



EA

Pneumatic actuator

The **EA actuators** series is designed for quarter turn applications on **RUB** ball valves in a compact and lightweight design. They can be supplied single (spring return) or double acting with a wide range of output torques offering a complete valve automation solution.

EA actuator has a patented guide bar which keeps the rack and pinion gear teeth in perfect engagement in all directions of operations. The contact between the teeth is pure rolling contact – no rubbing or friction – which means minimum wear and long cycle life.



Superior appearance and better corrosion resistance. It has a dense jet black anodized finish which makes the EA line suitable for indoor and outdoor applications.

Actuators are designed in compliance with the following standards:

- ISO 5211 - Actuator to Valve Interface Standard
- VDI/VDE 3845 - Standard for Namur mounting of accessories (switchboxes, solenoid valves, positioners)
- ATEX - Explosive Atmosphere Directive (2014/34/EU)
- PED - Pressure Equipment Directive (97/23/CE)

TECHNICAL FEATURES

- ISO 5211 direct mount on valve
- Indoor or outdoor installation
- Pilot ring for perfect alignment of shaft and stem
- Nickel plated steel shaft
- Stainless steel fasteners
- High tensile long life return springs
- Visual position indicator
- Fast field conversion between double acting and spring return, fail open or fail closed
- Ambient and operating temperature range: -30°C (-22°F) / +100°C (+212°F)
- NAMUR pads for direct mount of solenoid and limit switch
- Extruded aluminum body hard anodized cylinder bore rock hard and glass smooth



ORDERING CODES:

Code	ISO5211 Flange	Square shaft	Code	ISO5211 Flange	Square shaft
EAx-1	F03	9 mm	EAx-1	F03	0.35 inch
EAx-2	F03/05	9 mm	EAx-2	F03/05	0.35 inch
EAx-2A	F03/05	11 mm	EAx-3	F05/07	0.55 inch
EAx-2B	F04	11 mm	EAx-4	F05/07	0.55 inch
EAx-3	F05/07	14 mm	EAx-5	F05/07	0.67 inch
EAx-4	F05/07	14 mm	EAx-6	F07/10	0.67 inch
EAx-5	F05/07	17 mm	EAx-7	F07/10	0.87 inch
EAx-6	F07/10	17 mm	EAx-9	F10/12	1.06 inch
EAx-7	F07/10	22 mm	EAx-10	F14	1.42 inch
			EAx-12	F16	1.81 inch

Note for code:

x=2 for metric threads; 4 for Imperial threads

ACCESSORIES

- Limit switch box
- Solenoid valves
- Visual position indicator
- Link kit
- Springs



Limit switch box



Solenoid valve



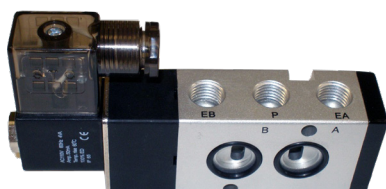
Springs



Link kit



Visual position indicator



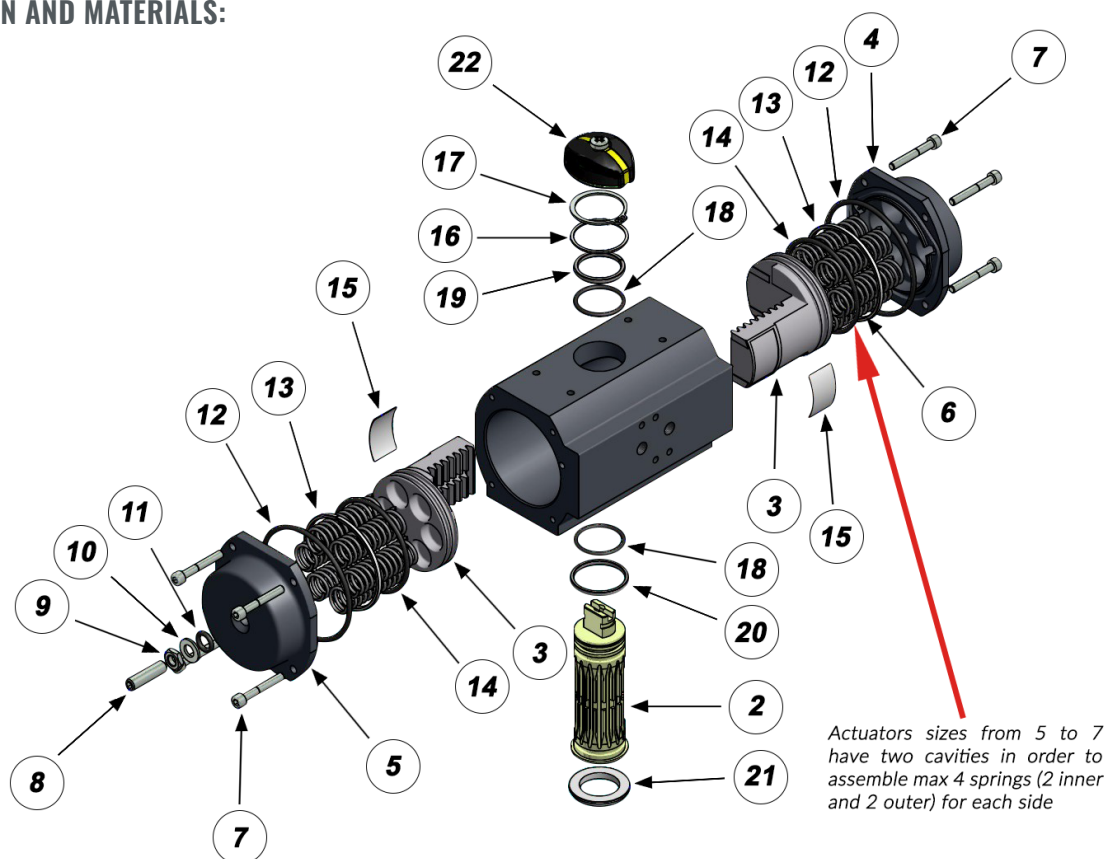
Solenoid Valve Code	Description
AD-00001	AD-1 (UCI) COMPLETE
AD-00002	AD-1 DUAL COIL 120 VAC SOLENOID
AD-00003	SOLENOID VLV AD-1 5/2 3/2 110 VAC
AD-00009	COILS 12 DC (28)
AD-00012	COILS 24AC (16)
AD-00013	COILS 24 DC (12)
AD-00015	SINGLE PILOT SOLENOID
AD-00016	AD-1 DUAL COIL 24 AC SOLENOID
AD-00017	AD-1 (UCI) COMPLETE COIL 24 DC
AD-00018	AD-1 (UCI) COMPLETE COIL 24 AC
AD-00019	SOLENOID VLV AD-1 5/2 3/2 24 VAC
AD-00020	COILS 220 VAC



