



MORIN

Stainless steel spring return and double acting pneumatic quarter-turn actuators Output torques to 240,000 lb.in.

Features and benefits

- Innovative stainless steel construction as standard provides superior corrosion resistance both internally and externally.
- Scotch yoke design using precision bearings eliminates dead band in the yoke mechanism, providing the greatest torque output at the beginning and end of stroke.
- Heat-treated stainless steel thrust pin and rollers transfer piston force to 17-4PH stainless steel yoke by rolling to reduce friction, for longer life and more efficient torque transmission.
- Bi-directional travel stops provide accurate valve rotation adjustment.
- PTFE piston bearings, piston rod bushings and output shaft bushings provide longer life, reduce maintenance, and require no lubrication.
- Universal design position indicator and pointer allows for either parallel or perpendicular mounting.
- Stainless steel construction allows proximity switches to be direct-mounted in the actuator housing, eliminating the need to mount bracket and cam assemblies on top of the actuator.
- NAMUR drive slot allows mounting of accessories closer to the actuator, resulting in a more compact, precise assembly, and eliminates the need for coupling.
- Spring return model design requires no special tools to safely and easily disarm the spring in the field, reducing down time and providing a 'man safe' spring.



General applications

For remote control of any quarter-turn application: ball, butterfly, rotary plug or damper style valves, etc. To be used in chemical process, food and beverage, iron and steel, off-shore marine, pharmaceutical, power, oil and gas, pulp and paper, and textile industries.

Technical data

Supply pressure	: 40 to 160 psig (see torque charts MORMC-0333)
Supply medium	: Air or any gas compatible with materials of construction
Temperature rating	
Standard range	: -20°F to 210°F
Optional range	: -65°F to 300°F
Angular rotation	: 90 degrees ± 8 degrees

Morin series S actuator

Morin has a heart of stainless steel

Morin stainless steel yoke

The heart of any scotch yoke actuator is the yoke. Morin uses 17-4PH stainless for this critical area as standard.

The yoke is the mechanism used to convert linear force to torque. This area is most often where the life of the actuator is controlled.

Principles of construction

Using high quality materials of construction and modern rugged design concepts Morin becomes the standard for low cost valve actuation while providing high quality performance.

The S actuator housings are all machined from 316 stainless steel castings. This produces a rugged, low cost product through reduced machining time and by eliminating wasteful excess material.

Any components that rotate or slide during operation, such as the high strength stainless steel output shaft, stainless steel piston rod, stainless steel thrust pin or the stainless steel piston, are all supported by replaceable friction reducing bearings.

Bi-directional travel stops

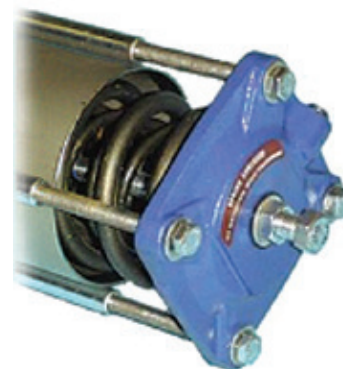
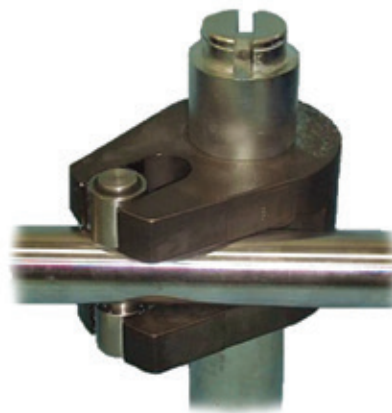
Adjustable stops on each end cap provide the flexibility of accurate valve rotation positioning at the end of the 'open' and 'close' stroke. Both stops are located on the cylinder centerline, the optimal position to maximize travel adjustment and eliminate any detrimental side loading on the travel stops. Adjustable from 82° to 98°.

Ingress protection

Actuator meets IP66 and IP67 for standard units.

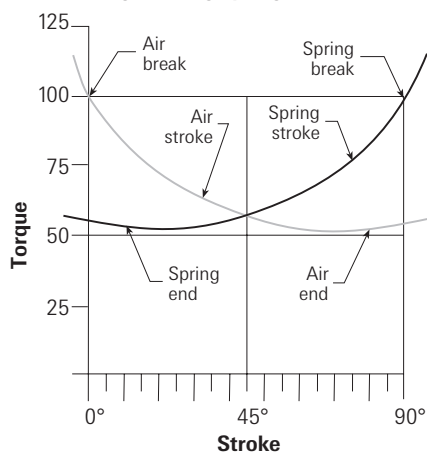
Spring designed for safety

All spring return models incorporate a 'man-safe' spring design that allows the actuator to be safely assembled and disassembled in the field without the need for special tools. The integral tie rods are bored and tapped to provide a means of loading and unloading the spring in a safe and convenient manner.

