

Comp-Act (CA) Series

ROTARY VANE ACTUATORS:

- 15 base models with torque outputs from 9 in. lbs. to 100 in. lbs.
- Rotations 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 rotation.
- Turn-Act 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!



COMP-ACT ACTUATOR
WITH OPTIONAL ADJUSTABLE
STROKE CONTROL

Torque Chart (IN. LBS.)			
180° and 270° Rotations ²			
Actuator Model	Actuator Torque at		
	100 PSI	80 PSI	60 PSI
011	9	7	5
013			
021	13	10	8
023			
031	25	20	15
033			
041	32	26	19
043			
061	50	40	30
063			

Torque Chart (IN. LBS.)			
90° Rotations ²			
Actuator Model	Actuator Torque at		
	100 PSI	80 PSI	60 PSI
012	17	14	10
022	32	26	19
032	44	35	26
042	60	48	36
062	100	80	60

SPECIFICATIONS

Unit Materials

Stator/Rotor Seals...Urethane
Shaft/Tube Seals.....Buna¹
Shaft.....303 Stainless Steel
Body.....Anodized Alum.
Bearings.....Full Comp. Needle

Miscellaneous

Inlets ...1/8 NPT
Min. Pressure.....35 psi
Max. Pressure..... 200 psi
Cylinder Bore1-1/4"

Shaft Load Capacities

Max. Side Load.....250 lbs.
Max. End Load10 lbs.

Temperature Range

-20°F to 180°F. Consult factory for higher temperature.

Filtration

Air.....25-50 microns

Cycle Rates³

Max. non-lubed rate:

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

- 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

Capacity per Stroke ³ (IN ³)			
270° Rotation ²		90° Rotation ²	
011	0.50	012	0.42
021	0.99	022	0.84
031	1.49	032	1.26
041	1.99	042	1.68
061	3.49	062	2.96

Weights (OZs)			
270° Rotation ²		90° Rotation ²	
011	8	012	8
021	10	022	10
031	12	032	12
041	14	042	14
061	18	062	18

How to Order: Comp-Act (CA)

MODEL END CAPS SHAFT UNIT MATERIAL OPTIONS OPTIONS

011 - 1 Y 1 - XXX - XXX

1 2 3 4 5 5

1 Model

Model	Series	Torque	Rotation
011	CA	09	270
012	CA	17	90
013	CA	09	180
021	CA	13	270
022	CA	25	90
023	CA	13	180
031	CA	25	270
032	CA	44	90
033	CA	25	180
041	CA	32	270
042	CA	60	90
043	CA	32	180
061	CA	50	270
062	CA	100	90
063	CA	50	180

2 End Caps

To Specify other modifications; Consult Factory

1	Pneumatic
2	Pneumatic - Low Profile
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

4 Unit Materials

Shaft - Body - Trim

1	303 Stainless Steel - Anodized Aluminum - Carbon Steel
3	303 Stainless Steel - Anodized Aluminum - Stainless Steel
4	303 Stainless Steel - Stainless Steel - 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
300	Extended Tie Rods - Rod End
301	Extended Tie Rods - Cap End
400	Adjustable Stroke Control - Cap End, Pos.5
401	Adjustable Stroke Control - Rod End, Pos.1
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	3/8" Trantorque® Shaft Coupler - Carbon Steel
T02	3/8" 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

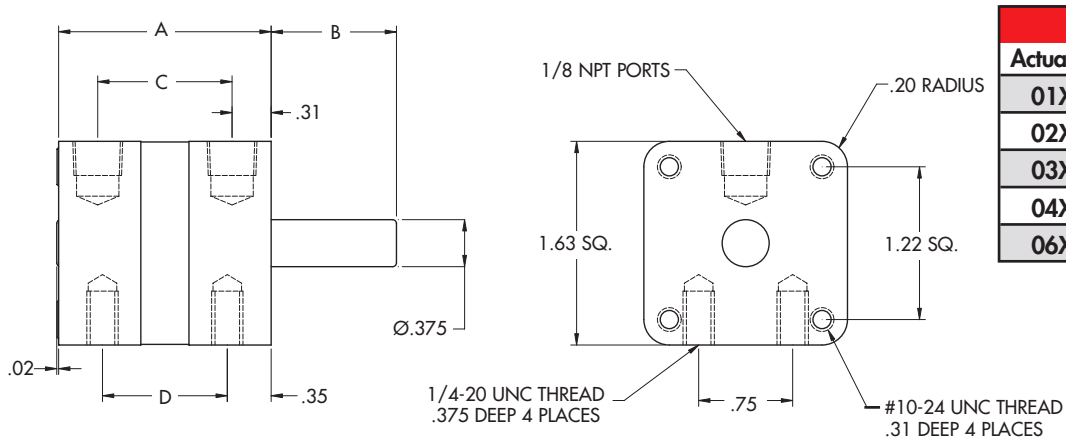
All Axx Switch Options are Single End Only

