



Torques in Nm

Size 001

Torques for 90° turn actuators *

1,1 Nm/bar

Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			2	3	4	5	6	7
0			2,2	3,3	4,4	5,5	6,6	7,7

This actuator is not available with springs.

Torques in Nm

Size 002

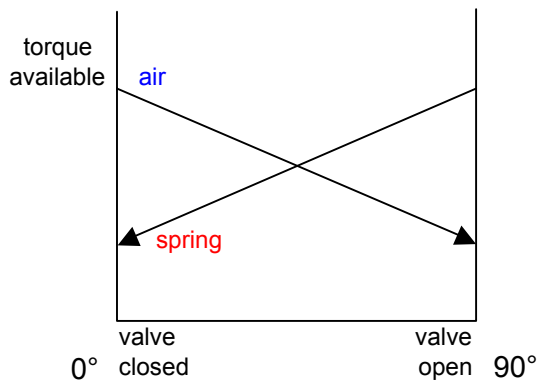
Torques for 90° turn actuators *

2,7 Nm/bar

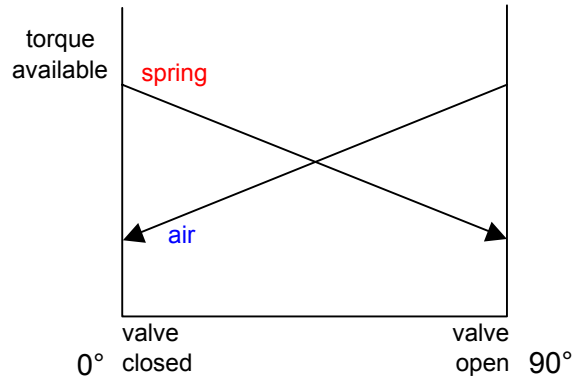
Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)						
			2	3	4	5	6	7	
0			5	8	11	14	16	19	
2	1,0	min	3	6	9	12	14	17	
	2,0	max	4	7	10	13	15	18	
4	2,0	min		4	7	10	12	15	
	3,9	max		6	9	12	14	17	
6	2,9	min			5	8	10	13	
	5,9	max			8	11	13	16	
8	3,8	min				8	10	13	
	5,9	max				10	12	15	
10	4,8	min				4	6	9	
	9,8	max				9	11	14	
12	5,8	min						7	
	11,7	max						13	

* 180° turn actuators on request

Actuator spring to close

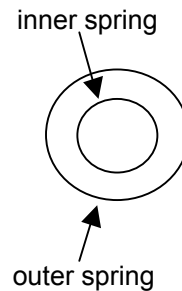


Actuator spring to open



Spring code and spring volume

Code of springs	Actual number of springs	
	Outer springs	Inner springs
0	0	0
2	0	1
4	0	2
6	1	1
8	2	0
10	2	1
12	2	2



Torques in Nm

Size 006

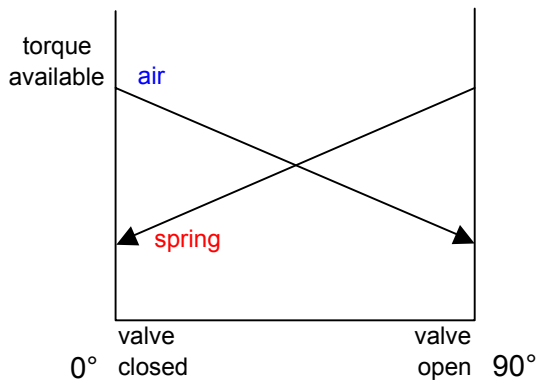
Torques for 90° turn actuators *

6,2 Nm/bar

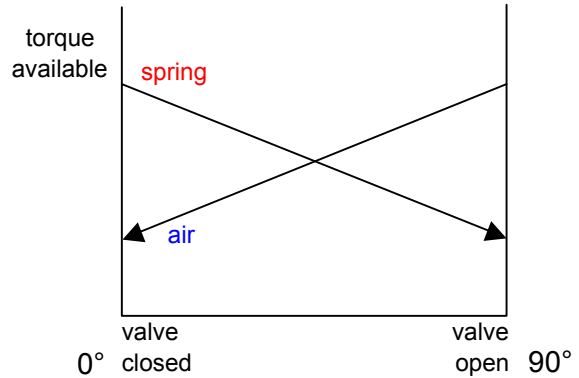
Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)						
			2	3	4	5	6	7	
0			12	19	25	31	37	43	
2	2,2	min	8	14	20	27	33	39	
	4,5	max	10	16	23	29	35	41	
4	4,4	min		10	16	22	28	35	
	8,9	max		14	20	27	33	39	
6	6,8	min			11	17	24	30	
	13,6	max			18	24	30	37	
8	9,1	min				13	19	25	
	18,3	max				22	28	34	
10	11,3	min					15	21	
	22,7	max					26	32	
12	13,5	min						16	
	27,2	max						30	