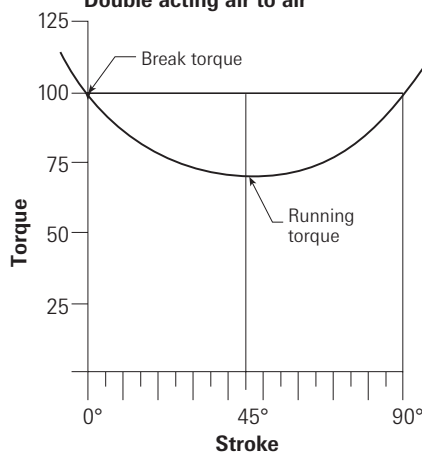


Scotch yoke torque characteristics

Single acting spring return



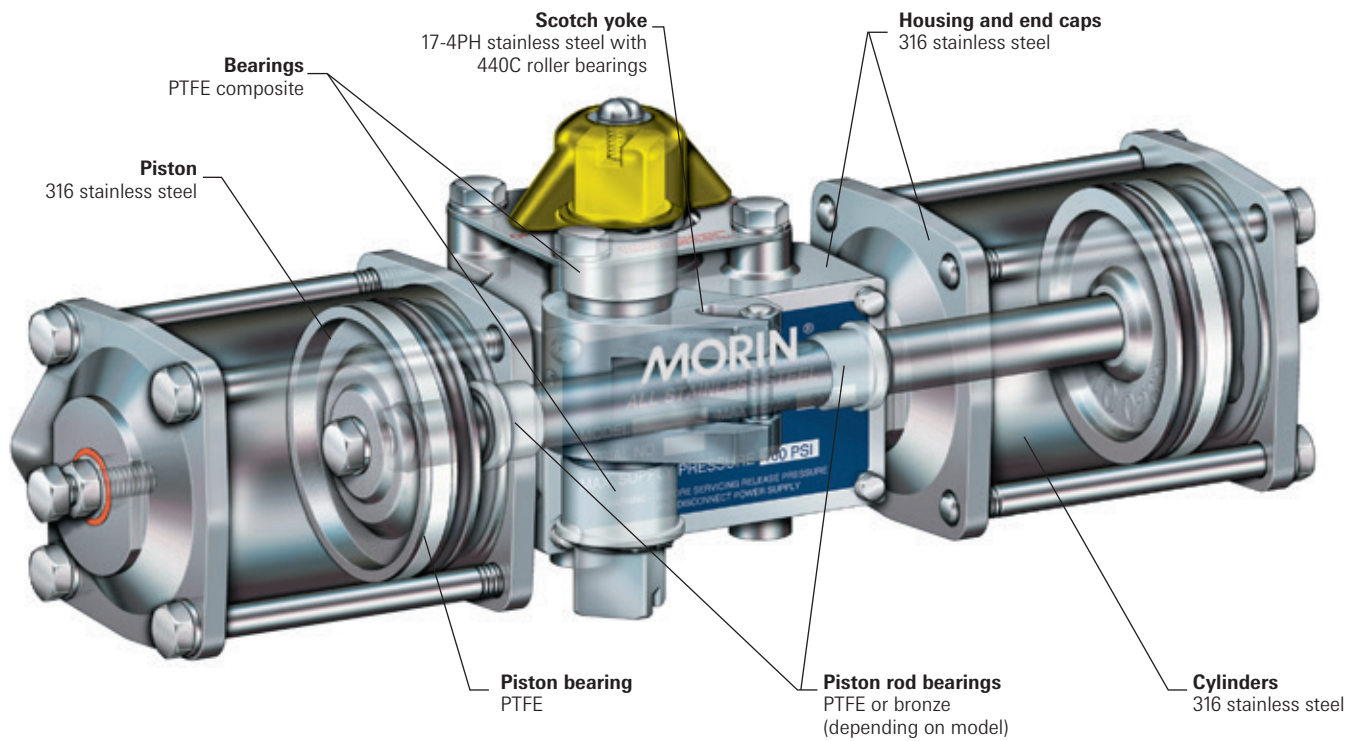
Double acting air to air



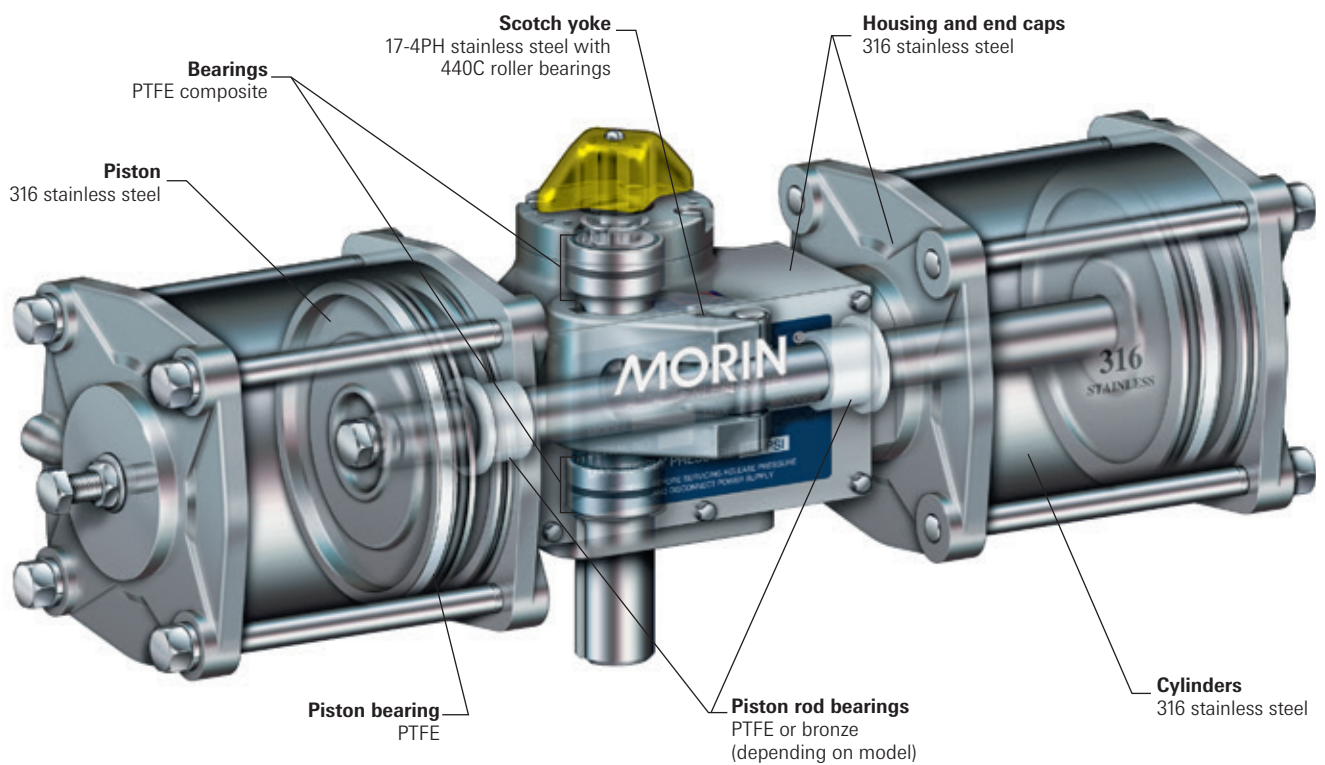
Available options

- Jackscrew override
- Hydraulic override
- Full stroke adjustment
- Proximity preparation
- Lockout device
- Partial stroke test

Double acting - Models 003 to 100

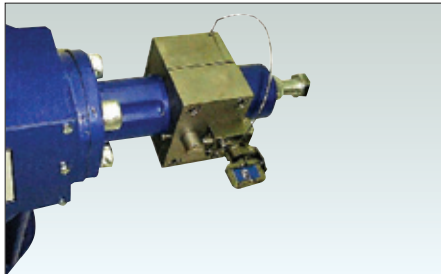


Double acting - Models 135 to 1150



Manual options

To provide the actuation package best suited for your application, the Morin line offers a full range of manual accessories.



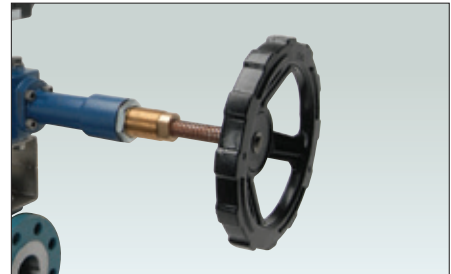
Partial stroke test device (PSTD)

Provides a method of testing ESD packages without shutdown.



Lockout

Integral lockout allows safe shutdowns for maintenance and isolation of systems.



Jackscrew override (JSO)

Manual operation when power is lost. Simple and effective.



Hydraulic override (MHP)

Manual operation when power is lost. Includes speed controls.



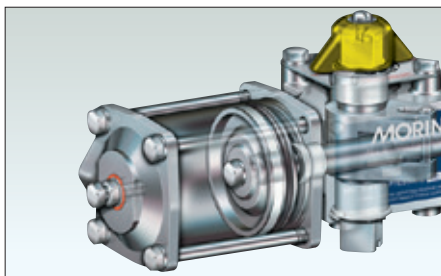
AWWA

Tested per American Waterworks Association C540. Available for pneumatic or water service operation.



Direct mounting cast adapters

Many valve top works covered, including some ISO mounting. Assures economic but correct mounting alignment.



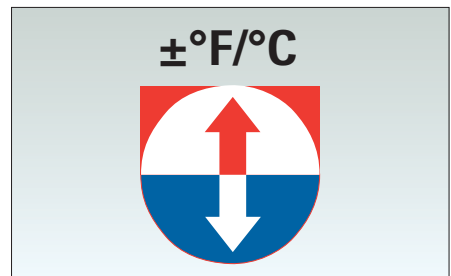
Full stroke adjuster

Provides mechanical control of maximum and/or minimum valve stroke.



Proximity switch preparation

Allows installation of cartridge style proximity switches. Leaves top works open for mounting of other devices.



High or low temperature ratings

Standard rating of -20°F to 210°F [-29°C to 99°C] covers most applications. Optional ratings down to -65°F [-54°C] and up to 300°F [149°C].

