



SERIES U

WORKING CONDITIONS

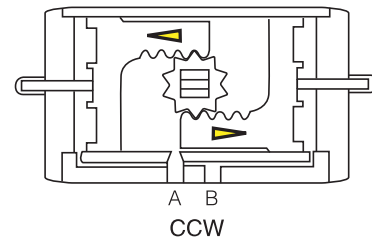
Working Condition

Temperature: from 0° to + 80°C; from - 20°C to +80°C with dry air only. (from -40°C to +150°C in special execution)
 Air supply: Minimum 40 psi; Maximum 130 psi
 Operating media: Compressed filtered air, not necessarily lubricated.
 In case of lubricated air, either non detergent oil or NBR compatible oil must be used.

Double Acting Operation

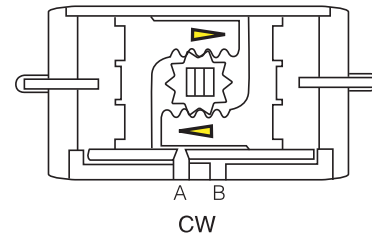
*CCW

Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise and exhausting air out of Port B

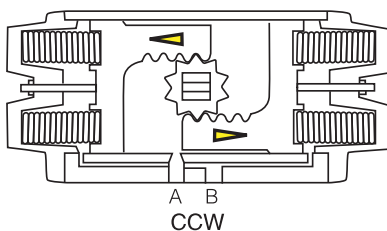


*CW

Air is supplied to Port B forcing the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A

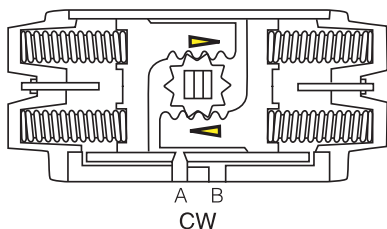


Spring Return Operation



*FAIL CCW

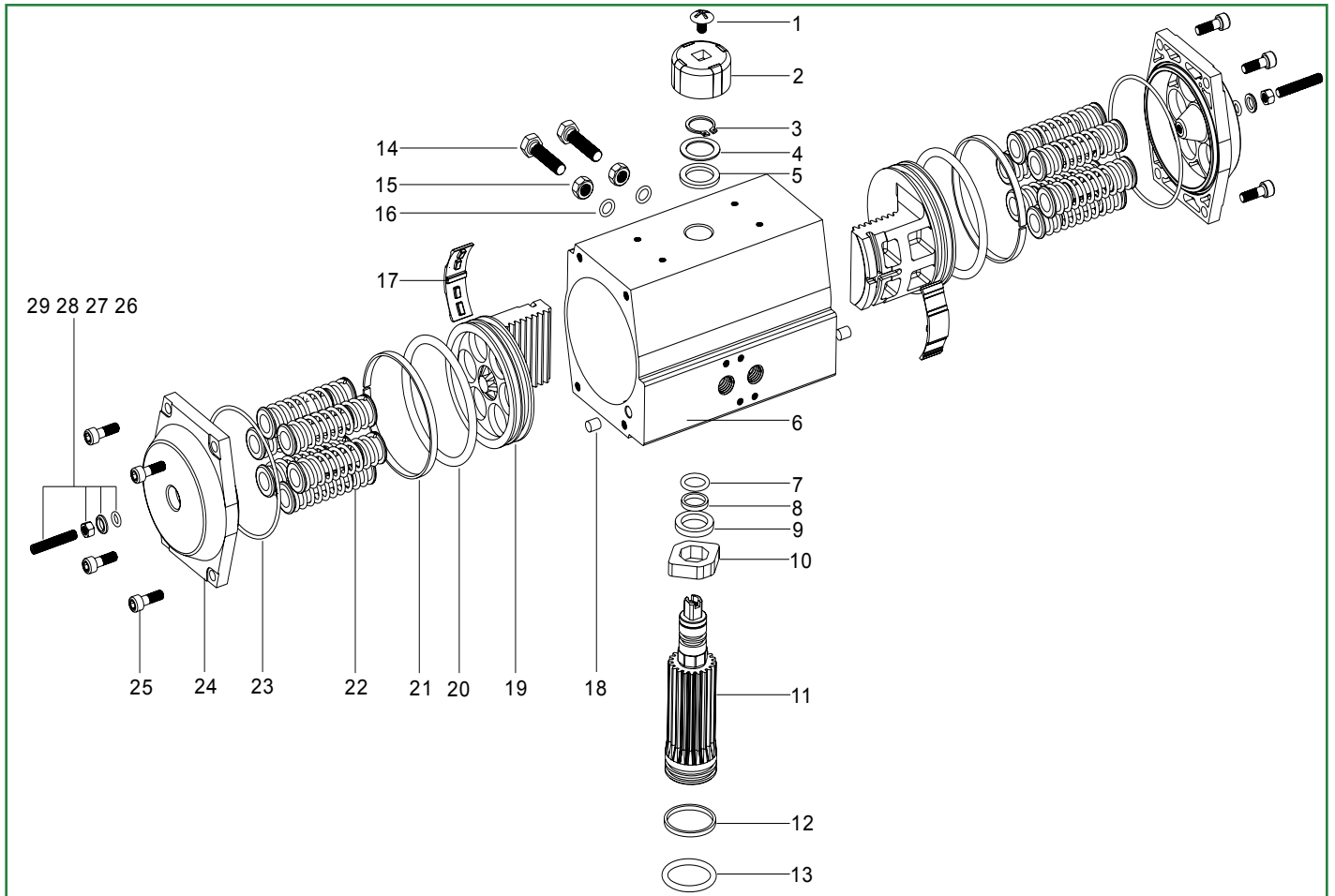
Air is supplied to Port A forcing the pistons away from each other (towards ends), rotating the drive pinion counter-clockwise, compressing the springs and exhausting air out of Port B



