

R.S.V.P. Type 1031 Piston Rotary Actuators

Technical Manual

Type 1031 piston rotary actuators are rugged, versatile units which provide a reliable method of opening and closing rotary valves. These actuators utilize the efficient scotch yoke mechanism to transform linear movement of the piston into a 90° rotating movement for optimum break and run torque. Many different model number combinations of actuator sizes, cylinder diameters, and double acting or spring-return action are available for installation on 1/4 turn valves. These actuators are designed for use over a wide range of pressures and temperatures.

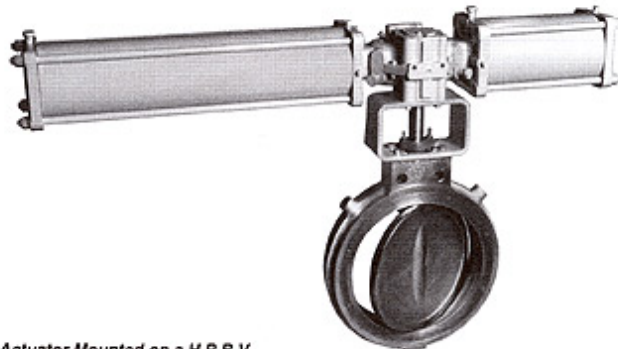
Double-acting actuators (see figure 2/page 3) require pressure to rotate the valve in either direction. Spring return actuators (see figure 3/page 3) require pressure to rotate the valve in one direction only and can be easily installed to open or close the valve on loss of air pressure. Both double-acting and spring-return actuators are available with either one cylinder or with two cylinders for higher torque.

Power-actuated packages are available with a full line of accessories and options including position indicating switches, solenoids, supply pressure regulators, and positioners.

Features

- **On-Shelf Availability-** A wide variety of actuators, valves, and accessories is readily available for custom configuration to specific customer needs.
- **Ease of Installation-** The power-actuated package minimizes on-site and in-shop engineering and installation operations. No special mounting or assembly techniques are required.
- **Rugged Construction-** The two-piece cast housings provide protection and stability of internal parts. High-grade alloy materials are used in all motion transfer components for precise and smooth operation at the full rated torque output. The actuators will withstand vibrations of most plant environments.
- **Longer Service Life-** The rugged, self-enclosed construction, output shaft bearings, and Xylan™ coated cylinder bore help provide longer life, consistency of operation, and corrosion resistance.
- **Seismic Qualification-** Actuators have been seismically qualified for nuclear applications.

TM - Trademark of Dupont



Type 1031 Actuator Mounted on a H.P.B.V.

R.S.V.P. Type 1031

Specifications

Actuator Sizes and Model Numbers

See (figure 4/page7)

Operating Pressure

Maximum Allowable: Corresponds to maximum output torque. See tables (1 thru 4/page 4,5&6)

Minimum Recommended: Depends on torque required. See tables (1 thru 4/pages 4,5&6)

Maximum Output Torque

See tables (1 thru 4/pages 4,5&6)

Material Temperature Capabilities

Standard: -20° to +200° F (-29° to +93° C)

Optional: 0° to +350° F (-18° to +177° C)

Maximum Valve Shaft Rotation

100 degree maximum actuator rotation can be limited with independent, externally adjustable travel stops. Travel stops are of sufficient size to absorb maximum torque output

Valve Shaft Connection:

See figures (5 thru 8/pages 8 thru 15), dimension K for acceptable valve shaft dimensions. Accepts a keyed shaft.

Standard Construction Materials

Body: Ductile iron

Cylinder: Wrought carbon steel
Stainless Steel or
Amalgon Available

Piston: Ductile iron

Seals:

Standard: Nitrile

High Temperature: Fluorocarbon

Nuclear: EPR (ethylene propylene rubber)

Pressure Port Connections:

See (dimension I) in figures (5 thru 8/page 6&7)

Stroking Time:

Dependent on actuator size, rotation, and positioner if used. If stroking time is critical, consult your R.S.V.P. sales office or sales representative

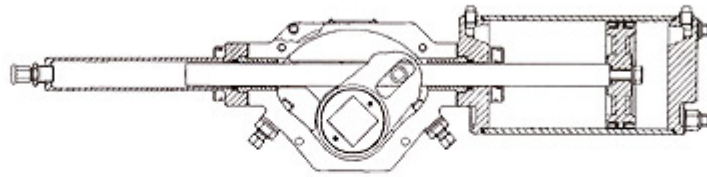
Approximate Weights:

See tables (5 and 6/page 6&7)

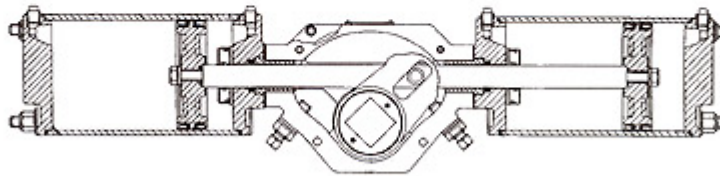
Accessories

Limit Switches: Models with SPDT and DPDT limit or position indicating switches are available.

Solenoid Valves: Pneumatic input solenoid control valves and pilots are available for standard and fail-safe configurations of double-acting and spring-return actuators

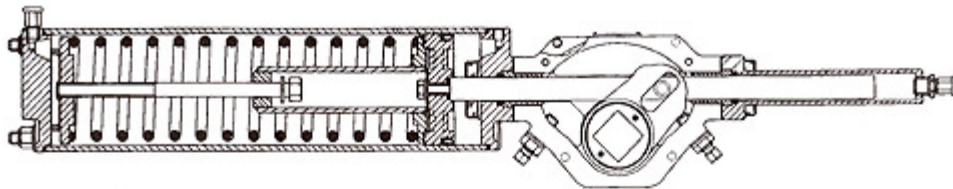


DOUBLE-ACTING ACTUATOR, ONE CYLINDER (TOP VIEW)

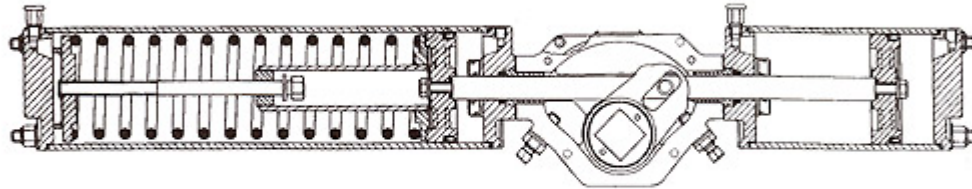


DOUBLE-ACTING ACTUATOR, TWO CYLINDERS (TOP VIEW)

Figure 2. Double-Acting Actuators



SPRING-RETURN ACTUATOR, ONE CYLINDER (TOP VIEW)



SPRING-RETURN ACTUATOR, TWO CYLINDERS (TOP VIEW)

Figure 3. Spring-Return Actuators

R.S.V.P. Type 1031

Table 1. Operating Pressure, Psig, and Torque Output, lbf in, for Double-Acting Actuators