Auxiliary switches Code	Description
EA2-LS	Auxiliary switches box



CONSTRUCTION AND MATERIALS:



BILL OF MATERIALS

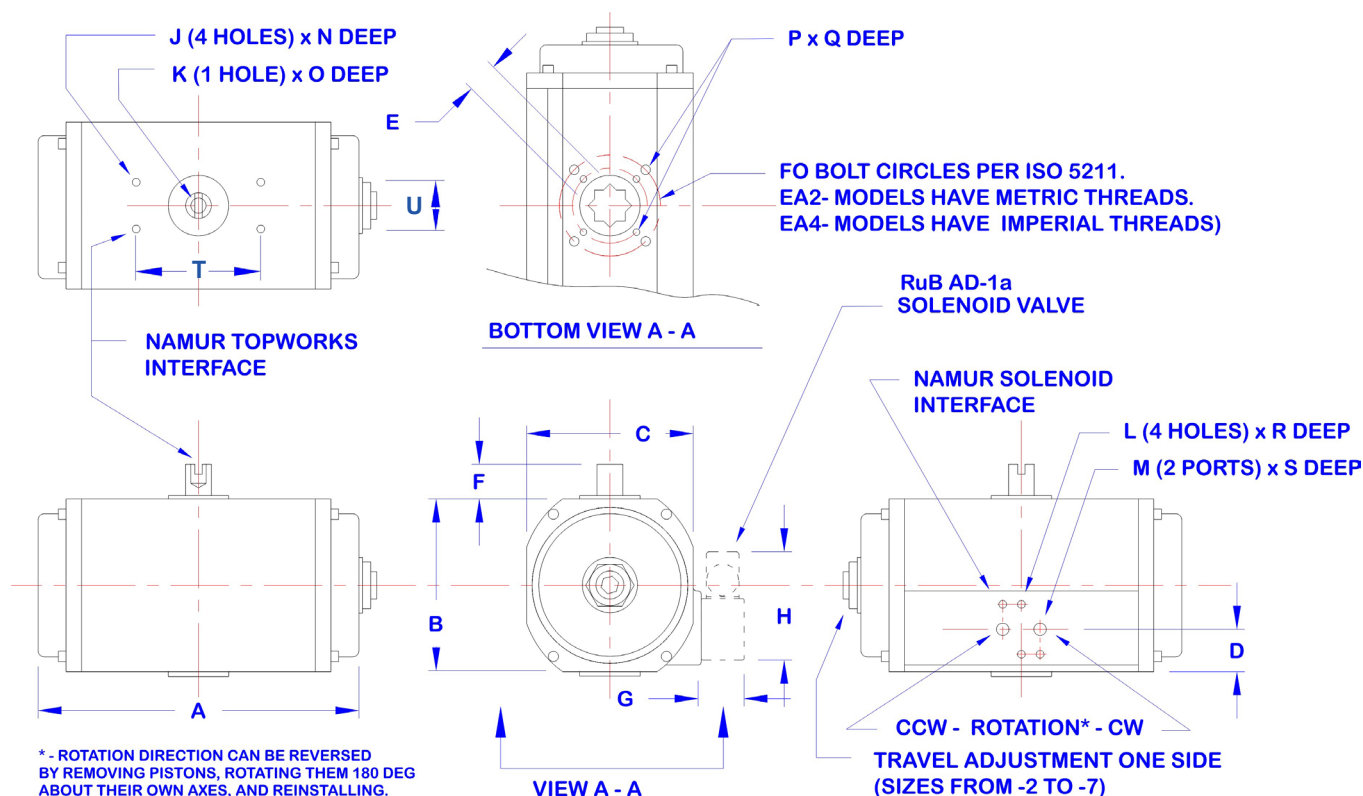
EA-4 is shown. Smaller sizes have similar construction except EA-1 that has Nylon endcaps and pistons

	Part description	Q.ty	Material
1	Body	1	Anod, aluminum
2	Shaft	1	Steel - zinc plated
3	Piston	2	Aluminum
4	End-cap	1	Anod, aluminum
5	End-cap (stop bolt)	1	Anod, aluminum
6	Spring	12 Max	Cr-Si steel
7	Cap bolt	8	St steel
8	Stop bolt	1	Hi tensile steel
9	Stop bolt nut	1	Hi tensile steel
10	Washer	1	Polyethylene
11	O-ring (end stop)	1	NBR
12	O-ring (end cover)	2	NBR
13	Piston ring	2	POM**
14	Piston ring	2	NBR
15	Wear pad	2	POM**
16	Shaft washer	1	Polyethylene
17	Snap ring	1	Steel
18	O-ring (drive shaft)	2	NBR
19	Shaft bearing upper	1	POM**
20	Shaft bearing lower	1	POM**
21	Alignment ring	1	POM**
22	Indicator	1	Nylon

** Polyoxymethylene commonly "Delrin"



DIMENSIONS:



Size	Metric system - mm																				
	F0	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U
1	F03	103	45	51	22,5	9	20	26	67	M5	M6	M5	G1/8	5	12	M5	8	8	7	80	30
2	F03/05	150	70	70	23	9	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10	80	30
2A	F03/05	150	70	70	23	11	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10	80	30
2B	F04	150	70	70	23	11	20	26	67	M5	M6	M5	G1/8	8	12	M5 / M6	8 / 10	8	10	80	30
3	F05/07	187	87	91	34,5	14	20	26	67	M5	M6	M5	G1/8	8	12	M6 / M8	10 / 13	8	10	80	30
4	F05/07	206	118	113	29,5	14	20	26	67	M5	M6	M5	G1/8	8	12	M6 / M8	10 / 13	8	10	80	30
5	F05/07	194	118,5	121	29,5	17	20	26	67	M5	M6	M5	G1/4	5	12	M6 / M8	10 / 10	8	12	80	30
6	F07/10	218	140,5	136,5	29,5	17	20	26	67	M5	M6	M5	G1/4	5	12	M8 / M10	10 / 16	8	12	80	30
7	F07/10	266	166,5	156	30	22	20	26	67	M5	M6	M5	G1/4	5	12	M8 / M10	13 / 16	8	12	80	30

