

# SURE TORQUE™

a division of Sure Seal, Incorporated

SURE SEAL INCORPORATED IS PROUD TO BE

**ISO 9001** certified

**Actuators and  
Accessories**



**Now with DLS**  
DUAL LIMIT STOPS

Sure Torque's Series ST is a proven winner in today's market. With over 14 sizes and 90°, 120°, 135°, 180°, 240° and 270° rotation, the Sure Torque actuator can accommodate any situation. Double acting units start at 100 in.lbs. and go up to 37,200 in.lbs. of output torque at 80 PSI. Fail safe, spring return models have output torques of 17 to 15,600 in.lbs. All units will operate from -10° F to 195° F and from 20 PSIG to

The Sure Torque actuator body is extruded, machined, anodized internally and externally, then polyester powder epoxy painted for maximum external and internal protection. Sure Torque pistons are die-cast aluminum and the pinion is carbon steel, electroless nickel plated. Both pistons incorporate a large Delrin 500 wear pad which significantly increases the actuator cycle life. Upper and lower Delrin 500 bushings

## Take a look inside and find out the Sure Torque Advantage



150 PSIG input pressure with optional high and low temp. seals and bearings. All Sure Torque actuators can be easily field converted from double acting to spring return by inserting the correct number of spring cartridges to the double acting unit, thus eliminating bulky housing extensions, saving weight and space. Specially designed, preloaded self-contained spring cartridges are completely contained before end cap screws release, ensuring the safest installation and removal. The Sure Torque Series ST is an uncomplicated compact design. Internal porting eliminates the need for costly, external tubing. Accessory mounting is to NAMUR standards. Solenoid mounting to NAMUR specifications is available, and is standard on sizes STU148 and above.

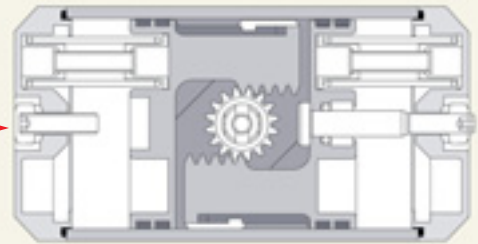
minimize wear and increase actuator duty cycle. The DLS feature allows travel stop adjustment in both directions of travel. The Sure Torque Series ST is available with a variety of accessories. Direct mount solenoids are available in NEMA 4, 7, and 9 in standard and special voltages. Limit switches are available in NEMA 4, 7 and 9. Positioners can be supplied to receive 3-15 PSI or 4-20 mA input control signals. Declutchable manual gear overrides are available for all size actuators. The actuator drive side directly mounts to Sure Seal Butterfly Valves. Available in ISO 5211 Dimensional Standards to meet your needs. Safe, compact, versatile, rugged, long-lasting and economical. The Sure Torque Series ST is the best choice for your actuation needs. Call or write for further information.

## DLS (Dual Limit Stop)

Adjustment for open (CCW) stroke at left side of actuator when facing ports. Screw CCW to increase travel



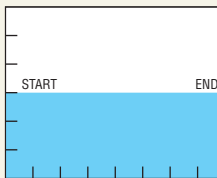
Adjustment for close (CW) stroke at right side of actuator when facing ports. Screw CW to increase travel



The DLS configuration available on Sure Torque actuators allows quicker and safer adjustments of the stroke travel stops. The DLS adds no increase in external dimensions nor requires additional hardware to make adjustments.

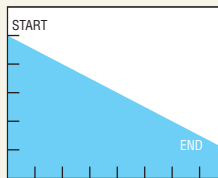
## Torque Curves

### Double Acting

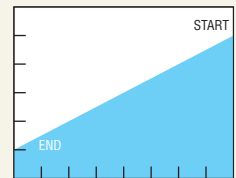


Constant output torque throughout travel.