*FAIL CW

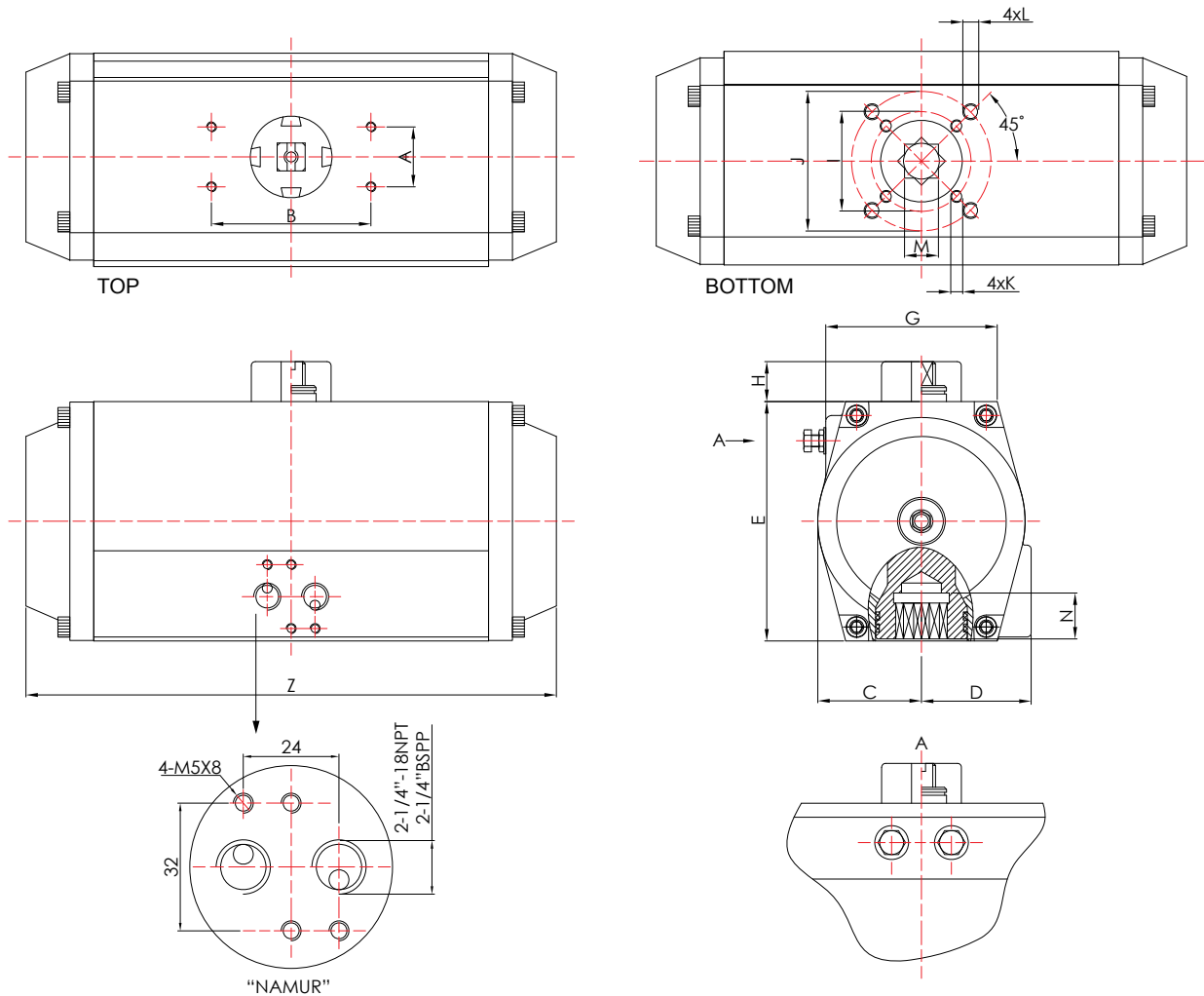
Air failure (loss of pressure) allows the compressed springs to force the pistons toward each other (towards center), rotating the drive pinion clockwise and exhausting air out of Port A