A00	Switch Package - No Switches
A02	Switch Pkg. - 2 Reed Switches
A05	Switch Pkg. - 2 Sourcing Switches
A08	Switch Pkg. - 2 Sinking Switches

Double end switch options available on pgs. 25-26

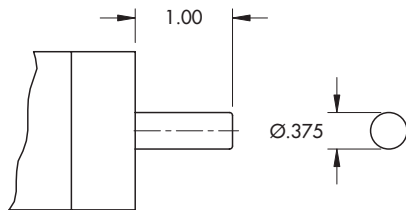
Dimensional Data: Comp-Act (CA)

Basic Dimensions

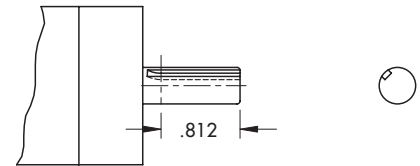


Dimensional Specifications				
Actuator	A	B	C	D
01X	1.70	1.00	1.07	1.00
02X	2.20	1.00	1.57	1.50
03X	2.70	1.00	2.07	2.00
04X	3.20	1.00	2.57	2.50
06X	4.75	1.00	4.12	4.05

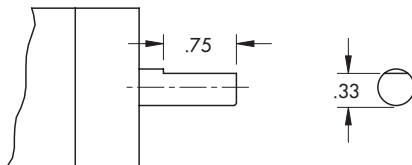
Shaft Options



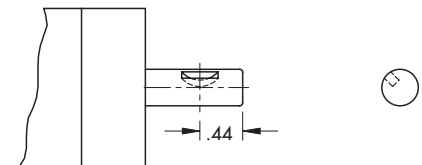
Basic Shaft



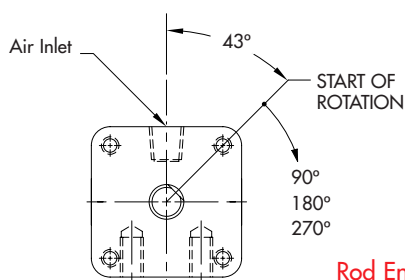
3/32" Square Keyway



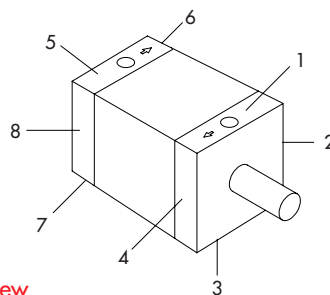
Shaft Flat



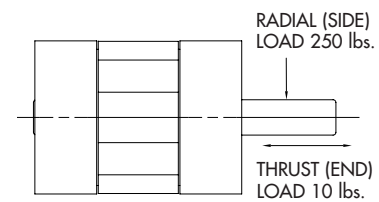
#303 Woodruff Key



Rod End View



Port & Mounting Position References



Shaft Load Capacity

Nominal Rotations (+4/-0 actual)

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

Brute (BR) Series

ROTARY VANE ACTUATORS:

- 25 base models with torque outputs from 400 in. lbs to 5200 in. lbs.
- Standard rotations 90, 110, 180, 270, & 290 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!



**BRUTE SERIES ACTUATOR
WITH OPTIONAL ADJUSTABLE
STROKE CONTROL**

Torque Chart (IN. LBS.)			
180°, 270° and 290° Rotations ²			
Actuator Model	Actuator Torque at		
	100 PSI	80 PSI	60 PSI
221	400	320	240
223			
225			
231	750	600	450
233			
235			
241	1300	1040	780
243			
245			
251	1950	1560	1170
253			
255			
261	2600	2080	1560
263			
265			

Torque Chart (IN. LBS.)			
90° and 110° Rotations ²			
Actuator Model	Actuator Torque at		
	100 PSI	80 PSI	60 PSI
222	800	640	480
226			
232	1500	1200	900
236			
242	2600	2080	1560
246			
252	3900	3120	2340
256			
262	5200	4160	3120
266			

SPECIFICATIONS

Unit Materials

Stator/Rotor Seals...Urethane
 Shaft/Tube Seals.....Buna¹
 Shaft.....1 1/4 Steel
 Body..... Anodized Alum.
 Bearings....Radial Ball Thrust

Miscellaneous

Inlets.....3/8 NPT
 Min. Pressure.....15 psi
 Max. Pressure.....200 psi
 Cylinder Bore.....5"

Shaft Load Capacities

Max. Side Load.....2000 lbs.
 Max. End Load.....1000 lbs.

