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MILWAUKEE VALVE



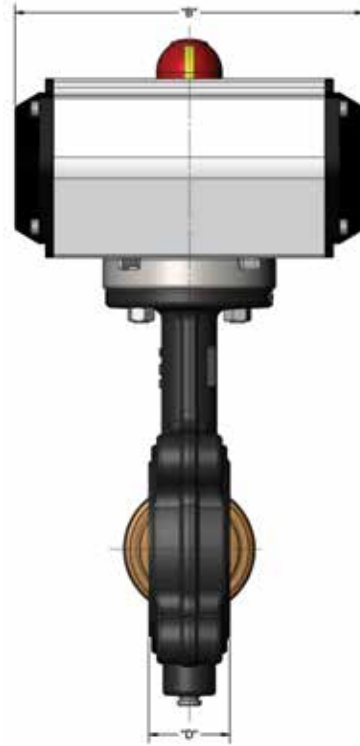
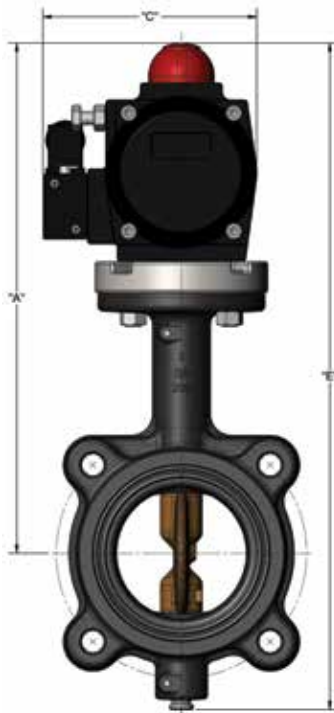


ABS Type Approved;  
Cat. A  
CFR-46



Tested and Certified by  
IAFMORS&T to NSF/ANSI 372  
and NSF/ANSI 61

**Iron Butterfly Valve for Potable Water**  
**200 psi Non-Shock WOG**  
**Bi-Directional Dead End Service to 200 psi Max**  
**Air to Air Pneumatic Actuator**  
**Specifications: API-609 MSS SP-67 Type 1**



- Cast Iron
- Lug Pattern
- Aluminum Bronze Disc
- EPDM Liner
- 200 WOG
- Temp Range: 0° to 250° F for HVAC service
- Double-acting actuator sized for 80 psi air supply
- 120V four-way NEMA 4/4x NAMUR mounted solenoid
- For on/off service

**DIMENSIONS**

AIR TO AIR ACTUATOR ASSEMBLY						
Valve	Model	Dimensions in Inches				
Size	Actuator	A "	B "	C "	D "	E "
2	MC3C	10.48	6.61	2.83	1.69	13.54
2 1/2	MC3C	10.98	6.61	2.83	1.81	14.29
3	MC3C	11.23	6.61	2.83	1.81	14.98
4	MC5C	12.45	7.24	3.19	2.07	16.70
5	MC5C	12.98	7.24	3.19	2.19	17.92
6	MC10C	14.14	10.31	3.86	2.19	19.70
8	MC29C	17.70	11.65	5.02	2.38	23.26
10	MC29C	18.88	11.65	5.02	2.69	26.76
12	MC58C	21.97	18.03	6.22	3.06	31.22

**\*Note:** Lead free refers to the wetted surface of the pipe, fittings and fixtures in potable water systems that have a weighted average lead content  $\leq 0.25\%$ . Source: California Health and Safety Code (116875).

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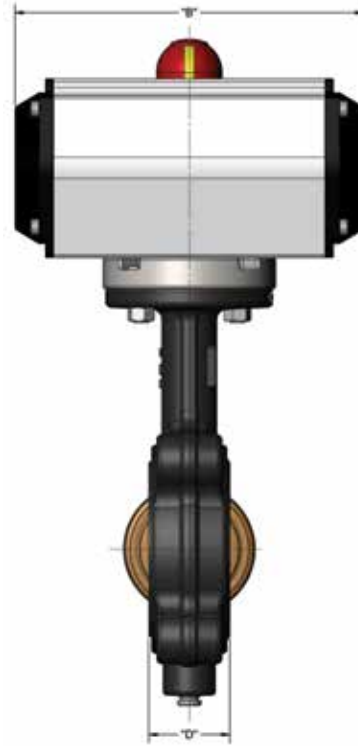
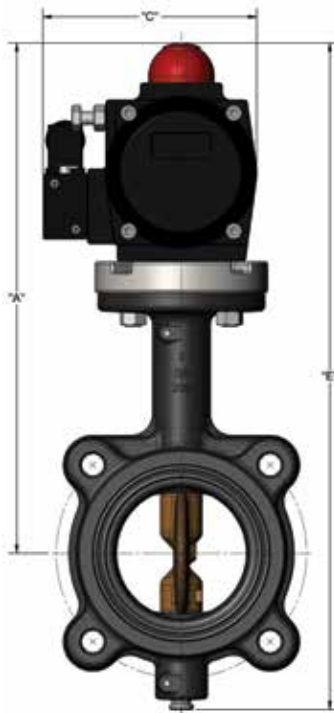


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**Iron Butterfly Valve for Potable Water**  
**200 psi Non-Shock WOG**  
**Bi-Directional Dead End Service to 200 psi Max**  
**Spring Return Pneumatic Actuator**  
**Specifications: API-609 MSS SP-67 Type 1**



- Cast Iron
- Lug Pattern
- Aluminum Bronze Disc
- EPDM Liner
- 200 WOG
- Temp Range: 0° to 250° F for HVAC service
- Spring return fail closed actuator
- 120V four-way NEMA 4/4x NAMUR mounted solenoid
- For on/off service

**DIMENSIONS**

SPRING RETURN ACTUATOR ASSEMBLY						
Valve	Model	Dimensions in Inches				
Size	Actuator	A "	B "	C "	D "	E "
2	MC3S4C	10.48	6.61	2.83	1.69	13.54
2 1/2	MC3S4C	10.98	6.61	2.83	1.81	14.29
3	MC5S4C	11.70	7.24	3.19	1.81	15.45
4	MC10S4C	13.14	10.31	3.86	2.07	17.39
5	MC14S4C	15.55	10.55	4.31	2.19	20.49
6	MC29S4C	16.89	11.65	5.02	2.19	22.45
8	MC58S4C	19.35	18.03	6.22	2.38	24.91
10	MC58S4C	20.53	18.03	6.22	2.69	28.41
12	MC121S4C	27.22	22.20	8.27	3.06	36.47

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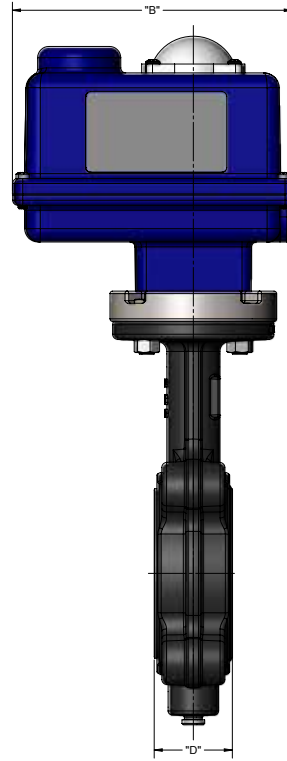
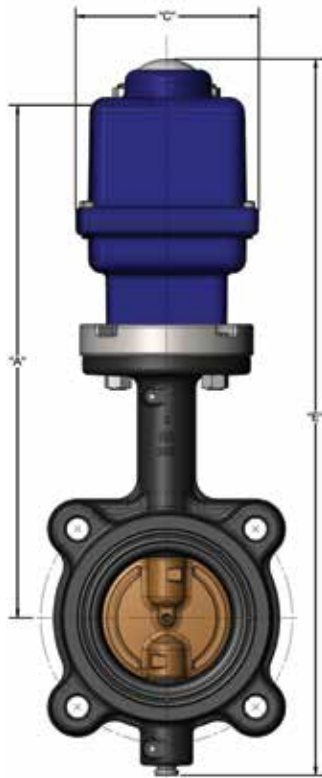




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- Cast Iron
- Lug Pattern
- Aluminum Bronze Disc
- EPDM Liner
- 200 WOG
- Temp Range: 0° to 250° F for HVAC service
- 120VAC NEMA 4 rated electric actuator
- 25% duty cycle
- For on/off service
- Two limit switches
- Manual override
- Visual position indicator

**DIMENSIONS**

120 VAC ELECTRIC ACTUATOR ASSEMBLY						
Valve	Model	Dimensions in Inches				
Size	Actuator	A "	B "	C "	D "	E "
2	MCRB200I	12.55	6.88	4.25	1.69	15.61
2 1/2	MCRB200I	13.05	6.88	4.25	1.81	16.36
3	MCRB200I	13.30	6.88	4.25	1.81	17.05
4	MCRB675I	18.26	7.00	7.00	2.07	22.51
5	MCRB675I	19.15	7.00	7.00	2.19	24.09
6	MCRB1000I	19.62	7.00	7.00	2.19	25.18
8	MCRB1500I	21.00	7.00	7.00	2.38	26.56
10	AT25-25	18.93	16.25	27.38	2.69	26.81
12	AT50-25	25.30	16.25	28.38	3.06	34.55

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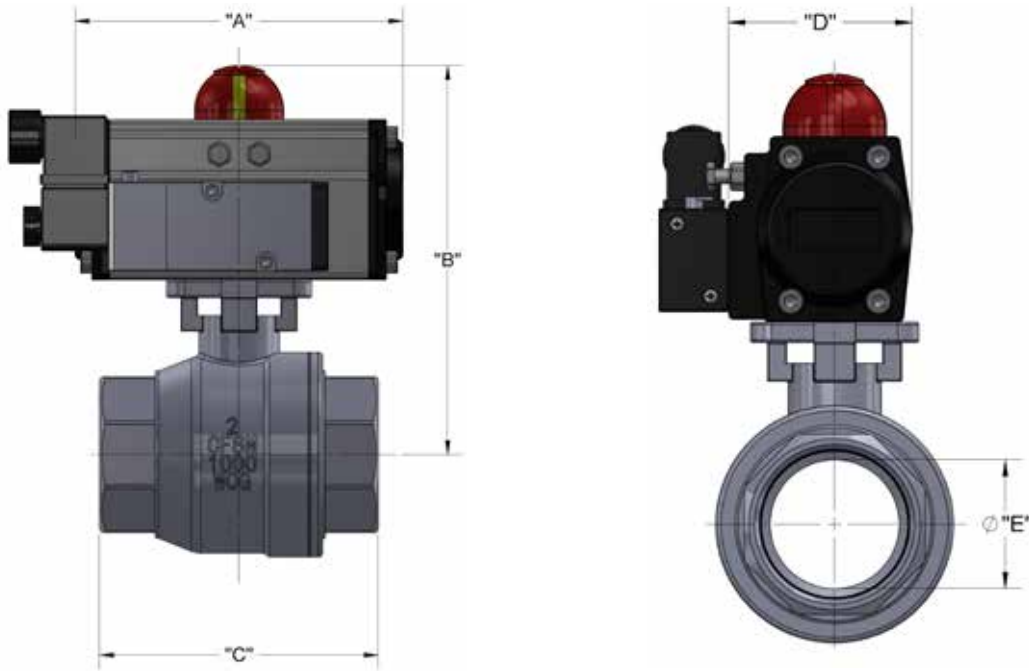
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# BA260LDA 1/4"-3"

**Stainless Steel Ball Valve**  
**Full Port**  
**1000 WOG**  
**Air to Air Actuator Pneumatic Actuator**  
**Blow-Out Proof Stem**  
**Specifications: MSS SP110**



- CF8M (316 SS) two-piece full port
- 316 SS ball and stem
- TFM 1600 PTFE seats and packing
- 1000 psi rated @ 100° F
- Temp range: -20° to 450° F 50 psi SWP
- Double-acting actuator sized for 80 psi air supply
- 120V four-way NEMA 4/4x NAMUR mounted solenoid
- For on/off service

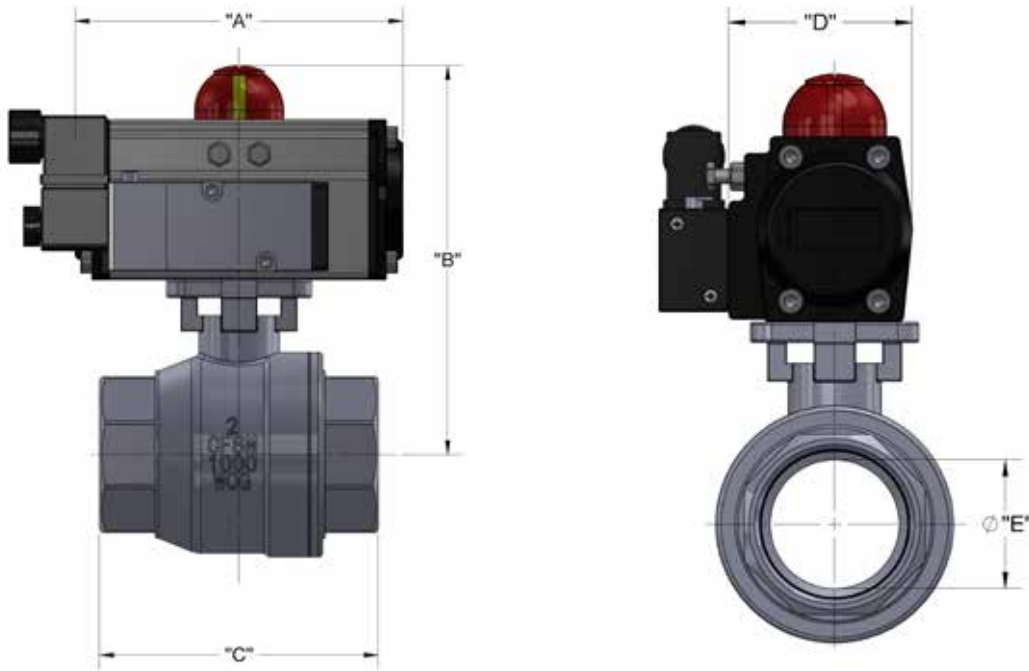
AIR TO AIR ACTUATOR ASSEMBLY DIMENSIONS						
Valve	Model	Dimensions in Inches				
Size	Actuator	A "	B "	C "	D "	E "
1/4	MC2C	5.79	5.27	2.64	2.81	0.42
3/8	MC2C	5.79	5.27	2.64	2.81	0.50
1/2	MC2C	5.79	5.27	2.64	2.81	0.59
3/4	MC2C	5.79	5.55	2.76	2.81	0.79
1	MC2C	5.79	5.90	3.35	2.81	0.98
1 1/4	MC2C	5.79	6.10	3.70	2.81	1.26
1 1/2	MC3C	6.61	7.03	4.13	3.27	1.50
2	MC5C	7.24	7.77	4.92	3.74	1.97
2 1/2	MC7C	8.03	9.07	6.10	4.05	2.50
3	MC10C	10.31	9.68	6.81	4.27	2.99

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# BA260LDB 1/4"-3"

**Stainless Steel Ball Valve**  
**Full Port**  
**1000 WOG**  
**Spring Return (Fail Closed) Pneumatic Actuator**  
**Blow-Out Proof Stem**  
**Specifications: MSS SP110**



- CF8M (316 SS) two-piece full port
- 316 SS ball and stem
- TFM 1600 PTFE seats and packing
- 1000 psi rated @ 100° F
- Temp range: -20° to 450° F 50 psi SWP
- Spring Return (fail closed) actuator size for 80 psi air supply
- 120V three-way NEMA 4/4x NAMUR mounted solenoid
- For on/off service

