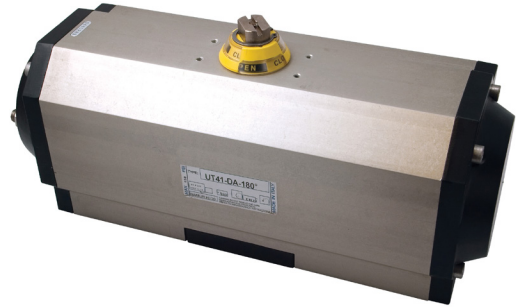


RP-MA-Series Rack and Pinion Actuator

Aluminum rack and pinion actuators utilized with valves for 180° rotation in industrial, food, beverage, and pharmaceutical applications.

Feature

- NAMUR VDI/VDE 3845 and ISO 5211 dimensions on all sizes
- Standard angle of rotation is 180°. Available in 120°, 135°, and 150° angle of rotation
- 016 and larger sizes feature a travel stop with $\pm 10^\circ$ adjustment in both open and closed directions
- Extruded aluminum body is internally machined and lapped to exact specifications. All internal and external surfaces are anodized for corrosion resistance
- For additional corrosion resistance, actuator can be epoxy coated
- Configurable beacon indicator is standard and available for all rotations
- All pinions are supplied with anti-blowout retention in both directions
- Air pressure operation from **40 to 120 PSI**. Water, nitrogen, and compatible hydraulic fluids may be used to power the actuator
- All units are permanently lubricated at the factory with non-silicone grease
- 100% of all units are factory pressure and leak tested



Specifications

- Twin rack and pinion design
- Female double square output shaft
- ISO 5211 bolt patterns
- Piston and pinion lubrication: non-silicone grease
- Range of rotation adjustment: 170° to 190°
- Operating media: dry or lubricated non-corrosive gas
- Operating pressure: **40 to 120 PSI**
- Maximum pressure rating: **150 PSI**
- Nitrile rubber (standard) temperature range: **-4°F to 176°F (-20°C to 80°C)**
- FVMQ (fluorosilicone) temperature range: **-67° to 250°F (-55° to 121°C)**
- FKM temperature range: **-10°F to 250°F (-23° to 121°C)**
- Available in:
 - Double acting
 - Double acting 3-position
 - Spring return
 - Center return
 - Low and high temperature seals
 - Polyamide epoxy coating

RP-MA-Series Weight and Air Consumption Charts

Size	Double Acting		Spring Return		Center Return		3-Position	
	Weight (lbs)	Air Cons. (cu-in)	Weight (lbs)	Air Cons. (cu-in)	Weight (lbs)	Air Cons. (cu-in)	Weight (lbs)	Air Cons. (cu-in)
16	5.29	42.5	7.67	21.2	CF	42.5	CF	89.4
17	8.05	53.7	10.14	25.6	CF	53.7	CF	116.1
20 - 21	8.82	73.7	11.57	38.1	CF	73.7	CF	153.7
25 - 26	11.79	118.7	15.39	58.1	CF	118.7	CF	248.0
30 - 31	14.88	150.0	19.62	71.9	CF	150.0	CF	317.0
35 - 36	22.44	237.5	30.29	113.7	CF	237.5	CF	514.4
40 - 41	27.67	293.9	36.88	141.2	CF	293.7	CF	636.8
45 - 46	39.20	462.5	51.48	221.9	CF	462.5	CF	978.1
50 - 51	54.23	656.3	77.08	316.2	CF	656.3	CF	1421.4
55 - 56	65.81	906.3	88.76	435.6	CF	906.3	CF	1942.5

Size	Drive (mm)	Drive (in)	Standard ISO Pattern	Optional Pattern
16	14	0.551	F05/F07	F04/3.25
17	14	0.551	F05/F07	F04/3.25
20-21	17	0.670	F05/F07	F04/3.25
25-26	17	0.670	F05/F07	F04/3.25
30-31	17	0.670	F05/F07	F04/3.25
35-36	22	0.866	F07/F10	3.25/5.00
40-41	22	0.866	F07/F10	F07/F12 3.25/F12 3.25/5.00
45-46	22	0.866	F07/F10	F07/F12 3.25/F12 3.25/5.00
50-51	27	1.063	F10/F12	-
55-56	27	1.063	F10/F12	-