ACTUATOR MODEL NUMBER	TORQUE	OPERATING PRESSURE, PSIG							
		40	50	60	70	80	90	100	125
		Torque Output, lbf in							
26051	Break	2680	3607	4329	5051	5772	6494	7216	9019
	Run	1443	1933	2319	2706	3091	3479	3866	4832
26061	Break	3660	5195	6235	7275	8315	9350	10,390	12,990
	Run	1990	2660	3410	3975	4545	5110	5680	7100
26071	Break	5255	7070	8485	9900	11,315	12,730	14,145	17,680
	Run	2740	3665	4695	5475	6260	7040	7825	9780
26081	Break	6860	9230	11,080	12,930	14,770	16,620	18,470	23,090
	Run	3600	4820	6170	7200	8230	9270	10,290	12,870
26062	Break	7550	10,165	12,200	14,230	16,265	18,295	20,330	25,415
	Run	4065	5445	6970	8130	9295	10,455	11,620	14,520
26082	Break	13,550	18,240	21,890	25,540	29,190	---	---	---
	Run	7290	9770	12,500	14,590	16,680	---	---	---
33121	Break	19,850	26,720	32,065	37,410	42,750	48,095	53,440	66,600
	Run	10,460	14,010	17,935	20,920	23,910	26,900	29,890	37,360
45121	Break	26,465	35,625	42,750	49,875	57,000	64,130	71,255	89,065
	Run	13,630	18,260	23,370	27,265	31,160	35,055	38,950	48,685
33102	Break	27,140	36,540	43,850	51,150	58,460	65,775	---	---
	Run	14,610	19,570	25,050	29,230	33,410	37,585	---	---
45102	Break	35,370	47,610	57,140	66,660	76,190	85,710	95,230	119,040
	Run	19,040	25,510	32,650	38,090	43,530	48,970	54,420	68,020
45171	Break	51,470	65,370	79,660	94,370	109,490	125,020	140,950	---
	Run	29,400	37,300	45,500	53,900	62,500	71,400	80,500	---
45211	Break	78,500	99,750	121,570	144,010	167,080	---	---	---
	Run	44,800	57,000	69,400	82,310	95,410	---	---	---
80171	Break	91,485	123,150	147,780	172,410	197,040	221,670	246,300	307,875
	Run	49,260	65,975	84,445	98,520	112,595	126,670	140,740	175,930
60211	Break	104,730	133,000	162,095	192,020	222,770	254,360	286,780	---
	Run	59,800	76,005	92,600	109,700	127,300	145,300	163,895	---
80211	Break	139,650	177,330	216,120	256,020	279,030	339,150	382,380	484,900
	Run	79,800	101,300	123,500	152,000	169,700	193,800	218,500	277,000
80172	Break	180,185	228,810	278,860	330,340	383,255	---	---	---
	Run	102,965	130,495	158,735	190,195	220,230	---	---	---
80212	Break	276,455	351,055	427,845	---	---	---	---	---
	Run	157,875	200,210	243,545	---	---	---	---	---

R.S.V.P. Type 1031

Table 2. Operating Pressure, Bar, and Torque Output, N m, for Double-Acting Actuators

ACTUATOR MODEL NUMBER	TORQUE	OPERATING PRESSURE, BAR							
		2.8	3.4	4.1	4.8	5.5	6.2	6.9	8.6
		Torque Output, N m							
26051	Break	302	407	488	570	652	733	815	1019
	Run	163	218	262	305	349	393	437	546
26061	Break	436	587	704	822	939	1080	1170	1470
	Run	225	301	385	449	514	577	642	802
26071	Break	594	799	959	1120	1280	1440	1600	2000
	Run	310	414	530	619	707	795	884	1100
26081	Break	775	1040	1250	1460	1670	1880	2090	2610
	Run	407	545	697	813	930	1050	1160	1450
26062	Break	853	1150	1380	1610	1840	2070	2300	2870
	Run	459	615	788	919	1050	1180	1310	1640
26082	Break	1530	2060	2470	2890	3300	---	---	---
	Run	824	1100	1410	1650	1880	---	---	---
33121	Break	2240	3020	3620	4230	4830	5430	6040	7550
	Run	1180	1580	2030	2360	2700	3040	3380	4220
45121	Break	2990	4030	4830	5630	6440	7240	8050	10,060
	Run	1540	2060	2640	3080	3520	3960	4400	5500
33102	Break	3070	4130	4950	5780	6610	7430	---	---
	Run	1650	2210	2830	3300	3770	4250	---	---
45102	Break	4000	5380	6450	7530	8610	9680	10,760	13,450
	Run	2150	2880	3690	4300	5120	5530	6150	7690
45171	Break	5810	7390	9000	10,660	12,370	14,120	15,930	---
	Run	3320	4210	5140	6090	7060	8070	9100	---
45211	Break	8870	11,270	13,740	16,270	18,880	---	---	---
	Run	5060	6440	7840	9300	10,780	---	---	---
80171	Break	10,340	13,910	16,700	19,480	22,260	25,040	27,830	34,780
	Run	5570	7450	9540	11,130	12,720	14,310	15,900	19,880
60211	Break	11,830	15,030	18,310	21,690	25,170	28,740	32,400	---
	Run	5760	8590	10,460	12,390	14,380	16,420	18,520	---
80211	Break	15,779	20,037	24,420	28,928	31,528	38,322	43,206	54,790
	Run	9016	11,446	13,954	17,175	19,175	21,898	24,689	31,299
80172	Break	20,360	25,850	31,500	37,320	43,300	---	---	---
	Run	11,630	14,740	17,930	21,490	24,880	---	---	---
80212	Break	31,240	39,660	48,340	---	---	---	---	---
	Run	17,840	22,620	27,520	---	---	---	---	---

R.S.V.P. Type 1031

Table 3. Operating Pressure, Psig, and Torque Output, lbf in, for Spring-Return Actuators

ACTUATOR MODEL NUMBER	OPERATING PRESSURE, PSIG				
	40 ⁽¹⁾	60	80	100 ⁽¹⁾	125 ⁽¹⁾
	Torque Output, lbf in, at End of Stroke with Spring Extended				
26051 SR	570	920	1310	1840	2090
26061 SR	840	1350	1930	2410	3090
26062 SR	2030	3260	4640	5800	7250
26072 SR	2810	4510	6420	8030	10,040
33072 SR	3550	5720	8130	10,170	12,710
33082 SR	4460	7180	10,210	12,760	15,990
33102 SR	7090	11,390	16,200	20,250	25,310
33122 SR	10,250	16,480	23,440	29,300	---
45122 SR	13,520	21,730	30,900	38,630	48,250
45171 SR	18,000	27,020	37,000	47,000	59,100
60171 SR	23,500	36,010	49,000	60,000	78,800
45211 SR	26,900	43,000	56,100	71,600	---
60211 SR	35,600	54,000	74,600	87,100	122,250
80211 SR	42,300	73,280	99,800	127,500	160,400

1. Available on application. Contact your RSVP sales representative.

Table 4. Operating Pressure, Bar, and Torque Output, N m, for Spring-Return Actuators

ACTUATOR MODEL NUMBER	OPERATING PRESSURE, BAR				
	2.9 ⁽¹⁾	4.1	5.5	6.9 ⁽¹⁾	8.6 ⁽¹⁾
	Torque Output, N m, at End of Stroke with Spring Extended				
26051 SR	64	103	148	185	236
26061 SR	95	152	218	272	349
26062 SR	229	368	524	655	819
26072 SR	317	510	725	907	1130
33072 SR	401	646	919	1150	1440
33082 SR	504	811	1150	1440	1800
33102 SR	801	1290	1830	2290	2860
33122 SR	1160	1860	2650	3310	---
45122 SR	1530	2450	3490	4360	5450
45171 SR	2030	3050	4180	5310	6680
60171 SR	2650	4070	5540	6780	8900
45211 SR	3040	4880	6340	8090	---
60211 SR	4020	6100	8430	11,280	13,810
80211 SR	4780	8280	11,280	14,400	18,120

1. Available on application. Contact your RSVP Sales representative.

Table 5. Weights for Double-Acting Actuators

ACTUATOR MODEL NUMBER	WEIGHT		ACTUATOR MODEL NUMBER	WEIGHT	
	Pounds	kg		Pounds	kg
26051	120	34	45102	628	285
26061	130	59	45171	725	329
26071	146	66	45211	900	408
26081	155	70	80171	1100	499
26062	180	82	60211	1125	510
26082	230	104	80172	1400	635
33121	327	148	80211	1350	612
45121	528	239	80212	1650	748
33102	426	193			