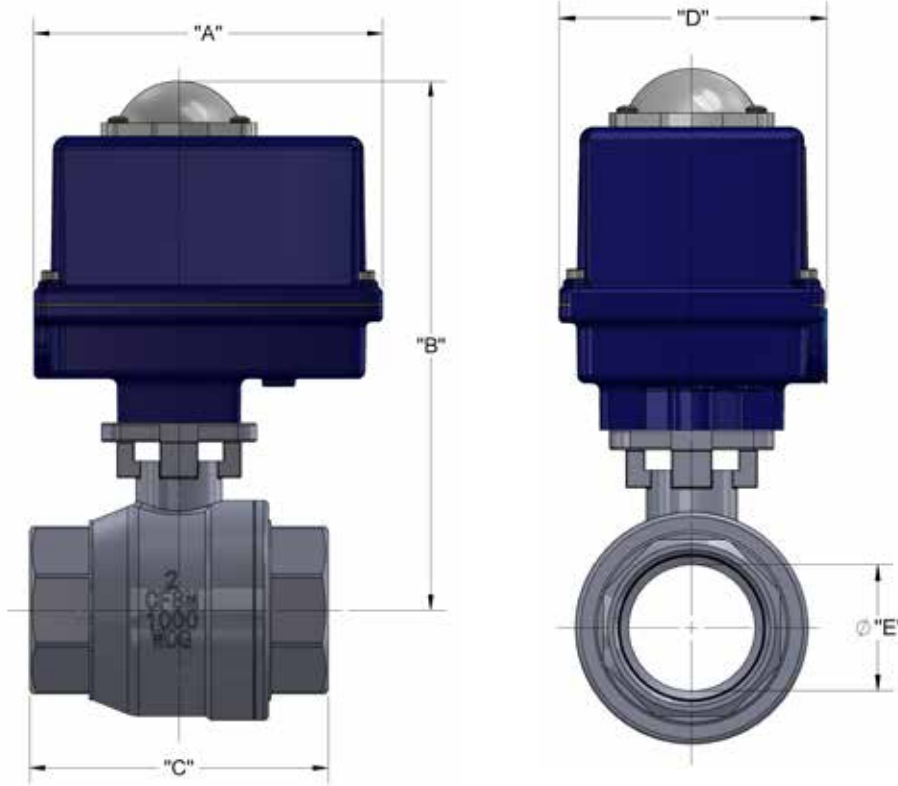
AIR TO AIR ACTUATOR ASSEMBLY DIMENSIONS						
Valve	Model	Dimensions in Inches				
Size	Actuator	A "	B "	C "	D "	E "
1/4	MC2S4C	5.79	5.27	2.64	2.81	0.42
3/8	MC2S4C	5.79	5.27	2.64	2.81	0.50
1/2	MC2S4C	5.79	5.27	2.64	2.81	0.59
3/4	MC3S4C	6.61	7.03	2.76	3.27	0.79
1	MC5SC4	7.24	7.77	3.35	3.74	0.98
1 1/4	MC5SC4	7.24	7.77	3.70	3.74	1.26
1 1/2	MC7SC4	8.03	9.07	4.13	4.05	1.50
2	MC10SC4	10.31	9.07	4.92	4.27	1.97
2 1/2	MC29SC4	11.65	10.89	6.10	5.59	2.50
3	MC29SC4	11.65	11.18	6.81	5.59	2.99

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# BA260LDC 1/4"-3"

**Stainless Steel Ball Valve**  
**Full Port**  
**1000 WOG**  
**120VAC Electric Actuator**  
**Blow-Out Proof Stem**  
**Specifications: MSS SP110**



- CF8M (316 SS) two-piece full port
- 316 SS ball and stem
- TFM 1600 PTFE seats and packing
- 1000 psi rated @ 100° F
- Temp range: -20° to 450° F 50 psi SWP
- 120VAC NEMA 4 rated electric actuator
- 25% duty cycle
- Two limit switches / Remote light indication
- Manual override
- Visual position indicator
- For on/off service

AIR TO AIR ACTUATOR ASSEMBLY DIMENSIONS						
Valve	Model	Dimensions in Inches				
Size	Actuator	A "	B "	C "	D "	E "
1/4	MCR100	6.44	7.31	2.64	4.13	0.42
3/8	MCR100	6.44	7.31	2.64	4.13	0.50
1/2	MCR100	6.44	7.31	2.64	4.13	0.59
3/4	MCR100	6.44	7.59	2.76	4.13	0.79
1	MCR200	6.88	8.58	3.35	4.25	0.98
1 1/4	MCR200	6.88	8.78	3.70	4.25	1.26
1 1/2	MCR300	6.88	9.10	4.13	4.25	1.50
2	MCR675	7.00	12.10	4.92	7.00	1.97
2 1/2	MCR675	7.00	13.03	6.10	7.00	2.50
3	MCR1000	7.00	13.32	6.81	7.00	2.99

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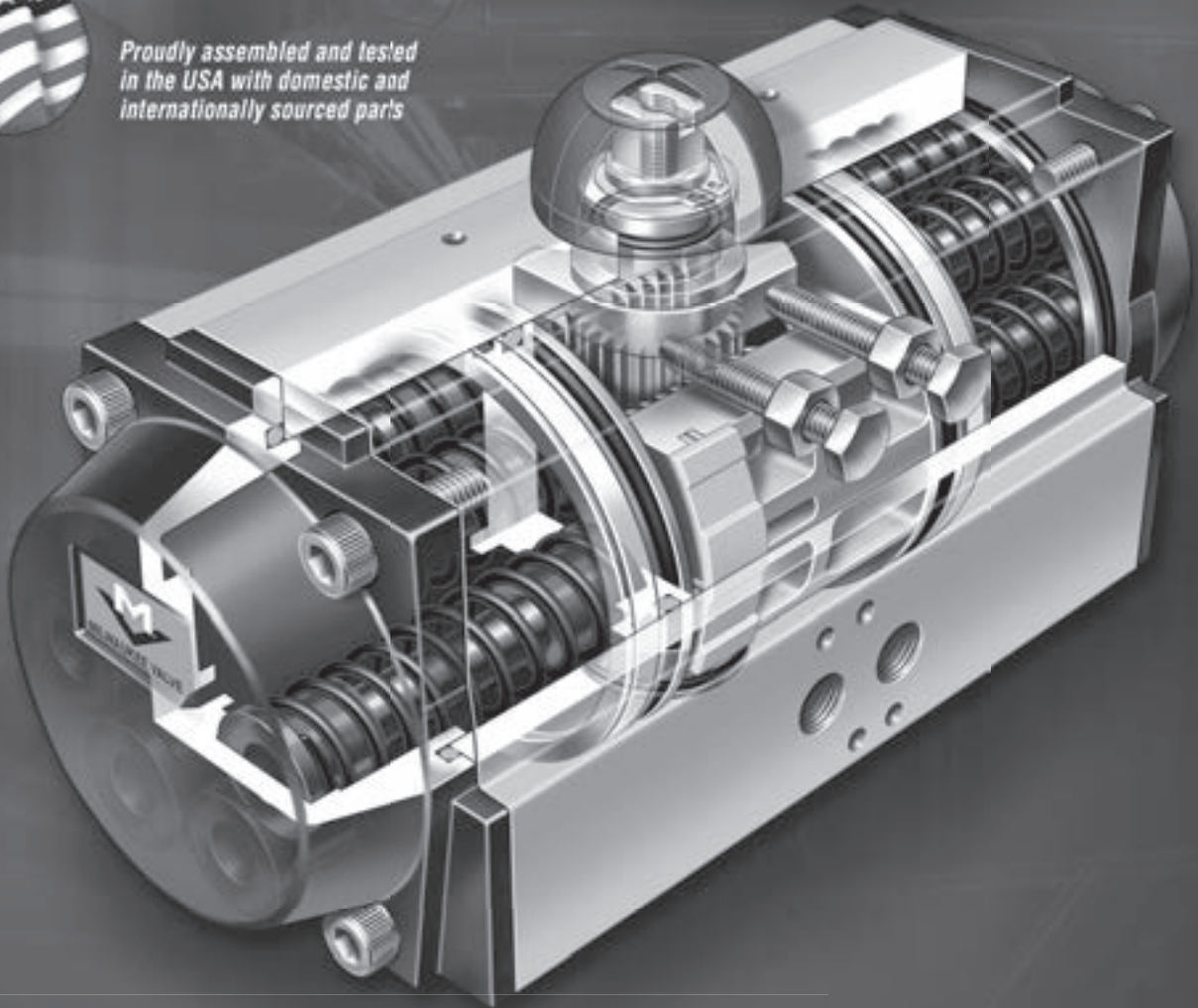


MILWAUKEE VALVE

# MC Series Pneumatic Actuators



*Proudly assembled and tested  
in the USA with domestic and  
internationally sourced parts*



# MC-SERIES PNEUMATIC ACTUATOR

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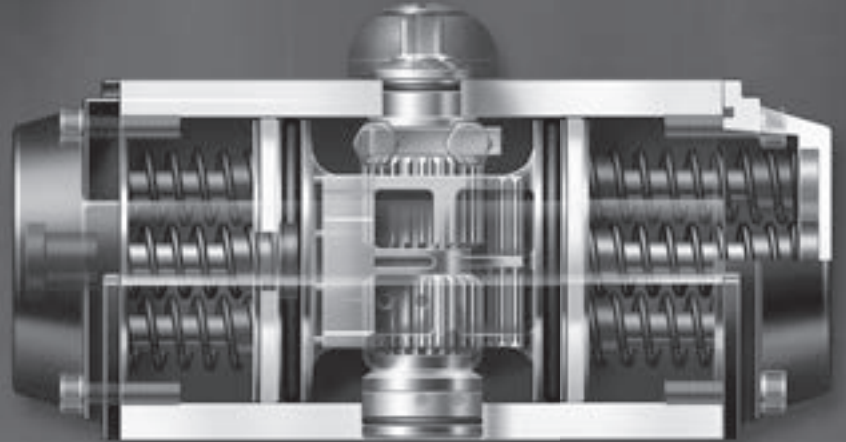
ACT-7

MILWAUKEE VALVE



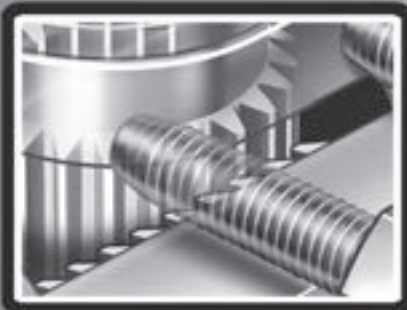


Our new M-Series product line represents a new class of actuators with design features that answer the growing needs and demands in the automation business. From the inside out, these changes help set a new standard in excellence, reliability and performance — qualities that continue to be synonymous with the Milwaukee Valve product line.



Proudly assembled and tested in the USA with domestic and internationally sourced parts.

## Improved Travel Stop Design



— Allows the actuator to stop off the pinion rather than the pistons. The standard actuator will have 100 degrees of travel with +5° or -5° degrees of adjustment on the open and close stop. The forged steel travel stop can be machined to any length of travel.

## Upgraded Top Hat Thrust Bearing Design



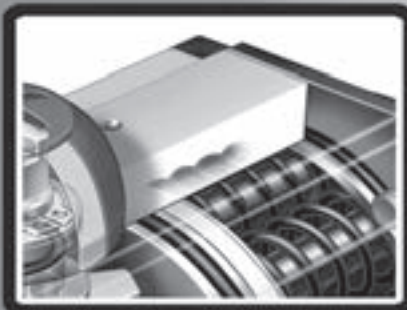
— Provides the largest pinion bearing surface in the industry. This upgraded Thrust Bearing limits friction between the actuator body and pinion, increases durability by absorbing side-load forces, and extends the cycle life of pinion o-rings.

## Increased Tooth Engagement



— A minimum of two teeth are engaged at all times during the stroke for consistent torque output and accuracy.

## Several New High Performance Options Available



### Mounting Options:

- 3.25" and 5" bolt circles along with "Double D" and keyway pinions available for direct valve automation

### Actuator Options:

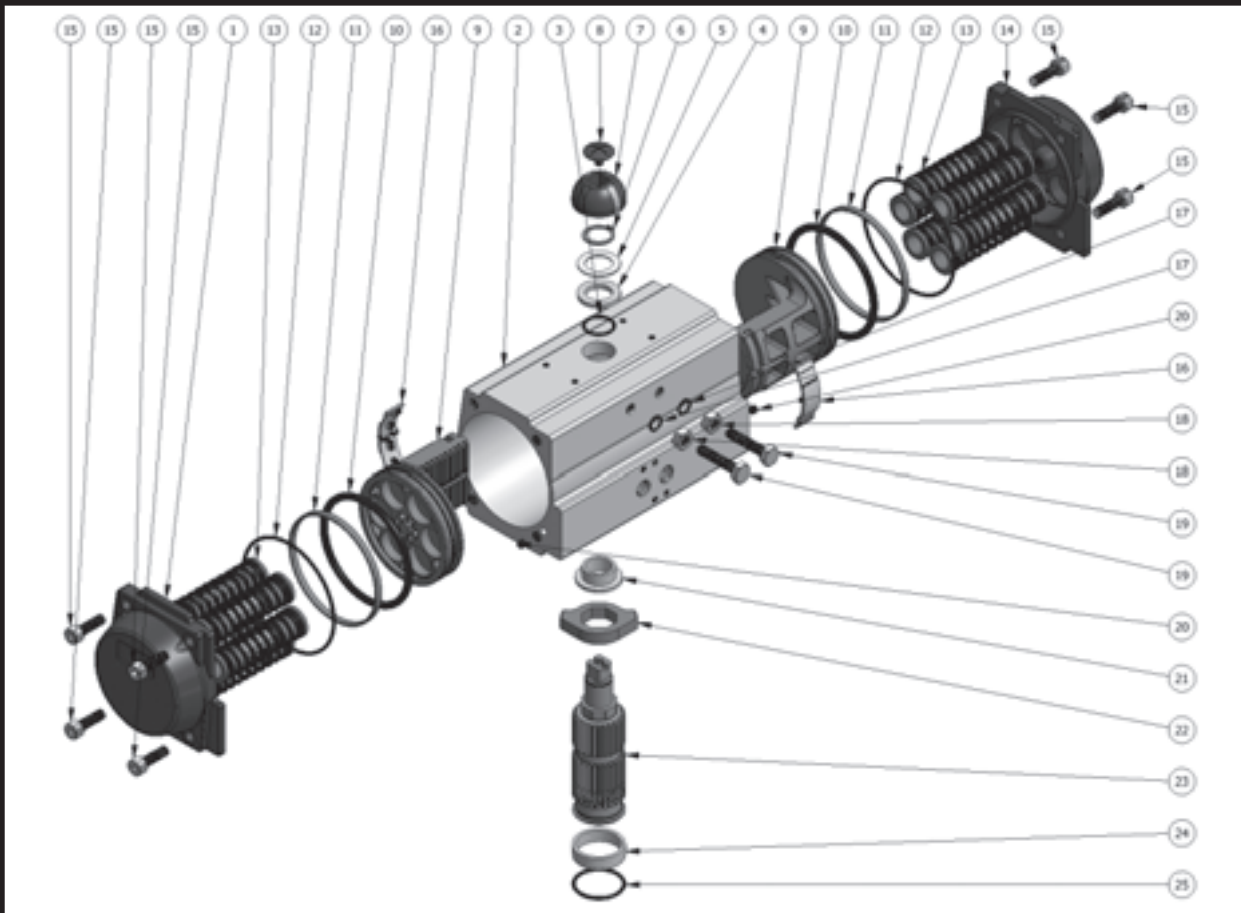
- 120°, 135°, 180° rotation in double acting and spring return
- Low and High temperature
- Fast acting/quick exhaust
- 100% travel stop adjustment
- 3 Position actuators

### Coating Options:

- Anodized type II
- Hard Anodized type III
- Anodized type II / epoxy polyester powder coat
- ANI - high phosphorus nickel impregnated
- Anodized type II or III /PTFE sealed

Several new options are available to provide the level of corrosion protection needed for the required application. Whether your application's pharmaceutical, food and beverage, oil and gas, refining, marine, or chemical processing, our standard and optional coatings will ensure reliable performance.





