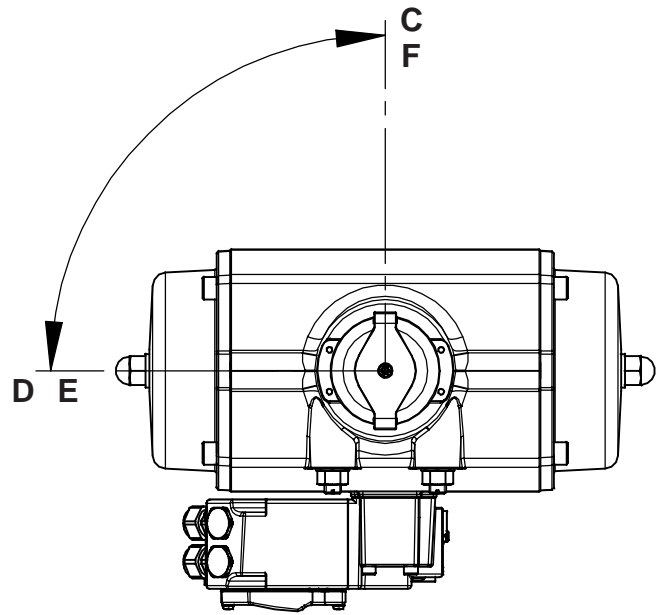
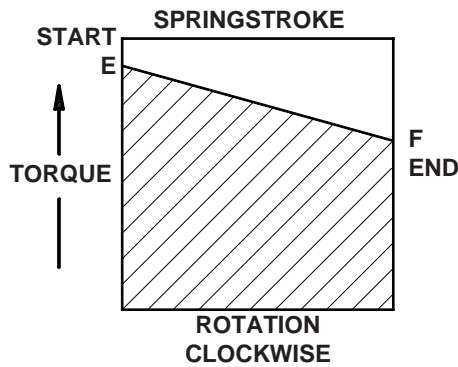
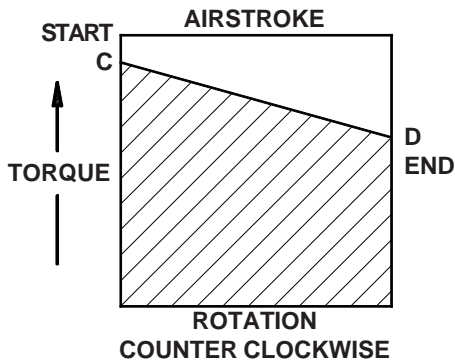


## Spring Return actuator torque (In.lb.)

### Spring return torque diagram



**Note:**

1. When sizing, add a minimum of 20% safety factor to the valve torque.
2. When emergency shut down or infrequently used valves are being sized, additional safety factors may be required due to potential increases in the valve torques.
3. If in doubt, or you require any assistance with sizing actuators, do not hesitate to contact your nearest Emerson's Valve Automation Division representative.

Spring set nr.	Air Torque (In.lb.)												Spring Torque (In.lb.)		
	Supply pressure (in PSI)														
	Actuator Size	40		60		80		90		100		120		E	F
C		D	C	D	C	D	C	D	C	D	C	D			
QS 40	3	91	15	<b>201</b>	<b>125</b>	312	236	367	291	422	346	533	457	176	110
	4	-	-	159	58	<b>270</b>	<b>169</b>	325	224	380	279	491	390	234	146
	5	-	-	-	-	227	101	<b>283</b>	<b>156</b>	338	212	448	322	293	183
	6	-	-	-	-	185	34	241	89	<b>296</b>	<b>144</b>	406	255	351	220
QS 100	3	211	44	<b>460</b>	<b>293</b>	709	541	833	666	957	790	1206	1039	387	242
	4	-	-	367	144	<b>616</b>	<b>393</b>	740	518	865	642	1114	891	516	323
	5	-	-	-	-	523	245	<b>648</b>	<b>369</b>	772	494	1021	743	646	403
	6	-	-	-	-	430	96	555	221	<b>679</b>	<b>345</b>	928	594	775	484
QS 200	3	448	74	<b>994</b>	<b>619</b>	1539	1165	1812	1438	2085	1710	2631	2256	868	542
	4	-	-	786	287	<b>1332</b>	<b>832</b>	1604	1105	1877	1378	2423	1923	1158	723
	5	-	-	-	-	1124	500	<b>1396</b>	<b>772</b>	1669	1045	2215	1591	1447	904
	6	-	-	-	-	916	167	1189	440	<b>1462</b>	<b>713</b>	2007	1258	1736	1085
QS 350	3	727	95	<b>1675</b>	<b>1043</b>	2623	1991	3097	2465	3571	2939	4519	3887	1537	987
	4	-	-	1297	454	<b>2245</b>	<b>1402</b>	2719	1877	3193	2351	4141	3299	2049	1317
	5	-	-	-	-	1866	814	<b>2340</b>	<b>1288</b>	2814	1762	3762	2710	2561	1646
	6	-	-	-	-	1488	225	1962	699	<b>2436</b>	<b>1173</b>	3384	2121	3074	1975
QS 600	3	1298	193	<b>2909</b>	<b>1804</b>	4520	3415	5325	4221	6131	5026	7742	6637	2585	1624
	4	-	-	2287	814	<b>3898</b>	<b>2425</b>	4703	3230	5509	4036	7120	5647	3446	2165
	5	-	-	-	-	3276	1434	<b>4081</b>	<b>2240</b>	4887	3046	6498	4657	4308	2706
	6	-	-	-	-	2654	444	3459	1250	<b>4265</b>	<b>2055</b>	5876	3666	5169	3247
QS 950	3	1986	304	<b>4391</b>	<b>2709</b>	6796	5114	7998	6316	9201	7519	11606	9924	3844	2381
	4	-	-	3479	1236	<b>5883</b>	<b>3641</b>	7086	4844	8288	6046	10693	8451	5125	3175
	5	-	-	-	-	4971	2168	<b>6174</b>	<b>3371</b>	7376	4573	9781	6978	6407	3968
	6	-	-	-	-	4059	695	5262	1898	<b>6464</b>	<b>3100</b>	8869	5505	7688	4762
QS 1600	3	3244	578	<b>7220</b>	<b>4554</b>	11195	8530	13183	10517	15171	12505	19147	16481	6289	3970
	4	-	-	5699	2144	<b>9675</b>	<b>6120</b>	11662	8108	13650	10096	17626	14071	8385	5293
	5	-	-	-	-	8154	3711	<b>10141</b>	<b>5698</b>	12129	7686	16105	11662	10481	6616
	6	-	-	-	-	6633	1301	8621	3289	<b>10608</b>	<b>5277</b>	14584	9252	12578	7939