R.S.V.P. Type 1031

Table 6. Weights for Spring-Return Actuators

ACTUATOR MODEL NUMBER	OPERATING PRESSURE, PSIG (BAR)									
	40 (2.8)		60 (4.1)		80 (5.5)		100 (6.9)		125 (8.6)	
	Pounds	kg	Pounds	kg	Pounds	kg	Pounds	kg	Pounds	kg
26051 SR	158	72	162	74	163	74	164	75	170	77
26061 SR	173	81	192	87	195	84	205	93	200	91
26062 SR	252	114	250	113	255	116	243	110	268	122
26072 SR	302	137	308	140	326	148	332	151	355	161
33072 SR	347	157	355	161	372	169	372	169	402	182
33082 SR	402	182	425	193	417	189	432	196	470	213
33102 SR	596	266	614	279	678	308	700	318	763	346
33122 SR	903	410	870	395	1032	468	1005	456	---	---
45122 SR	1100	499	1065	483	1230	558	1235	560	1387	629
45171 SR	1170	531	1215	551	1330	603	1330	603	1425	646
60171 SR	1410	640	1500	680	1550	703	1600	726	1760	798
45211 SR	1430	649	1500	680	1670	757	1725	782	---	---
60211 SR	1700	771	1765	801	1980	898	2090	948	2420	1100
80211 SR	2080	943	2500	1130	2575	1170	2725	1240	2815	1280

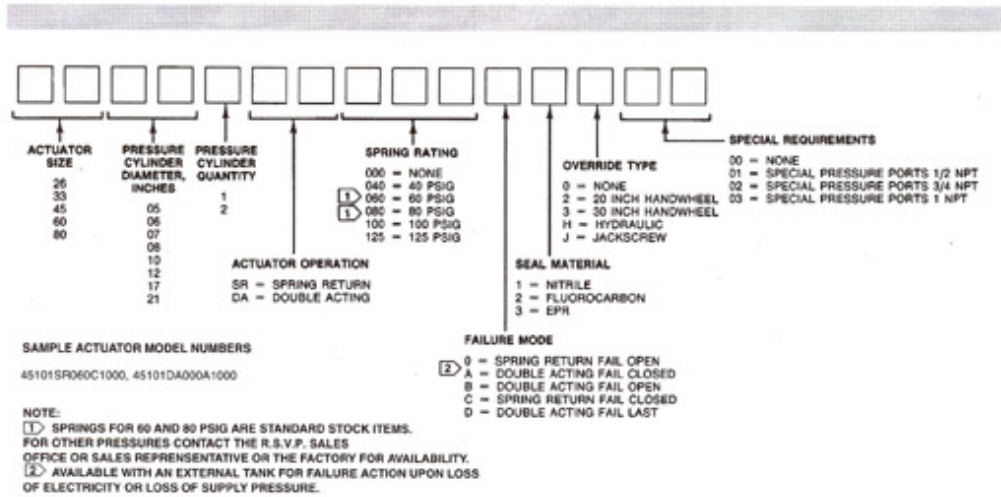
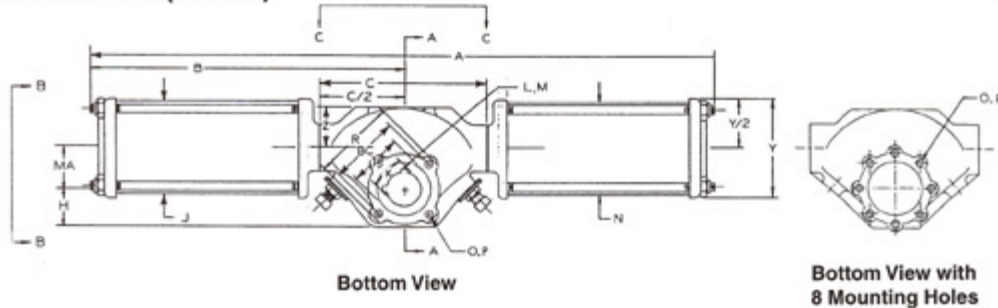


Figure 4. Size and Material Selection Codes Used for Determining Actuator Model Numbers

R.S.V.P. Type 1031

2 Cylinder Double Acting Actuator **FIGURE 5** Dimensions (Inches)



Standard Letter designations for catalog drawings:

A overall length	H centerline of torque plug to bottom of body	N right cylinder outside diameter	U accessory mounting hole dimension
B center line of torque plug to left end of actuator	I NPT size	O NC threads	V accessory mounting hole NC threads
BC bolt circle diameter	J left cylinder outside diameter	P depth of threads	W accessory mounting hole depth of threads
C body length	K maximum bore diameter	RC rod cover diameter	X core size
D left end cap square	L maximum keyway size	R spigot diameter	Y right end cap square
E total height	M maximum key length	S spigot height	Z centerline of piston rod to top of actuator
F body width less torque plug extension	MA centerline of torque plug to center line of piston rod	TP torque plug diameter	
G torque plug extension		T accessory mounting hole dimension (parting line to CL of hole)	

DA MODEL NUMBERS

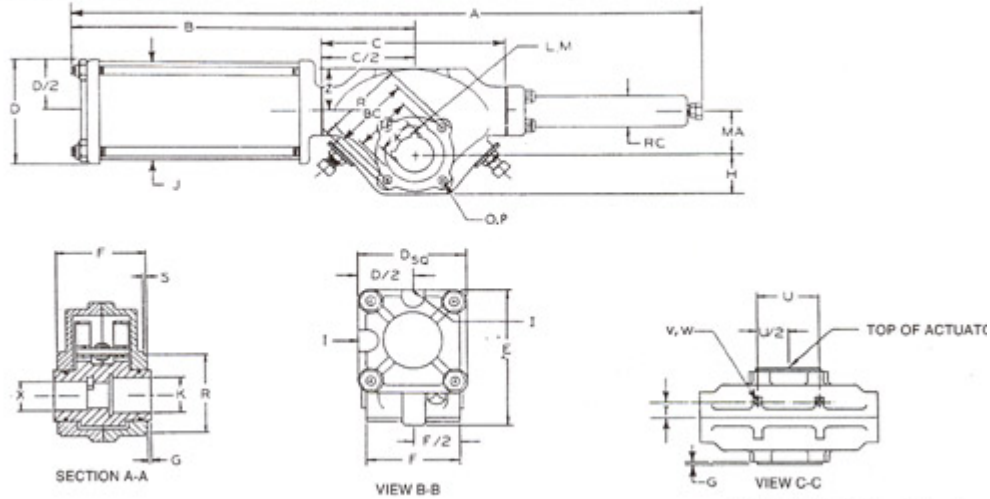
DIMENSIONS (In Inches)