Part List for Milwaukee Valve MC-Series Actuators

Item #	Qty.	Part Name	Material
1	1	Left End Cap	ASTM 384 Cast Aluminum
2	1	Body	6005T5 Extruded Aluminum
3	1	Upper Pinion O-Ring	NBR/Viton*/Low Temp NBR**
4	1	Flange Bearing	Delrin/Polysulphone (PSU)*
5	1	Pinion Washer	Stainless Steel
6	1	Pinion Circlip	Stainless Steel
7	1	Indicator	ABS
8	1	Indicator Screw	ABS
9	2	Piston	ASTM A23320 Anodized
10	2	Piston O-Ring	NBR/Viton*/Low Temp NBR**
11	2	Piston Guide	Bronze Impregnated PTFE
12	2	End Cap O-Ring	NBR/Viton*/Low Temp NBR**
13	0-12	Spring Cartridge	Epoxy Coated Spring Steel
14	1	Right End Cap	ASTM 384 Cast Aluminum
15	8	End Cap Socket Head Cap Screw	Stainless Steel
16	2	Piston Skate	Delrin/Polysulphone (PSU)*
17	2	Stop O-Ring	NBR/Viton*/Low Temp NBR**
18	2	Stop Nut	Stainless Steel
19	2	Stop Bolt	Stainless Steel
20	2	Air Channel Plug	NBR/Viton*/Low Temp NBR**
21	1	Thrust Bearing	Delrin/Polysulphone (PSU)*
22	1	Pinion Cam	Electroless Nickel/Forged 1045 Carbon Steel
23	1	Pinion	Electroless Nickel/Alloy Steel
24	1	Lower Pinion Bearing	Delrin/Polysulphone (PSU)*
25	1	Lower Pinion O-Ring	NBR/Viton*/Low Temp NBR**

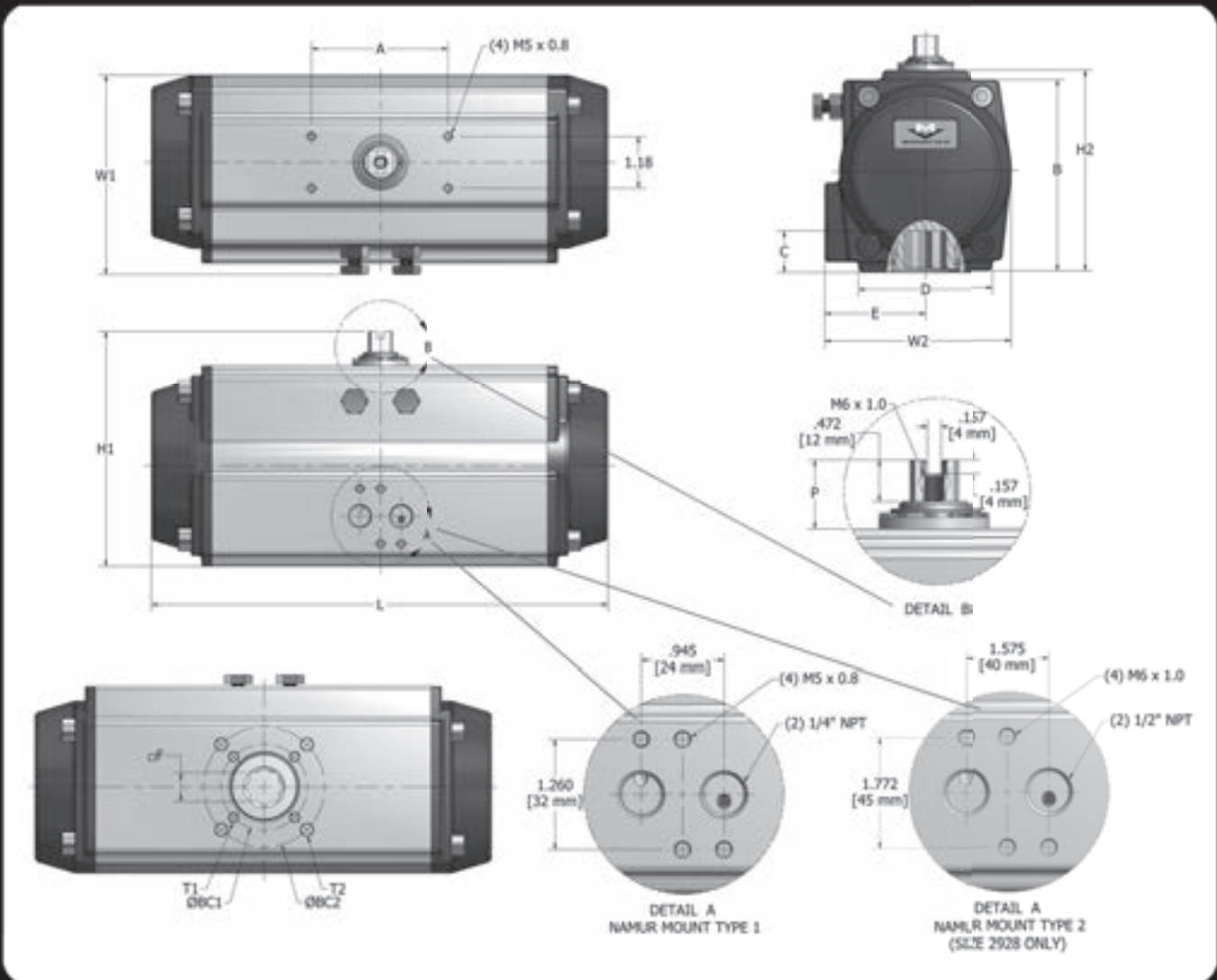
\* Material used for high temperature applications. \*\* Material used for low temperature applications.

PSI	Double Acting					Spring Return												
	40	60	80	100	120	S#	ALL Spring		40 AIR		60 AIR		80 AIR		100 AIR		120 AIR	
							Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
Model																		
MC1	57	85	113	141	170													
	96	143	191	239	287	S2	42	29	67	53	115	101	162	149	210	197	258	245
MC20						S3	63	43	53	32	100	80	148	128	196	176	244	224
						S4	84	57	38	11	86	59	134	107	182	155	229	203
						S5	105	71			72	38	120	86	167	134	215	181
						S6	126	86			58	17	105	65	153	113	201	160
MC34	170	255	340	425	510	S2	71	46	122	97	206	181	290	265	375	349	459	434
						S3	107	69	99	61	183	145	267	230	352	314	436	398
						S4	143	92	76	26	160	110	244	194	328	278	413	362
						S5	178	115			137	74	221	158	305	242	390	327
						S6	214	138			114	39	198	123	282	207	367	291
MC48	241	361	482	602	723	S2	99	71	167	140	287	259	406	378	525	498	644	617
						S3	148	107	132	91	251	210	370	329	490	448	609	568
						S4	197	142	96	41	216	161	335	280	454	399	573	518
						S5	246	178			180	111	299	231	419	350	538	469
						S6	296	213			145	62	264	181	383	301	502	420
MC75	369	553	738	922	1107	S2	157	106	259	208	441	391	624	573	806	756	989	939
						S3	235	160	206	130	388	312	571	495	753	678	936	860
						S4	314	213	152	52	335	234	517	417	700	599	883	782
						S5	392	266			282	156	464	338	647	521	829	703
						S6	470	319			229	77	411	260	594	442	776	625
MC105	544	816	1088	1360	1632	S2	234	157	381	304	650	573	919	843	1189	1112	1458	1381
						S3	351	236	303	187	572	456	841	726	1110	995	1379	1264
						S4	468	314	224	70	493	339	762	609	1031	878	1301	1147
						S5	585	393			415	222	684	492	953	761	1222	1030
						S6	702	471			336	105	605	374	874	644	1143	913
MC157	787	1181	1574	1968	2361	S2	335	213	566	444	956	833	1345	1223	1735	1612	2124	2002
						S3	503	320	459	276	849	666	1239	1055	1628	1445	2018	1834
						S4	671	426	353	109	742	498	1132	888	1522	1277	1911	1667
						S5	838	533			636	330	1025	720	1415	1110	1805	1499
						S6	1006	639			529	163	919	552	1309	942	1698	1331
MC237	1190	1784	2379	2974	3569	S2	535	353	836	654	1431	1249	2026	1844	2620	2438	3215	3033
						S3	803	530	659	386	1254	981	1849	1576	2444	2171	3038	2765
						S4	1071	707	483	119	1078	713	1672	1308	2267	1903	2862	2498
						S5	1339	883			901	446	1496	1040	2090	1635	2685	2230
						S6	1606	1060			724	178	1319	773	1914	1367	2508	1962
MC331	1658	2487	3316	4145	4974	S2	752	438	1221	906	2050	1735	2879	2564	3708	3393	4537	4223
						S3	1128	656	1002	531	1831	1360	2660	2189	3489	3018	4318	3847
						S4	1503	875	783	155	1612	984	2441	1813	3270	2642	4099	3471
						S5	1879	1094			1393	608	2222	1437	3051	2266	3880	3095
						S6	2255	1313			1174	232	2004	1061	2833	1890	3662	2719
MC406	2035	3052	4069	5087	6104	S2	877	579	1456	1158	2473	2175	3491	3193	4508	4210	5525	5227
						S3	1315	868	1166	720	2184	1737	3201	2754	4219	3772	5236	4789
						S4	1754	1158	877	281	1894	1298	2912	2316	3929	3333	4946	4351
						S5	2192	1447			1605	860	2622	1877	3640	2895	4657	3912
						S6	2630	1737			1316	422	2333	1439	3350	2456	4368	3474
MC633	3166	4749	6332	7914	9497	S2	1423	939	2210	1726	3785	3301	5360	4876	6935	6450	8509	8025
						S3	2135	1408	1741	1014	3316	2589	4890	4164	6465	5739	8040	7313
						S4	2847	1878	1272	303	2846	1877	4421	3452	5996	5027	7570	6602
						S5	3558	2347			2377	1166	3951	2741	5526	4315	7101	5890
						S6	4270	2817			1907	454	3482	2029	5057	3604	6631	5178
MC1009	5049	7574	10099	12624	15148	S2	2103	1346	3703	2947	6228	5471	8753	7996	11277	10521	13802	13045
						S3	3154	2019	3030	1895	5555	4420	8080	6945	10604	9469	13129	11994
						S4	4206	2692	2357	844	4882	3368	7406	5893	9931	8418	12456	10943
						S5	5257	3366			4209	2317	6733	4842	9258	7366	11783	9891
						S6	6308	4039			3535	1266	6060	3790	8585	6315	11110	8840
MC1260	6297	9445	12594	15742	18891	S2	2590	1851	4446	3707	7594	6856	10743	10004	13891	13152	17040	16301
						S3	3885	2777	3520	2412	6669	5561	9817	8709	12966	11858	16114	15006
						S4	5180	3702	2595	1117	5743	4266	8892	7414	12040	10563	15188	13711
						S5	6475	4628			4818	2971	7966	6119	11114	9268	14263	12416
						S6	7769	5553			3892	1676	7040	4824	10189	7973	13337	11121
MC1831	9158	13737	18316	22895	27475	S2	3851	2763	6348	5260	10903	9815	15459	14371	20014	18926	24570	23482
						S3	5777	4145	4966	3334	9522	7890	14077	12445	18633	17000	23188	21556
						S4	7703	5526	3585	1408	8140	5964	12696	10519	17251	15075	21807	19630
						S5	9628	6908			6759	4038	11314	8594	15870	13149	20425	17705
						S6	11554	8289			5377	2113	9932	6668	14488	11224	19043	15779
MC2928	14641	21962	29282	36603	43923	S2	5352	3769	10069	8486	16987	15404	23906	22323	30825	29242	37743	36160
						S3	8027	5653	8184	5810	15103	12729	22022	19647	28940	26566	35859	33485
						S4	10703	7537	6300	3134	13219	10053	20137	16971	27056	23890	33974	30809
						S5	13379	9422			11334	7377	18253	14296	25171	21214	32090	28133
						S6	16055	11306			9450	4701	16368	11620	23287	18539	30206	25457



# Technical Dimensions

# MC-SERIES



SIZE	L	W1	W2	H1	H2	P	BC1	T1	BC2	T2	A	B	C	D	E	F
MC1	4.91	3.11	2.38	3.17	2.38	0.79 (20mm)	1.417 (F03)	#10-32 UNF	1.969 (F05)	1/4-20 UNC	3.15	-	0.55	1.89	1.44	0.433 (11mm)
MC20	5.79	3.15	2.80	3.62	2.83	0.79 (20mm)	1.417 (F03)*	#10-32 UNF*	1.969 (F05)*	1/4-20 UNC*	3.15	-	0.59	2.09	1.61	0.433 (11mm)
MC34	6.69	3.50	3.30	4.24	3.46	0.79 (20mm)	1.969 (F05)	1/4-20 UNC	2.756 (F07)	5/16-18 UNC	3.15	3.19	0.71	2.67	1.85	0.551 (14mm)
MC48	7.32	3.90	3.74	4.71	3.93	0.79 (20mm)	1.969 (F05)	1/4-20 UNC	2.756 (F07)	5/16-18 UNC	3.15	3.70	0.71	3.07	2.09	0.551 (14mm)
MC75	8.35	4.43	4.06	5.08	4.29	0.79 (20mm)	1.969 (F05)	1/4-20 UNC	2.756 (F07)	5/16-18 UNC	3.15	3.88	0.94	3.07	2.25	0.669 (17mm)
MC105	10.43	4.72	4.27	5.38	4.59	0.79 (20mm)	1.969 (F05)	1/4-20 UNC	2.756 (F07)	5/16-18 UNC	3.15	4.37	0.93	3.07	2.30	0.669 (17mm)
MC157	10.67	5.16	4.78	6.06	5.28	0.79 (20mm)	2.756 (F07)	5/16-18 UNC	4.016 (F10)	3/8-16 UNC	3.15	4.84	1.22	3.62	2.52	0.866 (22mm)
MC237	12.28	5.87	5.61	7.32	6.14	1.18 (30mm)	2.756 (F07)	5/16-18 UNC	4.016 (F10)	3/8-16 UNC	3.15/5.12**	5.75	1.10	3.94	2.93	0.866 (22mm)
MC331	15.04	6.08	5.75	7.68	6.50	1.18 (30mm)	4.016 (F10)	3/8-16 UNC	4.921 (F12)	1/2-13 UNC	3.15/5.12**	6.10	1.30	4.33	2.95	0.866 (22mm)
MC406	15.51	6.24	5.98	7.99	6.81	1.18 (30mm)	4.016 (F10)	3/8-16 UNC	4.921 (F12)	1/2-13 UNC	3.15/5.12**	6.36	1.42	4.72	3.03	1.063 (27mm)
MC633	18.11	7.26	6.85	8.98	7.80	1.18 (30mm)	4.016 (F10)	3/8-16 UNC	4.921 (F12)	1/2-13 UNC	3.15/5.12**	7.26	1.46	4.72	3.43	1.063 (27mm)
MC1009	20.87	8.78	8.11	10.28	9.09	1.18 (30mm)	5.512 (F14)	5/8-11 UNC	-	-	5.12	8.52	1.65	5.12	4.06	1.417 (36mm)
MC1260	21.50	9.70	8.90	11.26	10.08	1.18 (30mm)	5.512 (F14)	5/8-11 UNC	-	-	5.12	9.29	1.65	5.12	4.45	1.417 (36mm)
MC1831	25.28	11.42	10.24	12.64	11.46	1.18 (30mm)	6.496 (F16)	3/4-10 UNC	-	-	5.12	10.45	2.24	6.30	5.12	1.811 (46mm)
MC2928	29.13	12.48	11.57	14.17	12.99	1.18 (30mm)	6.496 (F16)	3/4-10 UNC	-	-	5.12	11.85	2.24	6.30	5.79	1.811 (46mm)

\*The size 20 is also available with an F04 (#10-32 UNF on a 1.654 B.C.) mounting pattern in place of the F03/F05.

\*\*Sizes 237-633 have 3.15 x 1.18 and a 5.12 x 1.18 top mounting with (8) M5 x 0.8 threaded holes.