Temperature Range

-20°F to 180°F. Consult factory for higher temperature.

Filtration

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

Leak Rates

Air...less than 8 cfh@100 psi

Cycle Rates

Max. non-lubed rate:
 Double Vane.....20 cpm
 Single Vane.....10 cpm

Max. lubed rate:
 Consult Factory

Rotary Motion Backlash

All models.....0 degree

Hydraulic Service

Use of paraffin based hydraulic oil is recommended. DO NOT USE skydrol, brake fluid, water based fluids, 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

Capacity per Stroke ³ (IN ³)			
270° Rotation ²		90° Rotation ²	
221	23.9	222	19.3
231	48.5	232	38.5
241	82.0	242	66.0
251	123.0	252	100.0
261	164.0	262	132.0

Weights (LBS.)			
270° Rotation ²		90° Rotation ²	
221	13	222	13
231	16	232	16
241	23	242	23
251	30	252	30
261	36	262	36

How to Order: Brute (BR)

MODEL	END CAPS	SHAFT	UNIT MATERIAL	OPTIONS	OPTIONS
236	1	Y	3	400	XXX
1	2	3	4	5	5

1

Model				
Model	Series	Torque	Rotation	
221	BR	- 400	- 270	
222	BR	- 800	- 90	
223	BR	- 400	- 180	
225	BR	- 400	- 290	
226	BR	- 800	- 110	
231	BR	- 750	- 270	
232	BR	- 1500	- 90	
233	BR	- 750	- 180	
235	BR	- 750	- 290	
236	BR	- 1500	- 110	
241	BR	- 1300	- 270	
242	BR	- 2600	- 90	
243	BR	- 1300	- 180	
245	BR	- 1300	- 290	
246	BR	- 2600	- 110	
251	BR	- 1950	- 270	
252	BR	- 3900	- 90	
253	BR	- 1950	- 180	
255	BR	- 1950	- 290	
256	BR	- 3900	- 110	
261	BR	- 2600	- 270	
262	BR	- 5200	- 90	
263	BR	- 2600	- 180	
265	BR	- 2600	- 290	
266	BR	- 5200	- 110	

2

End Caps	
To Specify other modifications; Consult Factory	
1	Pneumatic - Black Anodized
3	Hydraulic- Black Anodized - Drain Ports
4	Pneumatic - Black Anodized - Vacuum Port

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
S	Single End - Keyway
R	Double End - Keyway Each End

4

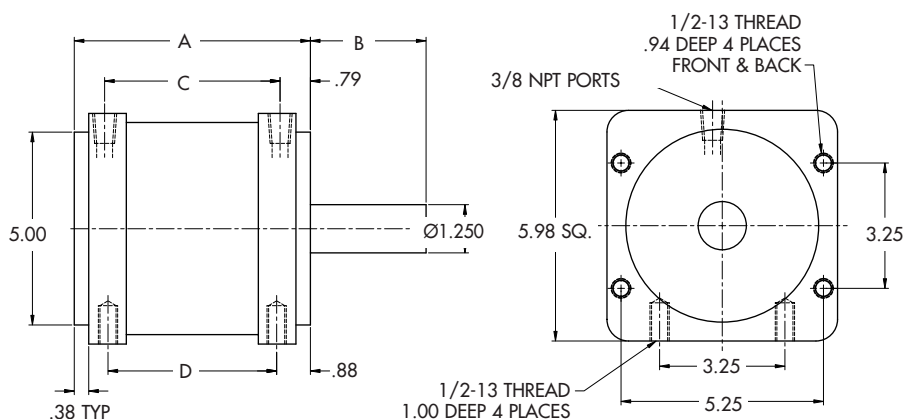
Unit Materials	
Shaft - Body - Trim	
1	1144 Carbon Steel - Anodized Aluminum - Carbon Steel
3	303 Stainless Steel - Anodized Aluminum - Stainless Steel
4	303 Stainless Steel - 303 Stainless Steel - Stainless Steel
6	316 Stainless Steel - 316 Stainless Steel - Stainless Steel