KEY	26051	26061	26071	33071	26081	26062	33081	26082	33101	33082
A	41.38	41.38	44.00	46.63	44.00	42.63	46.75	48.00	47.63	50.13
B	21.38	21.38	24.00	25.00	24.00	21.38	25.06	24.00	25.88	25.06
BC	4.50	4.50	4.50	5.75	4.50	4.50	5.75	4.50	5.75	5.75
C	11.75	11.75	11.75	13.75	11.75	11.75	13.75	11.75	13.75	13.75
D	5.81	6.63	7.63	7.63	8.63	6.63	8.63	8.63	10.75	8.63
E	8.28	8.69	9.19	10.31	9.69	8.69	10.81	9.69	11.88	10.81
F	6.50	6.50	6.50	7.00	6.50	6.50	7.00	6.50	7.00	7.00
G	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
H	2.75	2.75	2.75	3.13	2.75	2.75	3.13	2.75	3.13	3.13
I	(NPT) 3/8-18 4	(NPT) 3/8-18 4	(NPT) 3/8-18 4	(NPT) 3/8-18 4	(NPT) 1/2-14 4	(NPT) 3/8-18 8	(NPT) 1/2-14 4	(NPT) 1/2-14 8	(NPT) 1/2-14 4	(NPT) 1/2-14 8
J	5.50	6.50	7.50	7.50	8.50	6.50	8.50	8.50	10.75	8.50
K	2.50	2.50	2.50	3.25	2.50	2.50	3.25	2.50	3.25	3.25
L	.63X.31	.63X.31	.63X.31	.75X.38	.63X.31	.63X.31	.75X.38	.63X.31	.75X.38	.75X.38
M	2.38	2.38	2.38	2.88	2.38	2.38	2.88	2.38	2.88	2.88
MA	2.63	2.63	2.63	3.38	2.63	2.63	3.38	2.63	3.38	3.38
N	-	-	-	-	6.50	-	8.50	-	8.50	-
O	(UNC) 1/2-13 4	(UNC) 1/2-13 4	(UNC) 1/2-13 4	(UNC) 3/4-10 4	(UNC) 1/2-13 4	(UNC) 1/2-13 4	(UNC) 3/4-10 4	(UNC) 1/2-13 4	(UNC) 3/4-10 4	(UNC) 3/4-10 4
P	1.00	1.00	1.00	0.88	1.00	1.00	0.88	1.00	0.88	0.88
RC	1.88	1.88	1.88	2.63	1.88	-	2.63	1.88	2.63	1.88
R	5.43	5.43	5.43	7.01	5.43	5.43	7.01	5.43	7.01	7.01
S	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
TP	3.63	3.63	3.63	4.50	3.63	3.63	4.50	3.63	4.50	4.50
T	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
U	4.25	4.25	4.25	4.75	4.25	4.25	4.75	4.25	4.75	4.75
V	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2
W	0.50	0.50	0.50	0.44	0.50	0.50	0.44	0.50	0.44	0.44
X	2.03	2.03	2.03	2.53	2.03	2.03	2.53	2.03	2.53	2.53
Y	-	-	-	-	-	6.63	-	8.63	-	8.63
Z	2.88	2.88	2.88	3.44	2.88	2.88	3.44	2.88	3.44	3.44

R.S.V.P. Type 1031

1 Cylinder Double Acting Actuator FIGURE 5

Dimensions (Inches)



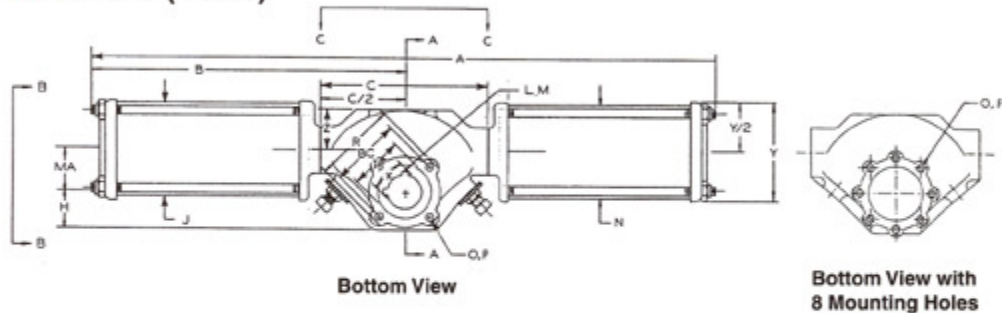
DA MODEL NUMBERS

DIMENSIONS (In Inches)

KEY	33121	45121	33102	45102	45171	60171	45211	80171	60211	80211
A	47.75	60.63	51.75	65.69	62.13	72.50	62.38	93.25	72.75	93.50
B	26.06	33.00	25.88	32.88	34.50	39.38	34.75	48.00	39.56	48.25
BC	5.75	8.25	5.75	8.25	8.25	11.38	8.25	12.50	11.38	12.50
C	13.75	19.25	13.75	19.25	19.25	22.00	19.25	29.00	22.00	29.00
D	13.13	13.13	10.75	10.75	18.38	18.38	22.38	18.38	22.38	22.38
E	13.06	16.31	11.88	15.13	18.94	22.13	22.38	25.06	24.13	27.06
F	7.00	9.38	7.00	9.38	9.38	12.00	9.38	12.00	12.00	12.00
G	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
H	3.13	5.25	2.75	5.25	5.25	6.94	5.25	7.88	6.94	7.88
I	(NPT) QTY.	1/2-14 4	1/2-14 4	3/8-14 8	1/2-14 3	3/4-14 4	3/4-14 4	1/2-14 4	3/4-14 4	3/4-14 4
J	12.75	12.75	10.75	10.75	18.00	18.00	22.00	18.00	22.00	22.00
K	3.25	4.50	3.25	4.50	4.50	6.25	4.50	7.00	6.25	7.00
L	.75X.38	1.00X.38	.75X.38	1.00X.38	1.00X.38	1.13X.38	1.00X.38	1.13X.38	1.13X.38	1.13X.38
M	2.88	3.38	2.88	3.38	3.38	4.25	3.38	4.25	4.25	4.25
MA	3.38	4.50	3.38	4.50	4.50	6.00	4.50	8.00	6.00	8.00
N	-	-	10.75	10.75	-	-	-	-	-	-
O	(UNC) QTY.	3/4-10 4	7/8-09 8	3/4-10 4	7/8-09 8	7/8-9 8	1-8 8	7/8-09 8	1 3/8-6 8	1-8 8
P	0.88	1.38	0.88	1.38	1.38	1.50	1.38	2.00	1.50	2.00
RC	2.63	3.38	-	-	3.38	3.38	3.38	3.75	3.38	3.75
R	7.01	9.65	7.01	9.65	9.65	12.99	9.65	14.65	12.99	14.65
S	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
TP	4.50	6.25	4.50	6.25	6.25	8.00	6.25	9.00	8.00	9.00
T	1.25	2.00	1.25	2.00	2.00	-	2.00	-	-	-
U	4.75	5.75	4.75	5.75	5.75	-	5.75	-	-	-
V	(UNC) QTY.	1/4-20 2	1/4-20 2	1/4-20 2	1/4-20 2	1/4-20 2	1/4-20 2	-	-	-
W	0.44	0.44	0.44	0.44	0.44	-	0.44	-	-	-
X	2.53	2.53	2.53	2.53	2.53	4.50	2.53	5.13	4.50	5.13
Y	-	-	10.75	10.75	-	-	-	-	-	-
Z	3.44	4.50	3.44	4.50	4.50	7.13	4.50	8.00	7.13	8.00

R.S.V.P. Type 1031

2 Cylinder Double Acting Actuator FIGURE 6 Dimensions (Metric)



Standard Letter designations for catalog drawings:

A overall length	H centerline of torque plug to bottom of body	N right cylinder outside diameter	U accessory mounting hole dimension
B center line of torque plug to left end of actuator	I NPT size	O NC threads	V accessory mounting hole NC threads
BC bolt circle diameter	J left cylinder outside diameter	P depth of threads	W accessory mounting hole depth of threads
C body length	K maximum bore diameter	RC rod cover diameter	X core size
D left end cap square	L maximum keyway size	R spigot diameter	Y right end cap square
E total height	M maximum key length	S spigot height	S spigot height
F body width less torque plug extension	MA centerline of torque plug to center line of piston rod	TP torque plug diameter	Z centerline of piston rod to top of actuator
G torque plug extension		T accessory mounting hole dimension (paring line to CL of hole)	