## WEIGHT

### MC-Series Weights (lbs)

Size	DA	K55	Single Spring
MC1	2.00	-	-
MC20	3.00	3.30	0.03
MC34	4.65	5.05	0.04
MC48	5.75	6.25	0.05
MC75	7.65	8.65	0.10
MC105	10.45	11.95	0.15
MC157	13.25	14.75	0.15
MC237	21.00	23.50	0.25
MC331	26.85	30.35	0.35
MC406	30.05	34.55	0.45
MC633	45.05	51.55	0.65
MC1009	72.45	82.95	1.05
MC1260	87.20	104.70	1.75
MC1831	124.00	149.00	2.50
MC2928	180.00	222.00	4.20

## AIR VOLUME

### MC-Series Free Internal Air Volume Cubic Inches (in<sup>3</sup>)

Size	Opening Stroke	Closing Stroke (DA only)
MC1	4.27	5.49
MC20	5.49	11.59
MC34	8.54	15.87
MC48	13.43	23.19
MC75	20.75	32.34
MC105	30.51	56.75
MC157	46.99	72.62
MC237	76.28	104.96
MC331	111.06	163.54
MC406	131.81	195.28
MC633	206.87	294.74
MC1009	341.12	484.53
MC1260	405.20	642.58
MC1831	590.71	994.08
MC2928	911.08	1502.40

Actual air consumption is calculated using the internal volume and supply pressure in the following equation.

$$\text{Air Consumption (Standard Cubic feet) per Stroke} = \frac{V}{1728} \left( \frac{\text{Supply Pressure} + 14.7}{14.7} \right)$$

## SPEED

### MC-Series Speed of Operation (sec)

Size	Double Acting			Spring Return		
	Opening Stroke	Closing stroke	Per cycle	Opening Stroke	Closing stroke	Per cycle
MC1	0.2	0.2	0.4	-	-	-
MC20	0.2	0.2	0.4	0.3	0.3	0.6
MC34	0.3	0.3	0.6	0.3	0.4	0.7
MC48	0.3	0.4	0.7	0.4	0.5	0.9
MC75	0.4	0.5	0.9	0.5	0.6	1.1
MC105	0.6	0.6	1.2	0.7	0.9	1.6
MC157	0.8	0.8	1.6	0.9	1.1	2.0
MC237	0.9	1.1	2.0	1.2	1.4	2.6
MC331	1.2	1.3	2.5	1.4	1.5	2.9
MC406	1.4	1.4	2.8	1.5	1.8	3.3
MC633	1.7	1.8	3.5	1.8	2.1	3.9
MC1009	2.4	2.5	4.9	2.5	2.8	5.3
MC1260	2.7	3.2	5.9	3.5	4.0	7.5
MC1831	3.5	4.0	7.5	4.1	4.6	8.7
MC2928	4.0	4.5	8.5	4.5	5.0	9.5

## TEMP

### MC-Series Temperature Specifications

Temperature Designation	Temperature Range (F°)	Temperature Range (C°)	Bearing Material	O-ring Material	Grease
Standard Temp	-4° to 176°	-20° to 80°	Delrin/Bronze Impregnated PTFE	NBR	Standard
High Temp	5° to 320°	-15° to 160°	PPSU/Bronze Impregnated PTFE	Viton	High Temp
Low Temp	-58° to 176°	-50° to 70°	Delrin/Bronze Impregnated PTFE	Low Temp NBR	Standard

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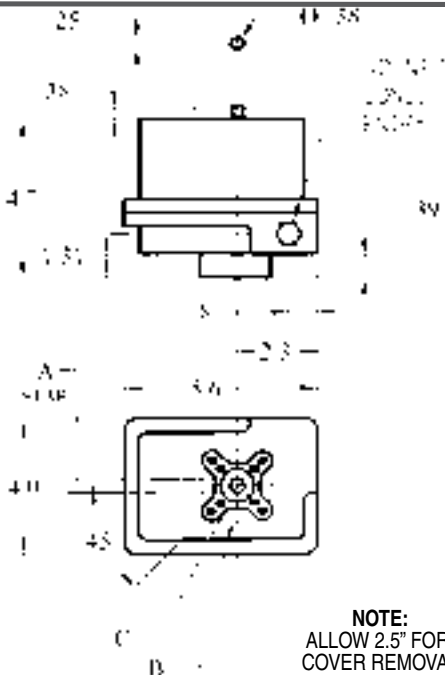
# MCR100I

CSA Certified



## SPECIFICATIONS:

Output Torque.....	100 Lb.-In.
Cycle Time.....	2.5 Sec/90° Rotation
Duty Cycle.....	75%
Motor.....	115Vac, 60Hz, 1Ph. PSC (Optional Voltages Available)
Thermal Over-Load Protection.....	Std.
Enclosure.....	NEMA 4
Enclosure Option.....	NEMA 7 (Omit Manual Override)
Enclosure Material.....	Cast Aluminum
Enclosure Coating.....	Thermally Bonded Polyester Powder
Fasteners.....	S.S.
Output Shaft.....	S.S.
Manual Override.....	Std. (Except NEMA 7 & DC Motors)
Friction Brake.....	Std.
Wired for light indication.....	Std.
Lock Rotor Current.....	.55 Amp
Weight.....	5 Lbs.
Lubrication.....	Permanent
Installation.....	Universal
Temperature.....	-40° F. to +150° F.
Heater Required at 0° F. and Below	
Switches: 10 A 1/2 HP 125, 250 Vac 0.1 A, 125 Vdc	



	A	B	C		
F03	F04	F03	F04	F03	F04
0.354"	0.433"	4, 1/4-20 TAP	4, 1/4-20 TAP	4, 10/24 TAP	4, 10/24 TAP
Star	Star	0.44" DP.	0.44" DP.	0.44" DP.	0.44" DP.
(9mm)	(11mm)	1.968" B.C.	2.121" B.C.	1.417" B.C.	1.653" B.C.

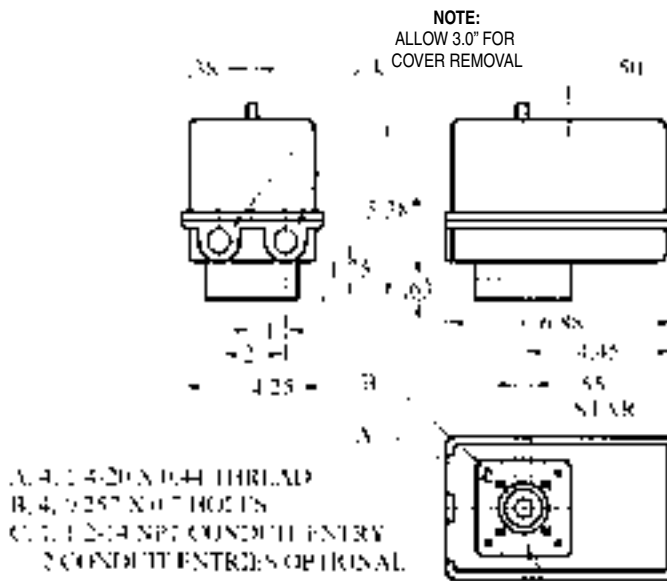
# MCR200I MCR300I

CSA Certified File No. LR79567



## SPECIFICATIONS:

Output Torque.....	200 Lb.-In.
	300 Lb.-In.
Cycle Time.....	5 Sec/90° Rotation
Duty Cycle.....	25%
Optional Extended Duty.....	75%
Cycle Time (W/Ext. Duty).....	10 Sec/90° Rotation
Motor.....	115Vac, 60Hz, 1Ph. PSC (Optional Voltages Available)
Thermal Over-Load Protection.....	Std.
Enclosure.....	NEMA 4
Enclosure Material.....	Die Cast Aluminum
Enclosure Coating.....	Thermally Bonded Polyester Powder
Mounting Dim.....	ISO 5211 F05
Fasteners.....	S.S.
Output Shaft.....	S.S.
Manual Override.....	Std. (Except DC Motors)
Friction Brake.....	Std.
Wired for light indication.....	Std.
Terminal Strip Connection.....	AWG 14
Lock Rotor Current.....	SD, .75 Amp SDX, .99 Amp
Weight.....	6 Lbs.
Lubrication.....	Permanent
Installation.....	Universal
Temperature.....	-40° F. to +150° F.
Heater Required at 0° F. and Below	
Switches: 15 A 1/2 HP 125, 250 Vac 0.5 A, 125 Vdc	



\*MCR WITH POWER OFF BRAKE OPTION

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# MCRB200I/MCRB300I

Select This Enclosure When Positioner, Timer, Brake or Speed Control is Required



## SPECIFICATIONS:

Output Torque.....	200 Lb.-In. 300 Lb.-In.
Cycle Time.....	5 Sec/90° Rotation
Duty Cycle.....	25%
Optional Extended Duty.....	75%
Cycle Time (W/Ext. Duty).....	10 Sec/90° Rotation
Motor.....	115Vac, 60Hz, 1Ph. PSC (Optional Voltages Available)
Thermal Over-Load Protection.....	Std.
Enclosure.....	NEMA 4
Enclosure Material.....	Cast Aluminum
Enclosure Coating.....	Thermally Bonded Polyester Powder
Mounting Dim.....	ISO 5211 F05
Fasteners.....	S.S.
Output Shaft.....	S.S.
Manual Override.....	Not Available
Friction Brake.....	Std.
Wired for light indication.....	Std.
Terminal Strip Connection.....	AWG 14
Lock Rotor Current.....	SR, .75 Amp SX, .99 Amp
Weight.....	8 Lbs.
Lubrication.....	Permanent
Installation.....	Universal
Temperature.....	-40° F. to +150° F.
Heater Required at 0° F. and Below	
Switches: 15 A 1/2 HP 125, 250 Vac 0.5 A, 125 Vdc	

# MCR W/NEMA 4/7

CSA Certified File No. LR79567

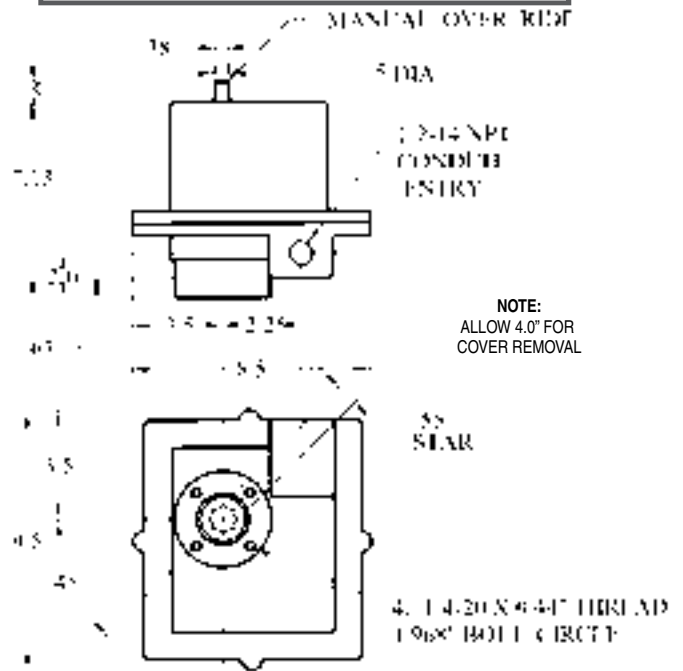
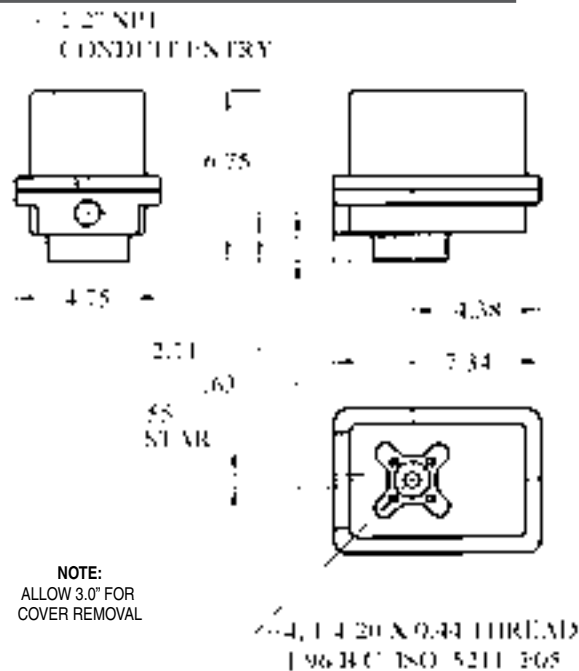
Class I Groups C &

Class II Groups E, F & G Div. I & II



## SPECIFICATIONS:

Output Torque .....	200 Lb.-In. 300 Lb.-In.
Cycle Time.....	5 Sec/90° Rotation
Duty Cycle.....	25%
Optional Extended Duty.....	75%
Cycle Time (W/Ext. Duty).....	10 Sec/90° Rotation
Motor.....	115Vac, 60Hz, 1Ph. PSC (Optional Voltages Available)
Thermal Over-Load Protection.....	Std.
Enclosure.....	NEMA 7
Enclosure Material.....	Cast Aluminum
Enclosure Coating.....	Thermally Bonded Polyester Powder
Mounting Dim.....	ISO 5211 F05
Fasteners.....	S.S.
Output Shaft.....	S.S.
Manual Override.....	Optional
Friction Brake.....	Std.
Wired for light indication.....	Std.
Terminal Strip Connection.....	AWG 14
Lock Rotor Current.....	SR, .75 Amp SX, .99 Amp
Weight.....	15 Lbs.
Lubrication.....	Permanent
Installation.....	Universal
Temperature.....	-40° F. to +140° F.
Heater Required at 0° F. and Below	
Switches: 15 A 1/2 HP 125, 250 Vac 0.5 A, 125 Vdc	



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# MCR400I, MCR675I, MCR1000I, MCR1500I, MCRB400I, MCRB675I, MCRB1000I, MCRB1500I

CSA Certified



## SPECIFICATIONS:

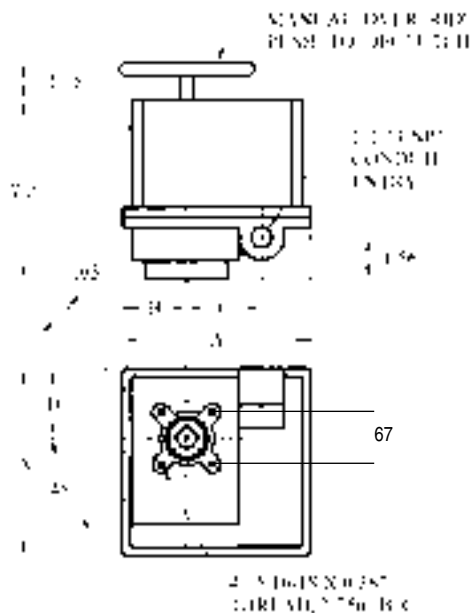
Output Torque.....	400 Lb.-In.
.....	675 Lb.-In.
.....	1000 Lb.-In.
.....	1500 Lb.-In.
Cycle Time.....	10 Sec/90° Rotation
.....	15 Sec/90° Rotation
.....	30 Sec/90° Rotation
Duty Cycle.....	25%
Motor.....	115Vac, 60Hz, 1Ph. PSC (Optional Voltages Available)
Thermal Over-Load Protection.....	Std.
Enclosure.....	NEMA 4
Enclosure Option.....	NEMA 7
Enclosure Material.....	Cast Aluminum
Mounting Dim.....	ISO 5211 F07
Enclosure Coating.....	Thermally Bonded Polyester Powder
Fasteners.....	S.S.
Output Shaft.....	S.S.
Manual Override.....	Std. NEMA 4, Opt. NEMA 7
Friction Brake.....	Std.
Wired for light indication.....	Std.
Terminal Strip Connection.....	AWG 14
Lock Rotor Current.....	.75 Amp
.....	1.1 Amps
Weight.....	13 Lbs. NEMA 4, 16 Lbs. NEMA 7
Lubrication.....	Permanent
Installation.....	Universal
Temperature.....	-40° F. to +150° F.
Heater Required at 0° F. and Below	
Switches: 15 A 1/2 HP 125, 250 Vac 0.5 A, 125 Vdc	