Notes

- Air consumption:
Cubic inches shown in chart represent actual free air volume in cylinder between piston and end cap when furthest apart. Air consumption will vary depending on supply pressure. To determine standard cubic feet per minute use the following formula:

$$\left(\frac{\text{Vol. in}^3}{1728} \right) \left(\frac{\text{Supply air barg} + 14.7}{14.7} \right) \left(\text{Strokes/min} \right)$$

Example: Calculate SCFM for model 023 double acting using 80 psig air supply and 5 strokes/minute.

$$\text{SCFM} = \left(\frac{45}{1728} \right) \left(\frac{80 + 14.7}{14.7} \right) \left(5 \right) \text{ SCFM} = 0.97$$

- Cycle times shown represent average time to stroke 90 degrees using standard pilot valves and should be used as a guide only. Cycle times can be increased or decreased dramatically by using speed controls, oversized pilot valves or quick exhaust valves.

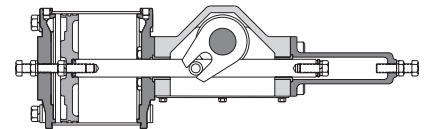
Mechanical data

Actuator model	Number of pistons	Cylinder bore (inch)	Stroke (inch)	Volume ¹ (cubic in) 90° stroke	Cycle time ² (seconds) 90° stroke	Weight (lbs.)
Double acting						
003	1	2.250	1.5	6	0.3	5
006	1	2.750	2	12	0.5	10
012	2	2.750	2	23	0.7	12
023	1	4.375	3	45	1.0	27
036	1	5.438	3	70	1.5	30
050	1	6.250	3	92	2.2	36
072	2	5.438	3	137	2.5	37
100	2	6.250	3	182	3.0	46
135	1	8.250	5	267	4.5	165
210	1	10.250	5	413	5.0	185
270	2	8.250	5	526	6.0	210
370	1	12.250	6	707	8.0	390
420	2	10.250	5	816	8.5	257
575	1	15.500	6	1132	9.5	519
740	2	12.250	6	1395	10.0	530
1150	2	15.500	6	2245	12.0	775
1480	2	12.250	12	2744	20.0	850
2380	2	15.500	12	4444	24.0	1050

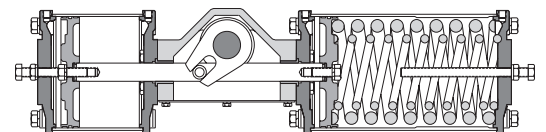
Spring return

003	1	2.250	1.5	6	0.3	6
006	1	2.750	2	12	0.5	11
012	2	2.750	2	23	0.7	14
023	1	4.375	3	45	1.0	34
036	1	5.438	3	70	1.5	42
046	2	4.375	3	88	2.0	43
072	2	5.438	3	137	2.5	55
100	2	6.250	3	182	3.0	64
135	1	8.250	5	267	4.5	210
210	1	10.250	5	413	5.0	235
270	2	8.250	5	526	6.0	250
370	1	12.250	6	707	8.0	540
420	2	10.250	5	816	8.5	379
575	1	15.550	6	1132	9.5	779
740	2	12.250	6	1395	10.0	704
1150	2	15.550	6	2245	12.0	1082
1480	2	12.250	12	2744	20.0	1650
2380	2	15.500	12	4444	24.0	1850

Typical section - double acting/one piston



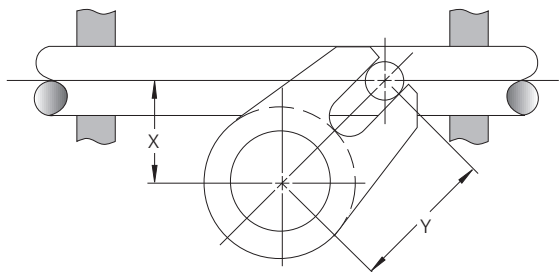
Typical section - spring return/two pistons



Morin series S actuator

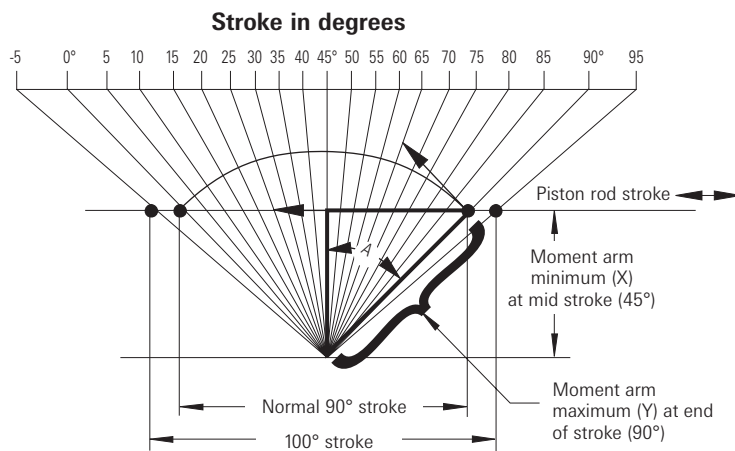
Output torques

Scotch yoke mechanics



X = Min. moment arm
Y = Max. moment arm

Conclusion: Greatest torque output is at beginning and end of stroke-where it's needed!



For moment arm length at any stroke position multiply min. moment arm by $1/\cos A$.

Output torques (lb. in.) double acting - air to air

Actuator model		Air supply (psig)												
		40	50	60	70	80	90	100	110	120	130	140	150	160
003	Start / End	173	219	259	305	345	391	431	472	518	—	—	—	—
	Minimum	110	140	165	190	220	250	280	310	330	—	—	—	—
006	Start / End	300	375	450	525	600	675	750	825	900	975	1050	1125	1200
	Minimum	235	290	350	405	460	520	575	640	690	750	810	870	940
012	Start / End	690	863	1035	1208	1380	1553	1725	1898	2070	—	—	—	—
	Minimum	470	580	700	810	940	1050	1170	1275	1405	—	—	—	—
023	Start / End	1150	1450	1725	2010	2300	2585	2875	3160	3450	3740	4020	4300	4600
	Minimum	855	1070	1285	1500	1710	1925	2140	2350	2570	2780	3000	3210	3420
036	Start / End	1980	2475	2970	3465	3960	4455	4950	5445	5940	6435	6930	7425	7920
	Minimum	1370	1710	2055	2400	2740	3080	3425	3770	4110	4450	4800	5140	5480
050	Start / End	2500	3125	3750	4375	5000	5630	6250	6875	7500	8125	8750	9375	10000
	Minimum	1840	2300	2760	3220	3680	4140	4600	5060	5520	5980	6440	6900	7360
072	Start / End	3960	4950	5940	6930	7920	8910	9900	10780	11880	—	MAXIMUM OPERATING PRESSURE = 120 psi		
	Minimum	2740	3425	4110	4790	5480	6160	6850	7540	8220	—			
100	Start / End	5000	6250	7500	8750	10000	—	—	MAXIMUM OPERATING PRESSURE = 100 psi					
	Minimum	3680	4600	5520	6440	7360	—	—						
135	Start / End	7088	8862	10631	12406	14175	15950	17724	19488	21263	23037	24812	26576	28350
	Minimum	5250	6565	7875	9185	10500	11810	13125	14440	15750	17060	18375	19690	21000
210	Start / End	11550	14438	17325	20213	23100	25988	28875	31763	34650	37538	40425	43313	46200
	Minimum	8160	10200	12240	14280	16320	18360	20400	22440	24480	26520	28560	30600	32640
270	Start / End	14175	17719	21263	24806	28350	31894	35438	38981	42525	—	—	—	—
	Minimum	10500	13125	15750	18375	21000	23625	26250	28875	31500	—	—	—	—
370	Start / End	19795	24744	29693	34641	39590	44539	49488	54436	59385	64334	69283	74231	79180
	Minimum	13080	16350	19620	22890	26160	29430	32700	35970	39240	42510	45780	49050	52320
420	Start / End	21000	26250	31500	36750	42000	—	—	—	—	—	—	—	—
	Minimum	16320	20400	24480	28560	32640	—	—	—	—	—	—	—	—
575	Start / End	31913	39849	47869	55833	63825	71806	79781	87757	95738	103718	111694	119669	127650
	Minimum	22440	28050	33660	39270	44880	50490	56100	61710	67320	72930	78540	84150	89760
740	Start / End	38850	48563	58275	67988	77700	87413	97125	106838	116550	MAXIMUM OPERATING PRESSURE = 120 psi			
	Minimum	26160	32700	39240	45780	52320	58860	65400	71940	78480				
1150	Start / End	60375	75469	90563	105656	120750	—	—	—	—	MAXIMUM OPERATING PRESSURE = 120 psi			
	Minimum	44880	56100	67320	78540	89760	—	—	—	—				
1480	Start / End	74000	92500	111000	129500	148000	166500	185000	203500	222000	MAXIMUM OPERATING PRESSURE = 120 psi			
	Minimum	46621	58276	69931	81586	93242	104897	116552	128207	139862				
2380	Start / End	119000	148750	178500	208250	238000	—	—	—	—	MAXIMUM OPERATING PRESSURE = 120 psi			
	Minimum	75506	94383	113259	132136	151013	—	—	—	—				

See www.morinact.com for complete torque book.