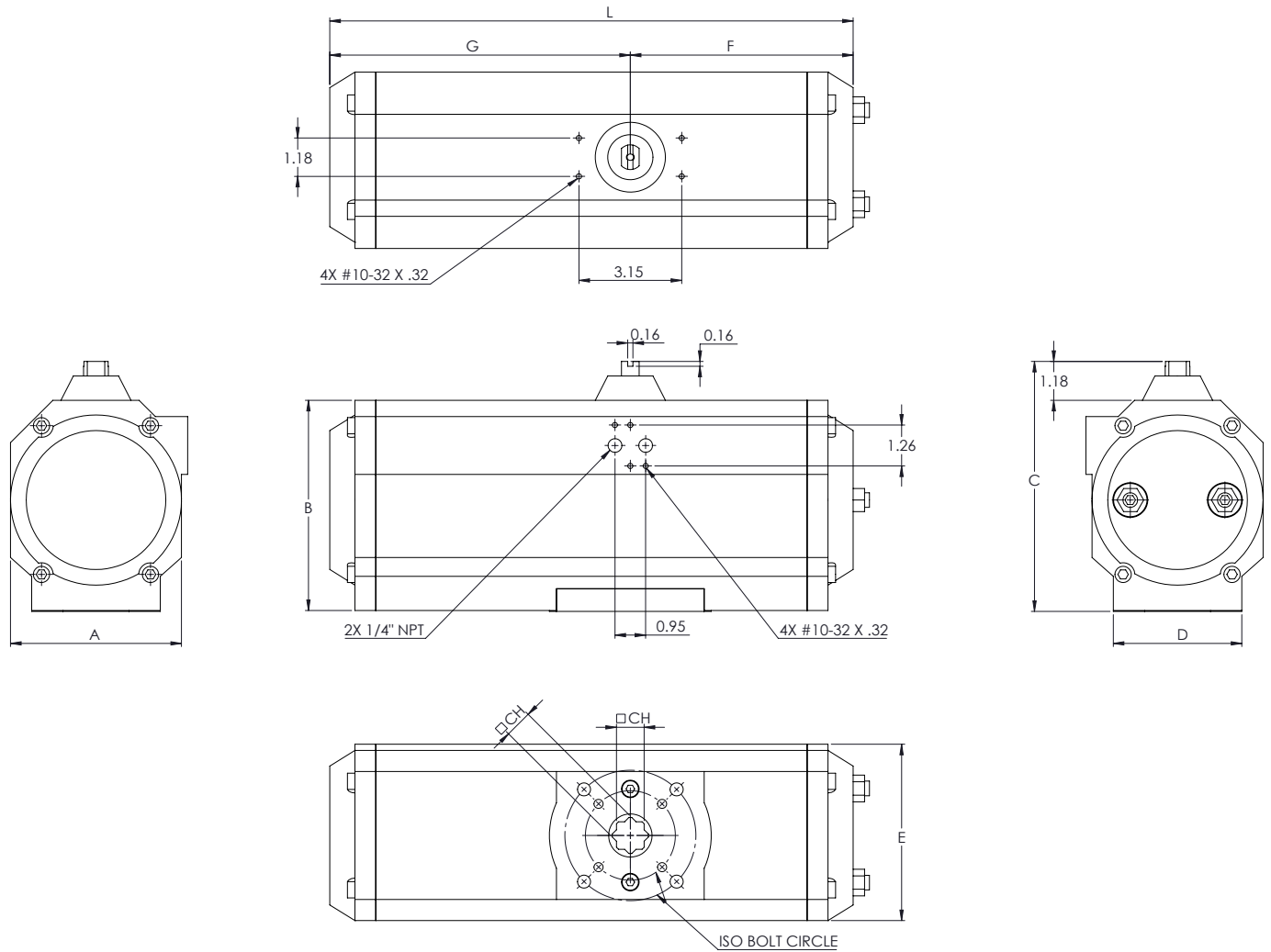
RP-MA-Series Torque Ratings - Double Acting

Part #	40 PSI	60 PSI	80 PSI	100 PSI	120 PSI
RP-MA-012-DA	62	94	125	156	187
RP-MA-016-DA	137	206	275	344	412
RP-MA-017-DA	180	270	360	450	540
RP-MA-021-DA	250	375	500	625	750
RP-MA-026-DA	375	562	750	937	1125
RP-MA-031-DA	500	750	1000	1250	1500
RP-MA-036-DA	800	1200	1600	2000	2400
RP-MA-041-DA	1000	1500	2000	2500	3000
RP-MA-046-DA	1562	2344	3125	3906	4687
RP-MA-051-DA	2250	3375	4500	5625	6750
RP-MA-056-DA	3000	4500	6000	7500	9000