NOTE: MCRB - Includes Motor Brake

Enclosure		
	NEMA 4	NEMA 7
A	7.0	8.5
B	2.38	3.13
C	2.81	2.81
D	2.63	3.38

Dimensions in inches

NOTE:  
ALLOW 4.0" FOR  
COVER REMOVAL

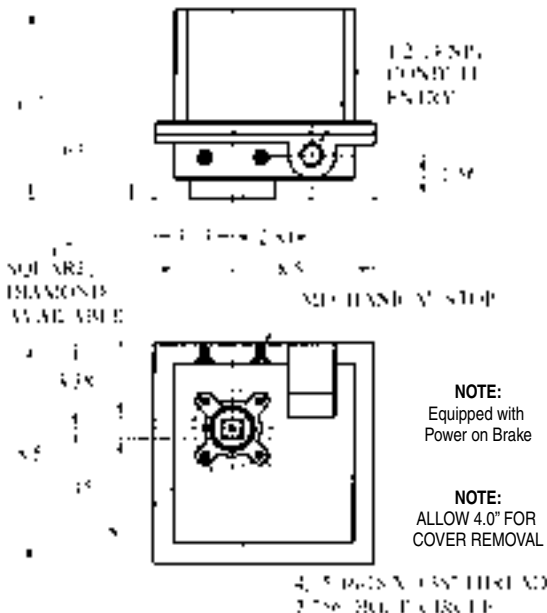


# MCSRE200



## SPECIFICATIONS:

Output Torque .....	200 Lb.-In.
Cycle Time.....Power Stroke.....	10 Sec./90° Rotation
Spring Stroke.....	3 Sec./90° Rotation
Duty Cycle.....	25%
Motor.....	115 Vac, 60 Hz, 1 Ph. PSC Or 220 Vac, 60 Hz, 1Ph.
Thermal Over-Load Protection.....	Std.
Enclosure .....	NEMA 4
Enclosure Option.....	NEMA 7
Enclosure Material.....	Cast Aluminum
Enclosure Coating.....	Thermally Bonded Polyester Powder
Fasteners.....	S.S.
Output Shaft.....	S.S.
Terminal Strip Connection.....	AWG 14
Lock Rotor Current.....	.75 Amps
Weight.....	13 Lbs.
Lubrication.....	Permanent
Mounting.....	ISO 5211 F07
Installation.....	Universal
Temperature.....	0° F. to +150° F.
Heater Required at 32° F. and Below	
Switches: 15 A 1/2 HP 125, 250 Vac 0.5 A, 125 Vdc	



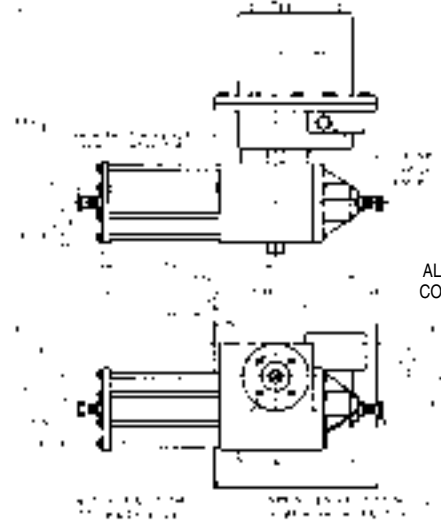
All units are supplied with two limit switches for electrically controlling open and close positions; a mechanical stop is set at the factory for positioning the designated fail position. The designated fail position is available in both open (CCW rotation) or close (CW rotation) position. Spring return actuators are not intended to be used in control applications.

# MCSRE400 MCSRE600

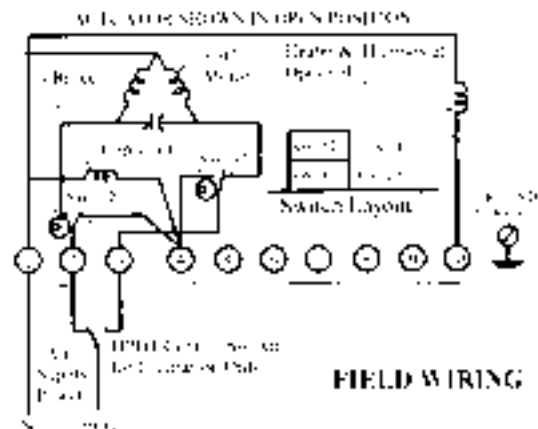


## SPECIFICATIONS:

Torque (Lb.-In.)	Spring Start	600	800
	Spring End	400	600
	Power Stroke	400	600
Cycle Time Sec./90° Rotation	Power Stroke	12 Sec	12 Sec
	Spring Start	3 Sec	3 Sec
Lock Rotor Current		2.0 Amp	2.0 Amp



## Electric Spring Return Wiring Diagram:

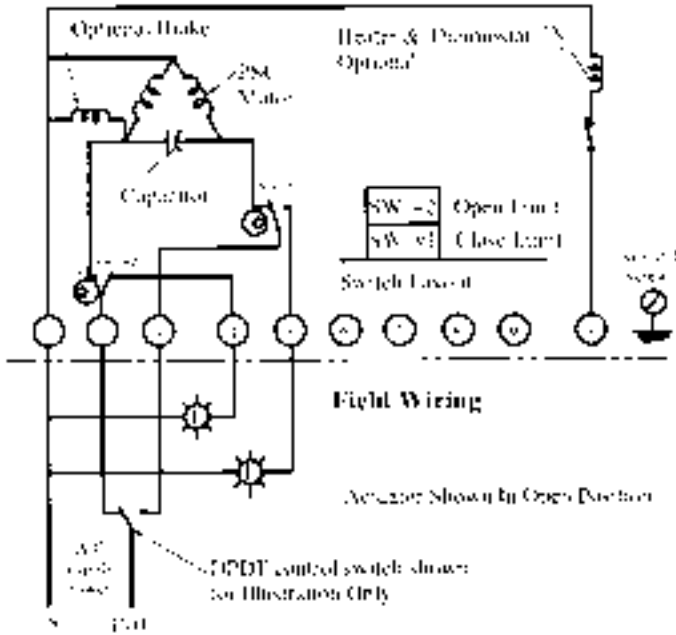


NOTES:  
1. Power on Brake & Stop (POB) is available for the MCSRE400 & MCSRE600.  
2. The stop position is available for the MCSRE400 & MCSRE600.  
3. The stop position is available for the MCSRE400 & MCSRE600.  
4. The stop position is available for the MCSRE400 & MCSRE600.



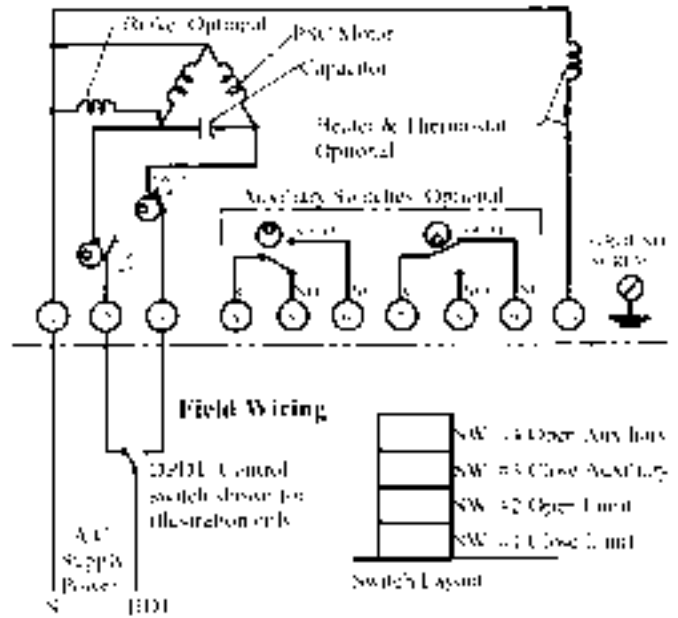
# ACTUATOR WIRING

Typical Wiring Diagram



NOTES  
 Power to terminals 1 & 2 opens valve (C/W rotation)  
 Power to terminals 1 & 3 closes valve (C/W rotation)  
 Terminals 4 & 5 for light indication.

Typical Wiring Diagram With Two Auxiliary Switches



NOTES  
 Power to terminals 1 & 2 opens valve (C/W ROTATION)  
 Power to terminals 1 & 3 closes valve (C/W ROTATION)  
 Terminals 4 through 9 for auxiliary switch connection

Wiring diagram illustrates the actuator in the open position. Actuators are shipped in the open position.

## MC SERIES ELECTRIC ACTUATORS: OPTIONS

- VOLTAGES: 120 VAC, 220 VAC 1 PH, 24 VAC, 24 VDC, 12 VDC
- AUX. SWITCHES: 1 SWITCH, 2 SWITCHES
- MOTOR BRAKE: REQUIRED FOR BUTTERFLY VALVES
- 1 K POT
- VALVE POSITIONER: 4-20 MADC OR 0-10 VDC
- HEATER THERMOSTAT
- SPEED CONTROL
- EXTENDED DUTY MOTORS
- TIMER
- THREE POSITION
- DIAL POSITION INDICATOR
- 4-20 MADC TRANSMITTER
- REMOTE ON AND OFF AND LOCAL
- TWO WIRE RELAY
- TORQUE SWITCHES
- SPECIAL MOUNTING MALE OR ISO
- HOUSING, NEMA 4/4X AND NEMA 7





## QUARTER-TURN ELECTRIC ACTUATOR TYPE OA

### DESCRIPTION:

Type OA Quarter-turn actuators offer a very compact waterproof body with the same sturdy features of larger industrial actuators:

largely dimensioned worm and quadrant output gear (naturally self locking), ease of adjustment, precise and vibration proof end of travel system, heavy duty motors with internal thermal protection, emergency manual handwheel, easy to read position indicator, ISO flange and removable socket permits direct or indirect mounting on any type of quarter-turn valve.

### SPECIFICATIONS:

Quarter-turn, watertight body to NEMA 4, 4X & 6, proportional position indicator, self locking gear, S4-30% duty rating motor, class F insulated, 2 end of travel switches adjustable over the entire travel, anti-condensation heater, 2 adjustable mechanical stops, thermal protection, emergency handwheel mounted on the final reduction stage, 2 conduit entries, combined with F05/F07 ISO flange.



### TECHNICAL DATA

Type	Torque in-lbs	Operating time s/90°	Flange ISO
OA3	310	5	F05 / 07
OA8	885	5 - 25 - 50	F05 / 07
OA15	1350	15 - 25	F07

### OPTIONS:

- 2 auxillary limit switches (free contacts)
- Position sensor by potentiometer 1000 Ω
- Position transmitter 4-20 mA, type TAM
- INTEGRAL+ local control
- MiniGRAL+ remote control
- MiniGAM+ or PosiGAM+ modulating control

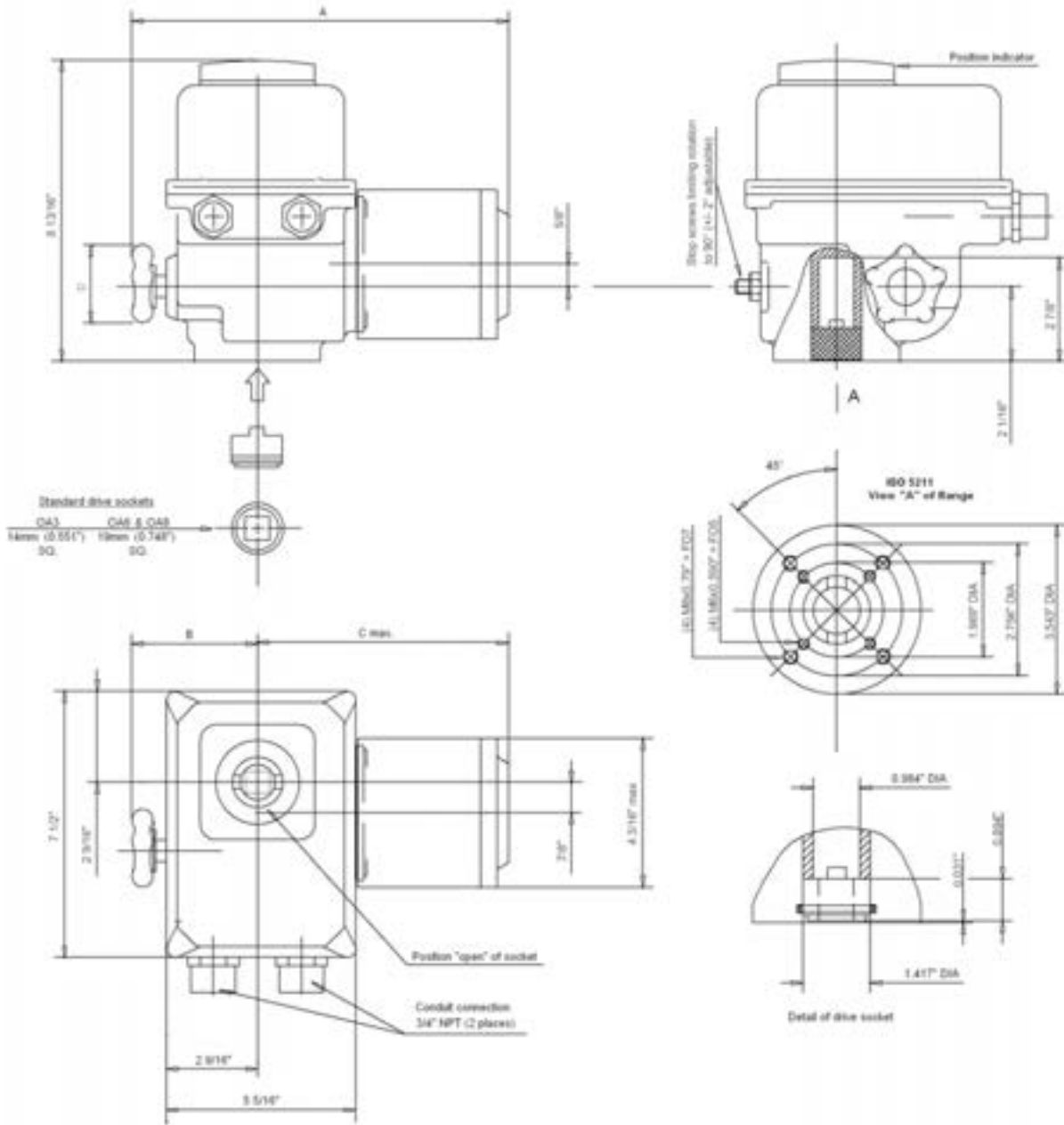
Rev 0313

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# OA Series

## DIMENSIONAL DRAWING:



Type	A	B	C	ØD	Weight lbs
OA3	9.88"	3.54"	6.31"	Ø2.36"	12
OA8	11.5"	3.54"	7.88"	Ø2.36"	15
OA15	14.63"	4.38"	10.24"	Ø3.94"	17

Note: The OA15 drive socket has 4 engagement claws.

Rev 0313

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## QUARTER-TURN ELECTRIC ACTUATOR TYPE AT

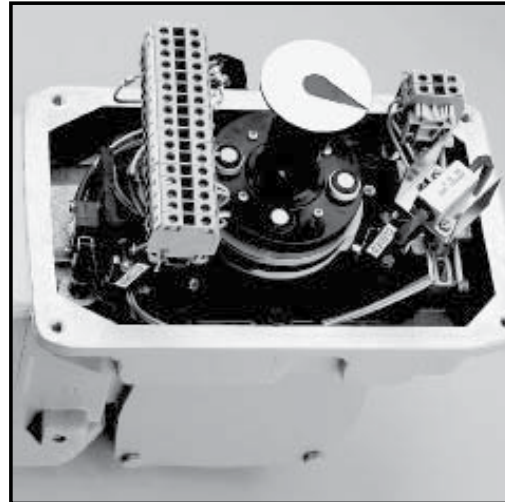
### DESCRIPTION:

The AT range offers a selection of heavy duty compact quarter turn actuators designed to operate all kinds of ball, butterfly valves, as well as large industrial dampers, maintenance free for many years:

largely dimensioned final worm and quadrant gear reduction (totally self locking), easy to adjust, precise and vibration proof end of travel system and torque limiting device, heavy duty single or 3 phases motors protected by thermal overload, easy to operate manual handwheel, easy to read position indicator, ISO flange and removable socket permits direct or indirect mounting on any type of quarter-turn valve.