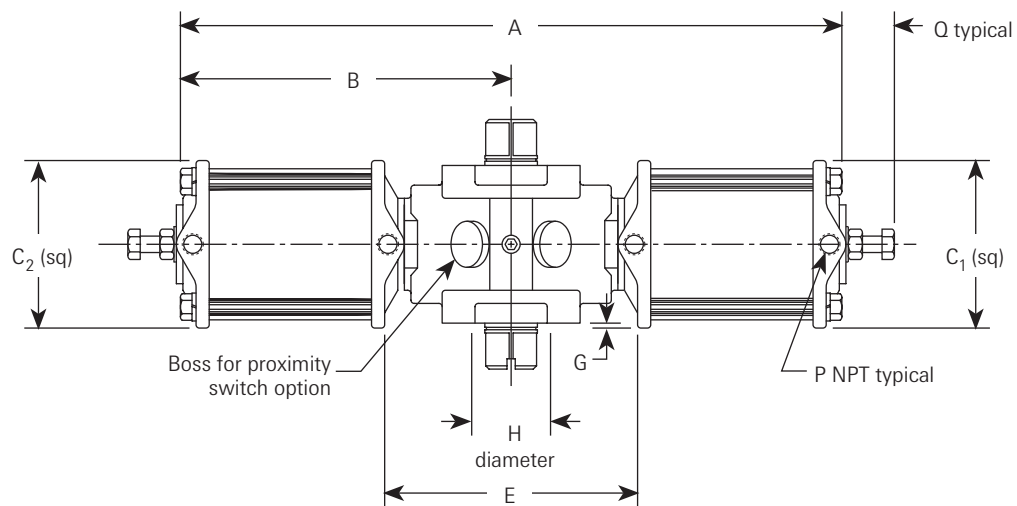
Morin series S actuator

Output torques

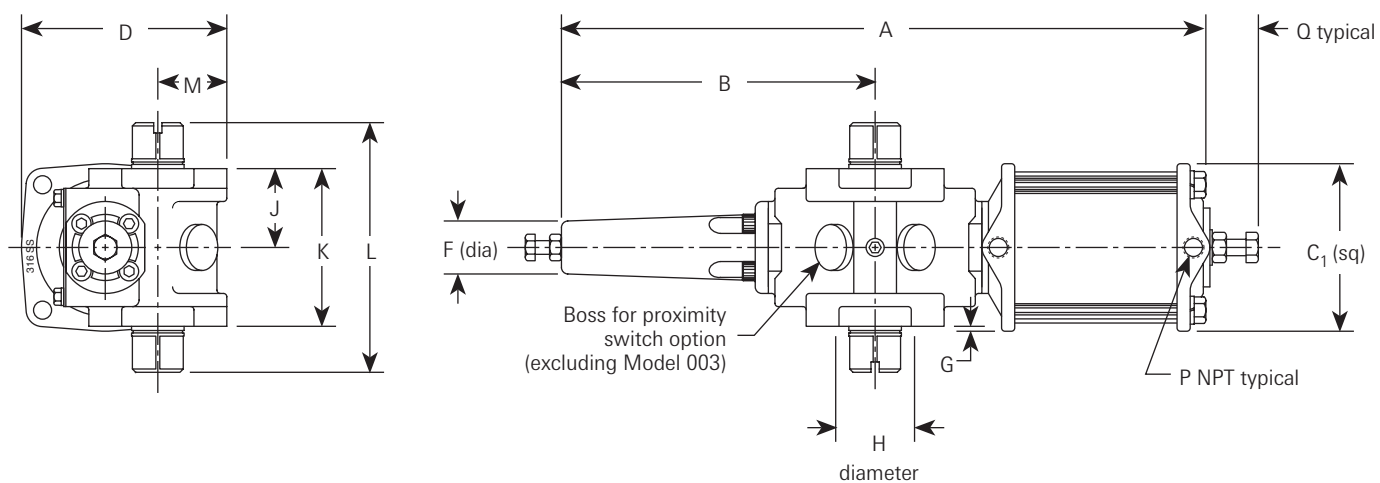
Output torques (lb. in.) single acting - spring return														
Actuator model		Air supply (psig)												
		40	50	60	70	80	90	100	110	120	130	140	150	160
003	Start	110	135	160	185	210	—	—	—	—	—	—	—	—
	Minimum	50	63	72	86	95	—	—	—	—	—	—	—	—
	End	55	70	80	95	105	—	—	—	—	—	—	—	—
006	Start	195	245	290	340	390	—	—	—	—	—	—	—	—
	Minimum	99	123	151	175	199	—	—	—	—	—	—	—	—
	End	110	137	168	194	221	—	—	—	—	—	—	—	—
012	Start	390	485	585	680	780	—	—	—	—	—	—	—	—
	Minimum	208	263	312	366	416	—	—	—	—	—	—	—	—
	End	231	292	347	407	462	—	—	—	—	—	—	—	—
023	Start	750	945	1125	1305	1500	1680	1870	—	2250	—	2615	—	3000
	Minimum	360	459	540	635	720	815	905	—	1080	—	1269	—	1440
	End	400	510	600	705	800	905	1005	—	1200	—	1410	—	1600
036	Start	1170	1460	1755	2050	2340	2630	2925	—	3510	3880	4095	—	4700
	Minimum	567	711	855	990	1134	1274	1418	—	1701	1880	1985	—	2250
	End	630	790	950	1100	1260	1415	1575	—	1890	2090	2205	—	2500
046	Start	1500	1870	2250	2615	3000	—	—	—	—	—	—	—	—
	Minimum	720	905	1080	1269	1440	—	—	—	—	—	—	—	—
	End	800	1005	1200	1410	1600	—	—	—	—	—	—	—	—
072	Start	2340	2925	3510	4095	4700	—	—	MAXIMUM OPERATING PRESSURE = 100 psi					
	Minimum	1134	1418	1701	1985	2250	—	—						
	End	1260	1575	1890	2205	2500	—	—						
100	Start	3250	4060	4880	5690	6500	—	—	MAXIMUM OPERATING PRESSURE = 100 psi					
	Minimum	1575	1971	2358	2754	3150	—	—						
	End	1750	2190	2620	3060	3500	—	—						
135	Start	4390	5485	6580	7680	8775	9875	10970	—	13160	—	15355	—	17550
	Minimum	2554	3186	3829	4466	5103	5740	6377	—	7657	—	8932	—	10206
	End	2838	3540	4254	4962	5670	6378	7086	—	8508	—	9924	—	11340
210	Start	6825	8530	10240	11940	13650	15350	17060	—	20475	—	23890	—	27300
	Minimum	3639	4544	5455	6366	7277	8187	9098	—	10915	—	12731	—	14553
	End	4043	5049	6061	7073	8085	9097	10109	—	12128	—	14146	—	16170
270	Start	8780	10970	13160	15355	17550	19746	21940	—	—	MAXIMUM OPERATING PRESSURE = 120 psi			
	Minimum	4683	5846	7019	8187	9356	10524	11693	—	—				
	End	5203	6496	7799	9097	10395	11693	12992	—	—				
370	Start	12025	15030	18040	21045	24050	27055	30060	—	36075	—	42090	—	48100
	Minimum	6701	9403	10050	11727	13404	15080	16757	—	20105	—	23453	—	26807
	End	7446	10448	11167	13030	14893	16756	18619	—	22339	—	26059	—	29785
420	Start	13650	17060	20475	23890	27300	30705	34120	—	—	—	—	—	—
	Minimum	6946	8685	10418	12153	13892	15630	17369	—	—	—	—	—	—
	End	7718	9650	11576	13503	15435	17367	19299	—	—	—	—	—	—
575	Start	18690	23360	28030	32700	37375	42045	46720	—	56060	—	65400	—	74750
	Minimum	9507	11888	14261	16642	19018	21390	23767	—	28530	—	33283	—	38037
	End	10563	13209	15845	18491	21131	23767	26408	—	31700	—	36981	—	42263
740	Start	24050	30060	36075	42090	48100	54108	60120	—	—	MAXIMUM OPERATING PRESSURE = 120 psi			
	Minimum	13404	16757	20105	23453	26807	30163	33514	—	—				
	End	14893	18619	22339	26059	29785	33514	37238	—	—				
1150	Start	37375	46720	56060	65400	74750	84090	93440	—	—	MAXIMUM OPERATING PRESSURE = 120 psi			
	Minimum	19018	23767	28530	33283	38037	42790	47534	—	—				
	End	21131	26408	31700	36981	42263	47544	52815	—	—				
1480	Start	48100	60125	72150	84175	96200	108225	120250	—	—	MAXIMUM OPERATING PRESSURE = 120 psi			
	Minimum	23310	29138	34965	40712	46620	52448	58275	—	—				
	End	25900	32375	38850	45235	51800	58275	64750	—	—				
2380	Start	77350	96688	116025	135363	154700	174038	193375	—	—	MAXIMUM OPERATING PRESSURE = 120 psi			
	Minimum	37485	46857	56228	65599	74970	84342	93713	—	—				
	End	41650	52063	62475	72888	83300	93713	104125	—	—				