RP-MA-Series Torque Ratings - Spring Return

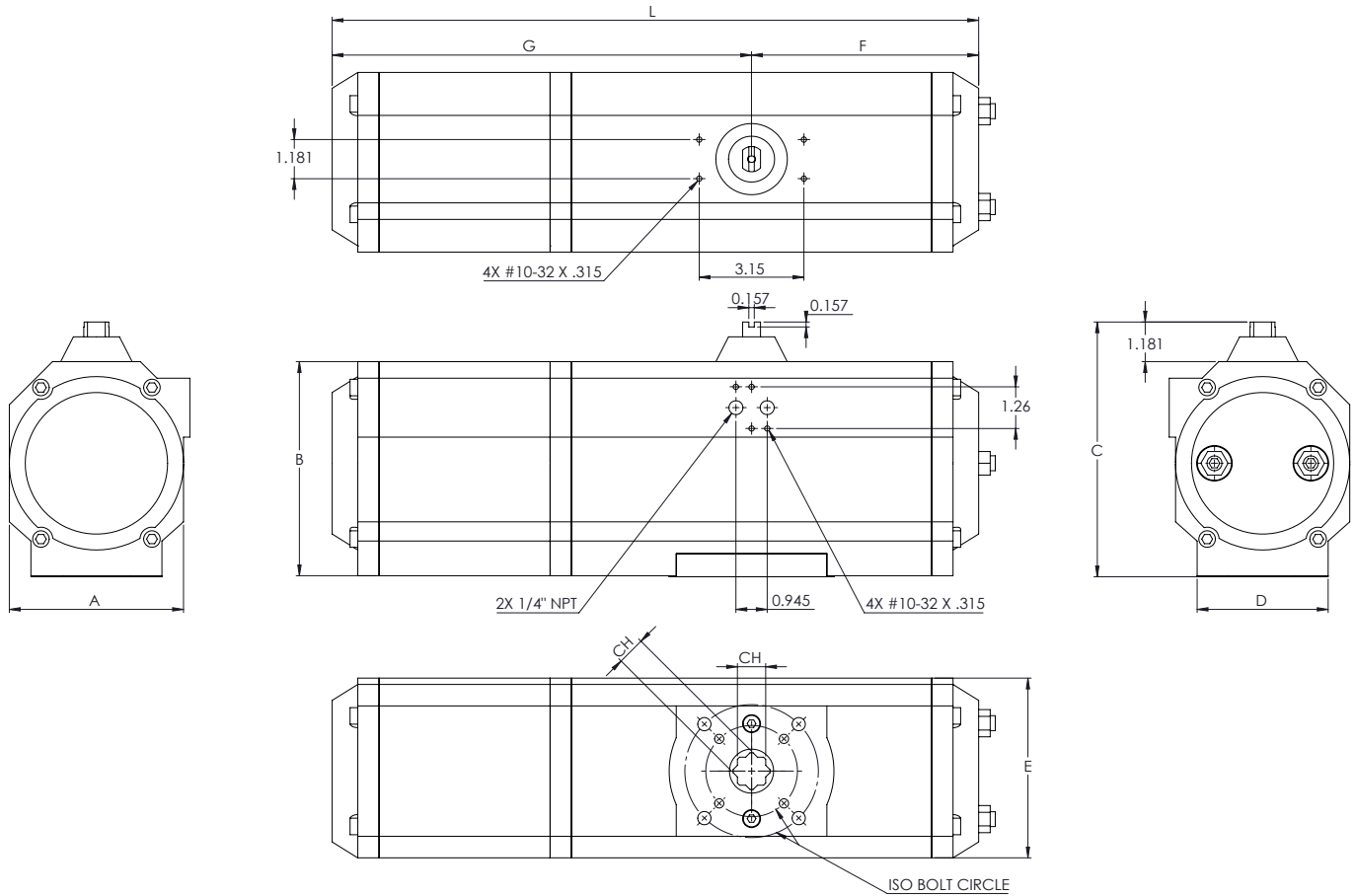
Part #	Spring Set	Spring Torque		40 PSI		60 PSI		80 PSI		100 PSI		120 PSI	
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
RP-MA-015-SR	2+2	75	53	84	62	153	131	222	200	291	269	359	337
	3+3	112	81	56	25	125	94	194	163	263	232	331	300
	4+4	150	107			99	56	168	125	237	194	305	262
	5+5	187	134			72	19	141	88	210	157	278	225
	7+5	224	160					115	51	184	120	252	188
RP-MA-017-SR	2+2	93	64	116	87	206	177	296	267	386	357	476	447
	3+3	139	96	84	41	174	131	264	221	354	311	444	401
	4+4	185	128			142	85	232	175	322	265	412	355
	5+5	232	160			110	38	200	128	290	218	380	308
	7+5	278	192					168	82	258	172	348	262
RP-MA-020-SR	2+2	122	92	158	128	283	253	408	378	533	503	658	628
	3+3	184	138	112	66	237	191	362	316	487	441	612	566
	4+4	245	184	66	5	191	130	316	255	441	380	566	505
	5+5	307	230			145	68	270	193	395	318	520	443
	7+5	369	278			97	6	222	131	347	256	472	381
RP-MA-025-SR	2+2	196	124	251	179	438	366	626	554	813	741	1001	929
	3+3	294	185	190	81	377	268	565	456	752	643	940	831
	4+4	392	247			315	170	503	358	690	545	878	733
	5+5	490	309			253	72	441	260	628	447	816	635
	7+5	588	372					378	162	565	349	753	537
RP-MA-030-SR	2+2	251	187	313	249	563	499	813	749	1063	999	1313	1249
	3+3	376	280	220	123	470	374	720	624	970	874	1220	1124
	4+4	502	374			376	248	626	498	876	748	1126	998
	5+5	627	467			283	123	533	373	783	623	1033	873
	7+5	753	560					440	247	690	497	940	747