* 180° turn actuators on request

Actuator spring to close

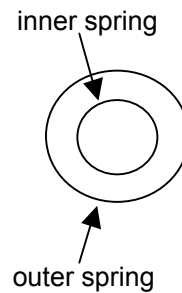


Actuator spring to open



Spring code and spring volume

Code of springs	Actual number of springs	
	Outer springs	Inner springs
0	0	0
2	0	1
4	0	2
6	1	1
8	2	0
10	2	1
12	2	2



Torques in Nm

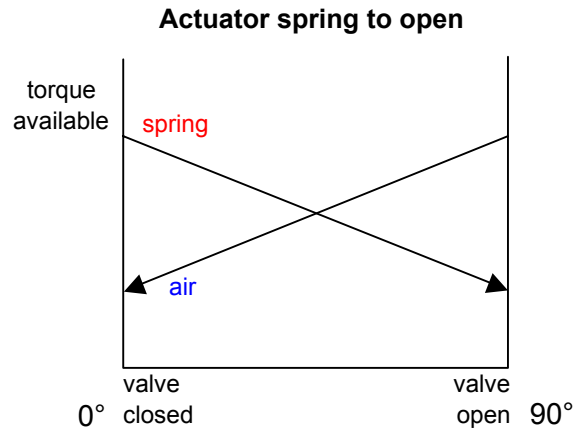
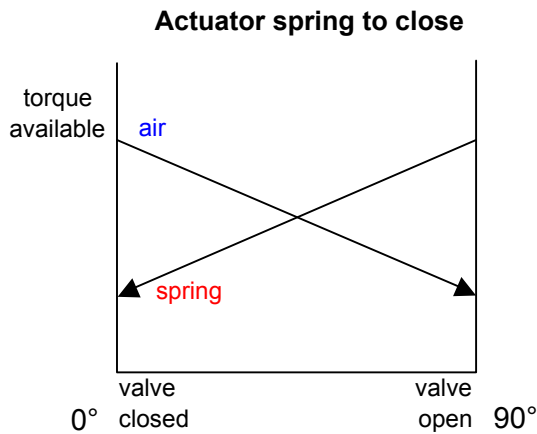
Size 012

Torques for 90° turn actuators *

12 Nm/bar

Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			37	49	62	74	86	99
2	4	min	29	41	53	66	78	90
	8	max	33	45	58	70	82	95
4	8	min	20	33	45	57	70	82
	17	max	29	41	53	66	78	90
6	12	min	12	24	37	49	61	74
	25	max	25	37	49	62	74	86
8	16	min		16	28	41	53	65
	33	max		33	45	58	70	82
10	21	min			20	32	45	57
	42	max			41	53	66	78
12	25	min			12	24	37	49
	50	max			37	49	62	74
14	29	min			5	17	29	42
	57	max			33	45	58	70