Torque shown is balanced (i.e. spring ending = air ending torque). See Bulletin No. MUTC-0702 for unbalanced torque output.

Models 012, 046, 072, 100



Models 003, 006, 023, 036 and 050



Notes

1. Shown without pointer for clarity.
2. For mounting dimensions, refer to pages 12 and 13.

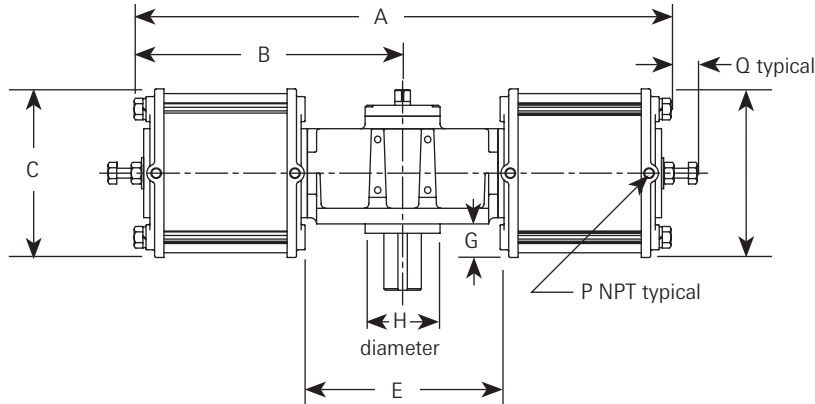
Dimensions (inches), double acting

Model	A	B	C ₁	C ₂	D	E	F	G	H	J	K	L	M	P	Q
003DA	9.06	3.50	2.69	—	3.06	—	0.75	—	1.00	1.37	2.75	3.25	1.00	1/8	0.62
006DA	12.34	5.97	3.18	—	3.91	—	1.00	0.10	1.38	1.50	3.00	4.75	1.31	1/8	1.00
012DA	12.74	6.37	3.18	3.18	3.91	4.81	—	0.10	1.38	1.50	3.00	4.75	1.31	1/8	1.00
023DA	18.60	8.81	4.81	—	5.78	—	1.43	0.25	1.75	2.16	4.31	6.69	1.88	1/4	1.15
036DA	18.48	8.81	5.81	—	6.28	—	1.43	0.75	1.75	2.16	4.31	6.69	1.88	1/4	1.25
050DA	18.49	8.81	7.13	—	6.94	—	1.43	1.41	1.75	2.16	4.31	6.69	1.88	1/4	1.25
072DA	19.33	9.67	5.81	5.81	6.28	6.38	—	0.75	1.75	2.16	4.31	6.69	1.88	1/4	0.83
100DA	19.35	9.68	7.12	7.12	6.94	6.38	—	1.41	1.75	2.16	4.31	6.69	1.88	1/4	0.75

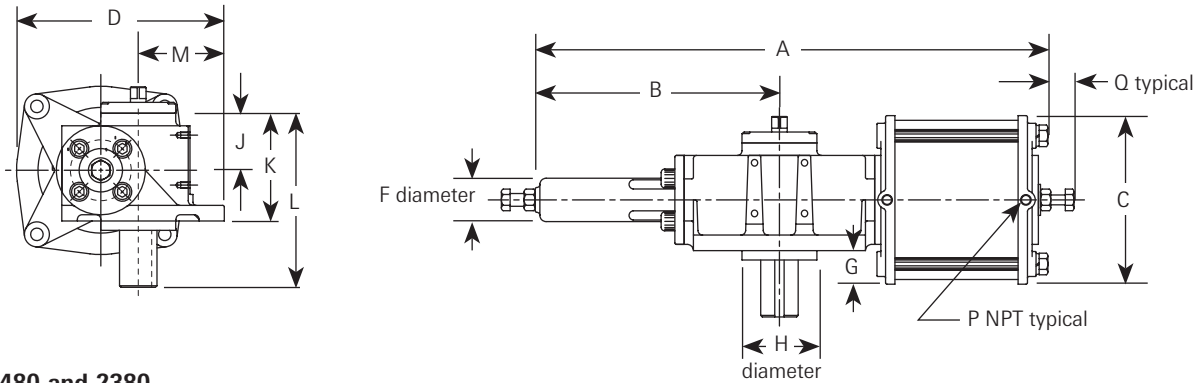
Dimensions (inches), spring return

Model	A	B	C ₁	C ₂	D	E	F	G	H	J	K	L	M	P	Q
003SR	9.06	3.50	2.69	—	3.06	—	0.75	—	1.00	1.37	2.75	3.25	1.00	1/8	0.62
006SR	14.44	5.97	3.18	—	3.91	—	1.00	0.10	1.38	1.50	3.00	4.75	1.31	1/8	1.00
012SR	14.84	6.37	3.18	3.18	3.91	4.55	—	0.10	1.38	1.50	3.00	4.75	1.31	1/8	1.00
023SR	21.82	8.81	4.81	—	5.78	—	1.43	0.25	1.75	2.16	4.31	6.69	1.88	1/4	1.25
036SR	23.51	8.81	5.81	—	6.28	—	1.43	0.75	1.75	2.16	4.31	6.69	1.88	1/4	1.25
046SR	22.80	9.79	4.81	4.81	5.93	6.24	—	0.25	1.75	2.16	4.31	6.69	1.88	1/4	1.25
072SR	24.37	9.67	5.81	5.81	6.28	5.99	—	0.75	1.75	2.16	4.31	6.69	1.88	1/4	1.25
100SR	24.38	9.68	7.12	7.12	6.94	5.99	—	1.41	1.75	2.16	4.31	6.69	1.88	1/4	1.25

