

BI-TORQ® DOUBLE ACTING ACTUATOR SIZING

AVAILABLE AIR SUPPLY PRESSURE (PSI)

MODEL	40PSI	50PSI	60PSI	70PSI	80PSI	90PSI	100PSI	115PSI
BI-32DA	34	43	55	64	71	82	87	101
BI-52DA	86	110	133	156	179	203	226	261
BI-63DA	154	196	238	280	321	363	405	468
BI-75DA	284	360	435	511	586	661	737	850
BI-85DA	408	518	629	740	851	962	1072	1238
BI-100DA	646	818	991	1163	1336	1508	1681	1939
BI-115DA	1070	1355	1640	1925	2210	2495	2780	3208
BI-125DA	1409	1783	2157	2532	2906	3280	3654	4216
BI-140DA	2009	2511	3013	3515	4018	4513	5015	5772
BI-160DA	2930	3662	4394	5127	5859	6591	7324	8422
BI-200DA	5488	6866	8239	9612	10981	12359	13732	15792
BI-270DA	12734	15919	19097	22284	25469	28654	31832	36661

ACTUATOR TORQUE OUTPUT (IN. LBS.)

FOR TORQUE VALUES OR AIR SUPPLY PRESSURES NOT LISTED, PLEASE CONSULT FACTORY

TECHNICAL DATA

ACTUATOR WEIGHTS (LBS.)

MODEL	32	52	63	75	85	100	115	125	140	160	200	270
DOUBLE ACTING	1.08	2.25	3.26	5.51	7.39	11.02	17.75	22.09	33.86	43.21	70.99	154.00
SPRING RETURN	---	2.62	3.97	6.94	9.37	14.40	23.92	26.76	45.28	65.04	111.00	192.79

ACTUATOR CYCLE TIME (SECONDS)

MODEL	32	52	63	75	85	100	115	125	140	160	200	270
CCW (DA)	0.03	0.03	0.06	0.12	0.20	0.30	0.53	0.83	0.98	1.15	1.74	4.50
CW (DA)	0.03	0.04	0.08	0.12	0.19	0.27	0.47	0.66	0.93	1.10	1.70	4.50
CCW (SR)	---	0.09	0.14	0.22	0.31	0.44	0.83	1.08	1.23	1.75	2.38	4.50
CW (SR)	---	0.09	0.14	0.22	0.33	0.46	0.78	0.90	0.97	1.34	2.19	6.20

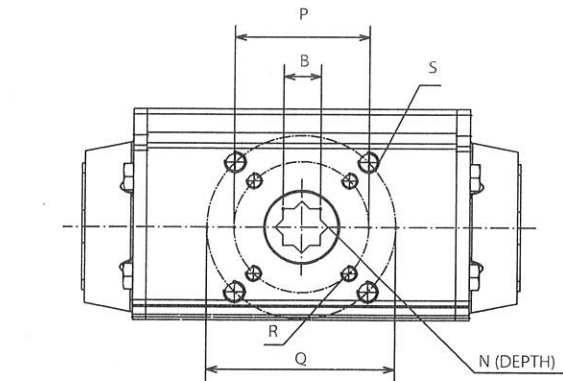
NOTE: ALL CYCLE TIMES ARE DERIVED INDEPENDENTLY OF VALVES AND ACTUATOR ACCESSORIES THAT MIGHT AFFECT OVERALL TIME PERFORMANCE.
CYCLE TIMES ARE BASED ON 80 PSI AIR SUPPLY.

ACTUATOR AIR CONSUMPTION (CUBIC INCHES)