DA MODEL NUMBERS

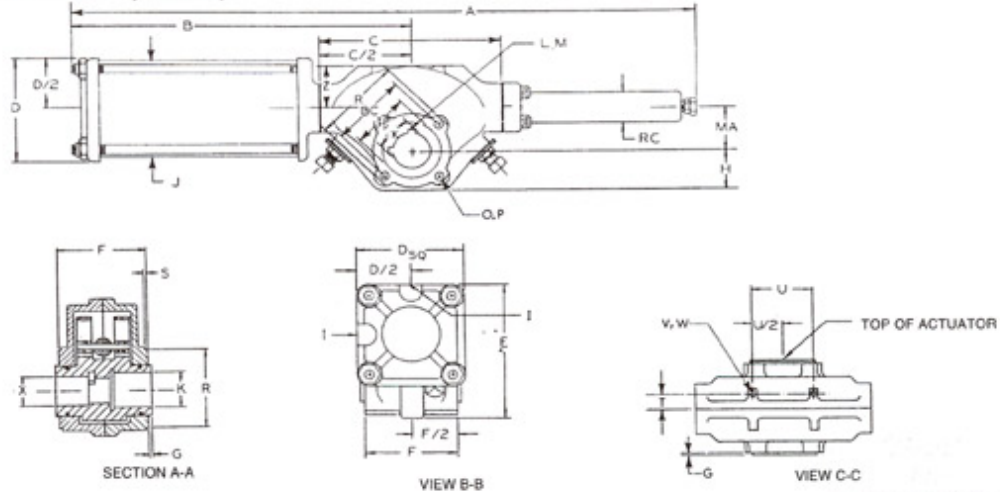
DIMENSIONS (In MM)

KEY	26051	26061	26071	33071	26081	26062	33081	26082	33101	33082
A	1051.1	1051.1	1117.6	1184.4	1117.6	1082.8	1187.5	1219.2	1209.8	1273.3
B	543.1	543.1	609.6	635	609.6	543.1	636.5	609.6	657.4	636.5
BC	114.3	114.3	114.3	146.1	114.3	114.3	146.1	114.3	146.1	146.1
C	298.5	298.5	298.5	349.3	298.5	298.5	349.3	298.5	349.3	349.3
D	147.6	168.3	193.7	193.7	219.1	168.3	219.1	219.1	273.1	219.1
E	210.3	220.7	233.3	262	246.1	220.7	274.6	246.1	301.6	274.6
F	165.1	165.1	165.1	177.8	165.1	165.1	177.8	165.1	177.8	177.8
G	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
H	69.9	69.9	69.9	79.4	69.9	69.9	79.4	69.9	79.4	79.4
I	(NPT) 3/8-18 4	(NPT) 3/8-18 4	(NPT) 3/8-18 4	(NPT) 3/8-18 4	(NPT) 1/2-14 4	(NPT) 3/8-18 8	(NPT) 1/2-14 4	(NPT) 1/2-14 8	(NPT) 1/2-14 4	(NPT) 1/2-14 8
J	139.7	165.1	190.5	190.5	215.9	165.1	215.9	215.9	273.1	215.9
K	63.5	63.5	63.5	82.6	63.5	63.5	82.6	63.5	82.6	82.6
L	15.9X7.9	15.9X7.9	15.9X7.9	19.1X9.5	15.9X7.9	15.9X7.9	19.1X9.5	15.9X7.9	19.1X9.5	19.1X9.5
M	60.3	60.3	60.3	73	60.3	60.3	73	60.3	73	73
MA	66.7	66.7	66.7	85.7	66.7	66.7	85.7	66.7	85.7	85.7
N	-	-	-	-	165.1	-	215.9	-	215.9	-
O	(UNC) 1/2-13 4	(UNC) 1/2-13 4	(UNC) 1/2-13 4	(UNC) 3/4-10 4	(UNC) 1/2-13 4	(UNC) 1/2-13 4	(UNC) 3/4-10 4	(UNC) 1/2-13 4	(UNC) 3/4-10 4	(UNC) 3/4-10 4
P	25.4	25.4	25.4	22.2	25.4	25.4	22.2	25.4	22.2	22.2
RC	47.6	47.6	47.6	66.7	47.6	47.6	66.7	47.6	66.7	66.7
R	138	138	138	178	138	138	178	138	178	178
S	5	5	5	5	5	5	5	5	5	5
TP	92.1	92.1	92.1	114.3	92.1	92.1	114.3	92.1	114.3	114.3
T	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8
U	108	108	108	120.7	108	108	120.7	108	120.7	120.7
V	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2	(UNC) 1/4-20 2
W	12.7	12.7	12.7	11.1	12.7	12.7	11.1	12.7	11.1	11.1
X	51.6	51.6	51.6	64.3	51.6	51.6	64.3	51.6	64.3	64.3
Y	-	-	-	-	-	168.3	-	219.1	-	219.1
Z	73	73	73	87.3	73	73	87.3	73	87.3	87.3

R.S.V.P. Type 1031

1 Cylinder Double Acting Actuator FIGURE 6

Dimensions (Metric)

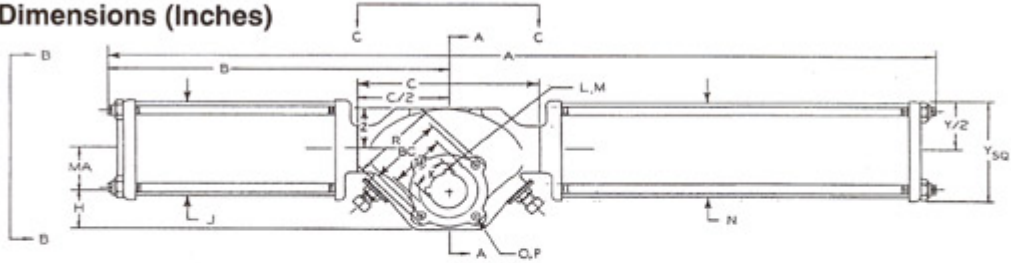


DA MODEL NUMBERS

DIMENSIONS (MM)

KEY		33121	45121	33102	45102	45171	60171	45211	80171	60211	80211
A		1212.8	1540	1314.5	1668.5	1578.1	1841.5	1584.5	2368.6	1847.9	2374.9
B		661.9	838.2	657.4	835.2	876.3	1000.3	882.7	1219.2	1004.8	1225.6
BC		146.1	209.6	146.1	209.6	209.6	288.9	209.6	317.5	288.9	317.5
C		349.3	489	349.3	489	489	558.8	489	736.6	558.8	736.6
D		333.5	333.5	273.1	273.1	466.7	466.7	568.3	466.7	568.3	568.3
E		331.7	414.3	301.6	384.3	481.1	562.1	568.3	636.5	612.9	687.5
F		177.8	238.1	177.8	238.1	238.1	304.8	238.3	304.8	304.8	304.18
G		2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
H		79.4	133.4	79.4	133.4	133.4	176.3	133.4	200	176.3	200
I	(NPT) QTY.	1/2-14 4	1/2-14 4	3/8-14 8	1/2-14 3	3/4-14 4	3/4-14 4	1/2-14 4	3/4-14 4	3/4-14 4	3/4-14 4
J		323.9	323.9	273.1	273.1	457.2	457.2	558.8	457.2	558.8	558.8
K		82.6	114.3	82.6	114.3	114.3	158.8	114.3	177.8	158.8	177.8
L		19.1X9.5	25.4X9.5	19.1X9.5	25.4X9.5	25.4X9.5	28.7X9.5	25.4X9.5	28.7X9.5	28.7X9.5	28.7X9.5
M		73	85.7	73	85.7	85.7	107.9	85.7	107.9	107.9	107.9
MA		85.7	114.3	85.7	114.3	114.3	152.4	114.3	203.2	152.4	203.2
N	(UNC) QTY.	-	-	273.1 3/4-10	273.1 7/8-9	-	1-8	7/8-9	-	-	-
O		3/4-10 4	7/8-9 8	3/4-10 4	7/8-9 8	7/8-9 8	1-8 8	7/8-9 8	1 3/8-6 8	1-8 8	1 3/8-6 8
P		22.2	34.9	22.2	34.9	34.9	38.1	34.9	50.8	38.1	50.8
RC		66.7	85.7	-	-	85.7	85.7	85.7	95.3	85.7	95.3
R		178	245	178	245	245	330	245	372	330	372
S		5	5	5	5	5	5	5	5	5	5
TP		114.3	158.8	114.3	158.8	158.8	203.2	158.8	228.6	203.2	228.6
T		31.8	50.8	31.8	50.8	50.8	-	50.8	-	-	-
U		120.7	146.1	120.7	146.1	146.1	-	146.1	-	-	-
V	(UNC) QTY.	1/4-20 2	1/4-20 2	1/4-20 2	1/4-20 2	1/4-20 2	-	1/4-20 2	-	-	-
W		11.1	11.1	11.1	11.1	11.1	-	11.1	-	-	-
X		64.3	64.3	64.3	64.3	64.3	114.3	64.3	130.2	114.3	130.2
Y		-	-	273.1	273.1	-	-	-	-	-	-
Z		87.3	114.3	87.3	114.3	114.3	181	114.3	203.2	181	203.2