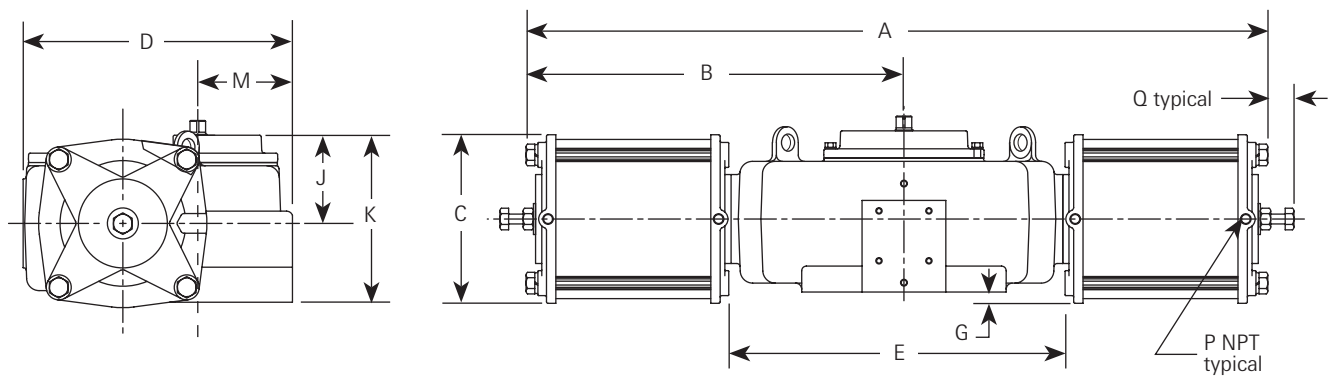
Models 270, 420, 740, and 1150



Models 135, 210, 370 and 575



Models 1480 and 2380



Notes

1. Shown without pointer for clarity.
2. For mounting dimensions, refer to pages 12 and 13.

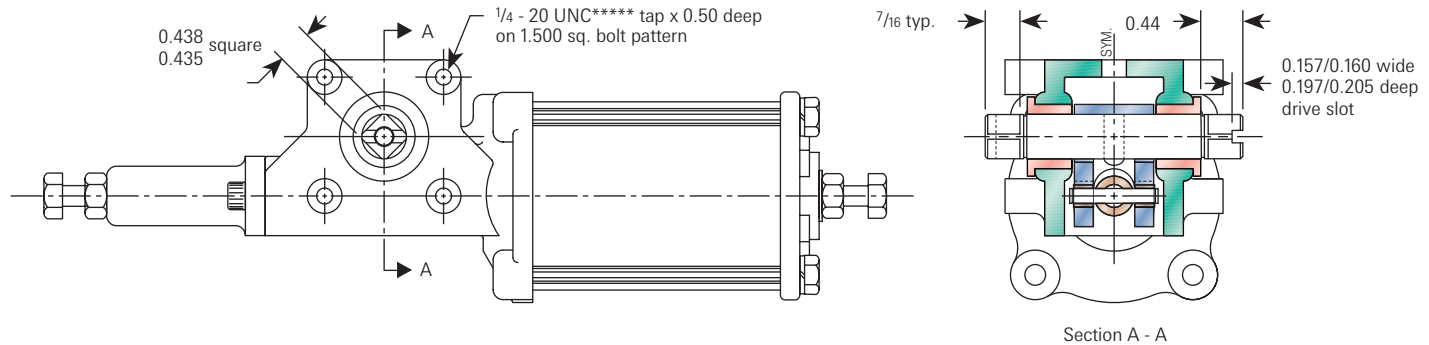
Dimensions (inches), double acting

Model	A	B	C	D	E	F	G	H	J	K	L	M	P	Q
135DA	32.87	15.88	9.50	10.44	—	2.75	1.00	—	4.38	8.13	11.82	3.19	3/8	1.50
210DA	33.26	15.88	11.50	11.44	—	2.75	2.00	—	4.38	8.13	11.82	3.19	1/2	2.00
270DA	33.99	16.99	9.50	10.44	11.72	—	1.00	—	4.38	8.13	11.82	3.19	3/8	1.50
370DA	41.64	19.75	13.50	16.75	—	3.50	2.69	6.00	5.44	9.50	14.81	6.88	1/2	1.50
420DA	34.75	17.38	11.50	11.44	11.22	—	2.00	—	4.38	8.13	11.82	3.19	1/2	1.75
575DA	42.42	19.75	17.00	18.50	—	3.50	4.50	6.00	5.44	9.50	14.81	6.88	3/4	2.00
740DA	44.15	20.07	13.50	16.75	15.50	—	2.69	6.00	5.44	9.50	14.81	6.88	1/2	1.50
1150DA	45.39	22.69	17.00	18.50	14.88	—	4.50	6.00	5.44	9.50	14.81	6.88	3/4	1.85
1480DA	70.65	35.85	13.50	21.57	26.94	—	0.44	—	7.06	13.38	—	7.58	1/2	2.15
2380DA	88.29	36.51	17.00	22.08	25.06	—	2.19	—	7.06	13.38	—	7.58	3/4	2.50

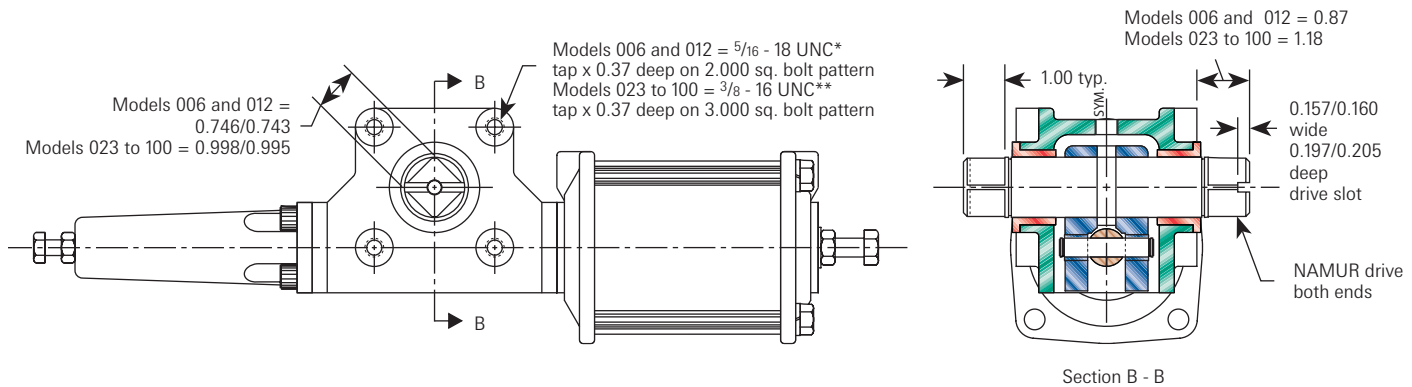
Dimensions (inches), spring return

Model	A	B	C	D	E	F	G	H	J	K	L	M	P	Q
135SR	39.46	15.88	9.50	10.44	—	2.75	1.00	—	4.38	8.13	11.82	3.19	3/8	1.75
210SR	42.67	15.88	11.50	11.44	—	2.75	2.00	—	4.38	8.13	11.82	3.19	1/2	2.12
270SR	40.57	16.99	9.50	10.44	10.95	—	1.00	—	4.38	8.13	11.82	3.19	3/8	1.75
370SR	52.00	19.75	13.50	16.75	—	3.50	2.69	6.00	5.44	9.50	14.81	6.88	1/2	1.75
420SR	44.17	17.38	11.50	11.44	10.36	—	2.00	—	4.38	8.13	11.82	3.19	1/2	2.12
575SR	54.25	19.75	17.00	18.50	—	3.50	4.50	6.00	5.44	9.50	14.81	6.88	3/4	2.50
740SR	53.96	22.07	13.50	16.75	14.75	—	2.69	6.00	5.44	9.50	14.81	6.88	1/2	2.12
1150SR	57.25	22.69	17.00	18.50	13.75	—	4.44	6.00	5.44	9.50	14.81	6.88	3/4	2.50
1480SR	86.98	35.85	13.50	21.57	26.30	—	0.44	—	7.06	13.38	—	7.58	1/2	2.50
2380SR	88.29	36.51	17.00	22.08	25.10	—	2.19	—	7.06	13.38	—	7.58	3/4	2.50