* 180° turn actuators on request



Torques in Nm

Size 025

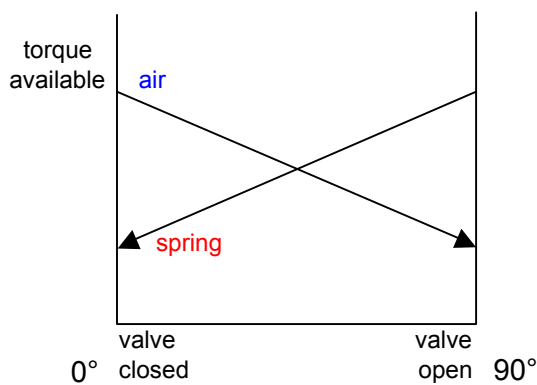
Torques for 90° turn actuators *

24 Nm/bar

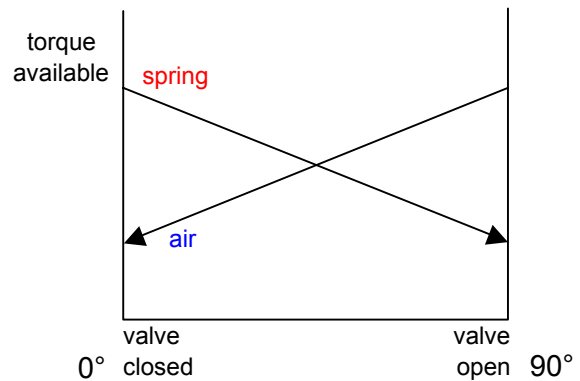
Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			72	96	120	144	168	192
2	8	min	56	80	104	128	152	176
	16	max	64	88	112	136	160	184
4	16	min	40	64	88	112	136	160
	32	max	56	80	104	128	152	176
6	24	min	24	48	72	96	120	144
	48	max	48	72	96	120	144	168
8	32	min		32	56	80	104	128
	64	max		64	88	112	136	160
10	40	min		16	40	64	88	112
	80	max		56	80	104	128	152
12	48	min			24	48	72	96
	96	max			72	96	120	144
14	56	min			8	32	56	80
	112	max			64	88	112	136

* 180° turn actuators on request

Actuator spring to close



Actuator spring to open



Torques in Nm

Size 050

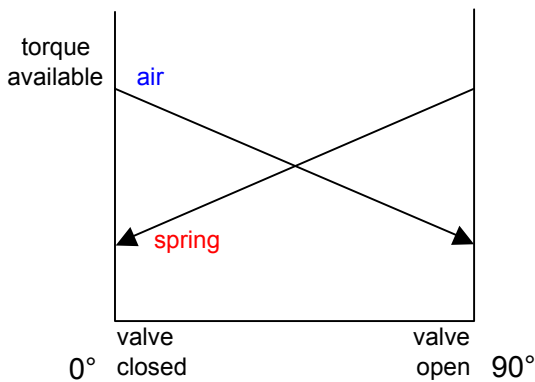
Torques for 90° turn actuators *

44 Nm/bar

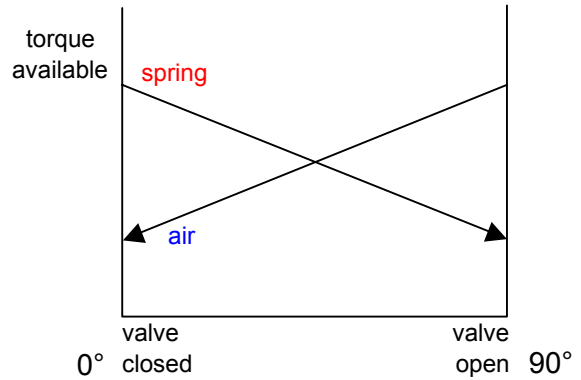
Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			133	177	222	266	310	355
2	15	min	103	147	192	236	280	325
	30	max	118	162	207	251	295	340
4	29	min	74	118	163	207	251	296
	59	max	104	148	193	237	281	326
6	44	min	44	88	133	177	221	266
	89	max	89	133	178	222	266	311
8	58	min		59	104	148	192	237
	118	max		119	164	208	252	297
10	73	min		29	74	118	162	207
	148	max		104	149	193	237	282
12	88	min			44	88	132	177
	178	max			134	178	222	267
14	102	min			15	59	103	148
	207	max			120	164	208	253