MATERIALS OF CONSTRUCTION



No.	Description	Qty.	Standard Material	No.	Description	Qty.	Standard Material
1	Indicator Screw	1	Stainless Steel	15	Adjustment Nut	2	Stainless Steel
2	Indicator	1	Plastic	16	Adjustment O-Ring	2	NBR
3	Snap Ring	1	Stainless Steel	17	Piston Plate	2	Nylon 66
4	Washer	1	Stainless Steel	18	Hole Plug	2	NBR
5	Outside Washer	1	Plastic	19	Piston	2	Cast Aluminum (101A)
6	Body	1	Aluminum Alloy (6005-T5)	20	Piston O-Ring	2	NBR
7	O-Ring Top	1	NBR	21	Piston Bearing	2	Plastic
8	Bearing Top	1	Plastic	22	Spring	0~12	Spring Steel
9	Inside Washer	1	Plastic	23	End Cap O-Ring	2	NBR
10	Travel Stop	1	Alloy Steel (45#)	24	End Cap	2	Cast Aluminum (ADC12)
11	Pinion	1	Alloy Steel (45#)	25	Cap Screw	8	Stainless Steel
12	Bearing Bottom	1	Plastic	26	Adjustment Screw O-Ring	2	NBR
13	O-Ring Bottom	2	NBR	27	Adjust Screw Washer	2	Stainless Steel
14	Adjustment Screw	2	Stainless Steel	28	Adjustment Screw Nut	2	Stainless Steel
				29	Adjustment Screw	2	Stainless Steel