Size	Imperial system - inch																		
	ISO5211	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S
1	F03	4.06	1.77	2.01	0.89	0.35	0.79	1.02	2.64	10-32	M6	10-32	1/8 NPT	0.20	0.47	10-32	0.31	0.31	0.28
2	F03/05	5.91	2.76	2.76	0.91	0.35	0.79	1.02	2.64	10-32	M6	10-32	1/8 NPT	0.31	0.47	10-32 / 1/4"-20	0.31 / 0.39	0.31	0.39
3	F05/07	7.36	3.43	3.58	1.36	0.55	0.79	1.02	2.64	10-32	M6	10-32	1/8 NPT	0.31	0.47	1/4"-20 / 5/16"-18	0.39 / 0.51	0.31	0.39
4	F05/07	8.11	4.65	4.45	1.16	0.55	0.79	1.02	2.64	10-32	M6	10-32	1/8 NPT	0.31	0.47	1/4"-20 / 5/16"-18	0.39 / 0.51	0.31	0.39
5	F05/07	7.64	4.67	4.76	1.16	0.67	0.79	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	1/4"-20 / 5/16"-18	0.47 / 0.47	0.31	0.50
6	F07/10	8.58	5.53	5.37	1.16	0.67	0.79	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	5/16"-18 / 3/8"-16	0.51 / 0.63	0.31	0.50
7	F07/10	10.47	6.56	6.14	1.18	0.87	0.79	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	5/16"-18 / 3/8"-16	0.51 / 0.63	0.31	0.50
9	F10/F12	13.39	8.17	7.52	1.65	1.06	1.18	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	1-2	0.79	0.31	0.50
10	F14	14.21	9.84	8.94	2.4	1.42	1.18	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.20	0.47	3-4	0.98	0.31	0.50
12	F16	19.52	13.31	11.81	-	1.81	1.18	1.02	2.64	10-32	M6	10-32	1/4 NPT	0.47	0.47	3-4	1.26	0.31	0.50



TORQUE RATING CHARTS FOR EA2 ACTUATORS - METRIC THREADS

Double acting - torque in Nm						
		Air pressure supply (bar)				
EA2-	Springs	3	4	5	6	7
1	0	4.4	5.9	7.3	8.8	10.3
2-2A	0	11.9	15.8	19.8	23.7	27.7
3	0	25.4	33.8	42.3	50.7	59.2
4	0	50.7	67.6	84.5	101.4	118.3
5	0	61.3	81.7	102.1	122.5	142.9
6	0	101.0	134.6	168.3	201.9	235.6
7	0	187.0	249.3	311.7	374.0	436.3

Spring return - Torque in Nm															
						air stroke - start					air stroke - end				
	Springs	Springs		Spring stroke		Air pressure supply (bar)					Air pressure supply (bar)				
EA2-	total	outer	inner	start	end	3	4	5	6	7	3	4	5	6	7
2-2A	2			2.62	1.34	10.5	14.4	18.4	22.3	26.3	9.2	13.2	17.1	21.1	25.0
	3			3.93	2.01	9.8	13.8	17.7	21.7	25.6	7.9	11.9	15.8	19.7	23.7
	4			5.24	2.68	9.2	13.1	17.0	21.0	24.9	6.6	10.5	14.5	18.4	22.4
	5			6.55	3.35	8.5	12.4	16.4	20.3	24.3	5.3	9.2	13.2	17.1	21.1
	6			7.86	4.02	7.8	11.8	15.7	19.7	23.6	4.0	7.9	11.9	15.8	19.8
	7			9.17	4.69		11.1	15.0	19.0	22.9		6.6	10.6	14.5	18.4
	8			10.48	5.36		10.4	14.4	18.3	22.3		5.3	9.2	13.2	17.1
	9			11.79	6.03			13.7	17.6	21.6			7.9	11.9	15.8
	10			13.1	6.7			13.0	17.0	20.9			6.6	10.6	14.5
	11			14.41	7.37				16.3	20.2				9.3	13.2
	12			15.72	8.04				15.6	19.6				8.0	11.9
3	2			5.44	3	22.4	30.8	39.3	47.7	56.2	19.9	28.4	36.8	45.3	53.7
	3			8.16	4.5	20.9	29.3	37.8	46.2	54.7	17.2	25.7	34.1	42.6	51.0
	4			10.88	6	19.4	27.8	36.3	44.7	53.2	14.5	22.9	31.4	39.8	48.3
	5			13.6	7.5	17.9	26.3	34.8	43.2	51.7	11.8	20.2	28.7	37.1	45.6
	6			16.32	9	16.4	24.8	33.3	41.7	50.2	9.0	17.5	26.0	34.4	42.9
	7			19.04	10.5		23.3	31.8	40.2	48.7		14.8	23.2	31.7	40.1
	8			21.76	12		21.8	30.3	38.7	47.2		12.1	20.5	29.0	37.4
	9			24.48	13.5			28.8	37.2	45.7			17.8	26.2	34.7
	10			27.2	15			27.3	35.7	44.2			15.1	23.5	32.0
	11			29.92	16.5				34.2	42.7				20.8	29.3
	12			32.64	18				32.7	41.2				18.1	26.5
	4	2			10.24	6.68	44.0	61.0	77.9	94.8	111.7	40.5	57.4	74.3	91.2
3				15.36	10.02	40.7	57.6	74.5	91.4	108.3	35.4	52.3	69.2	86.1	103.0
4				20.48	13.36	37.4	54.3	71.2	88.1	105.0	30.2	47.2	64.1	81.0	97.9
5				25.6	16.7	34.0	50.9	67.8	84.8	101.7	25.1	42.0	58.9	75.9	92.8
6				30.72	20.04	30.7	47.6	64.5	81.4	98.3	20.0	36.9	53.8	70.7	87.6
7				35.84	23.38		44.3	61.2	78.1	95.0		31.8	48.7	65.6	82.5
8				40.96	26.72		40.9	57.8	74.7	91.6		26.7	43.6	60.5	77.4
9				46.08	30.06			54.5	71.4	88.3			38.5	55.4	72.3
10				51.2	33.4			51.1	68.1	85.0			33.3	50.3	67.2
11				56.32	36.74				64.7	81.6				45.1	62.0
12				61.44	40.08				61.4	78.3				40.0	56.9
5		4	4	0	52.4	28.8	32.5	52.9	73.3	93.7	114.1	8.9	29.3	49.7	70.1
	5	4	1	58.95	32.4		49.3	69.7	90.1	110.5		22.7	43.1	63.6	84.0
	6	4	2	65.5	36		45.7	66.1	86.5	106.9		16.2	36.6	57.0	77.4
	7	4	3	72.05	39.6			62.5	82.9	103.3			30.0	50.5	70.9
	8	4	4	78.6	43.2			58.9	79.3	99.7			23.5	43.9	64.3
6	4	4	0	86.8	47.7	53.3	86.9	120.6	154.2	187.9	14.2	47.8	81.5	115.1	148.8
	5	4	1	97.65	53.675		80.9	114.6	148.3	181.9		37.0	70.6	104.3	137.9
	6	4	2	108.5	59.65		75.0	108.6	142.3	175.9		26.1	59.8	93.4	127.1
	7	4	3	119.35	65.625			102.6	136.3	170.0			48.9	82.6	116.2
	8	4	4	130.2	71.6			96.7	130.3	164.0			38.1	71.7	105.4
7	4	4	0	160.8	88.4	98.7	161.1	223.4	285.8	348.1	26.3	88.7	151.0	213.4	275.7
	5	4	1	180.9	99.45		150.0	212.4	274.7	337.1		68.6	130.9	193.3	255.6
	6	4	2	201	110.5		139.0	201.3	263.7	326.0		48.5	110.8	173.2	235.5
	7	4	3	221.1	121.55			190.3	252.6	315.0			90.7	153.1	215.4
	8	4	4	241.2	132.6			179.2	241.6	303.9			70.6	133.0	195.3

