

**PNEUMATIC ROTARY ACTUATORS
AP SERIES**

Nm.
lbf.in

MODEL	N° OF SPRINGS FOR EACH SIDE OF PISTON	OPERATING PRESSURE - BAR / PSI												SPRING STROKE	
		3		4		5		6		7		8			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
AP6SR	2	257.0	200.0	371.0	314.0	484.0	427.0	597.0	540.0	711.5	654.5	825.0	768.0	140.0	83.0
		2292.4	1784.0	3309.3	2800.9	4317.3	3808.8	5325.2	4816.8	6346.6	5838.1	7359.0	6850.6	1248.8	740.4
	3	215.0	130.0	329.0	244.0	442.0	357.0	555.0	470.0	669.5	584.5	783.0	698.0	210.0	125.0
		1917.8	1159.6	2934.7	2176.5	3942.6	3184.4	4950.6	4192.4	5971.9	5213.7	6984.4	6226.2	1873.2	1115.0
	4	=	=	287.0	174.0	400.0	287.0	513.0	400.0	627.5	514.5	741.0	628.0	280.0	167.0
		=	=	2560.0	1552.1	3568.0	2560.0	4576.0	3568.0	5597.3	4589.3	6609.7	5601.8	2497.6	1489.6
AP8SR	2	478.0	386.0	691.0	599.0	904.0	812.0	1116.0	1024.0	1331.0	1239.0	1704.0	1452.0	252.0	160.0
		4263.8	3443.1	6163.7	5343.1	8063.7	7243.0	9954.7	9134.1	11872.5	11051.9	15199.7	12951.8	2247.8	1427.2
	3	398.0	260.0	611.0	473.0	824.0	686.0	1036.0	898.0	1251.0	1113.0	1464.0	1326.0	378.0	240.0
		3550.2	2319.2	5450.1	4219.2	7350.1	6119.1	9241.1	8010.2	11158.9	9928.0	13058.9	11827.9	3371.8	2140.8
	4	=	=	531.0	347.0	744.0	560.0	956.0	772.0	1171.0	987.0	1384.0	1200.0	504.0	320.0
		=	=	4736.5	3095.2	6636.5	4995.2	8527.5	6886.2	10445.3	8804.0	12345.3	10704.0	4495.7	2854.4
AP10SR	2	1181.0	957.0	1720.0	1496.0	2259.0	2032.0	2798.0	2574.0	3337.0	3113.0	3876.0	3652.0	660.0	436.0
		10534.5	8536.4	15342.4	13344.3	20150.3	18125.4	24958.2	22960.1	29766.0	27768.0	34573.9	32575.8	5887.2	3889.1
	3	963.0	628.0	1502.0	1167.0	2041.0	1706.0	2580.0	2245.0	3119.0	2748.0	3658.0	3323.0	989.0	654.0
		8590.0	5061.8	13397.8	10409.6	18205.7	15217.5	23013.6	20025.4	27821.5	24833.3	32629.4	29641.2	8821.9	5833.7
	4	=	=	1284.0	837.0	1823.0	1376.0	2362.0	1915.0	2901.0	2454.0	3440.0	2993.0	11765.5	7778.2
		=	=	11453.3	7466.0	1621.2	12273.9	21069.0	17081.8	25876.9	21889.7	30684.8	26697.6	11765.5	7778.2