### Spring Return

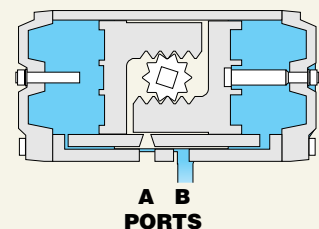
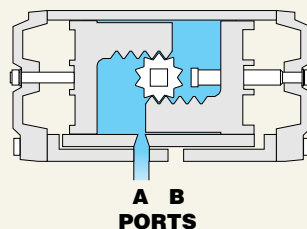


Air Stroke with counterclockwise rotation

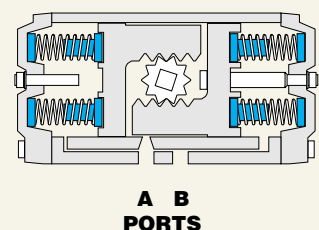
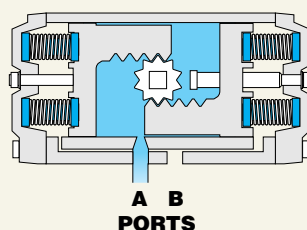


Spring Stroke with clockwise rotation

## Double Acting Operation

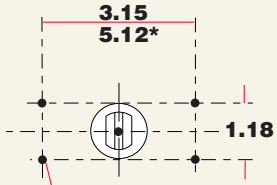


## Spring Return Operation

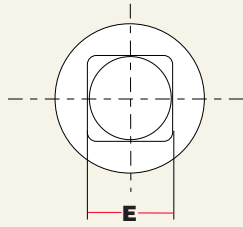




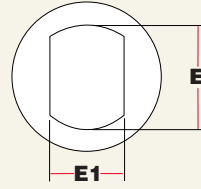
# Dimensional Data



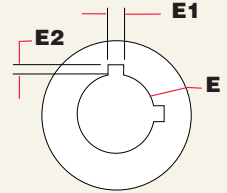
M5 X .31 DEEP. 4 PL  
"STU586 AND LARGER  
TOP MOUNTING DETAIL



