

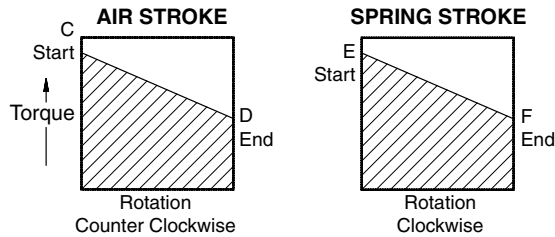
Data sheet

Sheet No.: 1.104.02 Rev. A
Date: November 2009

SPRING RETURN ACTUATOR TORQUE (Nm.)

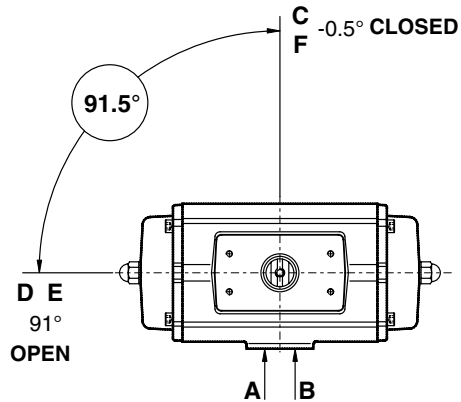
90°

SINGLE ACTING TORQUE



Note

- Emerson Process Management recommends that the valve manufacturer supply the maximum required torque values (Including any adjustments or suggested safety factors for valve service conditions or application). Additionally, the valve manufacturer must identify at which position(s) and direction(s) of rotation (Counter Clock Wise or Clock Wise) these maximum requirements occur.
- If in doubt, or you require any assistance with sizing actuators, do not hesitate to contact your nearest Emerson's Valve Automation Division representative.
- Pressure on port "A" opens the actuator*
- The actuator is shown in closed position* (* code A, data sheet 1.504)



Springset nr.	Air Stroke (Nm)														Spring Stroke (Nm)				
	SUPPLY PRESSURE														E	F			
	3.0 barg		3.5 barg		4.0 barg		4.5 barg		5.0 barg		5.5 barg		6.0 barg				7.0 barg		
Act. Type	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D			
PS 2500	6	896	602	1142	848	1387	1093	1633	1339	1879	1585	2124	1830	2370	2076	2861	2567	792	497
	8	712	320	958	566	1203	811	1449	1057	1694	1302	1940	1548	2186	1794	2677	2285	1056	663
	10	-	-	774	284	1019	529	1265	775	1510	1020	1756	1266	2001	1511	2492	2002	1321	829
	12	-	-	-	-	835	247	1081	492	1326	738	1572	984	1817	1229	2308	1720	1585	995
PS 4000	6	1524	1028	1940	1444	2356	1860	2772	2276	3189	2693	3605	3109	4021	3525	4854	4358	1337	839
	8	1213	551	1629	968	2045	1384	2462	1800	2878	2216	3294	2633	3710	3049	4543	3882	1783	1119
	10	-	-	1318	491	1734	908	2151	1324	2567	1740	2983	2157	3400	2573	4232	3405	2229	1399
	12	-	-	-	-	1424	431	1840	848	2256	1264	2672	1680	3089	2097	3921	2929	2674	1679
	14	-	-	-	-	-	-	-	-	1945	788	2362	1204	2778	1620	3610	2453	3120	1958