SERIES U - DIMENSIONAL DATA



MODEL	A	B	H	C	D	E	G	N	Z	ØI	ØJ	K	L	□M
U-52	30 1.18	80 3.15	20 .79	29.5 1.16	41.5 1.63	74 2.91	60 2.36	14 .55	146 5.75	36 1.42	50 1.97	M5x8	M6x10	11 .43
U-63	30 1.18	80 3.15	20 .79	36 1.42	47 1.85	88 3.46	66 2.6	18 .71	168 6.61	50 1.97	70 2.76	M6x10	M8x13	14 .55
U-75	30 1.18	80 3.15	20 .79	41.5 1.63	53 2.09	100 3.94	71.5 2.81	18 .71	184 7.24	50 1.97	70 2.76	M6x10	M8x13	14 .55
U-83	30 1.18	80 3.15	20 .79	45 1.77	56 2.2	109 4.29	79.5 3.13	21 .83	204 8.03	50 1.97	70 2.76	M6x10	M8x13	14 .55
U-92	30 1.18	80 3.15	20 .79	52 2.05	55 2.17	120 4.72	86 3.39	21 .83	260 10.24	50 1.97	70 2.76	M6x10	M8x13	14 .55
U-105	30 1.18	80 3.15	20 .79	57.5 2.26	64 2.52	133 5.24	97 3.82	26 1.02	268 10.55	70 2.76	102 4.02	M8x13	M10x16	22 .87
U-125	30 1.18	130 5.12	20 .79	70 2.76	71 2.8	155 6.1	113.3 4.46	26 1.02	298 11.73	70 2.76	102 4.02	M8x13	M10x16	22 .87
U-140	30 1.18	130 5.12	20 .79	76 2.99	77 3.03	172 6.77	119.5 4.7	31 1.22	390 15.35	102 4.02	125 4.92	M10x16	M12x20	27 1.06
U-160	30 1.18	130 5.12	20 .79	88 3.46	88 3.46	197 7.76	140 5.51	31 1.22	458 18.03	102 4.02	125 4.92	M10x16	M12x20	27 1.06
U-190	30 1.18	130 5.12	30 1.18	103 4.06	101 3.98	230 9.06	153.5 6.04	50 1.97	528 20.79		140 5.51		M16x25	36 1.42
U-210	30 1.18	130 5.12	30 1.18	113 4.45	111 4.37	255 10.04	164.5 6.48	50 1.97	532 20.94		140 5.51		M16x25	36 1.42

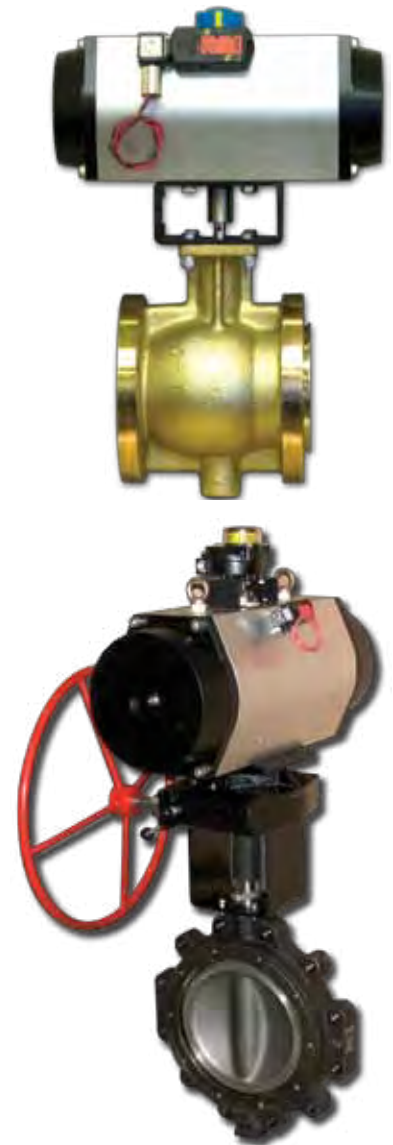
ACTUATOR OUTPUT TORQUE CHARTS

AIR CONSUMPTION (cubic in.)					
Model Number	Opening	Closing	Model Number	Opening	Closing
U-52	6.7	8.5	U-125	90	113
U-63	12.2	14	U-140	148	195
U-75	18	23	U-160	223	307
U-83	25	34	U-190	360	482
U-92	38	56	U-210	425	591
U-105	57	72			

WEIGHT TABLE (lbs)					
Model Number	DA	SR	Model Number	DA	SR
U-52	2.4	2.7	U-125	19.4	20.4
U-63	4	4.3	U-140	26.7	98.6
U-75	4.8	5.3	U-160	44.2	52.4
U-83	6.3	6.9	U-190	83.8	98.6
U-92	9.5	11.1	U-210	99.2	118
U-105	13.5	15.3			

DOUBLE ACTING ACTUATOR OUTPUT TORQUE (in/lb)						
MODEL	INPUT AIR PRESSURE (psi)					
	44	58	73	87	102	116
U-52DA	107	142	179	214	250	286
U-63DA	192	256	320	383	447	511
U-75DA	267	357	445	535	624	712
U-83DA	414	552	690	828	967	1105
U-92DA	604	805	1005	1206	1408	1609
U-105DA	874	1165	1455	1746	2037	2329
U-125DA	1361	1815	2269	2722	3177	3631
U-140DA	2329	3105	3881	4657	5433	6210
U-160DA	3548	4732	5914	7097	8280	9462
U-190DA	5718	7625	9531	11437	13343	15250
U-210DA	6986	9315	11643	13972	16300	18629

Note: The above actuator output torque data has factored in the loss due to friction and passing of the force. The actual output torque of the actuator will be no less than the above data.