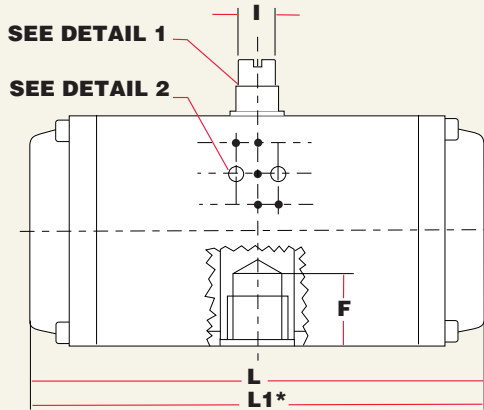
MODEL STM10-STM52  
OUTPUT SHAFT



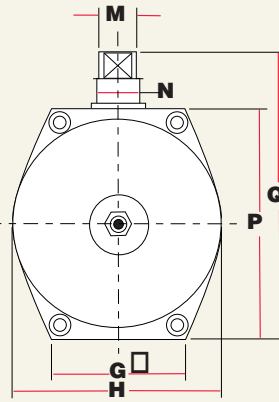
MODEL STU73-STU148  
OUTPUT SHAFT



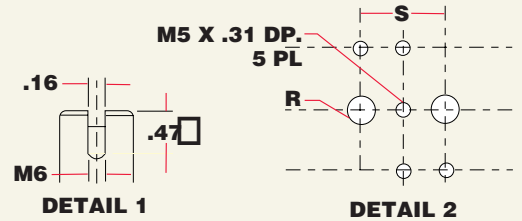
MODEL STU222-STU3720  
OUTPUT SHAFT



SIDE VIEW

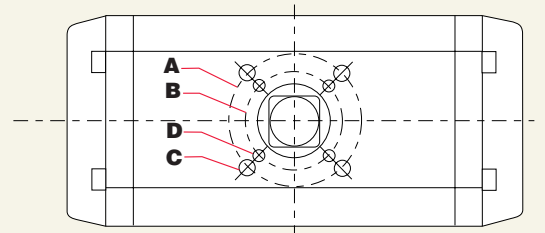


END VIEW



DETAIL 1

DETAIL 2



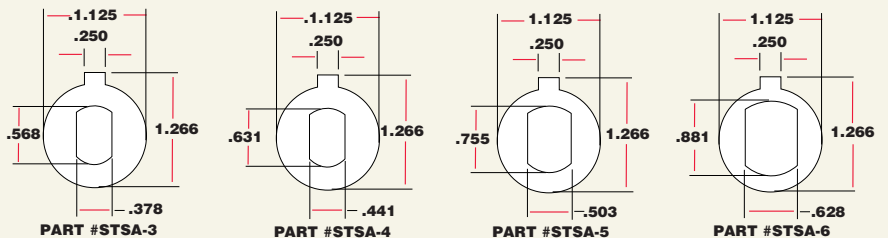
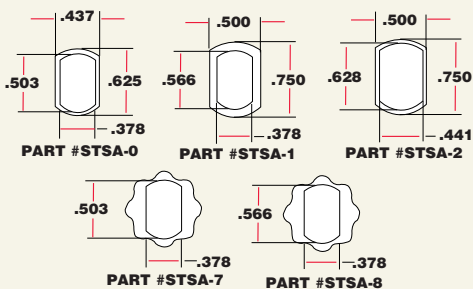
BOTTOM VIEW

MODEL	A	FO	B	FO	C*	D*	E	E1	E2	F	G	H	I	L	L1*	M	N	P	Q	R	S
STM10	1.65	F04	1.42	F03	#10-32	#10-32	.433	-	-	.55	1.77	2.05	.35	4.25	-	.472	.472	2.60	3.39	1/8	.87
STM20	1.97	F05	1.42	F03	1/4-20	#10-32	.551	-	-	.55	1.97	2.32	.39	5.00	7.52	.472	.472	2.91	3.70	1/8	.87
STM30	2.76	F07	1.97	F05	5/16-18	1/4-20	.551	-	-	.71	2.36	2.76	.39	5.24	7.72	.472	.472	3.46	4.25	1/8	.87
STM52	2.76	F07	1.97	F05	5/16-18	1/4-20	.669	-	-	.75	2.56	3.27	.39	6.10	9.09	.551	.707	3.94	4.73	1/8	.87
STU73	2.76	F07	1.97	F05	5/16-18	1/4-20	.753	.503	-	1.65	2.56	3.58	.39	6.97	10.43	.551	.707	4.25	5.04	1/8	.87
STU103	2.76	F07	1.97	F05	5/16-18	1/4-20	.753	.503	-	1.65	2.76	3.94	.55	7.99	11.97	.788	.984	4.61	5.40	1/8	.87
STU148	4.02	F10	2.76	F07	3/8-16	5/16-18	.753	.503	-	1.65	3.54	4.72	.55	8.50	12.48	.788	.984	5.51	6.30	1/4	.94
STU222	4.02	F10	2.76	F07	3/8-16	5/16-18	1.125	.250	.125	2.30	3.54	4.72	.79	11.18	16.46	1.102	1.575	5.51	6.30	1/4	.94
STU295	4.02	F10	2.76	F07	3/8-16	5/16-18	1.125	.250	.125	2.32	4.06	5.39	.79	11.42	17.36	1.102	1.575	6.30	7.10	1/4	.94
STU470	4.92	F12	4.02	F10	1/2-13	3/8-16	1.128	.250	.125	2.32	4.33	6.77	.79	13.27	-	1.102	1.575	7.80	8.98	1/4	.94
STU586	4.92	F12	4.02	F10	1/2-13	3/8-16	1.128	.250	.125	2.32	4.33	6.77	1.10	14.49	21.89	1.417	1.575	7.80	8.98	1/4	.94
STU900	5.51	F14	-	-	5/8-11	-	1.128	.250	.125	2.32	5.31	8.82	1.26	17.72	-	1.417	2.362	10.00	11.18	1/4	.94
STU1213	5.51	F14	-	-	5/8-11	-	1.628	.375	.188	3.37	5.31	8.82	1.26	17.72	26.61	1.850	2.362	10.00	11.18	1/4	.94
STU2366	6.50	F16	-	-	3/4-10	-	1.878	.38X.50	.188	4.57	6.26	10.71	1.26	23.07	34.84	1.850	2.362	11.89	13.07	1/4	.94
STU2958	6.50	F16	-	-	3/4-10	-	1.878	.38X.50	.188	4.53	6.26	10.71	1.26	26.22	-	1.850	2.362	11.89	13.07	1/4	.94
STU3720	6.50	F16	-	-	3/4-10	-	1.878	.38X.50	.188	4.53	6.30	14.17	1.26	26.89	-	1.850	2.362	14.17	15.35	1/2	1.97

