

Turn-Act® (TA) Series

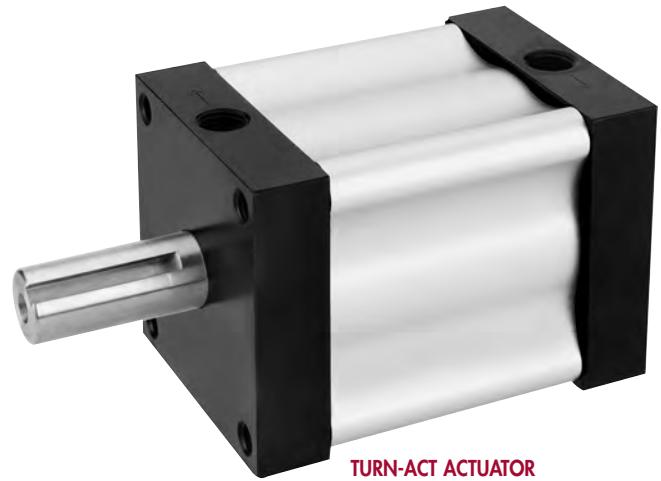
ROTARY VANE ACTUATORS:

- 16 base models with torque outputs from 87 in. lbs. to 1000 in. lbs.
- Rotations 45, 90, 180 & 270 degrees.

As compared to other rotary devices... Turn-Act Vane Actuators have:

- One moving part providing:
 - ZERO Backlash.
 - No loss of motion.
 - Smooth Rotation.
 - Precise Repeatability.
 - Continuous full torque throughout the rotation.
- Patented Urethane seals for:
 - Long cycle life and Non-lube service.
 - Actual applications with 25 million cycles and more.
- 100s of standard options and modifications.

Just imagine... How TURN-ACT Answer Engineering can work for you!



TURN-ACT ACTUATOR
NO OPTIONS SELECTED

Torque Chart (IN. LBS.)			
180° and 270° Rotations ²			
Actuator Model	Actuator Torque at		
	100 PSI	80 PSI	60 PSI
111 (270°)	87	70	52
113 (180°)			
121 (270°)	175	140	105
123 (180°)			
131 (270°)	350	280	210
133 (180°)			
141 (270°)	500	400	300
143 (180°)			

Torque Chart (IN. LBS.)			
45° AND 90° Rotations ²			
Actuator Model	Actuator Torque at		
	100 PSI	80 PSI	60 PSI
112 (90°)	175	140	105
114 (45°)			
122 (90°)	350	280	210
124 (45°)			
132 (90°)	700	560	420
134 (45°)			
142 (90°)	1000	800	600
144 (45°)			

SPECIFICATIONS

Unit Materials

Stator/Rotor Seals...Urethane
 Shaft/Tube Seals.....Buna¹
 Shaft.....Polished & Ground,
 Fatigue Proof 1144
 Body.....Anodized Alum.
 Bearings....Full Comp. Needle

Miscellaneous

Inlets.....1/4 NPT
 Min. Pressure35 psi
 Max. Pressure200 psi⁴
 Cylinder Bore.....2-1/2"

Shaft Load Capacities

Max. Side Load.....500 lbs.
 Max. End Load.....25 lbs.

Temperature Range

40°F to 180°F
 For applications below 40°F, a variety of seal options are available based upon cycle rates, temperatures and frequency of use. Consult the factory to discuss your cold temperature application for your optimum solution.

Filtration

Air.....25-50 microns
 Hydraulic.....10-25 microns

Cycle Rates

Max. non-lubed rate:
 45°, 90° Rot.....40 cpm
 180°, 270° Rot.....20 cpm

Max. lubed rate:
 Consult Factory

Rotary Motion Backlash

All models0 degree

Leak Rates

Air.....4 cfm or less @ 100 psi
 Hydraulic..0.5 cfm @ 500 psi

Hydraulic Service

Available for 11x and 12x size Turn-Act rotaries only. Use of paraffin based hydraulic oil is recommended. DO NOT USE skydrol, brake fluid, water based fluid, S or F type automatic transmission fluid.

- 1 Viton Optional
- 2 All rotations are nominal +4/-0 actual
- 3 Cycle = Start position to end of rotation and returning to the start position.
Stroke = 1/2 cycle
- 4 Pressure Rating for 11X and 12X is 500psi max.