2 Cylinder Spring Return Actuator **FIGURE 7**
Dimensions (Inches)



Standard Letter designations for catalog drawings:

- | | | | |
|--|---|--|---|
| A overall length | H centerline of torque plug to bottom of body | N right cylinder outside diameter | U accessory mounting hole dimension |
| B center line of torque plug to left end of actuator | I NPT size | O NC threads | V accessory mounting hole NC threads |
| BC bolt circle diameter | J left cylinder outside diameter | P depth of threads | W accessory mounting hole depth of threads |
| C body length | K maximum bore diameter | RC rod cover diameter | X core size |
| D left end cap square | L maximum keyway size | R spigot diameter | Y right end cap square |
| E total height | M maximum key length | S spigot height | Z centerline of piston rod to top of actuator |
| F body width less torque plug extension | MA centerline of torque plug to center line of piston rod | TP torque plug diameter | |
| G torque plug extension | | T accessory mounting hole dimension (parting line to CL of hole) | |

SR MODEL NUMBERS

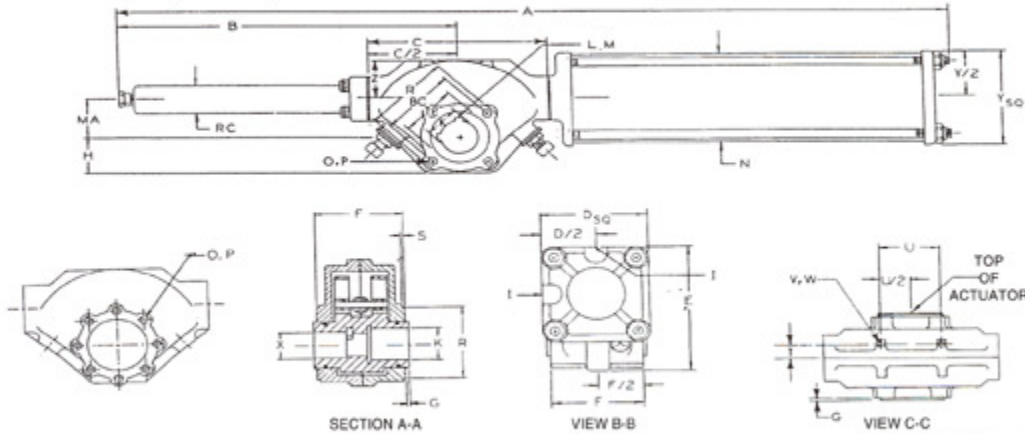
DIMENSIONS (In Inches)

KEY	SPRING	26051SR	26061SR	26062SR	26072SR	33072SR	33082SR	33102SR
A	40	55.63	52.00	54.87	64.88	66.88	71.88	74.50
A	60	55.63	55.63	62.25	64.88	66.88	71.88	74.50
A	80	55.63	55.63	56.88	64.88	66.88	71.88	81.50
A	100	55.63	61.00	56.88	64.88	66.88	71.88	81.50
A	125	55.63	61.00	62.25	71.50	73.50	71.88	87.00
BC	ALL	4.50	4.50	4.50	4.50	5.75	5.75	5.75
B	ALL	20.13	20.13	21.38	24.00	25.00	25.06	25.88
C	ALL	11.75	11.75	11.75	11.75	13.75	13.75	13.75
D	ALL	-	-	6.63	7.63	7.63	8.63	10.75
E	ALL	8.28	8.69	8.69	9.19	10.31	10.81	11.88
F	ALL	6.50	6.50	6.50	6.50	7.00	7.00	7.00
G	ALL	0.09	0.09	0.09	0.09	0.09	0.09	0.09
H	ALL	2.75	2.75	2.75	2.75	3.13	3.13	3.13
I	ALL	(NPT) 3/8-18	3/8-18	3/8-18	3/8-18	3/8-18	1/2-18	1/2-18
	ALL	QTY. 4	4	8	8	8	8	8
J	ALL	-	-	6.50	7.50	7.50	8.50	10.50
K	ALL	2.50	2.50	2.50	2.50	3.25	3.25	3.25
L	ALL	.63X.31	.63X.31	.63X.31	.63X.31	.75X.38	.75X.38	.75X.38
M	ALL	2.63	2.63	2.63	2.63	3.88	3.38	3.38
MA	ALL	2.38	2.38	2.38	2.38	2.38	2.88	2.88
N	ALL	5.50	6.50	6.50	7.50	7.50	8.50	10.50
O	ALL	(UNC) 1/2-13	1/2-13	1/2-13	1/2-13	3/4-10	3/4-10	3/4-10
	ALL	QTY. 4	4	4	4	4	4	4
P	ALL	1.00	1.00	1.00	1.00	0.88	0.88	0.88
RC	ALL	1.88	1.88	-	-	-	-	-
R	ALL	5.433	5.433	5.433	5.433	7.008	7.008	7.008
S	ALL	0.197	0.197	0.197	0.197	0.197	0.197	0.197
TP	ALL	3.63	3.63	3.63	3.63	4.50	4.50	4.50
T	ALL	1.25	1.25	1.25	1.25	1.25	1.25	1.25
U	ALL	4.25	4.25	4.25	4.25	4.75	4.75	4.75
V	ALL	(UNC) 1/4-20	1/4-20	1/4-20	1/4-20	1/4-20	1/4-20	1/4-20
	ALL	QTY. 2	2	2	2	2	2	2
W	ALL	0.50	0.50	0.50	0.50	0.44	0.44	0.44
X	ALL	2.03	2.03	2.03	2.03	2.53	2.53	2.53
Y	ALL	5.81	6.63	6.63	7.63	7.63	8.68	10.75
Z	ALL	2.88	2.88	2.88	2.88	3.44	3.44	3.44

R.S.V.P. Type 1031

1 Cylinder Spring Return Actuator FIGURE 7

Dimensions (Inches)



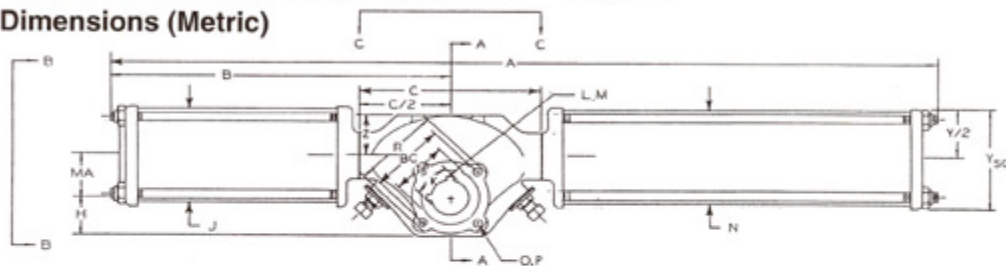
SR MODEL NUMBERS

DIMENSIONS (In Inches)