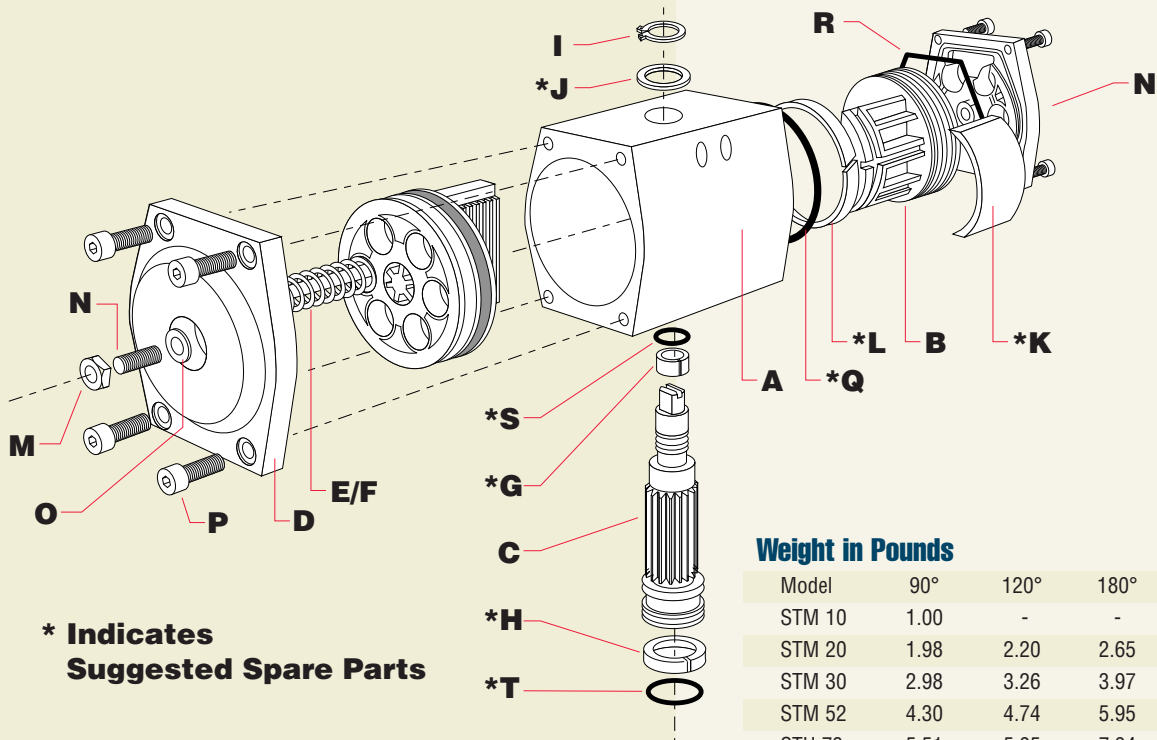
Top mounting dimensions for accessories to Namur standard. Bottom mounting is to DIN-ISO standards. Solenoid mounting to Namur specifications is available on all units and is standard on units STM52 and higher.

C\* & D\* UNC bolt sizes. L1\* 180 end-to-end dimensions.