RP-MA-035-SR	2+2	412	306	494	388	894	788	1294	1188	1694	1588	2094	1988
	3+3	617	461	339	183	739	583	1139	983	1539	1383	1939	1783
	4+4	824	614			586	376	986	776	1386	1176	1786	1576
	5+5	1029	767			433	171	833	571	1233	971	1633	1371
	7+5	1236	921					679	364	1079	764	1479	1164
RP-MA-040-SR	2+2	505	371	629	495	1129	995	1629	1495	2129	1995	2629	2495
	3+3	757	556	444	243	944	743	1444	1243	1944	1743	2444	2243
	4+4	1011	741			759	489	1259	989	1759	1489	2259	1989
	5+5	1263	929			572	237	1072	737	1572	1237	2072	1737
	7+5	1516	113					887	484	1387	984	1887	1484
RP-MA-045-SR	2+2	890	560	1002	672	1784	1454	2565	2235	3346	3016	4127	3797
	3+3	1334	840	722	228	1504	1010	2285	1791	3066	2572	3847	3353
	4+4	1779	1120			1224	565	2005	1346	2786	2127	3567	2908
	5+5	224	1399			945	120	1726	901	2507	1682	3288	2463
	7+5	2669	1679					1446	456	2227	1237	3008	2018
RP-MA-050-SR	2+2	1101	869	1381	1149	2506	2274	3631	339	4756	4524	5881	5649
	3+3	1652	1304	946	598	2071	1723	3196	2848	4321	3973	5446	5098
	4+4	2203	1738	512	47	1637	1172	2762	2297	3887	3422	5012	4547
	5+5	2754	2173			1202	621	2327	1746	3452	2871	4577	3996
	7+5	3303	2607			768	72	1893	1197	3080	2322	4143	3447
RP-MA-055-SR	2+2	1487	1055	1945	1513	3445	3013	4945	4513	6445	6013	7945	7513
	3+3	2231	1583	1417	769	2917	2269	4417	3769	5917	5269	7417	6769
	4+4	2974	211	889	26	2389	1526	3889	3026	5389	4526	6889	6026
	5+5	3718	2638			1862	782	3362	2282	4862	3782	6362	5282
	7+5	4462	3166			1334	38	2834	1538	4334	3038	5834	4538