ACTUATOR OUTPUT TORQUE CHARTS

SPRING RETURN OUTPUT TORQUE (in/lb)											
Model	Springs Per Piston	INLET AIR PRESSURE (psi)								SPRING OUTPUT TORQUE (in/lb)	
		58		73		87		102			
		Start 0°	End 90°	Start 0°	End 90°	Start 0°	End 90°	Start 0°	End 90°	Start 90°	End 0°
U-52SR	3	97	77	134	113					65	45
	4	82	55	119	91	154	127	189	162	88	60
	5			104	69	139	104	174	140	110	75
	6					125	83	160	119	131	89
U-63SR	3	183	145	247	209					111	73
	4	159	108	223	172	287	235	350	299	148	96
	5			198	135	262	198	326	262	185	121
	6					238	162	302	226	221	145
U-75SR	3	244	203	333	291					154	112
	4	207	151	296	240	385	329	474	419	205	150
	5			258	189	348	278	437	367	257	187
	6					311	227	400	317	307	224
U-83SR	3	384	308	522	446					244	168
	4	328	227	466	365	605	503	743	641	326	224
	5			411	283	549	421	687	559	407	280
	6					492	340	630	478	489	336
U-92SR	3	557	440	758	641					365	248
	4	474	318	675	519	876	720	1078	921	487	330
	5			592	397	793	598	995	800	608	413
	6					711	476	913	678	730	496
U-105SR	3	828	642	1119	932					523	336
	4	717	468	1007	759	1298	1050	1590	1341	697	448
	5			895	584	1186	875	1477	1167	871	560
	6					1074	701	1366	992	1045	672



ACTUATOR OUTPUT TORQUE CHARTS

SPRING RETURN OUTPUT TORQUE (in/lb)

Model	Springs Per Piston	INLET AIR PRESSURE (psi)								SPRING OUTPUT TORQUE (in/lb)	
		58		73		87		102			
		Start 0°	End 90°	Start 0°	End 90°	Start 0°	End 90°	Start 0°	End 90°	Start 90°	End 0°
U-125SR	3	1259	982	1714	1436					833	556
	4	1074	705	1528	1159	1981	1613	2435	2067	1110	742
	5			1343	882	1796	1335	2250	1789	1388	927
	6					1610	1058	2064	1512	1665	1113
U-140SR	3	2194	1735	2970	2511					1370	911
	4	1890	1279	2666	2055	3442	2831	4218	3608	1826	1215
	5			2362	1598	3138	2375	3915	3151	2283	1519
	6					2835	1918	3611	2694	2739	1822
U-160SR	3	3245	2519	4427	3701					2213	1487
	4	2758	1784	3940	2967	5123	4149	6306	5333	2947	1974
	5			3445	2223	4627	3406	5811	4589	3691	2469
	6					4132	2671	5315	3854	4425	2965
U-190SR	3	5616	4509	7522	6416					3115	2009
	4	4943	3474	6850	5380	8755	7286	10662	9192	4151	2682
	5			6177	4345	8083	6250	9989	8157	5187	3354
	6					7410	5215	9316	7121	6222	4027
U-210SR	3	6544	5491	8873	7820					3824	2770
	4	5624	4225	7952	6554	10281	8883	12610	11211	5089	3691
	5			7032	5279	9361	7608	11689	9937	6364	4611
	6					8440	6334	10769	8662	7638	5532

1 - "Spring Output Torque" is under "Loss of Air Pressure" & "Actuator Output Torque" is under spring force condition

2 - Normally Closed Valve: Actuator at 0 degrees, valve is closed; actuator at 90 degrees, valve is open.

3 - Normally Open Valve: Actuator at 0 degrees, valve is open; actuator at 90 degrees, valve is closed.

Note: The above actuator output torque data has factored in the loss due to friction and passing of the force. The actual output torque of the actuator will be no less than the above data.



Commercial, Industrial & Municipal Valve Automation

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