KEY	SPRING		45102SR	33122SR	45122SR	45171SR	60171SR	45211SR	60211SR	80211SR
A	40		84.19	79.88	91.50	92.75	112.75	98.38	112.94	131.31
A	60		84.19	74.88	84.50	92.75	112.75	106.75	118.94	147.56
A	80		91.13	87.63	97.25	98.63	118.75	98.50	119.12	147.56
A	100		91.13	81.88	97.25	106.50	120.19	106.94	123.44	156.06
A	125		97.00	-	104.00	93.00	118.94	-	135.38	156.06
BC	ALL		8.25	5.75	8.25	8.25	11.38	8.25	11.38	12.50
B	ALL		32.88	26.06	33.00	34.50	39.38	34.75	39.56	48.25
C	ALL		19.25	13.75	19.25	19.25	22.00	19.25	22.00	29.00
D	ALL		10.75	13.13	13.13	18.38	18.38	22.38	22.38	22.38
E	ALL		15.13	13.06	16.31	18.94	22.13	22.38	24.13	27.06
F	ALL		9.38	7.00	9.38	9.38	12.00	9.38	12.00	12.00
G	ALL		0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
H	ALL		5.25	3.13	5.25	5.25	6.94	5.25	6.94	7.88
I	ALL	(NPT)	1/2-14	1/2-14	1/2-14	3/4-14	3/4-14	3/4-14	3/4-14	3/4-14
	ALL	QTY.	8	8	8	4	4	4	4	4
J	ALL		10.5	12.75	12.75	18.00	18.00	22.00	22.00	22.00
K	ALL		4.50	3.25	4.50	4.50	6.25	4.50	6.25	7.00
L	ALL		1.00X.38	.75X.38	1.00X.38	1.00X.38	1.13X.38	1.00X.38	1.13X.38	1.13X.38
M	ALL		4.50	3.38	4.50	4.50	6.00	4.50	6.00	8.00
MA	ALL		3.38	2.88	3.38	3.38	4.25	3.38	4.25	4.25
N	ALL		10.50	12.75	12.75	10.75	10.75	12.75	12.75	12.75
O	ALL	(UNC)	7/8-9	3/4-10	7/8-9	7/8-9	1-8	7/8-9	1-8	1 3/8-6
P	ALL	QTY.	8	4	8	8	8	8	8	8
P	ALL		1.38	0.88	1.38	1.38	1.50	1.38	1.50	2.00
RC	ALL		-	-	-	-	-	-	-	-
R	ALL		9.646	7.008	9.646	9.646	12.992	9.646	12.992	14.646
S	ALL		0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197
TP	ALL		6.25	4.50	6.25	6.25	8.00	6.25	8.00	9.00
T	ALL		2.00	1.25	2.00	2.00	-	2.00	-	-
U	ALL		5.75	4.75	5.75	5.75	-	5.75	-	-
V	ALL	(UNC)	1/4-20	1/4-20	1/4-20	1/4-20	-	1/4-20	-	-
	ALL	QTY.	2	2	2	2	-	2	-	-
W	ALL		0.44	0.44	0.44	0.44	-	0.44	-	-
X	ALL		2.53	2.53	2.53	2.53	4.5	2.53	4.5	5.13
Y	ALL		10.75	13.13	13.13	13.13	13.13	13.13	13.13	13.13
Z	ALL		4.50	3.44	4.50	4.50	7.13	4.50	7.13	8.00

2 Cylinder Spring Return Actuator FIGURE 8

Dimensions (Metric)



Standard Letter designations for catalog drawings:

- | | | | |
|--|---|--|---|
| A overall length | H centerline of torque plug to bottom of body | N right cylinder outside diameter | U accessory mounting hole dimension |
| B center line of torque plug to left end of actuator | I NPT size | O NC threads | V accessory mounting hole NC threads |
| BC bolt circle diameter | J left cylinder outside diameter | P depth of threads | W accessory mounting hole depth of threads |
| C body length | K maximum bore diameter | RC rod cover diameter | X core size |
| D left end cap square | L maximum keyway size | R spigot diameter | Y right end cap square |
| E total height | M maximum key length | S spigot height | Z centerline of piston rod to top of actuator |
| F body width less torque plug extension | MA centerline of torque plug to center line of piston rod | TP torque plug diameter | |
| G torque plug extension | | T accessory mounting hole dimension (parting line to CL of hole) | |

SR MODEL NUMBERS

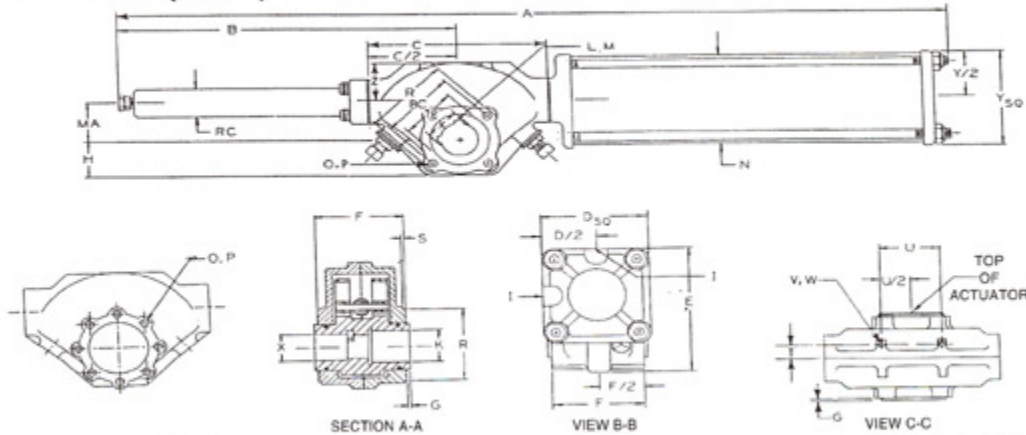
DIMENSIONS (MM)

KEY	SPRING	26051SR	26061SR	26062SR	26072SR	33072SR	33082SR	33102SR
A	40	1413	1321	1394	1648	1698.8	1825.8	1892.3
A	60	1413	1413	1581.2	1648	1698.8	1825.8	1892.3
A	80	1413	1413	1444.8	1648	1698.8	1825.8	2070.1
A	100	1413	1549.4	1444.8	1648	1698.8	1825.8	2070.1
A	125	1413	1549.4	1581.2	1816.1	1866.9	1825.8	2209.8
BC	ALL	114.3	114.3	114.3	114.3	146.1	146.1	146.1
B	ALL	511.3	511.3	543.1	609.6	635	636.5	657.4
C	ALL	298.5	298.5	298.5	298.5	349.3	349.3	349.3
D	ALL	-	-	168.3	193.7	193.7	219.1	273.1
E	ALL	210.3	220.7	220.7	233.4	261.9	274.6	301.6
F	ALL	165.1	165.1	165.1	165.1	177.8	177.8	177.8
G	ALL	2.3	2.3	2.3	2.3	2.3	2.3	2.3
H	ALL	69.9	69.9	69.9	69.9	79.4	79.4	79.4
I	ALL (NPT) QTY.	3/8-18 4	3/8-18 4	3/8-18 8	3/8-18 8	3/8-18 8	1/2-14 8	1/2-14 8
J	ALL	-	-	165.1	190.5	190.5	215.9	266.7
K	ALL	63.5	63.5	63.5	63.5	82.6	82.6	82.6
L	ALL	15.9X7.9	15.9X7.9	15.9X7.9	15.9X7.9	19.0X9.5	19.0X9.5	19.0X9.5
M	ALL	66.7	66.7	66.7	66.7	85.7	85.7	85.7
MA	ALL	60.3	60.3	60.3	60.3	73	73	73
N	ALL	139.7	165.1	165.1	190.5	190.5	215.9	266.7
O	ALL (UNC) QTY.	1/2-13 4	1/2-13 4	1/2-13 4	1/2-13 4	3/4-10 4	3/4-10 4	3/4-10 4
P	ALL	25.4	25.4	25.4	25.4	22.2	22.2	22.2
RC	ALL	47.6	47.6	-	-	-	-	-
R	ALL	138	138	138	138	178	178	178
S	ALL	5	5	5	5	5	5	5
TP	ALL	92.1	92.1	92.1	92.1	114.3	114.3	114.3
T	ALL	31.8	31.8	31.8	31.8	31.8	31.8	31.8
U	ALL	108	108	108	108	120.7	120.7	120.7
V	ALL (UNC) QTY.	1/4-20 2	1/4-20 2	1/4-20 2	1/4-20 2	1/4-20 2	1/4-20 2	1/4-20 2
W	ALL	12.7	12.7	12.7	12.7	11.1	11.1	11.1
X	ALL	51.6	51.6	51.6	51.6	64.3	64.3	64.3
Y	ALL	147.6	168.3	168.3	193.7	193.7	219.1	273.1
Z	ALL	73	73	73	73	87.3	87.3	87.3