5

Options	
Additional options available on pgs. 14-33	
000	No Options
100	Flange Mount - Rod End
101	Flange Mount - Cap End
300	Extended Tie Rods - Rod End
301	Extended Tie Rods - Cap End
401	Adjustable Stroke Control - Rod End, Pos. 1
501	Electrical Position Indicator - Rod End, Pos. 1
704	Teflon Impregnated Hard Anodizing
801	Side Mounts - Positions 2 & 6
803	Side Mounts - Positions 4 & 8
804	Side Mounts - Positions 2,4,6 & 8
B00	Urethane Bumpers
T01	1-1/4" Trantorque® Shaft Coupler - Carbon Steel
T02	1-1/4" 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 Package - No Switches
A02	Switch Pkg. - 2 Reed Switches
A05	Switch Pkg. - 2 Sourcing Switches
A08	Switch Pkg. - 2 Sinking Switches
Double end switch options available on pgs. 25-26	

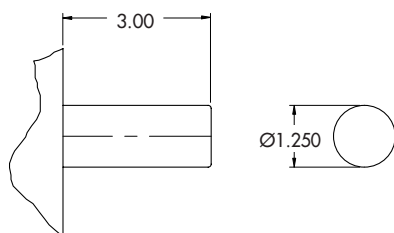
Dimensional Data: Brute (BR) Series

BRUTE (BR) Series

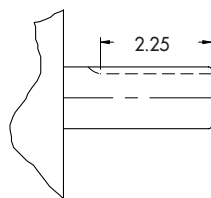


Dimensional Specifications				
Actuator	A	B	C	D
22X	4.37	3.00	2.80	2.62
23X	6.12	3.00	4.55	4.37
24X	8.62	3.00	7.05	6.87
25X	11.64	3.00	10.07	9.89
26X	14.64	3.00	13.07	12.89

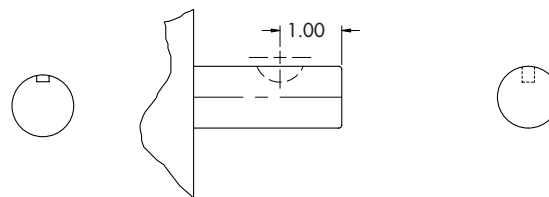
SHAFT OPTIONS



Basic Shaft

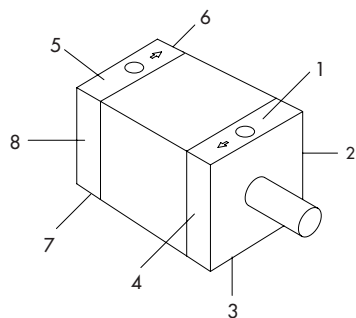


1/4" Square Keyway

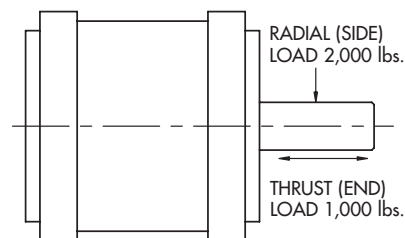


#808 Woodruff Key

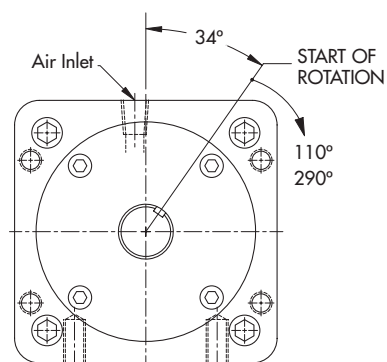
NOTE: Center drill omitted from shaft details for clarity.



Port & Mounting Position References

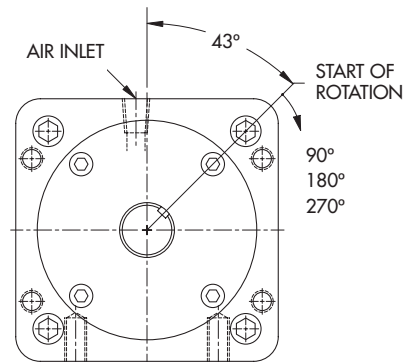


Shaft Load Capacity



Nominal Rotations (+4/-0 actual)

Rod End Views



Nominal Rotations (+4/-0 actual)

NOTE: The 34° and 43° start position are nominal. Tolerances are +/- 2 degrees.