



Valve Interface

Shaft connections meet ISO 5211 standards and are available in square (0 degree offset), diamond (45 degree offset), and double-d for direct NAMUR mounting or bracket/coupling installation.

Shaft connection adapters allow reduction to accommodate smaller valve shafts.

Centering rings allow compliance with DIN 3337 and are available to make connection to a valve as simple as possible.



Manual Over-Rides

Allow the dis-connection of the actuator from the valve so that a manual operation can be performed.



Repair Kits

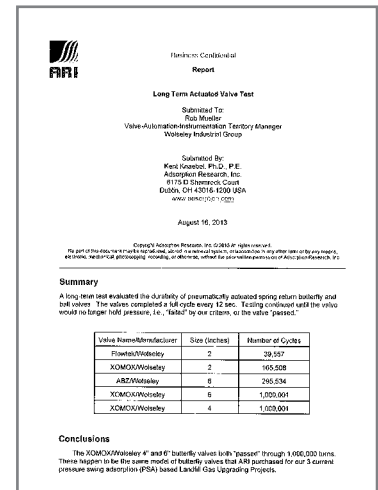
Spare parts kits are available for maintenance/repair or the conversion of a standard actuator to a different configuration.



Crane Sizing Program & Documentation

3rd Party Certification

The XOMOX Rack&Pinion (XRP) actuator's patented dual-piston, 3-point guide band suspension system provides a short, uniform, low-friction, guided stroke for optimum performance. It has been 3rd party tested and certified to operate to over 1 million full open/closed cycles without failure confirming that XRP actuators provide more consistent torque and longer service life than virtually any other actuator. The test was completed by Absorption Research, Inc an independent 3rd party who simulated real world conditions of a XRP actuator operating a Tufline HP butterfly valve. Detailed test results are available from Xomox Product Engineering Test Report Number 13-10-001.



Crane Sizing Program

The Crane Sizing Program can be used to quickly determine the proper actuator size for a valve or to work on a number of valves and actuators for a large project. The Quicksize feature allows you to fill in individual valve information and the program will determine the actuator size/configuration required to meet the torque requirements.

The Project Worksheet feature allows all the valve and actuator data to be entered/imported into a spreadsheet format making it easy to generate project quotations. The Engineering Calculation feature allows several different common valve/actuator engineering calculations to be done:

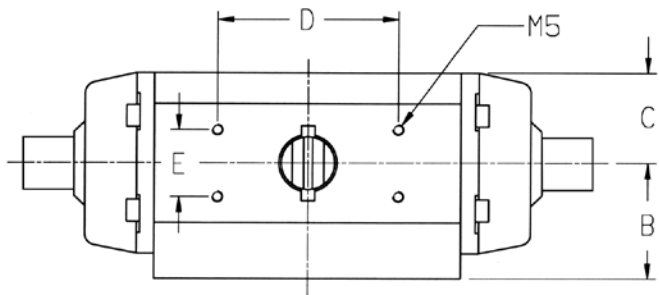
- Actuator Torque Tables will calculate the torque output of a selected actuator range at any supply pressure
- Speed Calculation can be done by inputting the actuator and process data to determine how quickly the actuator will open/close
- Tank Sizing is used to determine the size of an air tank required to operate the actuator after loss of air (failure)
- Hot Line Calculation can help to determine what type of actuator seals should be used and the distance the actuator should be mounted away from the process/valve



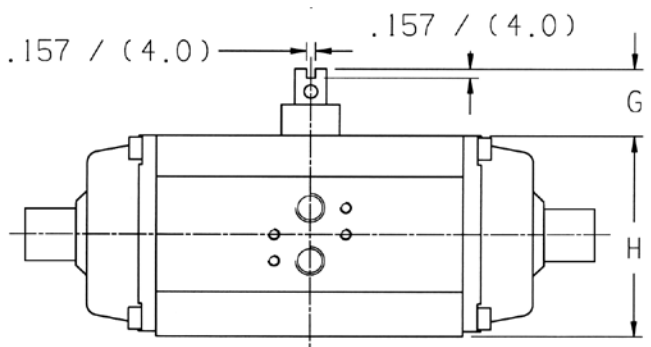
The Control Valve Sizing feature provides a simplified sizing technique for valve flow sizing for gas, liquid, or steam processes, saving a great deal of manual calculation effort to achieve an acceptable level of accuracy.

All of the information generated by the Crane Sizing Program can be printed out in ISA style data sheets.