### SPECIFICATIONS:

Self-locking quarter-turn, watertight body to NEMA 4, 4X & 6, proportional position indicator, **S4-30%** duty rating motor, class F insulated, 2 end of travel switches and 2 auxilliary limit switches (dry contacts) adjustable over the whole travel, 2 independently adjustable torque limit switches, anti-condensation heater, 2 adjustable mechanical stops, thermal protection, emergency handwheel mounted on the final reduction stage, 2 conduit entries, ISO F07/F10 combined flange.



### TECHNICAL DATA

Type	Torque in-lbs	Operating time s/90°	Flange ISO
AT25	2,225	15 - 25 - 50	F07/10
AT50	4,500	25	F10/07
AT100	8,850	24	F12
AT200	22,125	29-59	F16
AT400	35,400	53	F16

### OPTIONS:

- ☞ Position sensor by potentiometer 1000 Ω
- ☞ Position transmitter 4-20 mA
- ☞ INTEGRAL+ control
- ☞ MiniGAM+ or PosiGAM+ positioner
- ☞ Special needs: ask us

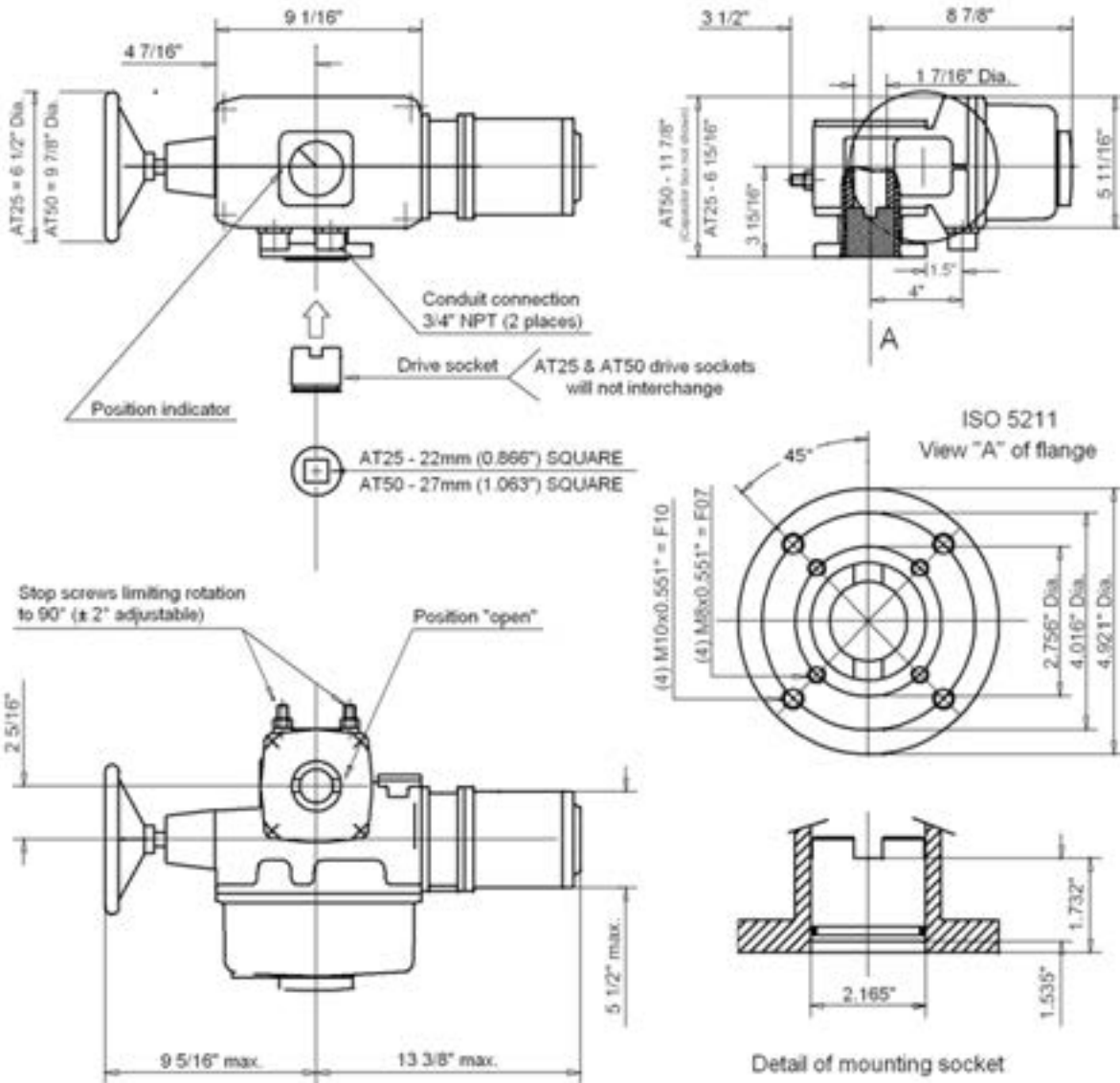
Rev 0313

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# AT 25/50 Series

## DIMENSIONAL DRAWING:



### NET WEIGHT

AT25 - 35 lbs

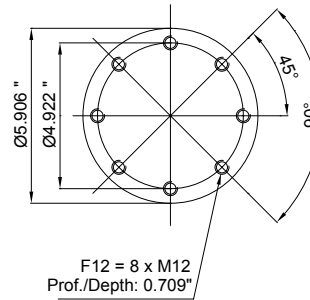
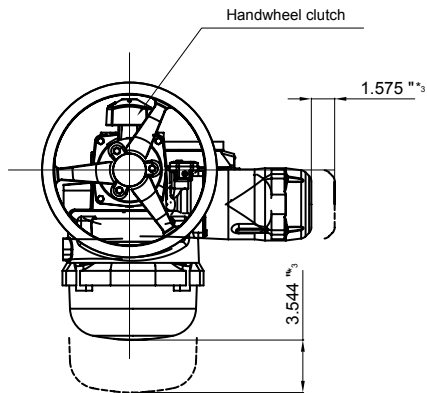
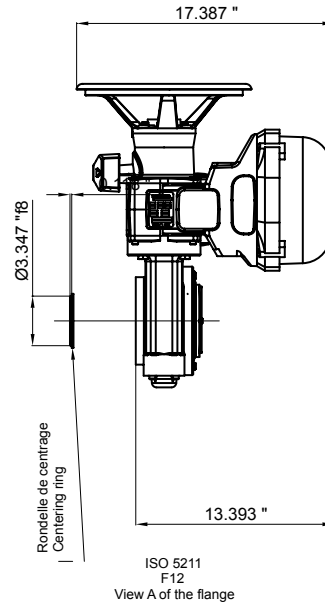
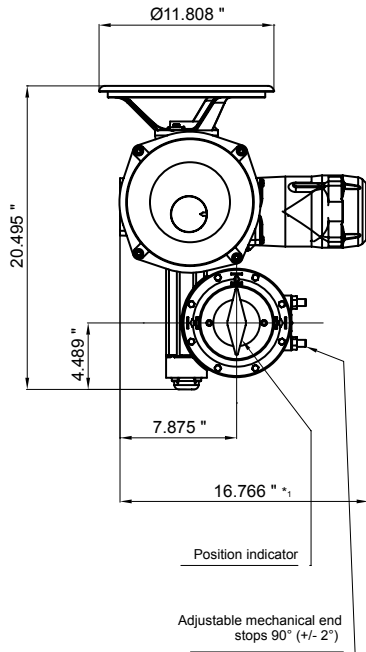
AT50 - 40 lbs

Note: AT50 sockets have 4 claws.



# AT 100 Series

## DIMENSIONAL DRAWING:

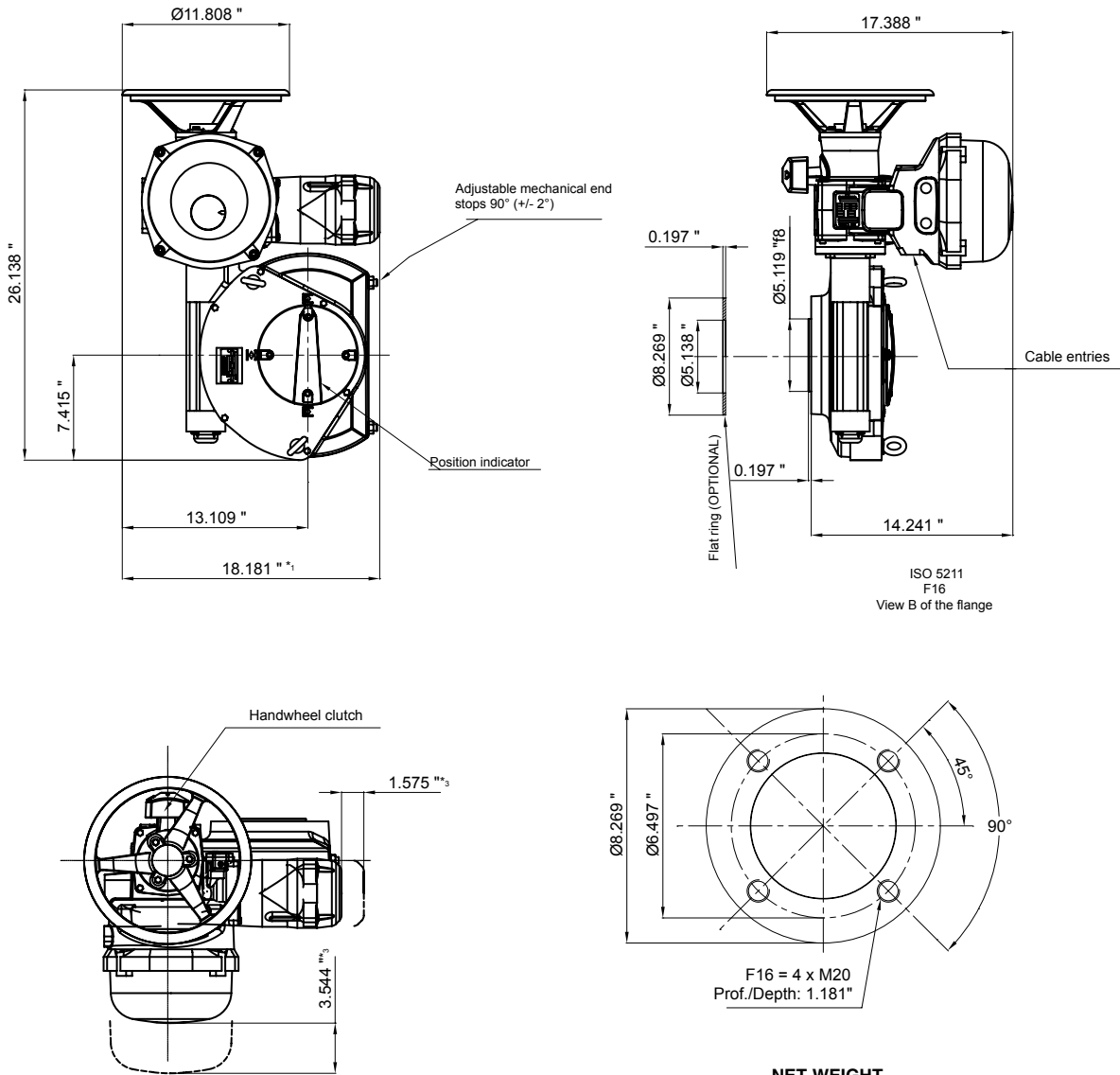


### NET WEIGHT

AT 100 - 104 lbs

# AT 200 Series

## DIMENSIONAL DRAWING:



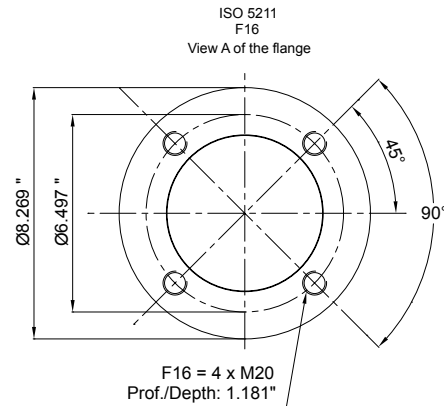
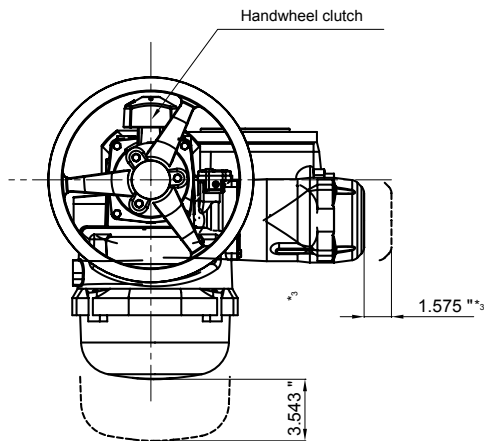
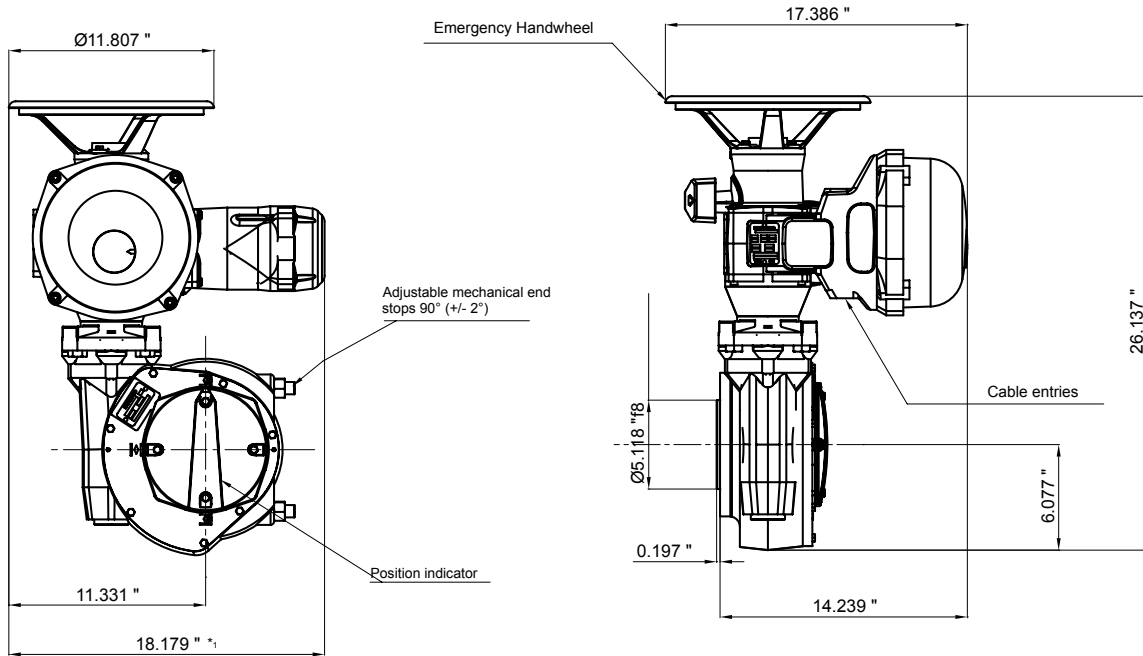
### NET WEIGHT

AT 200 - 148 lbs



# AT 400 Series

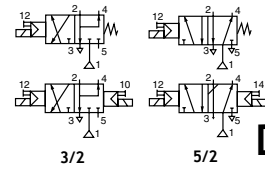
## DIMENSIONAL DRAWING:



### NET WEIGHT

AT 400 - 148 lbs





**Features**

- Compact spool valve convertible from 3/2 to 5/2.
- NAMUR Mount construction.
- Standard manual operator.
- DIN, Watertight and Explosionproof solenoids available.
- Single and dual solenoid constructions.
- Mountable in any position.