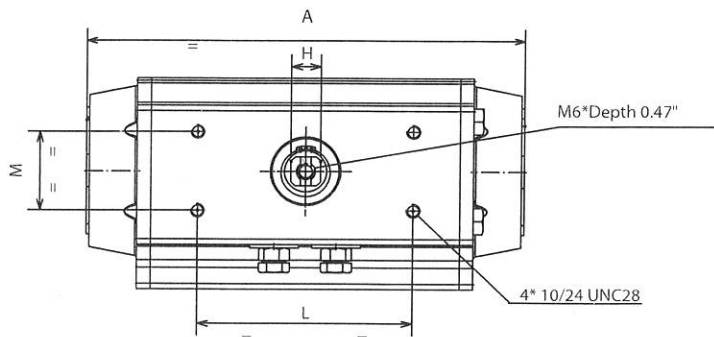
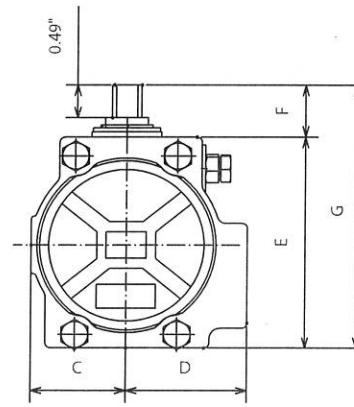
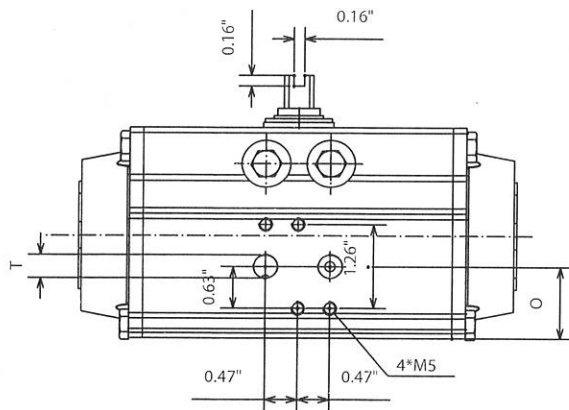
MODEL	32	52	63	75	85	100	115	125	140	160	200	270
CCW (DA & SR)	2.318	6.590	12.143	16.232	30.206	45.340	61.023	106.852	137.91	220.052	348.080	915.359
CW (DA)	1.708	9.336	17.208	20.504	39.534	66.760	103.740	148.471	192.84	290.596	599.743	1086.226
CW (SR)	---	7.689	14.218	17.147	32.403	54.372	85.433	122.047	146.46	215.109	462.563	945.871

BI-TORQ PN-SERIES DIMENSIONAL DATA

FOR ACTUATOR MODELS 52 THROUGH 140



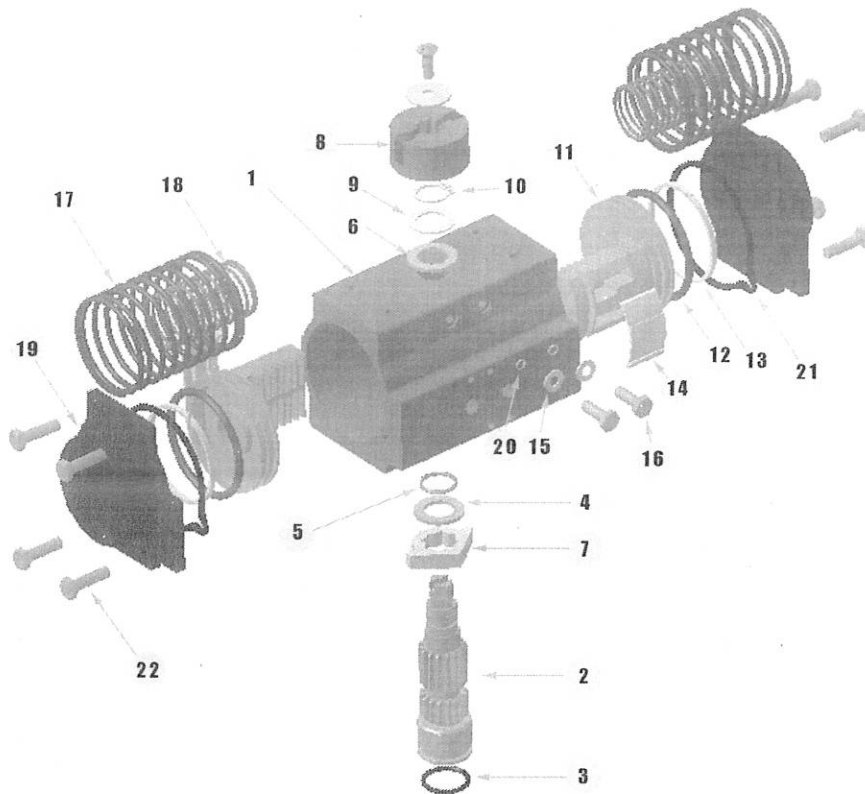
CARBO-BOND, INC.
AUTOMATED VALVE MOUNTING KITS