R.S.V.P. Type 1031

1 Cylinder Spring Return Actuator **FIGURE 8**

Dimensions (Metric)



SR MODEL NUMBERS

DIMENSIONS (MM)

KEY	SPRING	45102SR	33122SR	45122SR	45171SR	60171SR	45211SR	60211SR	80211SR
A	40	2138.4	2029	2324.1	2355.9	2863.9	2498.9	2886.7	3335.3
A	60	2138.4	2029	2146.3	2355.9	2863.9	2711.5	3021.1	3748
A	80	2314.7	2225.8	2470.2	2505.2	3016.3	2501.9	3025.6	3748
A	100	2314.7	2079.8	2470.2	2705.1	3052.8	2716.3	3135.4	3963.9
A	125	2463.8	-	2641.6	2362.2	3021.1	-	3438.7	3963.9
BC	ALL	209.6	146.1	209.6	209.6	288.9	209.6	288.9	317.5
B	ALL	835.2	661.9	838.2	876.3	1000.3	882.7	1004.8	1225.6
C	ALL	489	394.3	489	489	558.8	489	558.8	736.6
D	ALL	273.1	333.5	333.5	466.7	466.7	568.3	568.3	568.3
E	ALL	384.3	331.7	414.3	481.1	562.1	568.3	612.9	687.5
F	ALL	238.1	177.8	238.1	238.1	304.8	238.1	304.8	304.8
G	ALL	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
H	ALL	133.4	79.4	133.4	133.4	176.3	133.4	176.3	200
I	ALL	1/2-14	1/2-14	1/2-14	3/4-14	3/4-14	3/4-14	3/4-14	3/4-14
I	ALL	(NPT) QTY. 8	8	8	4	4	4	4	4
J	ALL	266.7	323.9	323.9	457.2	457.2	558.8	558.8	558.8
K	ALL	114.3	82.6	114.3	114.3	158.7	114.3	158.7	177.8
L	ALL	25.4X9.5	19.0X9.5	25.4X9.5	25.4X9.5	28.5X9.5	25.4X9.5	28.5X9.5	28.5X9.5
M	ALL	114.3	85.7	114.3	114.3	152.4	114.3	152.4	203.2
MA	ALL	85.7	73	85.7	85.7	107.9	85.7	107.9	107.9
N	ALL	266.7	323.9	323.9	273.1	273.1	323.9	323.9	323.9
O	ALL	(UNC) QTY. 7/8-9	3/4-10	7/8-9	7/8-9	1-8	7/8-9	1-8	1 3/8-6
P	ALL	8	4	8	8	8	8	8	8
RC	ALL	34.9	22.2	34.9	34.9	38.1	34.9	38.1	50.8
R	ALL	-	-	-	-	-	-	-	-
S	ALL	245	178	245	245	330	245	330	372
TP	ALL	5	5	5	5	5	5	58.00	5
T	ALL	158.8	114.3	158.8	158.8	203.2	158.8	203.2	228.6
U	ALL	50.8	31.8	50.8	50.8	-	50.8	-	-
V	ALL	146.1	120.7	146.1	146.1	-	146.1	-	-
W	ALL	(UNC) QTY. 1/4-20	1/4-20	1/4-20	1/4-20	-	1/4-20	-	-
X	ALL	2	2	2	2	-	2	-	-
Y	ALL	11.1	11.1	11.1	11.1	-	11.1	-	-
Z	ALL	64.3	64.3	64.3	64.3	114.3	64.3	114.3	130.2
	ALL	273.1	333.5	333.5	333.5	333.5	333.5	333.5	333.5
	ALL	114.3	87.3	114.3	114.3	181	114.3	181	203.2

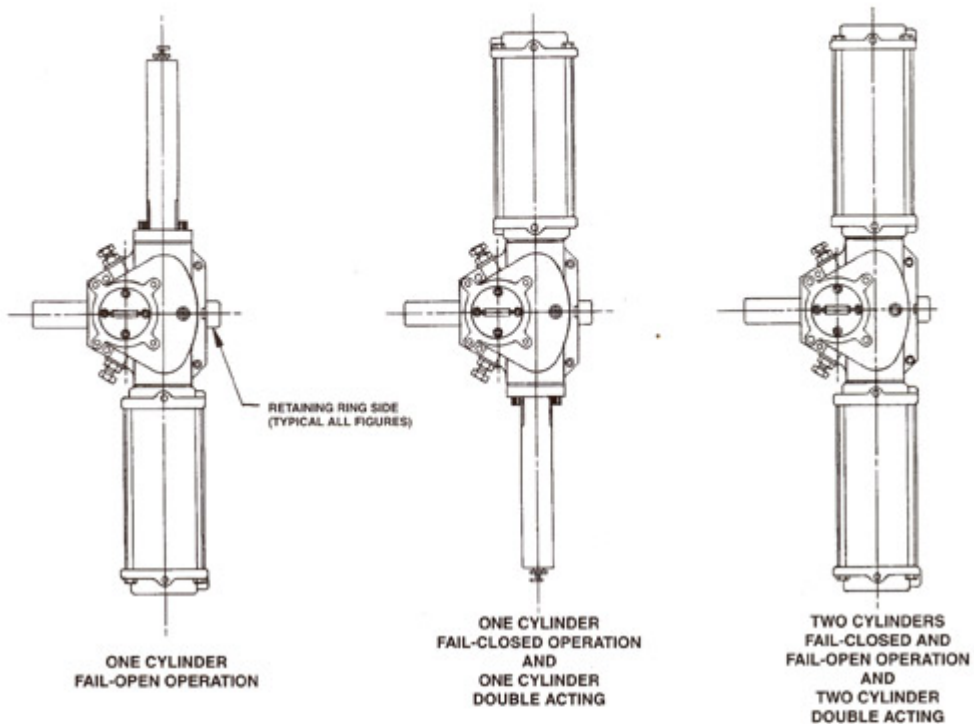


Figure 9. Standard Mounting Positions for R.S.V.P. Type 1031 Actuator

Ordering Information

For assistance in sizing, selection, pricing, and order placement- contact your R.S.V.P. sales office or sales representative with complete service conditions.

Installation

The standard actuator can be installed in any orientation. For installation orientation of actuators supplied with the hydraulic manual override, contact your R.S.V.P. sales office or sales representative. Standard mounting positions are shown in figure 9.