**Construction**

Valve Parts in Contact with Fluid	
<b>Body</b>	Black Anodized Aluminum
<b>Spring</b>	Phosphate treated black steel
<b>Shading Coil</b>	Copper
<b>Seals</b>	NBR + PUR
<b>Core and Core tube</b>	Stainless Steel / Brass
<b>End Covers and Plate</b>	6/6 glass filled PA/FV
<b>Spool</b>	Aluminum
<b>Internal Parts</b>	Zamak, Steel, CA

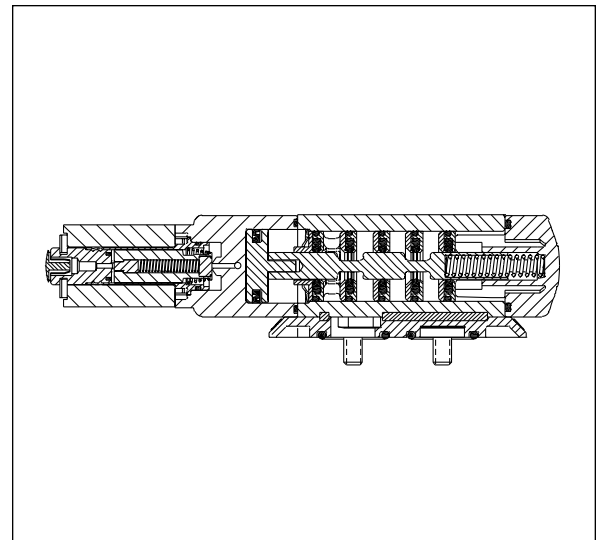
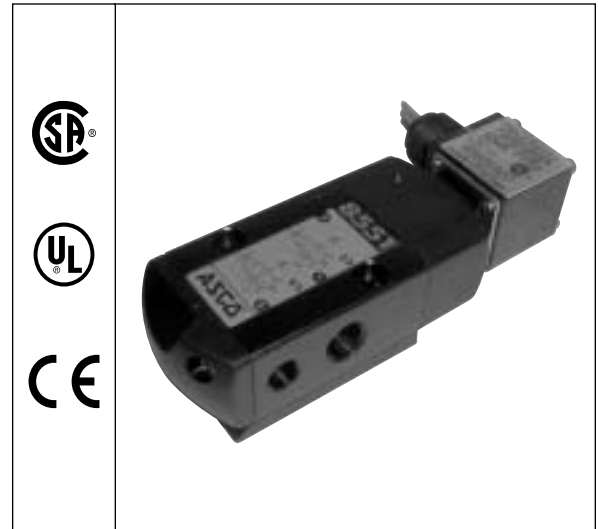
**Electrical**

Standard Coil and Class of Insulation	Enclosure Type	Watt Rating and Power Consumption				Spare Coil Part Number	
		DC Watts	AC Watts	VA Holding	VA Inrush	AC	DC
F	SC	3	2.5	3.5	6	400125	400125
F	EF	6.9	6.3	7	10.1	266762	270007
F	WT	6.9	6.3	7	10.1	266763	270008

**Standard Voltages:** SC: 24, 120, 240 volts AC, 50-60 Hz; 12, 24, 120 volts DC.  
WT and EF: 24/50-60Hz, (120/60, 110-120/50) , (240/60, 220-240/50) volts AC; 6, 12, 24, 120 volts DC.  
**Notes:** Order as 120/60, 110/50  
Order as 240/60, 220/50

**Solenoid Enclosures**

**Standard: - Prefix**  
SC = IP65 type DIN (open frame) per 46244  
WT= Combination General Purpose and Watertight Types 1, 2, 3, 3S, 4, and 4X  
EF = Combination Explosionproof and Watertight Types 3, 3S, 4, 4X, 6, 6P, 7, 9  
CLASS 1, DIV. 1 (Groups A - D) and CLASS 1, DIV.2 Type 9 (Groups E-G)  
**Optional:**  
CENELEC (EEx d,m,em, and i)  
Low Power, Intrinsically Safe, and Red-Hat II versions.  
*Consult factory for details.*



**Nominal Ambient Temperature Ranges:**

**SC:** AC/DC: 5°F to +140°F (-15°C to 60°C)

**EF:** AC: 5°F to +104°F (-15°C to 40°C)  
DC: 5°F to +77°F (-15°C to 25°C)

**WT:** AC: 5°F to +104°F (-15°C to 60°C)  
DC: 5°F to +77°F (-15°C to 25°C)

**Note:** For temperatures below 32°F (0°C) moisture-free air must be used. *Refer to Engineering Section for details.*

**Approvals:**

SC, WT: UL recognized component, CSA certified.  
EF: UL and CSA solenoid approval. Meets applicable CE directives. *Refer to Engineering Section for details.*

**Option:**

Metering-Specify suffix "M" when ordering.  
i.e.: SC8551A001**MMS**



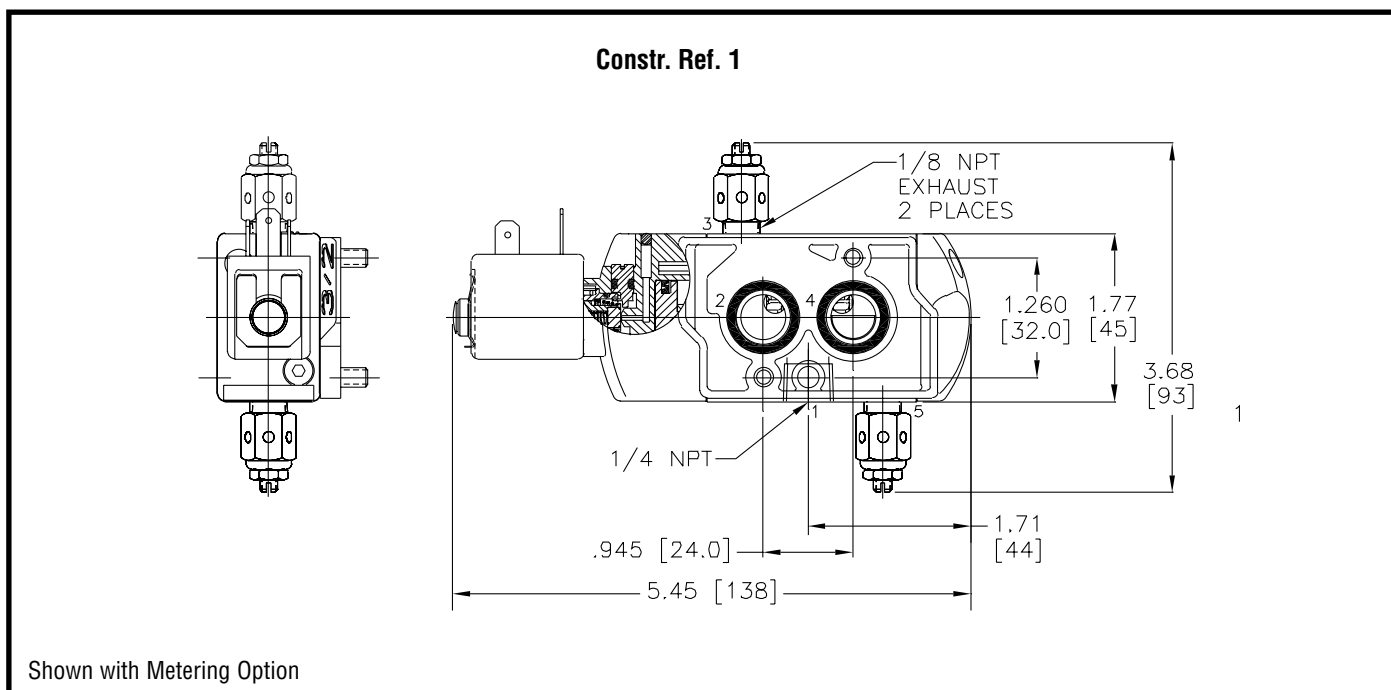
Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Pilot Pressure		Fluid Temperature °F (for single and dual solenoid)			Single Solenoid		Dual Solenoid		Watt Rating/ Class of Coil Insulation		
			Minimum	Maximum	Minimum	Maximum AC	Maximum DC	Catalog Number	Constr. Ref. No.	Catalog Number	Constr. Ref. No.	AC	DC	
<b>OPEN FRAME DIN COIL</b>														
1/4	1/4	.7	30	150	5	140	140	SC8551A1MS	1	SC8551A2MS	3	2.5	3	
<b>WATERTIGHT ENCLOSURE</b>														
1/4	1/4	.7	30	150	5	104	77	WT8551A1MS	2	WT8551A2MS	4	6.3	6.9	
<b>EXPLOSIONPROOF ENCLOSURE</b>														
1/4	1/4	.7	30	150	5	104	77	EF8551A1MS	2	EF8551A2MS	4	6.3	6.9	
<b>Note:</b> 1/8 inch NPT exhausts.														

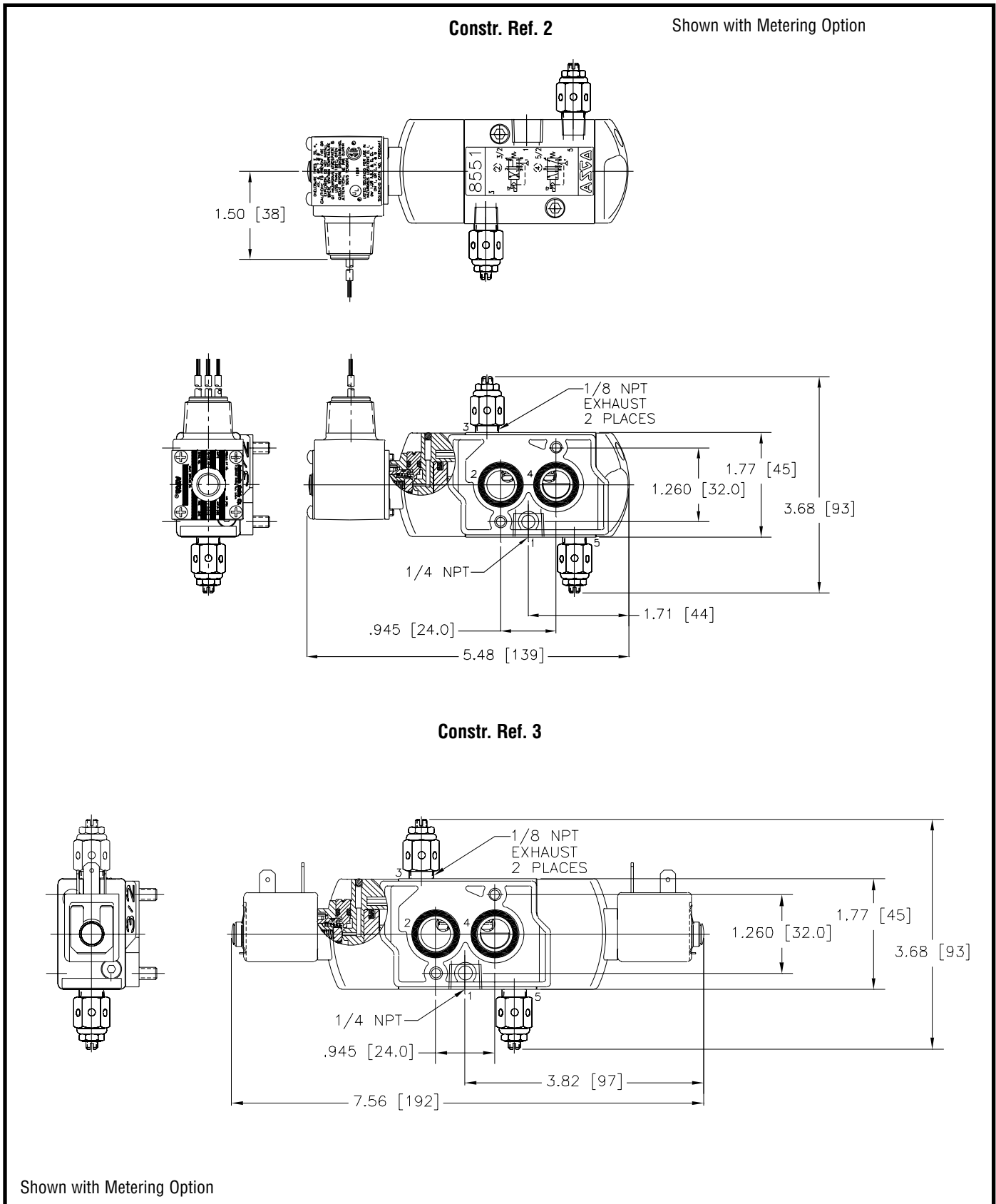
Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Pilot Pressure (bars)		Fluid Temperature °C (for single and dual solenoid)			Single Solenoid		Dual Solenoid		Watt Rating/ Class of Coil Insulation		
			Minimum	Maximum	Minimum	Maximum AC	Maximum DC	Catalog Number	Constr. Ref. No.	Catalog Number	Constr. Ref. No.	AC	DC	
<b>OPEN FRAME DIN COIL</b>														
1/4	6.4	.6	2	10	-15	60	60	SC8551A1MS	1	SC8551A2MS	3	2.5	3	
<b>WATERTIGHT ENCLOSURE</b>														
1/4	6.4	.6	2	10	-15	40	25	WT8551A1MS	2	WT8551A2MS	4	6.3	6.9	
<b>EXPLOSIONPROOF ENCLOSURE</b>														
1/4	6.4	.6	2	10	-15	40	25	EF8551A1MS	2	EF8551A2MS	4	6.3	6.9	
<b>Note:</b> 1/8 inch NPT exhausts.														