RP-MA-Series Dimensions - Spring Return



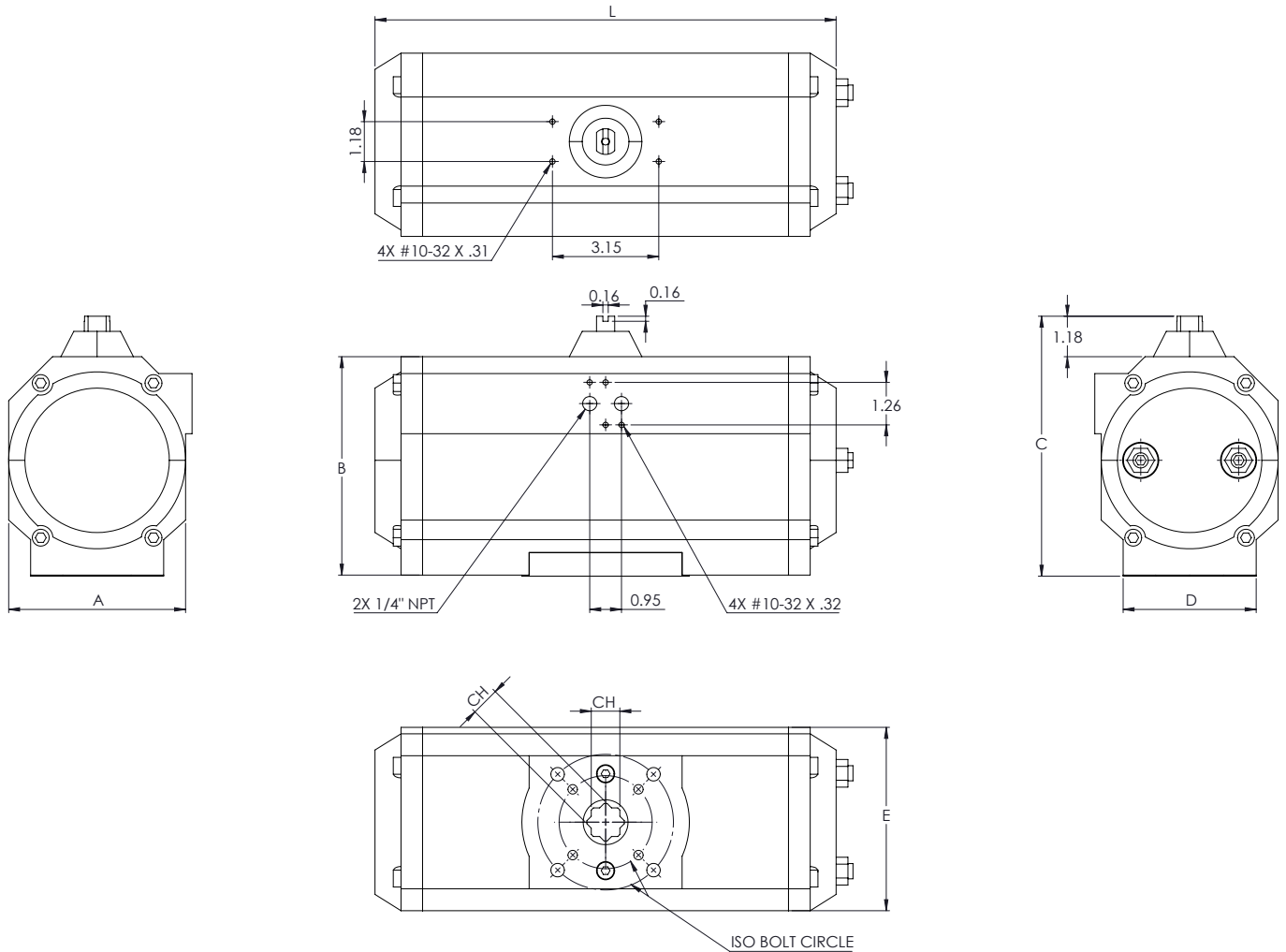
Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	L (in)	Standard ISO	Optional ISO	CH (mm)
16	2.76	3.54	4.76	2.52	3.35	5.39	7.42	12.82	F05/F07	F04/3.25	14
17	2.76	3.54	4.76	2.52	3.35	5.39	7.42	12.82	F05/F07	F04/3.25	14
20	3.386	4.409	5.63	2.756	3.78	4.96	6.73	11.69	F05/F07	F04/3.25	17
25	3.386	4.409	5.63	2.756	3.78	6.50	9.04	15.53	F05/F07	F04/3.25	17
30	4.10	5.16	6.38	2.76	4.45	6.52	8.68	15.197	F05/F07	F04/3.25	17
35	5.16	6.50	7.72	3.40	5.43	6.83	9.21	16.04	F07/F10	3.25/5.00	22
40	5.16	6.50	7.72	3.40	5.43	7.89	10.91	18.80	F07/F10	F07/F12/3.25/5	22
45	5.78	6.97	8.19	3.40	5.95	10.00	13.15	23.15	F07/F10	F07/F12/3.25/5	22
50	7.17	8.54	9.76	4.72	7.28	9.82	13.58	23.15	F10/F12	-	27
55	7.17	8.54	9.76	4.72	7.28	11.95	15.75	27.70	F10/F12	-	27