* 180° turn actuators on request

Actuator spring to close



Actuator spring to open



Torques in Nm

Size 090

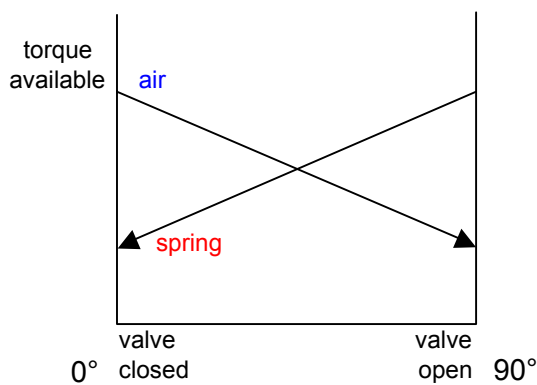
Torques for 90° turn actuators *

84 Nm/bar

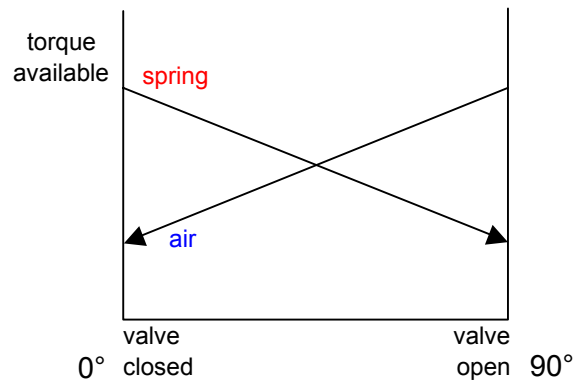
Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			253	337	422	506	590	675
2	27	min	197	281	366	450	534	619
	56	max	226	310	395	479	563	648
4	53	min	141	225	310	394	478	563
	112	max	200	284	369	453	537	622
6	80	min	85	169	254	338	422	507
	168	max	173	257	342	426	510	595
8	107	min		113	198	282	366	451
	224	max		230	315	399	483	568
10	134	min		57	142	226	310	395
	280	max		203	288	372	456	541
12	160	min			86	170	254	339
	336	max			262	346	430	515
14	187	min			30	114	198	283
	392	max			235	319	403	488

* 180° turn actuators on request

Actuator spring to close



Actuator spring to open



Torques in Nm

Size 130

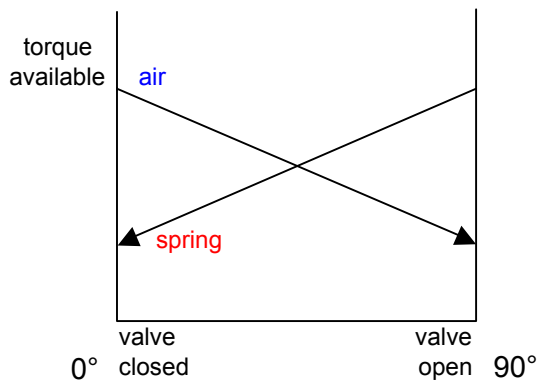
Torques for 90° turn actuators *

128 Nm/bar

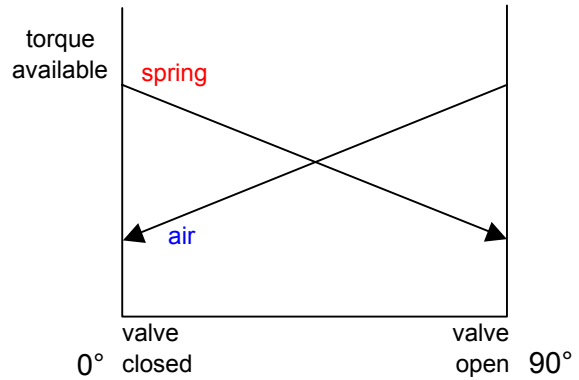
Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			385	513	642	770	898	1027
2	41	min	301	429	558	686	814	943
	84	max	344	472	601	729	857	986
4	81	min	216	344	473	601	729	858
	169	max	304	432	561	689	817	946
6	122	min	132	260	389	517	645	774
	253	max	263	391	520	648	776	905
8	162	min		176	305	433	561	690
	337	max		351	480	608	736	865
10	203	min		91	220	348	476	605
	422	max		310	439	567	695	824
12	244	min			136	264	392	521
	506	max			398	526	654	783
14	284	min			52	180	308	437
	590	max			358	486	614	743