Springset nr.	Air Stroke (Nm)														Spring Stroke (Nm)					
	SUPPLY PRESSURE														E	F				
	3.0 barg		3.5 barg		4.0 barg		4.5 barg		5.0 barg		5.5 barg		6.0 barg				7.0 barg			
Act. Type	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D				
ES 12	2	-	-	3.8	1.0	5.1	2.3	6.4	3.6	7.7	4.9	9.0	6.2	10.3	7.5	12.9	10.1	7.2	4.6	
	25	2	9	6	12	9	14	11	16	13	19	16	21	18	24	21	29	25	7	4
	3	7	2	9	5	12	7	14	9	16	12	19	14	21	17	26	21	11	7	
	4	-	-	-	-	9	3	11	5	14	8	16	10	19	13	23	17	14	9	
ES 25	2	-	-	-	-	-	-	-	-	-	11	4	14	6	16	8	21	13	18	11
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	14	4	18	9	21	13
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES 40	2	17	12	22	16	26	21	31	25	35	30	40	34	44	39	53	48	13	8	
	3	12	4	17	8	22	13	26	18	31	22	35	27	40	31	49	40	20	12	
	4	-	-	-	-	17	5	21	10	26	14	30	19	35	23	44	33	26	17	
	5	-	-	-	-	-	-	-	-	-	21	7	26	11	30	16	39	25	33	21
ES 65	2	26	17	32	23	39	30	46	37	53	44	60	51	67	58	81	72	21	13	
	3	18	5	25	11	32	18	39	25	46	32	52	39	59	46	73	60	32	20	
	4	-	-	-	-	24	6	31	13	38	20	45	27	52	34	66	48	42	26	
	5	-	-	-	-	-	-	-	-	-	30	8	37	15	44	22	58	36	53	33
ES 100	2	39	27	49	37	60	47	70	57	80	67	90	78	100	88	121	108	29	18	
	3	29	10	39	20	49	30	59	41	70	51	80	61	90	71	110	92	44	27	
	4	-	-	-	-	39	14	49	24	59	34	69	44	80	54	100	75	58	37	
	5	-	-	-	-	-	-	-	-	-	49	17	59	27	69	38	89	58	73	46
ES 150	2	63	41	79	58	95	74	112	90	128	107	144	123	161	139	193	172	48	29	
	3	46	14	62	30	79	47	95	63	111	79	128	96	144	112	177	145	72	44	
	4	-	-	-	-	62	19	78	36	95	52	111	68	127	85	160	117	95	58	
	5	-	-	-	-	-	-	-	-	-	78	24	94	41	110	57	143	90	119	73
ES 200	2	85	57	107	79	130	101	152	124	174	146	197	169	219	191	264	236	65	41	
	3	62	19	84	42	106	64	129	86	151	109	173	131	196	153	240	198	98	61	
	4	-	-	-	-	83	26	105	49	127	71	150	93	172	116	217	160	131	82	
	5	-	-	-	-	-	-	-	-	-	104	33	126	56	149	78	193	123	164	102
ES 350	2	144	96	183	135	221	174	260	213	299	252	338	290	377	329	454	407	116	74	
	3	101	30	140	68	179	107	217	146	256	185	295	224	334	263	412	340	174	112	
	4	-	-	-	-	136	41	175	80	214	118	252	157	291	196	369	274	232	149	
	5	-	-	-	-	-	-	-	-	-	171	52	210	91	249	130	326	207	289	186
ES 600	2	249	166	315	232	381	298	447	364	513	430	579	496	645	562	777	694	195	122	
	3	179	54	245	120	311	186	377	252	443	318	509	384	575	450	707	582	292	183	
	4	-	-	-	-	240	74	306	140	372	206	438	272	504	338	636	470	389	245	
	5	-	-	-	-	-	-	-	-	-	302	94	368	160	434	226	566	358	487	306
ES 950	2	375	249	474	347	572	446	671	544	769	643	868	741	966	840	1163	1037	290	179	
	3	272	82	371	181	469	279	568	378	666	476	765	575	863	673	1060	870	434	269	
	4	-	-	-	-	366	113	465	211	563	310	662	408	760	507	957	704	579	359	
	5	-	-	-	-	-	-	-	-	-	460	143	559	242	657	340	854	537	724	448
ES 1600	2	617	416	780	579	943	742	1106	905	1269	1068	1432	1231	1594	1394	1920	1719	474	299	
	3	445	144	608	307	771	470	934	633	1097	796	1260	959	1423	1121	1748	1447	711	449	
	4	-	-	-	-	599	198	762	361	925	523	1088	686	1251	849	1577	1175	947	598	
	5	-	-	-	-	-	-	-	-	-	753	251	916	414	1079	577	1405	903	1184	748
6	-	-	-	-	-	-	-	-	-	-	-	-	-	907	305	1233	630	1421	897	



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Updated data sheets can be obtained from our website www.El-O-matic.com or from your nearest Valve Automation Center **USA:** +1 813 319 0266 **Europe:** +31 74 256 10 10 **Asia-Pacific:** +65 6501 4600



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