## ADAPTER DIMENSIONS



# Sure Torque's Series ST



## Series ST Materials

	Qty.	Description	Material
A	1	body	anodized aluminum polyester epoxy coating
B	2	piston**	die cast aluminum
C	1	pinion	E.N.P. ASTM B656 Steel
D	2	end cap**	epoxy coated aluminum
E	Max 12	spring	epoxy coated steel
F	Max 12	spring cartridge	Delrin/brass
G	1	upper pinion bearing	Delrin 500
H	1	lower pinion bearing	Delrin 500
I	1	circlip	E.N.P. ASTM B656 Steel
J	1	pinion washer	Delrin 500
K	2	piston skate	Delrin 500
L	2	piston guide ring	Delrin 500
M	2	sealing nut	304 Stainless Steel
N	2	travel stop	304 Stainless Steel
O	2	travel stop o-ring	BUNA N
P	8	end cap screw	304 Stainless Steel
Q	2	piston o-ring	BUNA N
R	2	end cap o-ring	BUNA N
S	1	upper pinion o-ring	BUNA N
T	1	lower pinion o-ring	BUNA N

\*\*ST10-ST20 utilize polyilamide materials

## Weight in Pounds

Model	90°	120°	180°	K6
STM 10	1.00	-	-	1.20
STM 20	1.98	2.20	2.65	2.20
STM 30	2.98	3.26	3.97	3.42
STM 52	4.30	4.74	5.95	5.07
STU 73	5.51	5.95	7.94	6.39
STU 103	7.39	8.16	11.25	8.38
STU148	10.58	11.47	13.56	12.79
STU 222	14.99	16.90	20.68	17.86
STU 295	18.74	20.73	26.02	22.49
STU 470				
STU 586	34.40	39.69	55.79	42.78
STU 900				
STU 1213	68.80	81.14	106.94	86.66
STU 2366	132.32	146.63	173.60	180.81
STU 2958	160.97	177.60	-	209.48
STU 3720	205.00	-	-	267.00

## Air Consumption

Cubic Inches per Cycle (Open/Close)

Model	90°	120°	180°	K6
STM 10	12.8	-	-	6.7
STM 20	15.3	17.1	28.1	7.3
STM 30	22.0	24.4	41.5	9.2
STM 52	36.6	42.7	68.3	15.3
STU 73	52.5	61.0	99.5	22.0
STU 103	67.1	82.4	131.2	27.5
STU148	112.9	137.3	189.2	41.5
STU 222	152.6	176.9	341.7	67.1
STU 295	218.5	241.0	415.0	86.7
STU 470				
STU 586	416.2	476.0	790.2	174.5
STU 900				
STU 1213	872.6	1013.0	1293.7	360.0
STU 2366	1586.6	1861.2	2471.5	701.8
STU 2958	1922.2	2288.4	-	1037.4
STU 3720	2955.0	-	-	1594.0

# Accessories

## LIMIT SWITCHES

Sure Seal's Watchman VPT Series are ruggedly designed to meet industrial process requirements for reliable cost effective feedback systems. Sure Seal's Sentinel VPT Series are ruggedly designed to keep up with today's advanced process control technology. The Sentinel VPT is an accurate, versatile valve position transmitter.



## SOLENOIDS

Sure Seal Solenoids are constructed with quality Anodized Aluminum for the body, phosphate treated black steel springs copper shading coil and stainless steel core and core tube. We are committed to providing the strength and performance you demand.



## POSITIONERS

The Series SP/SE from Sure Torque is designed and manufactured to offer years of trouble free and economical operation. Every component has been field tested and field proven to exceed your expectations of performance and reliability. The Series SP/SE simply outperforms every other positioner in its class.



Purchasers are expected to make their own tests to determine the suitability of these products for their particular purposes. The data represented in this flyer is for general information only. Manufacturer is not responsible for acceptability of these products in regard to individual system requirements. For specific performance data and correct materials selection, please contact your Sure Seal Dealer.  
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