TORQUE OUTPUT SPRING RETURN ACTUATORS (SR) FOR BUTTERFLY VALVES - SPRINGS TYPE F

MODEL	N° OF SPRINGS FOR EACH SIDE OF PISTON	OPERATING PRESSURE - BAR / PSI												SPRING STROKE	
		3		4		5		6		7		8			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
AP1SR	2	6.5	4.7	9.4	7.6	12.4	10.6	15.3	13.5	19.3	17.5	22.4	20.6	4.2	2.4
		58.0	41.9	83.8	67.8	110.6	94.6	136.5	120.4	172.2	156.1	199.8	183.8	37.5	21.4
	3	4.3	2	8.2	4.9	11.2	7.9	14.1	10.8	18.1	14.8	21.2	17.9	6.9	3.6
		47.3	17.8	73.1	43.7	99.9	70.5	125.8	96.3	161.5	132.0	189.1	159.7	61.5	32.1
	4	4.1	1.9	7	3.3	10	6.3	12.9	9.2	16.9	13.2	20	16.3	8.5	4.8
		36.6	16.9	62.4	29.4	89.2	56.2	115.1	82.1	150.7	117.7	178.4	145.4	75.8	42.8
AP2SR	2	10.3	7.2	15.0	11.9	19.7	16.6	24.4	21.3	29.1	26.0	33.8	30.7	6.9	3.8
		91.9	64.2	133.8	106.1	175.7	148.1	217.6	190.0	259.6	231.9	301.5	273.8	61.5	33.9
	3	8.4	3.8	13.1	8.5	17.8	13.2	22.5	17.9	27.2	22.6	31.9	27.3	10.3	5.7
		74.9	33.9	116.9	75.8	158.8	117.7	200.7	159.7	242.6	201.6	284.5	243.5	91.9	50.8
	4	=	=	11.2	5.0	15.9	9.7	20.6	14.4	25.3	19.1	30.0	23.8	13.8	7.6
		=	=	99.9	44.6	141.8	86.5	183.8	128.4	225.7	170.4	267.6	212.3	123.1	67.8
AP3SR	2	22.0	19.1	32.0	29.1	42.0	39.1	52.0	49.1	62.0	59.1	72.0	69.1	10.9	8.0
		196.2	170.4	285.4	259.6	374.6	348.8	463.8	438.0	553.0	527.2	642.2	616.4	97.2	71.4
	3	18.0	13.5	28.0	23.5	38.0	33.5	48.0	43.5	58.0	53.5	68.0	63.5	16.5	12.0
		160.6	120.4	249.8	209.6	339.0	298.8	428.2	388.0	517.4	477.2	606.6	566.4	147.2	107.0
	4	=	=	24.0	18.1	34.0	26.0	44.0	38.1	54.0	48.1	64.0	58.1	21.9	16.0
		=	=	214.1	161.5	303.3	231.9	392.5	339.9	481.7	429.1	579.9	518.3	195.3	142.7
AP3.5SR	2	33.7	26.6	50.7	43.6	67.7	60.6	84.7	77.6	101.7	94.6	118.7	111.6	24.4	17.3
		300.6	237.3	452.2	388.9	603.9	540.6	755.5	692.2	907.2	843.8	1058.8	995.5	217.6	154.3
	3	32.0	14.3	49.0	31.3	66.0	48.3	83.0	65.3	100.0	82.3	117.0	99.3	36.7	19.0
		285.4	127.6	437.1	279.2	588.7	430.8	740.4	582.5	892.0	734.1	1043.6	885.8	327.4	169.5
	4	=	=	45.0	19.1	62.0	36.1	79.0	53.1	96.0	70.1	113.0	87.1	48.9	23.0
		=	=	401.4	170.4	553.0	322.0	704.7	473.7	856.3	625.3	1008.0	776.9	436.2	205.2
AP4SR	2	51.7	36.4	75.7	60.4	99.7	84.4	122.7	107.4	148.7	133.4	172.7	175.2	34.6	19.3
		461.2	324.7	675.2	538.8	889.3	752.8	1094.5	958.0	1326.4	1189.9	1540.5	1562.8	308.6	172.2
	3	42.1	19.1	66.1	43.1	90.1	67.1	113.1	90.1	139.1	116.1	163.1	153.6	51.9	28.9
		375.5	170.4	589.6	384.5	803.7	598.5	1008.9	803.7	1240.8	1035.6	1454.9	1370.1	462.9	257.8
	4	=	=	56.4	25.7	80.4	49.7	103.4	72.7	129.4	98.7	153.4	132.0	69.3	38.6
		=	=	503.1	229.2	717.2	443.3	922.3	648.5	1154.2	880.4	1368.3	1177.4	618.2	344.3

NOTE: Air pressure below 80 P.S.I. will not normally be sufficient to compress the 6 springs in each end cap. The number of springs must, therefore, be adjusted.