Capacity per Stroke ³ (IN ³)			
270° Rotation ²		90° Rotation ²	
111	4.52	112	2.75
121	8.50	122	5.50
131	17.00	132	11.00
141	27.50	142	16.70

Weights (LBS.)			
270° Rotation ²		90° Rotation ²	
111	2.5	112	2.5
121	3.3	122	3.3
131	6.0	132	6.0
141	9.3	142	9.3

How to Order: Turn-Act® (TA)

MODEL END CAPS SHAFT UNIT MATERIAL OPTIONS OPTIONS

113 - 3 W 2 - XXX - XXX

1 2 3 4 5 5

1

Model			
Model	Series	Torque	Rotation
111	TA	- 87	- 270
112	TA	- 175	- 90
113	TA	- 87	- 180
114	TA	- 175	- 45
121	TA	- 175	- 270
122	TA	- 350	- 90
123	TA	- 175	- 180
124	TA	- 350	- 45
131	TA	- 350	- 270
132	TA	- 700	- 90
133	TA	- 350	- 180
134	TA	- 700	- 45
141*	TA	- 500	- 270
142*	TA	- 1000	- 90
143*	TA	- 500	- 180
144*	TA	- 1000	- 45

* These models require '2' or '5' for the selection in block #4 "Unit Materials".

2

End Caps	
To Specify other modifications; Consult Factory	
1	Pneumatic
2	Pneumatic - Low Profile
3	Hydraulic - w/ Drain Ports
4	Pneumatic - w/ Vacuum Ports

3

Shaft	
To Specify other modifications; Consult Factory	
Y	Single End - No Keyway
M	Double End - No Keyway Each End
W	Single End - Woodruff Key
V	Double End - Woodruff Key Each End
U	Single End - Shaft Flat
T	Double End - Shaft Flat Each End
S	Single End - Keyway
R	Double End - Keyway Each End
G	Single End With Manual Override

4

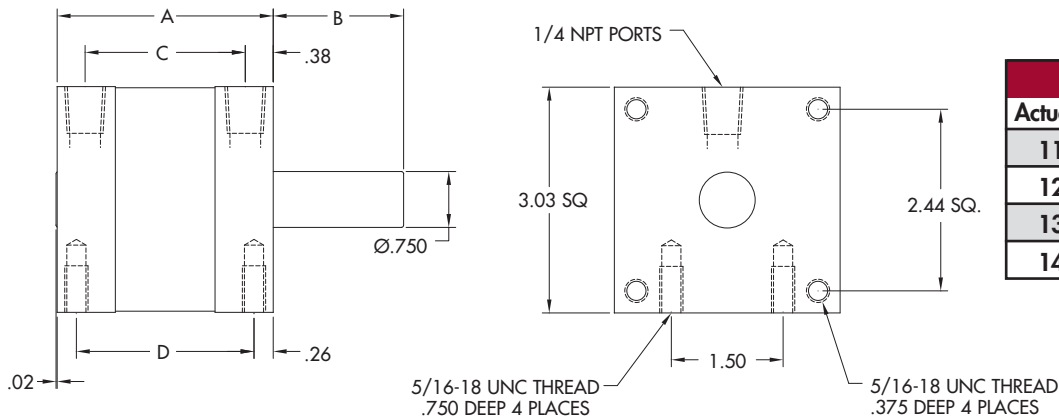
Unit Materials	
Shaft - Body - Trim	
1	Polished & Ground Fatigue Proof 1144 Steel - Anodized Aluminum - Carbon Steel
2	Hardened Carbon Steel - Anodized Aluminum - Carbon Steel
3	303 Stainless Steel - Anodized Aluminum - Stainless Steel
4	303 Stainless Steel - 303 Stainless Steel - Stainless Steel
5	Hardened 440 SS - Anodized Aluminum - Stainless Steel
6	316 Stainless Steel - 316 Stainless Steel - Stainless Steel