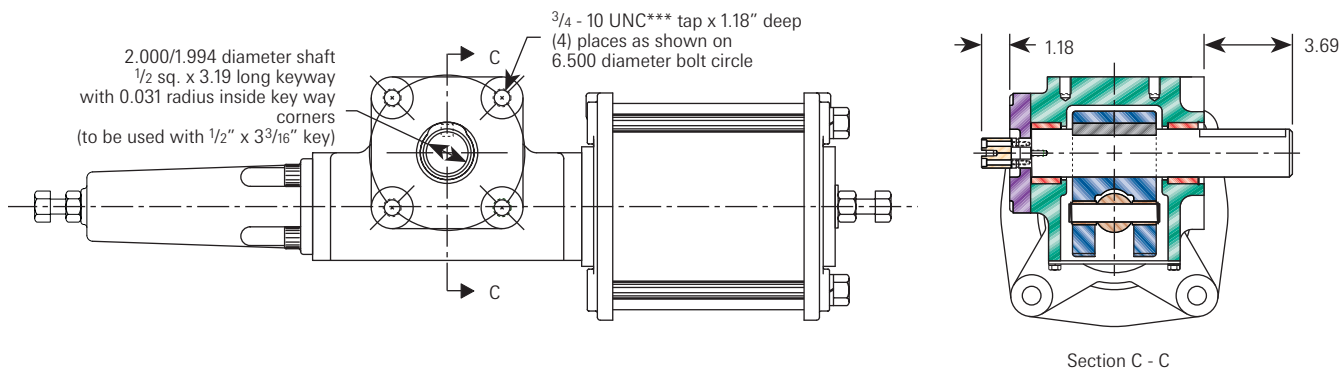
Model 003 - Top and bottom of housing (symmetrical)



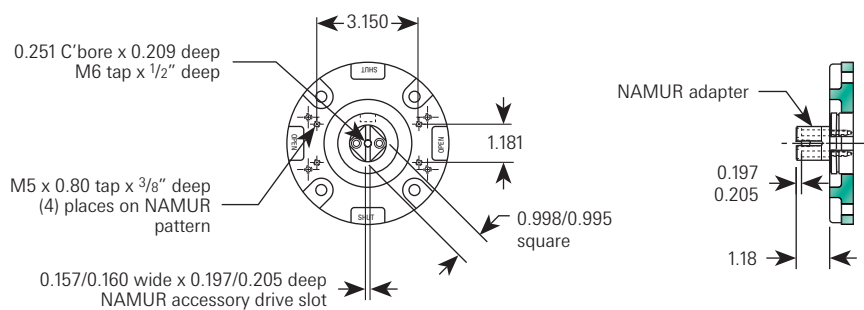
Models 006 to 100 and 144 - Top and bottom of housing (symmetrical)



Models 135, 210, 270 and 420 - Bottom of housing ISO 5211-F16



Models 135, 210, 270 and 420 - Top of housing - Mounting details

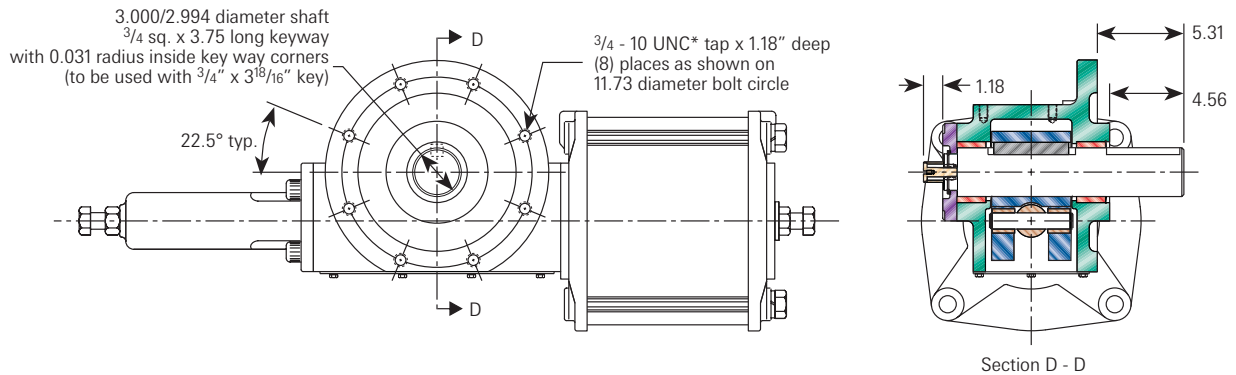


Metric thread option

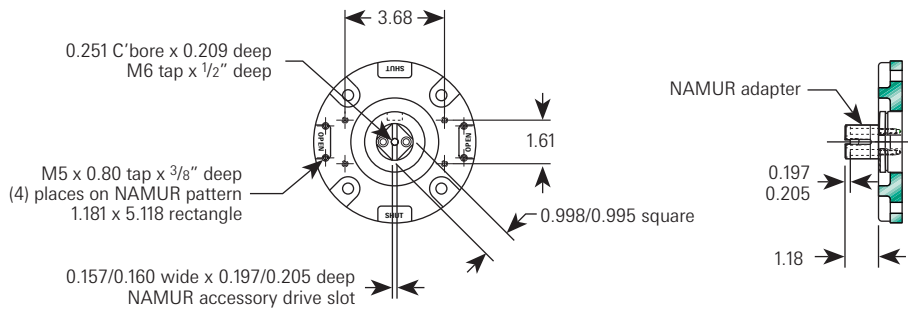
Standard tap	Model number
* M8	006 and 012
** M10	023 to 100
*** M20	135 to 1150
***** M6	003

Replace 'U' with 'M' in order number designation (refer to page 6).

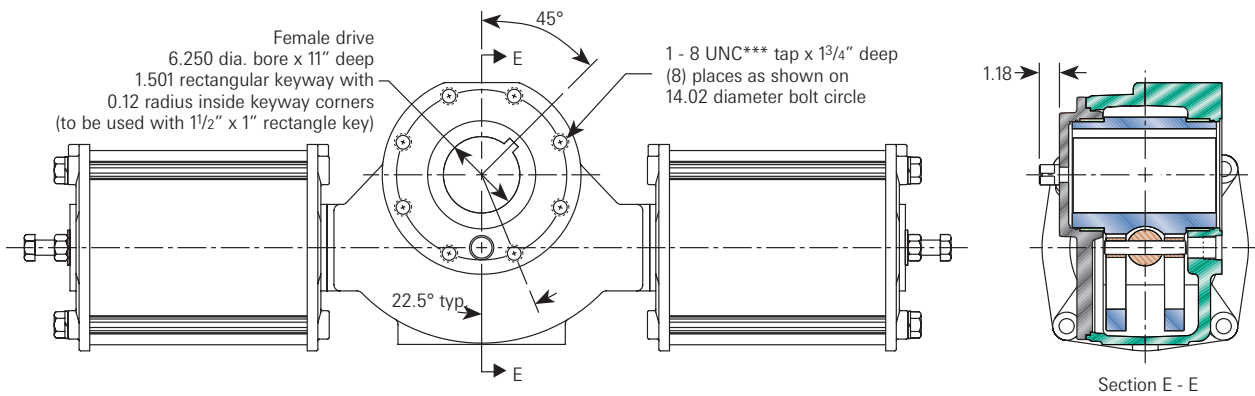
Models 370, 575, 740 and 1150 - Bottom of housing ISO 5211-F30