DIMENSIONAL DATA

	ISO 5211	A	B	C	D	E	F	G	H	K	L	M	N	O	P	Q	R (UNC)	S (UNC)	T (NPT)
PN-52	F03/F05	5.49	0.433	1.18	1.61	2.74	0.787	3.52	0.43	0.47	3.15	1.18	0.47	1.04	1.42	1.97	10-24 X 0.29	1/4-20 X 0.35	1/8"
PN-63	F05/F07	6.38	0.551	1.40	1.77	3.17	0.787	3.96	0.43	0.59	3.15	1.18	0.63	1.08	1.97	2.76	1/4-20 X 0.31	5/16-18 X 0.47	1/8"
PN-75	F05/F07	8.15	0.669	1.65	2.07	3.82	0.787	4.61	0.67	0.75	3.15	1.18	0.75	1.38	1.97	2.76	1/4-20 X 0.31	5/16-18 X 0.47	1/8"
PN-85	F05/F07	9.35	0.669	1.87	2.30	4.27	0.787	5.06	0.67	0.87	3.15	1.18	0.75	1.65	1.97	2.76	1/4-20 X 0.31	5/16-18 X 0.47	1/8"
PN-100	F07/F10	10.69	0.669	2.17	2.68	4.78	0.787	5.57	0.67	0.87	3.15	1.18	0.81	1.97	2.76	4.02	5/16-18 x 0.47	3/8-16 x 0.55	1/4"
PN-115	F07/F10	12.91	0.869	2.52	2.87	5.57	1.180	6.75	1.06	1.26	5.12	1.18	0.94	1.97	2.76	4.02	5/16-18 x 0.47	3/8-16 x 0.59	1/4"
PN-125	F07/F10	14.41	0.869	2.68	3.15	6.04	1.180	7.22	1.06	1.26	5.12	1.18	0.94	2.40	2.76	4.02	5/16-18 x 0.47	3/8-16 x 0.59	1/4"
PN-140	F10/F12	16.85	1.060	3.01	3.44	6.93	1.180	8.11	1.06	1.38	5.12	1.18	1.14	2.80	4.02	4.92	3/8-16 x 0.59	1/2-13 x 0.71	1/4"

PARTS BREAKDOWN FOR PN-52 THROUGH PN-140



PART NUMBER	DESCRIPTION	MATERIAL	TREATMENT	OPTIONAL MATERIAL	QTY. (DA)	QTY. (SR)
1	BODY	EXTRUDED ALUMINUM	HARD ANODIZED	STAINLESS	1	1
2	ANTI-BLOWOUT PINION	STEEL	NICKEL PLATED	STAINLESS	1	1
3	LOWER PINION O-RING*	NBR70	---	VITON	1	1
4	PINION SPACER RING	PTFE+15% GRAPHITE	---		1	1
5	TOP PINION O-RING	NBR70	---	VITON	1	1
6	CAM SPACER RING*	PTFE+15% GRAPHITE	---		1	1
7	STOP ADJUSTMENT	STAINLESS STEEL	---		1	1
8	POSITION INDICATOR	NYLON	---		1	1
9	PINION WASHER	STAINLESS STEEL	---		1	1
10	PINION SNAP RING	STEEL	NICKEL PLATED		1	1
11	PISTON	DIE CAST ALUMINUM	---		2	2
12	PISTON O-RING*	NBR70	---	VITON	2	2
13	ANTI-FRICTION RING*	PTFE+15% GRAPHITE	---		2	2
14	PISTON THRUST BLOCK	PTFE+15% GRAPHITE	---		2	2
15	STOP BOLT WASHER	STAINLESS STEEL	---		2	2
16	STOP BOLT	STAINLESS STEEL	---		2	2
17	EXTERNAL SPRING	STEEL	ZINC PHOSPHATE COATED		N/A	SEE SPRING CHART
18	INTERNAL SPRING	STEEL	ZINC PHOSPHATE COATED		N/A	SEE SPRING CHART
19	END CAP	DIE CAST ALUMINUM	EPOXY COATED	STAINLESS	1	1
20	STOP WASHER					
21	END CAP SEALS	NBR70	---	VITON	8	8
22	END CAP BOLTS	STAINLESS STEEL	---		8	8

*Parts subject to wear