RP-MA-Series Dimensions - Center Return



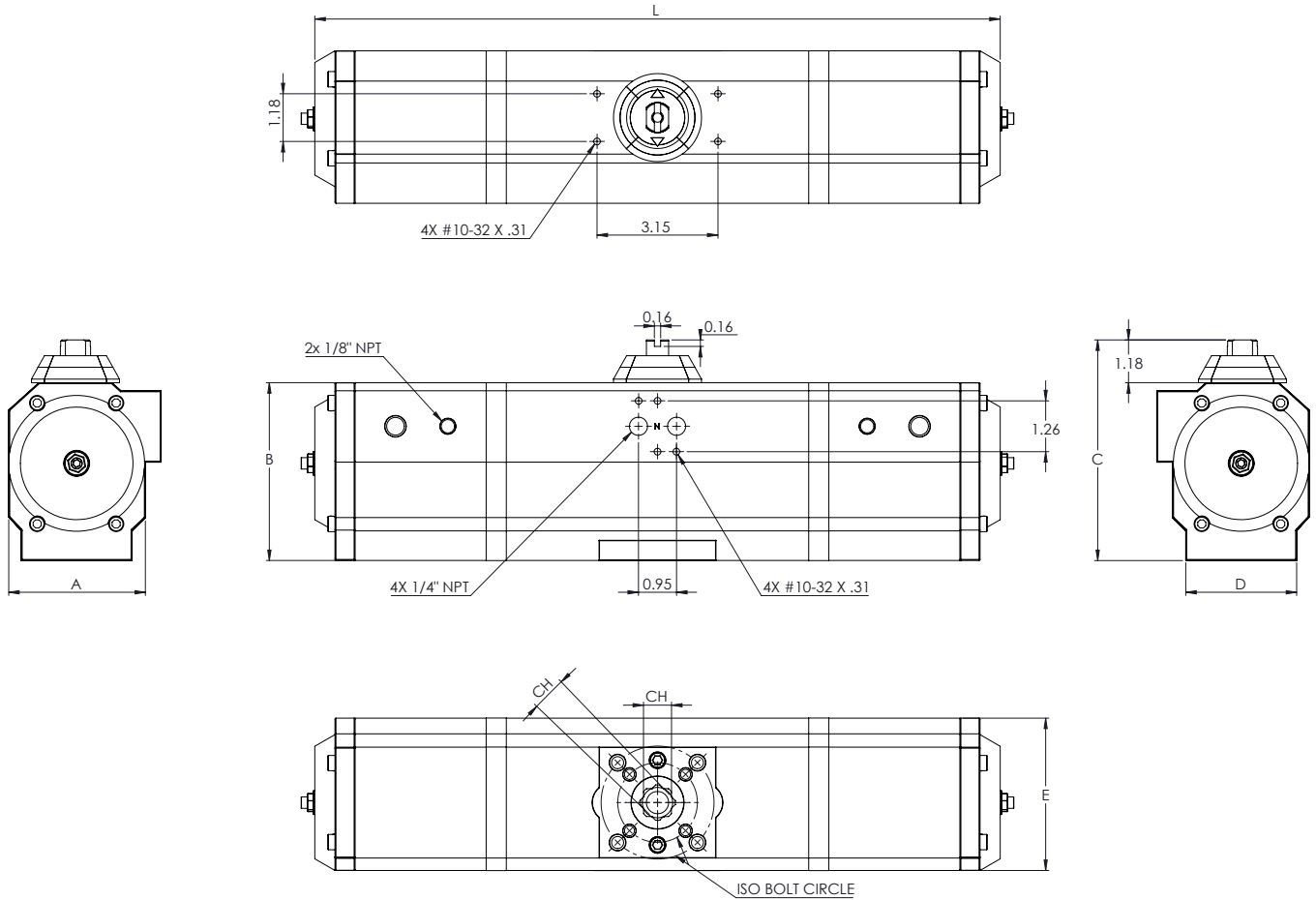
Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	L (in)	Standard ISO	Optional ISO	CH (mm)
16	2.76	3.54	4.76	2.52	3.35	8.58	4.61	13.19	F05/F07	F04/3.25	14
17	3.39	4.41	5.63	2.76	3.78	9.21	4.96	14.73	F05/F07	F04/3.25	17
25	3.39	4.41	5.63	2.76	3.78	10.79	6.50	17.28	F05/F07	F04/3.25	17
30	4.10	5.16	6.38	2.76	4.45	11.30	6.54	17.84	F05/F07	F04/3.25	17
35	5.16	6.50	7.78	3.40	5.43	12.60	6.86	191.45	F07/F10	3.25/5.00	22
40	5.16	6.50	7.78	3.40	5.43	14.21	7.91	22.13	F07/F10	F07/F12/3.25/5	22
45	5.78	6.97	8.19	3.40	5.95	17.87	10.00	27.87	F07/F10	F07/F12/3.25/5	22
50	7.17	8.54	9.76	4.72	7.28	17.32	9.84	27.17	F10/F12	-	27
55	7.17	8.54	9.76	4.72	7.28	21.26	11.97	33.23	F10/F12	-	27