Each user should perform his own tests to find out the suitability for his particular application. BONOMI INDUSTRIES makes no warranty, express or implied, as to the shape, fit or function of a product for any application. Contact us or consult with your supplier for additional information on the suitability of the BONOMI INDUSTRIES products with your specific field of use.



TORQUE RATING CHARTS FOR EA4 ACTUATORS - IMPERIAL THREADS

Double acting - torque in lb																												
		Air pressure supply (PSI)																										
EA4-	40				50				60				70				80				90				100			
1	32.6				40.7				48.8				57				65.1				73.2				81.4			
2	96				120				144				168				192				216				240			
3	206				257.5				309				360.5				412				463.5				515			
4	413.5				516.9				620.3				723.6				827				930.4				1033.8			
5	497				621.3				745.5				869.8				994				1118.3				1242.5			
6	819				1023.8				1228.5				1433.3				1638				1842.8				2047.5			
7	1527.5				1909.4				2291.3				2673.1				3055				3436.9				3818.8			
9	3344.5				4180.6				5016.8				5852.9				6689.0				7525.1				8361.3			
10	4552.5				5690.6				6828.8				7966.9				9105.0				10243.1				11381.3			
12	10740.0				13425.0				16110.0				18795.0				21480.0				24165.0				26850.0			

Spring return - Torque in lb																				
						air stroke - start							air stroke - end							
						Air pressure supply (PSI)							Air pressure supply (PSI)							
EA4-	Springs	Springs		Spring Torque																
	total	outer	inner	start	end	40	50	60	70	80	90	100	40	50	60	70	80	90	100	
2	2				23	12	84	108	133	157	181	205	229	73	97	121	145	169	193	218
	3				35	18	78	103	127	151	175	199	223	62	86	110	134	158	182	206
	4				46	24	73	97	121	145	169	193	217	50	74	98	122	146	170	194
	5				58	30	67	91	115	139	163	187	211	38	82	86	111	135	159	183
	6				70	36		85	109	133	157	181	205		51	75	99	123	147	171
	7				81	41		79	103	127	151	175	199		39	63	87	111	135	160
	8				93	47			97	121	145	169	193			52	76	100	124	148
	9				104	53				115	139	163	187				84	88	112	136
	10				116	59				109	133	157	181				53	77	101	125
	11				127	65					127	151	175					65	89	113
	12				139	71						145	170						78	102
	3	2				48	27	180	231	283	334	386	436	489	158	210	261	313	364	416
3					72	40	166	218	270	321	373	424	476	134	186	237	289	340	392	444
4					96	53	153	205	256	308	360	411	463	110	162	213	265	316	388	419
5					120	66	140	192	243	295	346	398	449	86	138	189	241	292	344	395
6					144	80		178	230	281	333	385	436		113	165	217	268	320	371
7					188	93		165	217	268	320	371	423		89	141	193	244	296	347
8					193	106			203	255	306	358	410			117	169	220	272	323
9					217	119				242	293	345	396				144	196	248	299
10					241	133				228	280	331	383				120	172	224	275
11					265	146					267	318	370					148	199	251
12					289	159						305	356						175	227
4		2				91	59	354	457	560	663	766	869	972	322	425	528	631	735	838
	3				136	89	324	427	530	633	737	840	943	277	380	483	586	689	792	896
	4				181	118	294	398	501	604	707	810	913	231	335	438	541	644	747	850
	5				227	148	265	368	471	574	677	781	884	186	289	392	496	599	702	805
	6				272	177		338	442	545	648	751	854		244	347	450	553	657	760
	7				317	207		309	412	515	618	722	825		199	302	405	508	611	714
	8				362	236			382	486	589	692	795			257	360	463	566	669
	9				408	266				466	559	662	766				314	418	521	624
	10				453	296				427	530	633	736				269	372	475	579
	11				498	325					500	603	706					327	430	533
	12				544	355						574	677						385	488
	5	4	4	0	464	255		368	493	617	742	866	991		159	284	408	533	657	782
5		4	1	522	287			461	585	710	834	959			226	350	475	599	724	
6		4	2	580	319			429	553	678	803	927			168	292	417	541	666	
7		4	3	637	350				522	646	771	895					234	359	484	608
6	8	4	4	695	382				614	739	863						301	426	550	
	4	4	0	769	422		604	810	1015	1220	1426	1631		259	464	669	874	1080	1285	
	5	4	1	864	475			757	962	1168	1373	1578			368	573	778	984	1189	
	6	4	2	960	528			704	909	1115	1320	1525			272	477	682	888	1093	
7	7	4	3	1056	581				856	1062	1267	1472					381	586	792	997
	8	4	4	1152	634				804	1009	1214	1420					285	490	696	901
	4	4	0	1423	782		1120	1500	1881	2261	2642	3022		479	860	1240	1621	2001	2382	
	5	4	1	1601	880		1022	1403	1783	2164	2544	2924		302	682	1063	1443	1823	2204	
8	6	4	2	1778	978			1305	1685	2066	2446	2827			504	885	1265	1646	2026	
	7	4	3	1956	1075			1207	1568	1968	2349	2729			326	707	1087	1468	1648	
	8	4	4	2134	1173				1490	1870	2251	2631					529	909	1290	1670
	4	4	0	3133	1726			3282	4116	4951	5785				1877	2712	3548	4383		
9	6	4	2	3921	2151			2858	3692	4527	5362				1098	1935	2771	3607		
	7	4	3	4310	2372				3472	4306	5141						1538	2374	3209	
	8	4	4	4699	2584					4095	4929							1986	2821	
	4	4	0	4266	2345			4470	5606	6742	7878				2554	3690	4827	5964		
10	6	4	2	5337	2929			3881	5016	6151	7286				1485	2622	3759	4896		
	7	4	3	5868	3230				4723	5860	6996					2093	3230	4367		
	8	4	4	6399	3522					5568	6705						2700	3838		
	6			8284	5363			10711	13391	16070	18749				7797	10477	13158	15838		
12	8			11045	7151			8928	11607	14287	16967				5042	7723	10404	13085		
	10			13806	8939				9824	12505	15185					4969	7651	10333		
	12			16567	10726					10722	13403						4898	7581		