* 180° turn actuators on request

Actuator spring to close



Actuator spring to open



Torques in Nm

Size 180

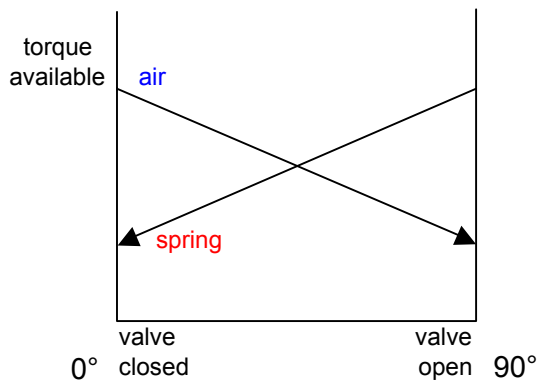
Torques for 90° turn actuators *

169 Nm/bar

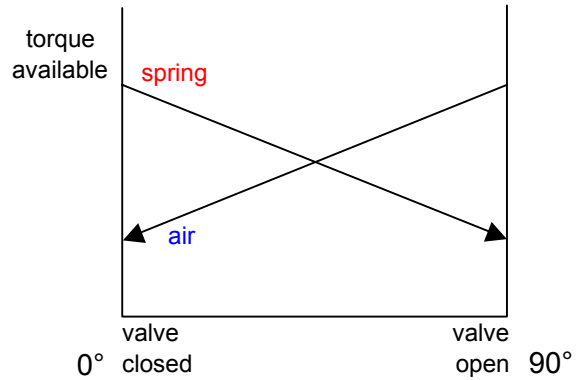
Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			506	675	843	1012	1181	1349
2	53	min	395	564	732	901	1070	1238
	111	max	453	622	790	959	1128	1296
4	107	min	284	453	621	790	959	1127
	222	max	399	568	736	905	1074	1242
6	160	min	174	343	511	680	849	1017
	332	max	346	515	683	852	1021	1189
8	213	min	63	232	400	569	738	906
	443	max	293	462	630	799	968	1136
10	267	min		121	289	458	627	795
	554	max		408	576	745	914	1082
12	320	min			178	347	516	684
	665	max			523	692	861	1029
14	373	min			67	236	405	573
	776	max			470	639	808	976

* 180° turn actuators on request

Actuator spring to close



Actuator spring to open



Torques in Nm

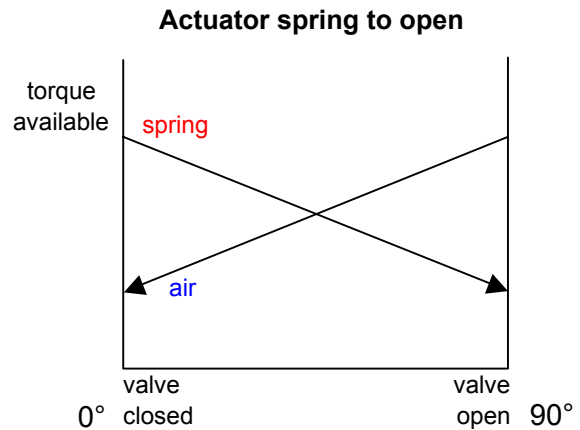
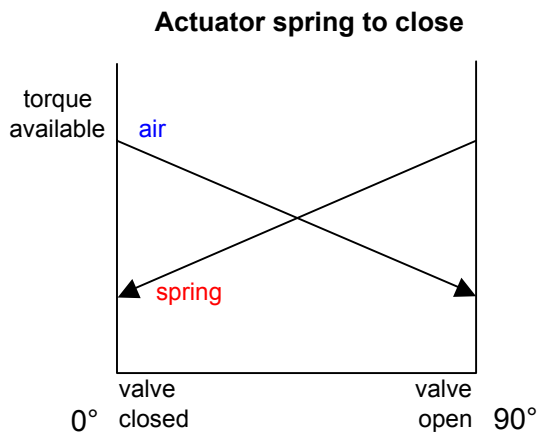
Size 205

Torques for 90° turn actuators *

253 Nm/bar

Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			758	1011	1264	1517	1769	2022
2	84	min	589	842	1095	1348	1600	1853
	169	max	674	927	1180	1433	1685	1938
4	169	min	421	674	927	1180	1432	1685
	337	max	589	842	1095	1348	1600	1853
6	253	min	252	505	758	1011	1263	1516
	506	max	505	758	1011	1264	1516	1769
8	337	min		337	590	843	1095	1348
	674	max		674	927	1180	1432	1685
10	421	min		168	421	674	926	1179
	843	max		590	843	1096	1348	1601
12	506	min			253	506	758	1011
	1011	max			758	1011	1263	1516
14	590	min			84	337	589	842
	1180	max			674	927	1179	1432