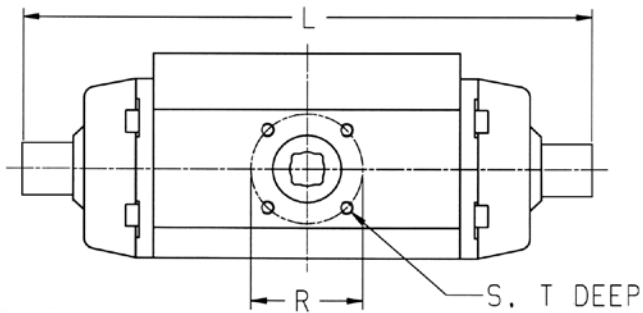
Size 012-180 Dimensions



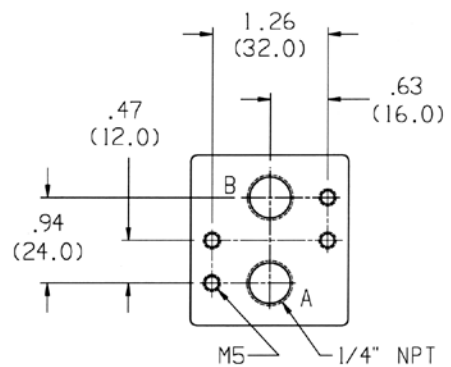
Top View



Side View



Bottom View

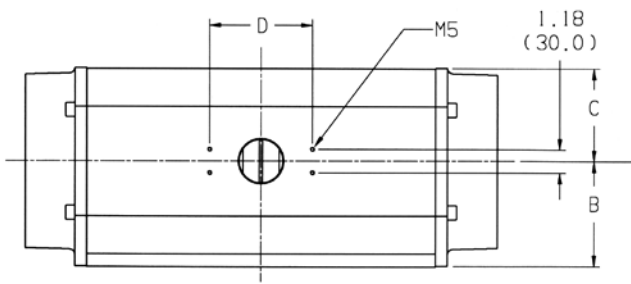


Solenoid Valve Interface

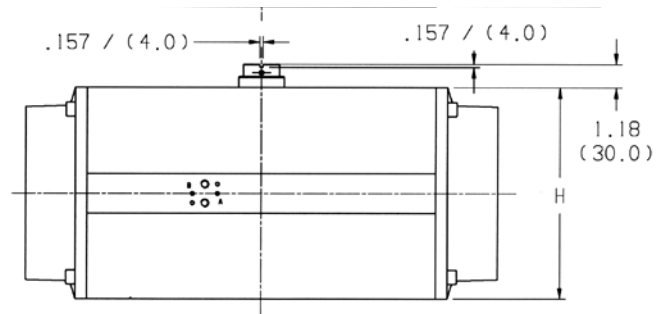
SIZE	L	G	H	B	C	D	E	R	S	T	ISO	SQ
XS012	10.43	0.79	3.58	2.66	1.61	3.15	1.18	1.97	M6	0.35	F05	0.55
	265	20	91	67.5	41	80	30	50		9		14
XS025	11.42	0.79	4.76	3.23	2.17	3.15	1.18	1.97	M6	0.35	F05	0.55
	290	20	121	82	55	80	30	50		9		14
XS050	14.37	0.79	5.75	3.70	2.64	3.15	1.18	2.76	M8	0.49	F07	0.67
	365	20	146	94	67	80	30	70		12.5		17
XS090	17.72	1.18	6.54	4.29	3.07	5.12	1.18	4.02	M10	0.63	F10	0.87
	450	30	166	109	78	130	30	102		16		22
XS130	20.67	1.18	7.56	4.53	3.54	5.12	1.18	4.92	M12	0.71	F12	1.06
	525	30	192	115	90	130	30	125		18		27
XS180	21.06	1.18	8.58	5.08	4.02	5.12	1.18	4.92	M12	0.71	F12	1.06
	535	30	218	129	102	130	30	125		18		27
Inches												
mm												

NOTE: Dimensions are in inches and millimeters. Dimensions are nominal. For certified drawings contact factory.

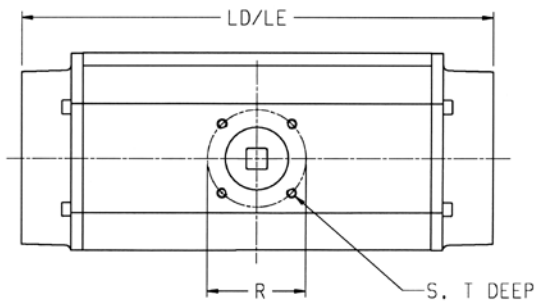
Size 205-H15 Dimensions



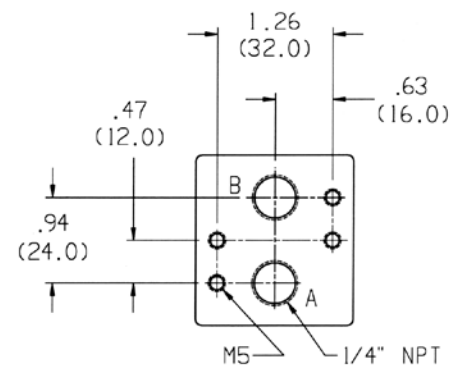
Top View



Side View



Bottom View



Solenoid Valve Interface

SIZE	LD	LE	H	B	C	D	R	S	T	ISO	SQ
XS205	15.24	19.13	10.71	5.91	4.69	5.12	5.51	M16	0.98	F14	1.42
	387	486	272	150	119	130	140		25		36
XS380	20.08	23.70	10.71	5.91	4.69	5.12	5.51	M16	0.98	F14	1.42
	510	602	272	150	119	130	140		25		36
XS630	22.09	29.17	13.54	7.36	6.77	5.12	6.50	M20	1.26	F16	1.81
	561	741	344	187	172	130	165		32		46
XS960	22.05	29.69	16.61	8.90	8.31	5.91	6.50	M20	0.35	F16*	1.81
	560	754	422	226	211	150	165		32		46
XSH15	26.34	34.61	17.72	9.45	8.86	5.91	ISO F25 Only				2.17
	669	879	450	240	225	150	See XS960/XSH15 View				55
Inches	LD = Length of Double-acting Actuator LE = Length of Spring Return Actuator * This Model also has ISO F25 Mounting Pattern										
mm	NOTE: Dimensions are in inches and millimeters. Dimensions are nominal. For certified drawings contact factory.										

XOMOX®

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