QUICK PICK CHART FOR EA2 (METRIC) PNEUMATIC ACTUATORS ASSEMBLED ON S64, S65, S73 AND S76 RUB BALL VALVES

For service with pipeline ΔP lower than the maximum limits shown below, and for media having friction characteristics similar to clean water or moist/lubricated gases the following actuator selections can be used. For higher pipeline pressures or more difficult media the selection must be made using the valve torque charts found on each valve data sheet, and the actuator torque rating chart found on the following page. For assistance in actuator selection please contact **RuB** at the following email address: sales@rubvalves.com or your **RuB** distributor.

VALVE		Air pressure supply (bar)									
		3	4	5	6	7	3	4	5	6	7
s64 LT	ΔP Media (bar)	Double Acting Actuators EA2-					Spring-to-Close Actuators EA2-				
1"	6	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2
1 1/4"	6	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3
1 1/2"	6	2A	2A	2A	2A	2A	2As6	2As6	2As6	2As6	2As6
2"	6	2A	2A	2A	2A	2A	3s4	2As8	2As8	2As8	2As8
1"	16 Max	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4
1 1/4"	16 Max	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4
1 1/2"	16 Max	2A	2A	2A	2A	2A	3s4	2As9	2As9	2As9	2As9
2"	16 Max	3	2A	2A	2A	2A	3s6	3s6	2As12	2As12	2As12

VALVE		Air pressure supply (bar)									
		3	4	5	6	7	3	4	5	6	7
s64	ΔP^* Media (bar)	Double Acting Actuators EA2-					Spring-to-Close Actuators EA2-				
1/2"	15	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2
3/4"	15	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3
1"	15	2	2	1	1	1	2s4	2s4	2s4	2s4	2s4
1 1/4"	15	2A	2A	2A	2A	2A	3s6	3s6	3s6	2As12	2As12
1 1/2"	15	3	3	3	3	2A	4s4	4s4	3s9	3s9	3s9
2"	15	4	3	3	3	3	4s5	4s5	3s11	3s11	4s6
2 1/2"	15	5	5	5	5	5	7s4	5s4	5s4	5s4	5s4
3"	15	7	6	5	5	5	7s4	7s4	6s7	6s7	6s7
4"	15	7	7	7	6	6			7s7	7s7	7s7

* Selections apply for valves used with ΔP up to 15 bar Max. For ΔP over 15 bar and up to 40 bar (30 bar for sizes over 2"), please consult **BONOMI INDUSTRIES** for sizing recommendations.

VALVE		Air pressure supply (bar)									
		3	4	5	6	7	3	4	5	6	7
s65	ΔP Media (bar)	Double Acting Actuators EA2-					Spring-to-Close Actuators EA2-				
1/2"	16 Max	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3
3/4"	16 Max	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4
1"	16 Max	2	1	1	1	1	2s4	2s4	2s4	2s4	2s4
1 1/4"	16 Max	2	1	1	1	1	2s5	2s5	2s5	2s5	2s5

VALVE		Air pressure supply (bar)									
		3	4	5	6	7	3	4	5	6	7
s73	ΔP Media (bar)	Double Acting Actuators EA2-					Spring-to-Close Actuators EA2-				
1/2"	16	2	2	2	2	2	4s3	3s7	3s7	3s7	3s7
3/4"	16	3	2	2	2	2	4s4	3s8	3s8	3s8	3s8
1"	16	3	3	3	2	2	4s6	4s6	4s6	4s6	4s6
1 1/4"	16	3	3	3	3	3	4s4	4s4	3s9	3s9	3s9
1 1/2"	16	3	3	3	3	3	4s7	4s7	4s7	4s7	4s7
2"	16	4	4	3	3	3	6s4	5s6	4s11	4s11	4s11

* Selections apply for valves used with ΔP up to 16 bar Max. For ΔP over 16 bar and up to 20 bar, please consult **BONOMI INDUSTRIES** for sizing recommendations.

VALVE		Air pressure supply (bar)									
		3	4	5	6	7	3	4	5	6	7
s76	ΔP Media (bar)	Double Acting Actuators EA2-					Spring-to-Close Actuators EA2-				
1/2"	16	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4
3/4"	16	1	1	1	1	1	2s5	2s5	2s5	2s5	2s5
1"	16	2	1	1	1	1	2s5	2s5	2s5	2s5	2s5
1 1/4"	16	2A	2A	2A	2A	2A	3s5	3s5	3s5	2As11	2As11
1 1/2"	16	3	3	3	3	3	4s5	4s5	3s9	3s9	3s9
2"	16	4	3	3	3	3	4s6	4s6	4s6	3s12	3s12

* Selections apply for valves used with ΔP up to 16 bar. For ΔP over 16 bar and up to 20/30 bar, please consult **BONOMI INDUSTRIES** for sizing recommendations.