* 180° turn actuators on request



Torques in Nm

Size 380

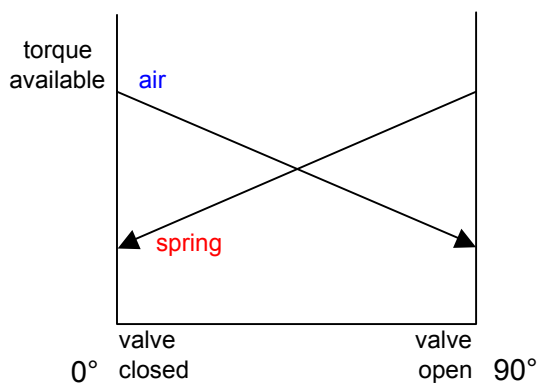
Torques for 90° turn actuators *

379 Nm/bar

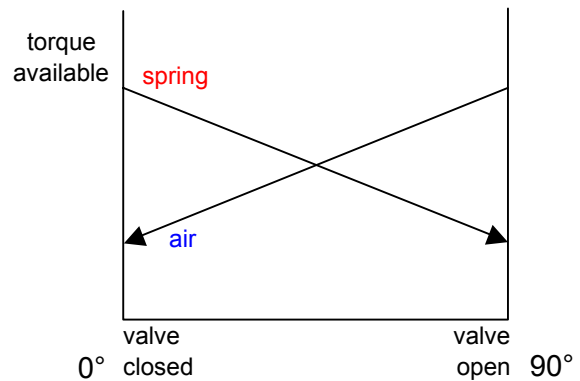
Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			1138	1517	1897	2276	2655	3035
2	126	min	885	1264	1644	2023	2402	2782
	253	max	1012	1391	1771	2150	2529	2909
4	253	min	632	1011	1391	1770	2149	2529
	506	max	885	1264	1644	2023	2402	2782
6	379	min	382	761	1141	1520	1899	2279
	756	max	759	1138	1518	1897	2276	2656
8	506	min		506	886	1265	1644	2024
	1011	max		1011	1391	1770	2149	2529
10	632	min		253	633	1012	1391	1771
	1264	max		885	1265	1644	2023	2403
12	758	min			380	759	1138	1518
	1517	max			1139	1518	1897	2277
14	885	min			128	507	886	1266
	1769	max			1012	1391	1770	2150

* 180° turn actuators on request

Actuator spring to close



Actuator spring to open



Torques in Nm

Size 630

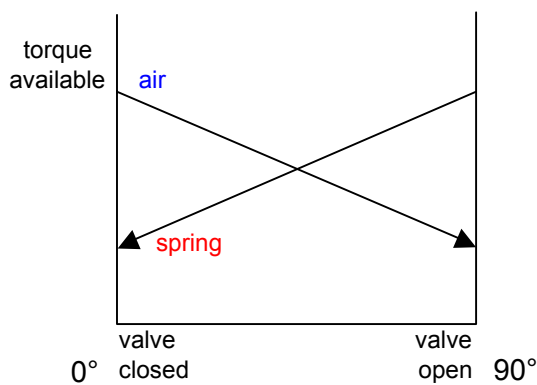
Torques for 90° turn actuators *

632 Nm/bar

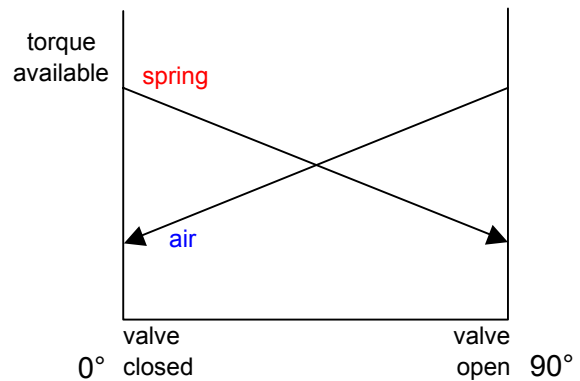
Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			1896	2528	3160	3792	4424	5056
2	211	min	1475	2107	2739	3371	4003	4635
	421	max	1685	2317	2949	3581	4213	4845
4	421	min	1053	1685	2317	2949	3581	4213
	843	max	1475	2107	2739	3371	4003	4635
6	632	min	632	1264	1896	2528	3160	3792
	1264	max	1264	1896	2528	3160	3792	4424
8	843	min		843	1475	2107	2739	3371
	1685	max		1685	2317	2949	3581	4213
10	1053	min		421	1053	1685	2317	2949
	2107	max		1475	2107	2739	3371	4003
12	1264	min			632	1264	1896	2528
	2528	max			1896	2528	3160	3792
14	1475	min			211	843	1475	2107
	2949	max			1685	2317	2949	3581