5

Options	
Additional options available on pgs. 14-33	
000	No Options
100	Flange Mount - Rod End
101	Flange Mount - Cap End
200	Side Angle Mounting Brackets - Mounting Surface 3 & 7
300	Extended Tie Rods - Rod End
301	Extended Tie Rods - Cap End
320	Extended Tie Rods - Both Ends
400	Adjustable Stroke Control - Cap End, Pos. 5
401	Adjustable Stroke Control - Rod End, Pos. 1
500	Electrical Position Indicator - Cap End, Pos. 5
704	Teflon Impregnated Hard Anodized
801	Side Mounts - Positions 2 & 6
803	Side Mounts - Positions 4 & 8
804	Side Mounts - Positions 2, 4, 6 & 8
900	Thrust Protection - Cap End, Pos. 1
901	Thrust Protection - Rod End, Pos. 1
B00	Urethane Bumpers
T01	3/4" Trantorque® Shaft Coupler - Carbon Steel
T02	3/4" Trantorque® Shaft Coupler - Stainless Steel
Stainless Shaft Coupler has 1/3 the Transmissible Torque as T01 (see pgs. 34-35)	
Switch Options	
Additional switch options available on pg. 24	
All Axx Switch Options are Single End Only	
A00	Switch System -No Switches
A02	Switch System -2 Reed Switches
A05	Switch System -2 Sourcing Switches
A08	Switch System -2 Sinking Switches
Double end switch options available on pgs. 25-26	

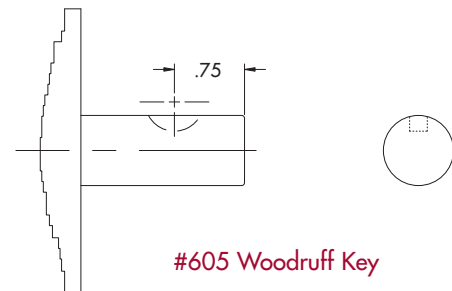
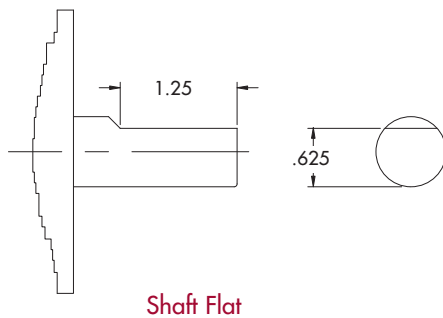
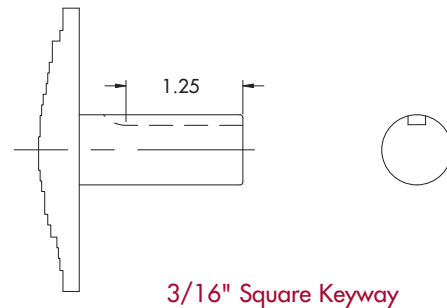
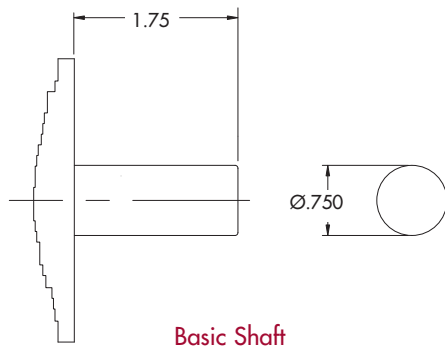
Dimensional Data: Turn-Act® (TA)

Basic Dimensions

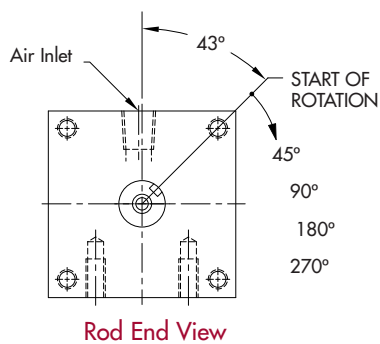


Dimensional Specifications				
Actuator	A	B	C	D
11X	2.90	1.75	2.15	2.38
12X	4.40	1.75	3.64	3.88
13X	7.42	1.75	6.67	6.91
14X	10.38	1.75	9.63	9.86

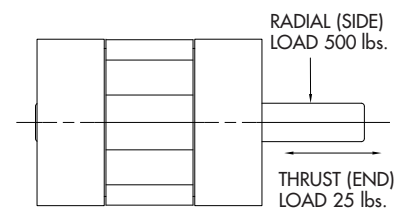
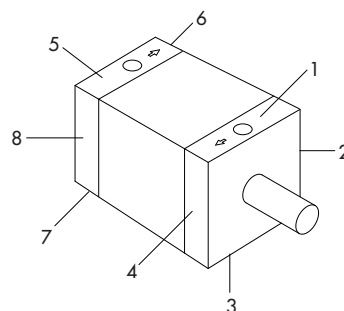
Shaft Options



NOTE: Center drill omitted from shaft details for clarity.



Nominal Rotations (+4/-0 actual)



NOTE: The 43° start position is nominal. Tolerances are +/- 2 degrees.