Red font = selection driven by valve stem size

LINKAGE KIT SELECTION TABLE

Valve	Valve size	Actuator size								
		EA2	-1	-2	-2A	-3	-4	-5	-6	-7
s64	1/2" ~ 1"	LK-	1	1	-	3	3	-	-	-
	1 1/4" ~ 1 1/2"	LK-	-	-	4	6	6	13	7	-
	2"	LK-	-	-	-	4	4	14	5	21
	2 1/2" ~ 4"	LK-	-	-	-	-	-	15	15	12
s64 LT	1" ~ 1 1/4"	LK-	1	1	-	3	3	-	-	-
	1 1/2" ~ 2"	LK-	-	-	4	6	6	-	-	-
s65	1/2" ~ 1 1/4"	LK-	1	1	-	3	-	-	-	-
s73	1/2" ~ 1"	LK-	1	1	-	3	3	-	-	-
	1 1/4" ~ 2"	LK-	-	-	-	4	4	14	5	-
	1 1/2" ~ 1"	LK-	1	1	-	3	3	-	-	-
s76	1 1/4" ~ 1 1/2"	LK-	-	-	4	6	6	13	7	-
	2"	LK-	-	-	-	4	4	14	5	-



QUICK PICK CHART FOR EA4 (IMPERIAL) PNEUMATIC ACTUATORS
ASSEMBLED ON S64, S65, S134, AND S73, S76 RUB BALL VALVES

For service with pipeline ΔP lower than the maximum limits shown below, and for media having friction characteristics similar to clean water or moist/lubricated gases the following actuator selections can be used. For higher pipeline pressures or more difficult media the selection must be made using the valve torque charts found on each valve data sheet, and the actuator torque rating chart found on the following page.

		Air pressure supply (PSI)																				
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s64 LT	ΔP Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1"	90	1	1	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s2
1-1/4"	90	1	1	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s3
1-1/2"	90	3	3	3	3	3	3	3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3	3s3
2"	90	3	3	3	3	3	3	3	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4
1"	230 Max	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1-1/4"	230 Max	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1-1/2"	230 Max	3	3	3	3	3	3	3	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s4
2"	230 Max	3	3	3	3	3	3	3	4s3	3s6	3s6	3s6	3s6	3s6	3s6	3s6	4s3	3s6	3s6	3s6	3s6	3s6

		Air pressure supply (PSI)																				
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s64	ΔP* Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1/2"	200	1	1	1	1	1	1	1	2s2	2s2	2s2	2s2	2s2	2s2	2s2	2s3	2s3	2s3	2s3	2s3	2s3	2s3
3/4"	200	2	1	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1"	200	2	2	2	2	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	3s3	2s7	2s7	2s7	2s7	2s7	2s7
1-1/4"	200	3	3	3	3	3	3	3	4s3	3s6	3s6	3s6	3s6	3s6	3s6	3s5	3s5	3s5	3s5	3s5	3s5	3s5
1-1/2"	200	4	3	3	3	3	3	3	4s4	4s4	4s4	3s9	3s9	3s9	3s9	4s5	4s5	4s5	3s10	3s10	3s10	3s10
2"	200	4	4	3	3	3	3	3	4s5	4s5	4s5	4s5	4s5	4s5	3s11	3s11	4s6	4s6	4s6	4s6	3s12	3s12
2-1/2"	200	5	5	5	5	5	5	5	6s4	5s4	5s4	5s4	5s4	5s4	5s4	6s4	5s4	5s4	5s4	5s4	5s4	5s4
3"	200	7	6	6	6	5	5	5	7s4	7s4	7s4	6s7	6s7	6s7	6s7	7s4	7s4	7s4	6s7	6s7	6s7	6s7
4"	200	7	7	7	7	7	6	6	7s7	7s7	7s7	7s7	7s7	7s7	7s7	7s7	7s7	7s7	7s7	7s7	7s7	7s7

* Selections apply for valves used with ΔP up to 200 PSI Max. For ΔP over 200 PSI and up to 600 PSI (450 PSI for sizes over 2"), please consult **BONOMI INDUSTRIES** for sizing recommendations.

VALVE		Air pressure supply (PSI)																				
s134	ΔP* Media (PSI)	40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
		Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1/2"	200	2	2	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s5	2s5	2s5	2s5	2s5	2s5	2s5
3/4"	200	2	2	2	2	2	1	1	3s4	2s7	2s7	2s7	2s7	2s7	2s7	3s4	3s4	2s7	2s7	2s7	2s7	2s7
1"	200	3	3	3	3	3	3	3	3s4	3s4	3s4	3s4	3s4	3s4	3s4	3s6	3s6	3s6	3s6	3s6	3s6	3s6
1-1/4"	200	3	3	3	3	3	3	3	4s3	3s6	3s6	3s6	3s6	3s6	3s6	4s4	3s7	3s7	3s7	3s7	3s7	3s7
1-1/2"	200	4	3	3	3	3	3	3	4s4	4s4	4s4	3s8	3s8	3s8	3s8	4s6	4s6	4s6	4s6	3s11	3s11	3s11
2"	200	4	4	3	3	3	3	3	4s6	4s6	4s6	4s6	4s6	4s6	3s12	4s7	4s7	4s7	4s7	4s7	4s7	4s7

* Selections apply for valves used with ΔP up to 200 PSI Max. For ΔP over 200 PSI and up to 1000 PSI, please consult **BONOMI INDUSTRIES** for sizing recommendations.

		Air pressure supply (PSI)																				
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s65	ΔP Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1/2"	230 max	1	1	1	1	1	1	1	2s3	2s3	2s3	2s3	2s3	2s3	2s3	2s4	2s4	2s4	2s4	2s4	2s4	2s4
3/4"	230 max	2	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
1"	230 max	2	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s5	2s5	2s5	2s5	2s5	2s5	2s5
1-1/4"	230 max	2	2	1	1	1	1	1	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5

		Air pressure supply (PSI)																				
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s73	ΔP* Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1/2"	230	2	2	2	2	2	2	2	4s3	3s7	3s7	3s7	3s7	3s7	3s7	4s3	3s7	3s7	3s7	3s7	3s7	3s7
3/4"	230	3	2	2	2	2	2	2	4s4	4s4	3s8	3s8	3s8	3s8	3s8	4s4	4s4	3s8	3s8	3s8	3s8	3s8
1"	230	3	3	3	3	3	2	2	4s6	4s6	4s6	4s6	4s6	4s6	4s6	4s6	4s6	4s6	4s6	4s6	4s6	4s6
1-1/4"	230	3	3	3	3	3	3	3	4s4	4s4	3s9	3s9	3s9	3s9	3s9	4s4	4s4	3s9	3s9	3s9	3s9	3s9
1-1/2"	230	3	3	3	3	3	3	3	4s7	4s7	4s7	4s7	4s7	4s7	4s7	4s7	4s7	4s7	4s7	4s7	4s7	4s7
2"	230	4	4	4	3	3	3	3			6s4	6s4	4s11	4s11	4s1			6s4	6s4	4s11	4s11	4s11

* Selections apply for valves used with ΔP up to 230 PSI Max. For ΔP over 230 PSI and up to 300 PSI, please consult **BONOMI INDUSTRIES** for sizing recommendations.