* 180° turn actuators on request

Actuator spring to close



Actuator spring to open



Torques in Nm

Size 960

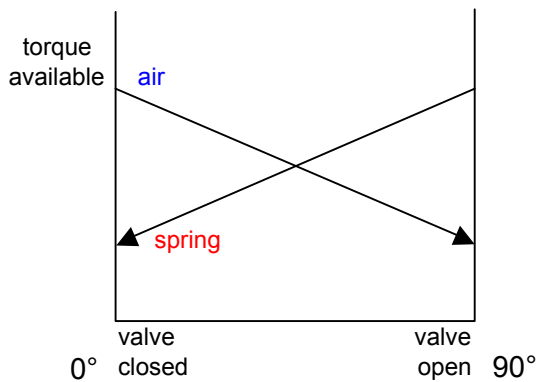
Torques for 90° turn actuators *

960 Nm/bar

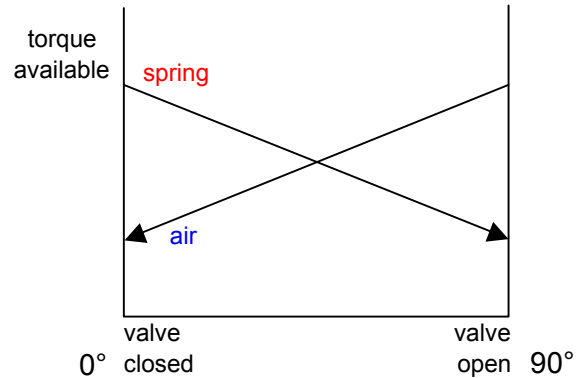
Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			2879	3839	4798	5758	6718	7677
3	316	min	2247	3207	4166	5126	6086	7045
	632	max	2563	3523	4482	5442	6402	7361
6	632	min	1615	2575	3534	4494	5454	6413
	1264	max	2247	3207	4166	5126	6086	7045
9	948	min	983	1943	2902	3862	4822	5781
	1896	max	1931	2891	3850	4810	5770	6729
12	1264	min		1311	2270	3230	4190	5149
	2528	max		2575	3534	4494	5454	6413
15	1580	min		679	1638	2598	3558	4517
	3160	max		2259	3218	4178	5138	6097
18	1896	min			1006	1966	2926	3885
	3792	max			2902	3862	4822	5781

* 180° turn actuators on request

Actuator spring to close



Actuator spring to open



Torques in Nm

Size H15

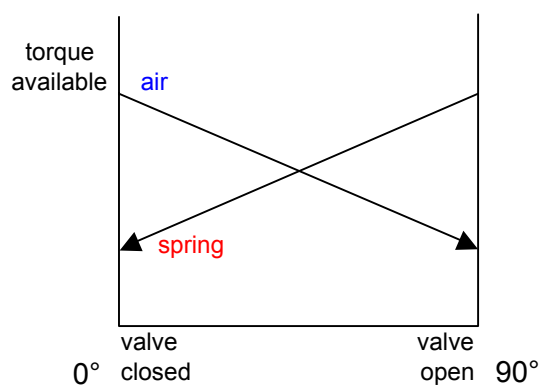
Torques for 90° turn actuators *

1469 Nm/bar

Qty. of springs	Spring torque	Torque available	Air torque at supply pressure (bar)					
			3	4	5	6	7	8
0			4407	5876	7345	8814	10283	11752
2	489	min	3428	4897	6366	7835	9304	10773
	979	max	3918	5387	6856	8325	9794	11263
4	979	min	2449	3918	5387	6856	8325	9794
	1958	max	3428	4897	6366	7835	9304	10773
6	1468	min	1470	2939	4408	5877	7346	8815
	2937	max	2939	4408	5877	7346	8815	10284
8	1958	min		2260	3729	5198	6667	8136
	3616	max		3918	5387	6856	8325	9794
10	2447	min		982	2451	3920	5389	6858
	4894	max		3429	4898	6367	7836	9305
12	2937	min			1472	2941	4410	5879
	5873	max			4408	5877	7346	8815
14	3792	min			493	1962	3431	4900
	6852	max			3553	5022	6491	7960

* 180° turn actuators on request

Actuator spring to close



Actuator spring to open