RP-MA-Series Dimensions - Double Acting



Size	A (in)	B (in)	C (in)	D (in)	E (in)	L (in)	Standard ISO	Optional ISO	CH (mm)
16	2.76	3.54	4.76	2.52	3.35	9.21	F05/F07	F04/3.25	14
17	2.76	3.54	4.76	2.52	3.35	10.79	F05/F07	F04/3.25	14
21	3.39	4.41	5.63	2.76	3.78	9.92	F05/F07	F04/3.25	17
26	3.39	4.41	5.63	2.76	3.78	12.99	F05/F07	F04/3.25	17
31	4.10	5.16	6.38	2.76	4.45	13.03	F05/F07	F04/3.25	17
36	5.16	6.50	7.72	3.40	5.43	13.66	F07/F10	3.25/5.00	22
41	5.16	6.50	7.72	3.40	5.43	15.79	F07/F10	F07/F12/3.25/5	22
46	5.78	6.97	8.19	3.40	5.95	20.00	F07/F10	F07/F12/3.25/5	22
51	7.17	8.54	9.76	4.72	7.28	19.65	F10/F12	-	27
56	7.17	8.54	9.76	4.72	7.28	23.90	F10/F12	-	27

RP-MA-Series Dimensions - Double Acting 3-Position



Size	A (in)	B (in)	C (in)	D (in)	E (in)	L (in)	Standard ISO	Optional ISO	CH (mm)
16	2.76	3.54	4.76	2.52	3.35	15.24	F05/F07	F04/3.25	14
17	2.76	3.54	4.76	2.52	3.35	17.24	F05/F07	F04/3.25	14
21	3.39	4.41	5.63	2.76	3.78	16.26	F05/F07	F04/3.25	17
26	3.39	4.41	5.63	2.76	3.78	20.24	F05/F07	F04/3.25	17
31	4.10	5.16	6.38	2.76	4.45	21.06	F05/F07	F04/3.25	17
36	5.16	6.50	7.72	3.40	5.43	22.13	F07/F10	3.25/5.00	22
41	5.16	6.50	7.72	3.40	5.473	24.92	F07/F10	F07/F12/3.25/5	22
46	5.78	6.97	8.19	3.40	5.95	31.54	F07/F10	F07/F12/3.25/5	22
51	7.17	8.54	9.76	4.72	7.28	32.4	F10/F12	-	27
56	7.17	8.54	9.76	4.72	7.28	37.99	F10/F12	-	27

NOTE: Repair kits unavailable, not field serviceable.

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NOTE: Because of the health hazards associated with contamination and lead content in drinking water systems, Dixon couplings, unless otherwise specifically approved, are not recommended for potable water service and should not be used in applications where drinking water will contact the wetted surfaces of the coupling.

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"WARNING: This product contains lead, a chemical known to the State of California to cause cancer and birth defects or other reproductive harm."

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