		Air pressure supply (PSI)																				
VALVE		40	50	60	70	80	90	100	40	50	60	70	80	90	100	40	50	60	70	80	90	100
s76	Δp Media (PSI)	Double Acting Actuators EA4-							Spring-to-Close Actuators EA4-							Spring-to-Open Actuators EA4-						
1/2"	230	1	1	1	1	1	1	1	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4	2s4
3/4"	230	2	1	1	1	1	1	1	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5
1"	230	2	1	1	1	1	1	1	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5	2s5
1-1/4"	230	3	3	3	3	3	3	3	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5	3s5
1-1/2"	230	3	3	3	3	3	3	3	4s5	4s5	4s5	3s9	3s9	3s9	3s9	4s5	4s5	4s5	3s9	3s9	3s9	3s9
2"	230	4	3	3	3	3	3	3	4s6	4s6	4s6	4s6	4s6	3s12	3s12	4s6	4s6	4s6	4s6	4s6	3s12	3s12

* Selections apply for valves used with ΔP up to 230 PSI. For ΔP over 230 PSI and up to 300/450 PSI, please consult **BONOMI INDUSTRIES** for sizing recommendations.

LINKAGE KIT SELECTION TABLE

Valve	Valve size	Actuator size						
		EA4	-1	-2	-3	-4	-5	-6
s64	1/2" ~ 1"	LK-	8	8	9	9	-	-
	1 1/4" ~ 2"	LK-	-	-	10	10	16	17
	2 1/2" ~ 4"	LK-	-	-	-	-	18	18
s64 LT	1" ~ 1 1/4"	LK-	8	8	9	-	-	-
	1 1/2" ~ 2"	LK-	-	-	10	-	-	-
s65	1/2" ~ 1 1/4"	LK-	8	8	9	-	-	-
s73 - s76	1/2" ~ 1"	LK-	8	8	9	9	-	-
	1 1/4" ~ 2"	LK-	-	-	10	10	16	-
	1/2" ~ 3/4"	LK-	8	8	9	9	-	-
s134	1" ~ 1 1/2"	LK-	-	-	11	11	19	20
	2"	LK-	-	-	18	18	16	17

Red font = selection driven by valve stem size



VALVES COMBINATION WITH EA2 ACTUATORS - METRIC THREADS

s.6400		code size	s64D00 1/2"	s64E00 3/4"	s64F00 1"	s64G00 1 1/4"	s64H00 1 1/2"	s64I00 2"
	Double Acting	Actuator	EA2-1			EA2-2A	EA2-3	EA2-4
		Actuation Kit	EA1D64D00	EA1D64E00	EA1D64F00	EA2AD64G00	EA3D64H00	EA4D64I00
	Spring return	Actuator	EA2-2			EA2-3		
		Actuation Kit	EA2R64D00	EA2R64E00	EA2R64F00	EA3R64G00	EA3R64H00	EA3R64I00

s.6400 LT		code size			s64F00A 1"	s64G00A 1 1/4"	s64H00A 1 1/2"	s64I00A 2"
	Double Acting	Actuator	-	-	EA2-1		EA2-2A	
		Actuation Kit	-	-	EA1D64F00A	EA1D64G00A	EA2AD64H00A	EA2AD64I00A
	Spring return ΔP < 6 bar	Actuator	-	-	EA2-2		EA3	
		Actuation Kit	-	-	EA2R64F00A	EA2AR64G00A	EA3R64H00A	EA3R64I00A
	Spring return ΔP 6 to 16 bar	Actuator	-	-	EA2-2		EA3	
		Actuation Kit	-	-	EA2R64F00AC	EA2AR64G00AC	EA3R64H00AC	EA3R64I00AC

k.6405		code size	s64D05 1/2"	s64E05 3/4"	s64F05 1"	s64G05 1 1/4"	s64H05 1 1/2"	s64I05 2"
	Double Acting	Actuator	EA2-1		EA2-2	EA2-2A	EA2-3	
		Actuation Kit	EA1D64D05	EA1D64E05	EA2D64F05	EA2AD64G05	EA3D64H05	EA3D64I05
	Spring return	Actuator	EA2-2*		EA2-2A*		EA2-3*	
		Actuation Kit	EA2R64D05*	EA2R64E05*	EA2R64F05*	EA2AR64G05*	EA3R64H05*	EA3R64I05*

s.6500		code size	s65D00 1/2"	s65E00 3/4"	s65F00 1"	s65G00 1 1/4"		
	Double Acting	Actuator	EA2-1				-	-
		Actuation Kit	EA1D65D00	EA1D65E00	EA1D65F00	EA1D65G00	-	-
	Spring return	Actuator	EA2-2				-	-
		Actuation Kit	EA2R65D00	EA2R65E00	EA2R65F00	EA2R65G00	-	-

s.465		code size	s465D00 1/2"	s465E00 3/4"	s465F00 1"			
	Double Acting	Actuator	EA2-1			-	-	-
		Actuation Kit	EA1D465D00	EA1D465E00	EA1D465F00	-	-	-
	Spring return	Actuator	EA2-2			-	-	-
		Actuation Kit	EA2R465D00	EA2R465E00	EA2R465F00	-	-	-

s.7300		code size	s73D00 1/2"	s73E00 3/4"	s73F00 1"	s73G00 1 1/4"	s73H00 1 1/2"	s73I00 2"
	Double Acting	Actuator	EA2-2*			EA2-3		
		Actuation Kit	EA2D73D00*	EA2D73E00*	EA3D73F00	EA3D73G00*	EA3D73H00*	EA3D73I00*
	Spring return	Actuator	EA2-3*		EA2-4*	EA2-3*	EA2-4*	
		Actuation Kit	EA3R73D00*	EA3R73E00*	EA4R73F00*	EA3R73G00*	EA4R73H00*	EA4R73I00*