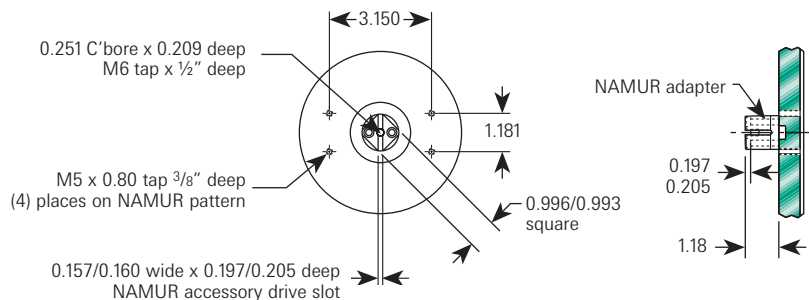
Models 370, 575, 740 and 1150 - Top of housing - Mounting details



Models 1480 and 2380 - Bottom of housing ISO 5211-F35



Models 1480 and 2380 - Top of housing - Mounting details



Metric thread option

Standard tap	Model number
* M20	370 and 575 to 1150
*** M30	1480 and 2380

Replace 'U' with 'M' in order number designation
(refer to page 6).

Model numbering

S - 270 U - D 00 0 - JSO

Actuator model

S – Stainless steel

Actuator size

Model code based on approx. torque
symmetrical double acting at 80 psig

003	072	575
006	100	740
012	135	1150
023	210	1480
036	270	2380
046	370	
050	420	

Interface bolting

U – UNC mounting threads
M – Metric mounting threads

Function

D – Double acting
S – Spring return

Configurations

Spring code denotes air pressure divided by 10 where spring force gives the same spring end torque as air end torque using symmetric yoke.

00 – No spring (double acting)

04 – 40 pound spring

05 – 50 pound spring

06 – 60 pound spring

Etc. See Morin Torque Book (MORMC-0333) for available springs

Spring return failure rotation

0 – No spring (double acting OR actuator rotates clockwise on loss of air)
1 – Actuator rotates counterclockwise on loss of air

Option

(blank) – No options (standard configuration)

Note: Some codes can be used in combination.

Indicate by stacking “ separated by “-”. Consult your sales representative for possible combinations.

How to order

1. Double acting example:

Air supply: 80 psig

Break torque: 7,200 lb.in.

S-072U-D000

S: Series

072: Model number

U: UNC mounting threads

D000: Double acting

2. Spring return example:

Air supply: 80 psig

Ending torque: 12,950 lb.in.

Fail rotation: Clockwise

S-370U-S080

S: Series

370: Model number

U: UNC mounting threads

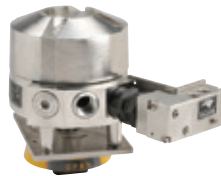
S080: Spring set

3. For all spring return models:

- Use air pressure to determine spring set.
- All spring sets ending with “0” fail clockwise (40, 50, 60, etc.).
- All spring sets ending with “1” fail counterclockwise (41, 51, 61, etc.).

Stainless steel control monitors and transmitters*

Touch set cams in all control monitors are hand adjustable, spring loaded and self-locking providing quick calibration of position sensors. Terminal strips are pre-wired and color coded with generous working space for ease of use and extra wiring points for solenoid integration. All units are standard with multiple conduits for easy field wiring and accessory mounting. All AccuTrak™ and Quantum™ products utilize common bolt pattern for mounting to actuators and can be supplied with mounting hardware as needed. Low copper content aluminum enclosures (0.2% maximum copper content) insure robust performance in corrosive environments. Control transmitters utilize non-contact Hall Effect sensing technology and digital position transmission via 4-20 mA signal. Transmitters are available with both HART® and Foundation Fieldbus™ digital communication protocols.



Digital EPIC D470



AccuTrak/Quantum 366



Digital EPIC D450

Network solutions*

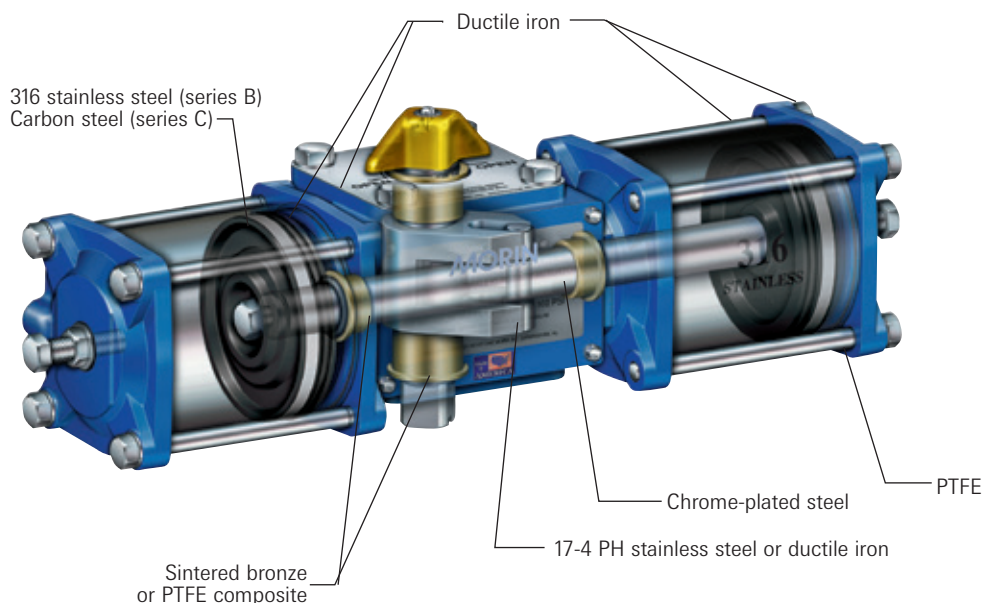
Intellis is a family of industrial control field Network Control Monitors which use embedded control systems to automate valves and link field I/O to the host PLC or DCS. Each monitor is assigned a unique address and accepts input/output signals from valve position sensors, solenoids and external alarm and control devices. Hall Effect sensors are utilized for valve position monitoring. Low-power Falcon solenoid valve provides integrated actuation control. Network interface modules Pacts allow communication via a protocol of choice. Westlock Intellis Network Control Monitors are available for linear or rotary applications in all area classifications.



Intellis control monitor

Notes: * Stainless steel, AccuTrak, Quantum, Intellis Network Solutions and Positioners - please consult your sales representative for the availability of global certifications such as ATEX, IEC, GOST, CSA and InMetro for specific configurations in these product lines, as approvals may vary.

The series B and C actuators



Setting a new standard in actuation at a price you'd expect from a commodity product.

- Up to 160 psig operating pressure (see torque chart, MORMC-0333).
- Double acting break torques to 1,400,000 lb.in.
- Spring end torques to 583,288 lb.in.

For additional information, refer to datasheet MORMC-0023.

The series HP actuator



High pressure actuation with carbon steel cylinders for superior corrosion resistance.

- Up to 2250 psi operating pressure (see torque chart, MORMC-0333).
- Double acting torques to 800,000 lb.in.
- Spring end torques to 400,000 lb.in.

For additional information, refer to datasheet MORMC-0072.