Dimensions: inches (mm)

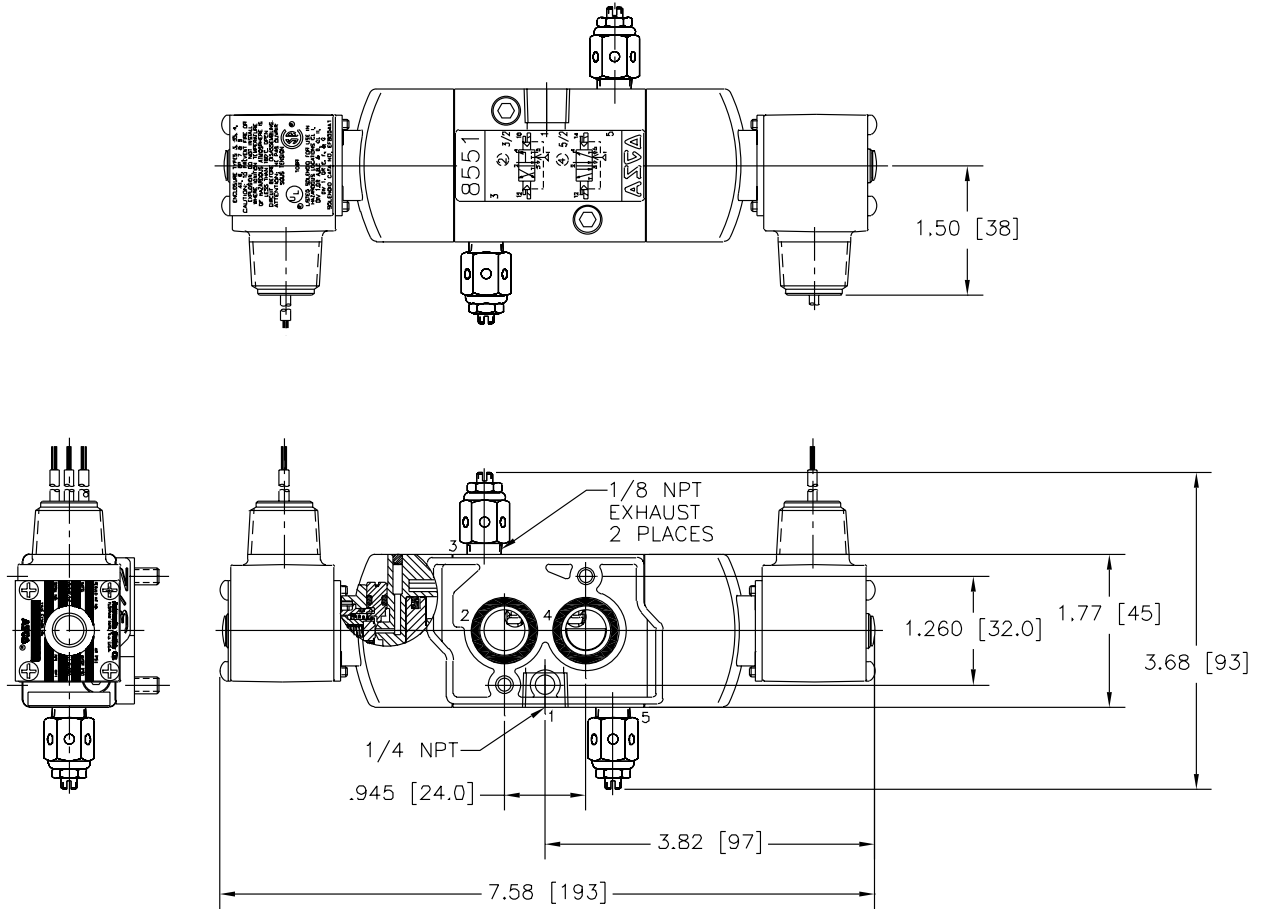


Dimensions: inches (mm)



Dimensions: inches (mm)

Constr. Ref. 4



Shown with Metering Option

# AAEAA21110 Limit Switch



NEMA 4



NEMA 7

## No Other Limit Switch Has This Much Experience With Valve Position and Control Indication.



### Easy "Set and Forget" Cam Design

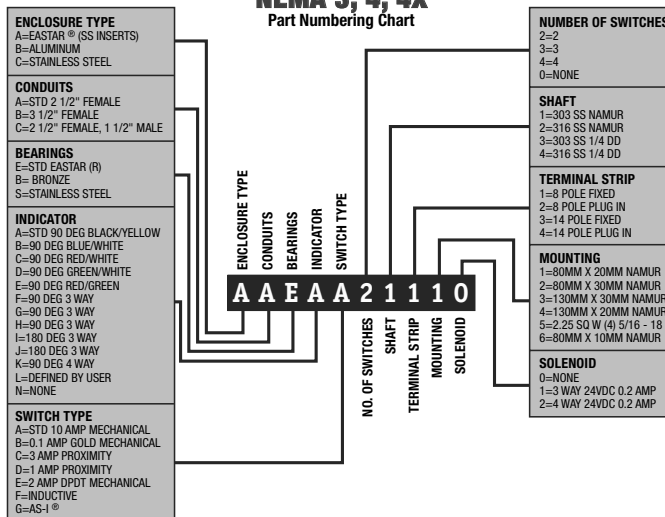
This patented setting system uses no mechanical devices (springs or screws) for adjustment. Senitec utilizes a unique internal leaf spring design, which precisely positions and **LOCKS** on to a splined shaft, which prevents calibration and life cycle inaccuracies. When needed, the cam system is easily adjusted using no tools.

### Switches

All switch configurations, mechanical, inductive, SPDT, DPDT, SPDT hermetically sealed proximity sensors, solenoid valves and analog feedback. Mechanical Switches 10 amp SPDT as standard, enclosed on a PCB board with no exposed wiring. Also available are .100 amp and gold plated SPDT switches for low power and intrinsically safe applications.



## NEMA 3, 4, 4X Part Numbering Chart



### Introducing the "PrE2" Proximity Sensor

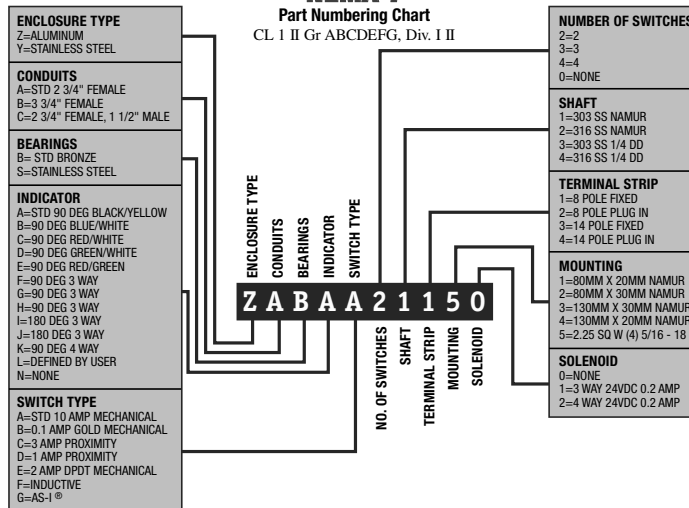
Encased in a Sentar housing and epoxy Acralite hermetically sealed, the "PrE2" proximity sensor provides the industry's foremost protection from moisture, shock and corrosive environments and electronic spikes that damage and shorten the life cycle capability of traditional PIDs. When accuracy, performance and reliability are critical, the Senitec "PrE2" provides the answer.



### Easy Wire Termination

Space for the most difficult installations.

## NEMA 7 Part Numbering Chart





Dual Display Monitor with Beacon® and TouchSet® Cams

## AccuTrak® 2000

### General Purpose/Explosionproof

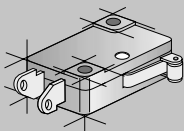
#### High Visibility Position Monitoring

The AccuTrak 2000 is designed to enable the process engineer to add as much feedback from a control valve as the situation requires. The NEMA 4, 4x, 7, 9 rated aluminum enclosure is equipped with two mechanical switches and a Beacon high visibility monitor for instant recognition of valve position up to distances of 150 feet. A unique self-locking, spring-loaded TouchSet cam mechanism allows for instantaneous hand setting of limit switches requiring only five seconds each. A pre-wired numbered and color coded terminal block provides ease and convenience of wiring. Optional analog transmitters provide full

range monitoring of valve position throughout a 0-100% range. Point to point limit switch signalling combined with continuous on-site visual monitoring and optional analog output are all available in one compact UL/CSA enclosure.



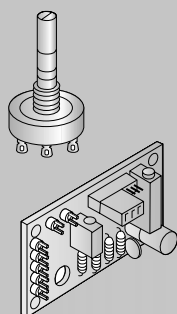
#### Standard Sensor Options



#### Micro-Switch V3

AMPS	SPDT (V3)		DPDT (Licon)	
	VAC	VDC	AMPS	VAC
15	125		10	125
15	250		10	250
10		24		
.50		125		
.25		250		

#### 0-100% Position Transmission



#### Resistive Output Signal

Standard Output Signal	1000 ohms
Power Rating at 70°C	1 watt
Elements	Conductive Plastic
Rotational Life (no load)	100,000 cycles

#### Current Output Signal

Standard Output Signal	4-20 mA DC, 2 wire
Power Requirements	5-38 VDC
Max. Load Resistance at 24 VDC	950 ohms
Operating Temperature	-24°C to 85°C

BULLETIN NO. AR-13.00

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# AccuTrak® 2000

## AREA CLASSIFICATIONS

**NEMA 4, 4x, 7, 9**  
**Class I, Groups C, D**  
**Class II, Groups E, F, G,**  
**Divisions 1 & 2**

## ENCLOSURE

Conduit NEMA 4: (1) 1/2" NPT  
 Entries NEMA 4, 4x, 7, 9: (2) 3/4" NPT  
 Terminal 8 contacts standard  
 Strip 16 contacts available

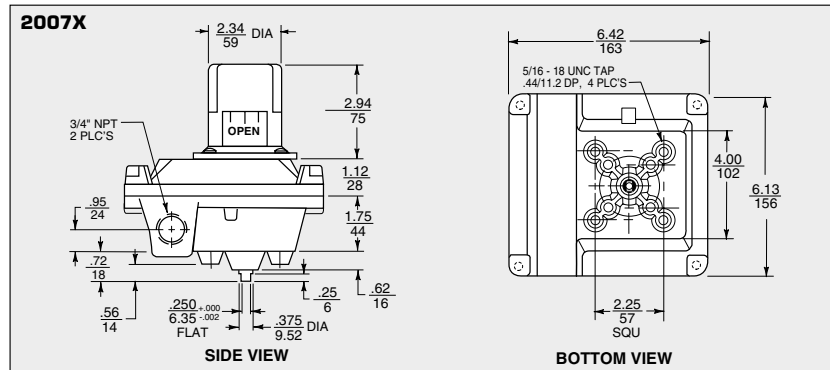
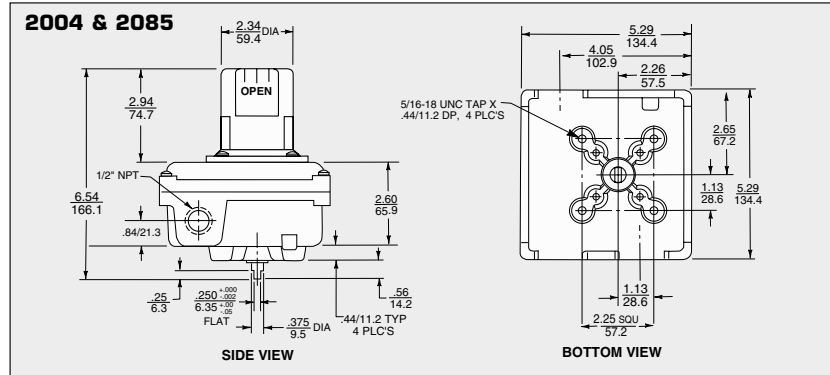
## MATERIALS OF CONSTRUCTION

Housing	Die Cast Aluminum
Cover	Die Cast Aluminum
Coating	Polyurethane
Shaft	Stainless Steel
Fasteners	Stainless Steel
Beacon	Copolyester

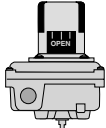

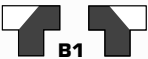

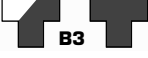
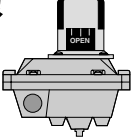

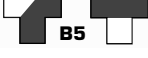




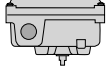
## APPROVALS / CERTIFICATION

**UL** (Underwriters Laboratories, Inc.)  
**CSA** (Canadian Standards Association)

## DIMENSIONS (inches / mm)



## ORDERING GUIDE

ENCLOSURE	BEACON™	3-WAY BEACON™	TRANSMITTERS
<b>2004</b> 2 SPDT Mechanical Switches NEMA 4, 4x 	<b>STANDARD</b> (Black & Yellow) <b>BY</b> 	90° Rotation 	1000 ohms <b>RS</b>
	<b>ANSI YELLOW</b> (Inherently Hazardous) <b>AY</b> 	90° Rotation 	4-20 mA <b>CS</b>
<b>2007X</b> 2 SPDT Mechanical Switches NEMA 4, 4x, 7, 9 Class I, Grps. C & D Class II, Grps. E, F & G Divisions 1 & 2 	<b>ANSI GREEN</b> (Liquid-Low Hazard) <b>AG</b> 	90° Rotation 	
	<b>ANSI BLUE</b> (Gas-Low Hazard) <b>AB</b> 	180° Rotation 	
	<b>ANSI RED</b> (Fire Quenching) <b>AR</b> 	180° Rotation 	
<b>2085</b> 2 SPDT Mechanical Switches NEMA 4, 4x  <p>No output shaft (cannot accept beacon)</p>			

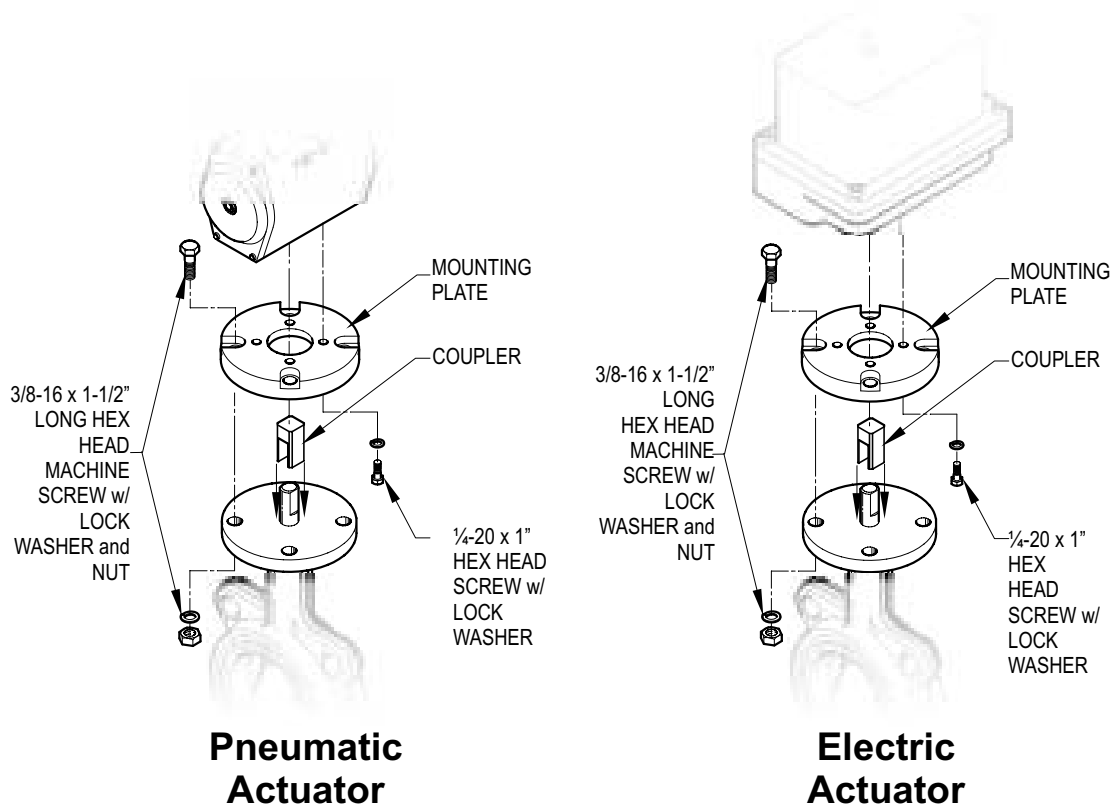
**Ordering Example:** Dual Display Monitor (2 SPDT switches) with standard black and yellow Beacon, 1000 K potentiometer (NEMA-4 enclosure). **2004-BY-RS**

**Options Available:** 4 SPDT switches (2007X only), 2 DPDT switches, epoxy coatings, anodizing, gold alloy contacts, optional terminal strips, resistive outputs. (Consult Price Sheet)

Westlock reserves the right to change product designs and specifications without notice, and is not responsible for errors and omissions.



# Actuator Mounting Plate Kit



This kit is intended to provide a secure and stable mounting surface for the valve actuator. The mounting plate must be attached to the actuator first and then to the valve .

Use only fastening hardware and coupler provided.

1- Pneumatic actuators are normally shipped in the closed position. Electric actuators, on the other hand are shipped in the open position. Check to assure valve and actuator are in the same position. (NOTE: Actuators are normally mounted in line with flow. As shown in illustration.)

2- Attach the *mounting plate* to the actuator first using the 1/4-20 x 1.0" long hex head screws.

3- The *coupler* is required for an effective connection between the valve stem and actuator. It must be in place for the assembly to be complete.

4- Attach the *mounting plate / actuator* sub-assembly to the valve with the 3/8-16 x 1-1/2" long hex head screws as shown.

5- Cycle the final assembled unit to assure proper operation.

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