s.7600		code size	s76D00 1/2"	s76E00 3/4"	s76F00 1"	s76G00 1 1/4"	s76H00 1 1/2"	s76I00 2"
	Double Acting	Actuator	EA2-1*			EA2-3		
		Actuation Kit	EA1D76D00*	EA1D76E00*	EA1D76F00*	EA3D76G00*	EA3D76H00	EA3D76I00*
	Spring return	Actuator	EA2-2		EA2-3		EA2-4	
		Actuation Kit	EA2R76D00*	EA2R76E00	EA2R76F00	EA3R76G00	EA3R76H00*	EA4R76I00*

s.84 AM		code size	s84L00AM 2 1/2"	s84M00AM 3"	s84N00AM 4"			
	Double Acting	Actuator	EA2-5		EA2-6*	-	-	-
		Actuation Kit	EA5D84L00AM	EA5D84M00AM	EA6D84N00AM*	-	-	-
	Spring return	Actuator	EA2-5*		EA2-6*	-	-	-
		Actuation Kit	EA5R84L00AM*	EA6R84M00AM*	EA7R84N00AM*	-	-	-

* The combination may vary based on the supply pressure of your system. Ask for additional information and consult with your supplier for special applications.



VALVES COMBINATION WITH EA4 ACTUATORS - IMPERIAL THREADS

s.6439 NPT		code size	s64D39 1/2"	s64E39 3/4"	s64F39 1"	s64G39 1 1/4"	s64H39 1 1/2"	s64I39 2"
	Double Acting	Actuator	EA4-1			EA4-3		
		Actuation Kit	EA1D64D39	EA1D64E39	EA1D64F39	EA3D64G39	EA3D64H39	EA3D64I39
	Spring return	Actuator	EA4-2			EA4-3		
		Actuation Kit	EA2R64D39	EA2R64E39	EA2R64F39	EA3R64G39	EA3R64H39	EA4R64I39

s.6439 LT NPT		code size		s64F39A 1"	s64G39A 1 ¼"	s64H39A 1 ½"	s64I39A 2"
	Double Acting	Actuator	-	-	EA4-1		EA4-3
		Actuation Kit	-	-	EA1D64F39A	EA1D64G39A	EA3D64H39A
	Spring return ΔP < 90 PSI	Actuator	-	-	EA4-2		EA4-3
		Actuation Kit	-	-	EA2R64F39A*	EA2R64G39A*	EA3R64H39A*
	Spring return ΔP 90 to 230 PSI	Actuator	-	-	EA4-2		EA4-3
		Actuation Kit	-	-	EA2R64F39AC	EA2R64G39AC*	EA3R64H39AC*

s.6441 NPT		code size	s64D41 1/2"	s64E41 3/4"	s64F41 1"	s64G41 1 1/4"	s64H41 1 1/2"	s64I41 2"
	Double Acting	Actuator	EA4-1			EA4-3		
		Actuation Kit	EA1D64D41	EA1D64E41	EA1D64F41	EA3D64G41	EA3D64H41	EA3D64I41
	Spring return	Actuator	EA4-2			EA4-3		
		Actuation Kit	EA2R64D41	EA2R64E41	EA2R64F41	EA3R64G41	EA3R64H41	EA4R64I41

s.6541 NPT		code size	s65D41 1/2"	s65E41 3/4"	s65F41 1"	s65G41 1 1/4"		
	Double Acting	Actuator	EA4-1			-	-	-
		Actuation Kit	EA1D65D41	EA1D65E41	EA1D65F41	EA1D65G41	-	-
	Spring return	Actuator	EA4-2			-	-	-
		Actuation Kit	EA2R65D41	EA2R65E41	EA2R65F41	EA2R65G41	-	-

Puri-T 264 NPT		code size	T264D41 1/2"	T264E41 3/4"	T264F41 1"	T264G41 1 1/4"	T264H41 1 1/2"	
	Double Acting	Actuator	EA4-1			EA4-2A*	EA4-3	-
		Actuation Kit	EA1D264D41	EA1D264E41	EA1D264F41	EA2AD264G41*	EA3D264H41	-
	Spring return	Actuator	EA4-2			EA4-2A*	EA4-3	-
		Actuation Kit	EA2R264D41	EA2R264E41	EA2R264F41	EA2AR264G41*	EA3R264H41	-

s.7341 NPT		code size	s73D41 1/2"	s73E41 3/4"	s73F41 1"	s73G41 1 1/4"	s73H41 1 1/2"	s73I41 2"
	Double Acting	Actuator	EA4-2			EA4-3*		
		Actuation Kit	EA2D73D41*	EA2D73E41*	EA3D73F41	EA3D73G41*	EA3D73H41*	EA3D73I41*
	Spring return	Actuator	EA4-3*			EA4-4*	EA4-3*	EA4-4*
		Actuation Kit	EA3R73D41*	EA3R73E41*	EA4R73F41*	EA3R73G41*	EA4R73H41*	EA4R73I41*

s.7641 NPT		code size	s76D41 1/2"	s76E41 3/4"	s76F41 1"	s76G41 1 1/4"	s76H41 1 1/2"	s76I41 2"
	Double Acting	Actuator	EA4-1			EA4-3		
		Actuation Kit	EA1D76D41*	EA1D76E41*	EA1D76F41*	EA3D76G41*	EA3D76H41	EA3D76I41*
	Spring return	Actuator	EA4-2			EA4-3		
		Actuation Kit	EA2R76D41	EA2R76E41	EA2R76F41	EA3R76G41	EA3R76H41*	EA4R76I41*

s.95 AM NPT		code size	s95L41AM 2 1/2"	s95M41AM 3"	s95N41AM 4"			
	Double Acting	Actuator	EA4-5			EA4-7	-	-
		Actuation Kit	EA5D95L41AM	EA5D95M41AM	EA7D95N41AM	-	-	-
	Spring return	Actuator	EA4-5			EA4-6	EA4-7	-
		Actuation Kit	EA5R95L41AM	EA6R95M41AM	EA7R95N41AM	-	-	-

* The combination may vary based on the supply pressure of your system. Ask for additional information and consult with your supplier for special applications.