

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 (270°)	400	320	240
223 (180°)			
225 (290°)			
231 (270°)	750	600	450
233 (180°)			
235 (290°)			
241 (270°)	1300	1040	780
243 (180°)			
245 (290°)			
251 (270°)			
253 (180°)	1950	1560	1170
255 (290°)			
261 (270°)			
263 (180°)	2600	2080	1560
265 (290°)			

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

SPECIFICATIONS

Unit Materials

Stator/Rotor Seals..Urethane
 Shaft/Tube Seals.....Buna¹
 Shaft.....Polished & Ground
 Fatigue Proof 1144
 Body..... Anodized Alum.
 Bearings....Radial Ball Thrust

Miscellaneous

Inlets.....3/8 NPT
 Min. Pressure15 psi
 Max. Pressure200 psi
 Cylinder Bore.....5"

Shaft Load Capacities

Max. Side Load2000 lbs.
 Max. End Load.....1000 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

Leak Rates

Air...less than 8 cfm@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

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

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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

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

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Shaft	
To Specify other modifications; Consult	
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

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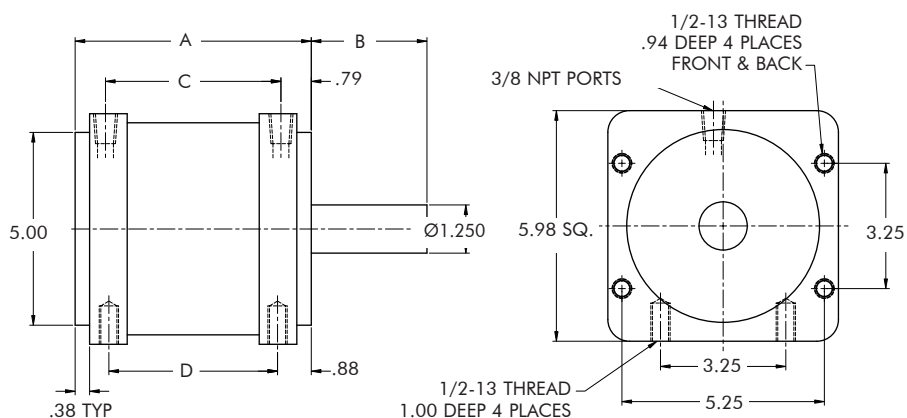
Unit Materials	
Shaft - Body - Trim	
1	Polished & Ground Fatigue Proof 1144 Steel - Anodized Aluminum - Carbon Steel
3	303 Stainless Steel - Anodized Aluminum - Stainless Steel
4	303 Stainless Steel - 303 Stainless Steel - Stainless Steel
6	316 Stainless Steel - 316 Stainless Steel - Stainless Steel

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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	

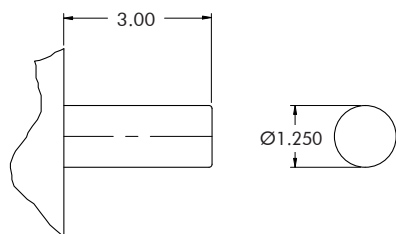
Dimensional Data: Brute (BR) Series

BRUTE (BR) Series

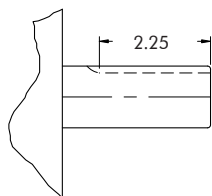


Dimensional Specifications				
Actuator	A	B	C	D
22X	4.37	3.00	2.80	2.62
23X	6.12	3.00	4.55	4.37
24X	8.62	3.00	7.05	6.87
25X	11.64	3.00	10.07	9.89
26X	14.64	3.00	13.07	12.89

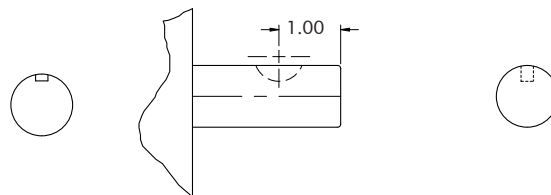
SHAFT OPTIONS



Basic Shaft

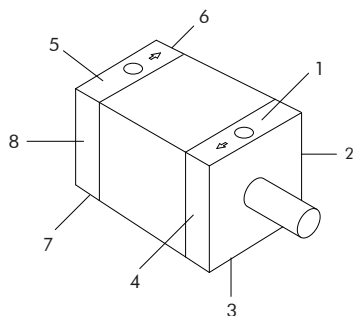


1/4" Square Keyway

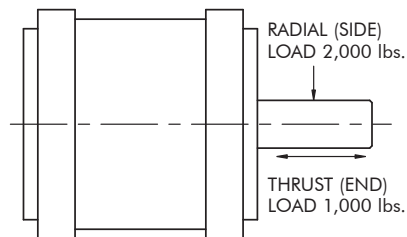


#808 Woodruff Key

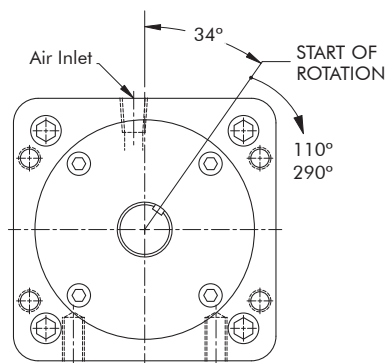
NOTE: Center drill omitted from shaft details for clarity.



Port & Mounting Position References

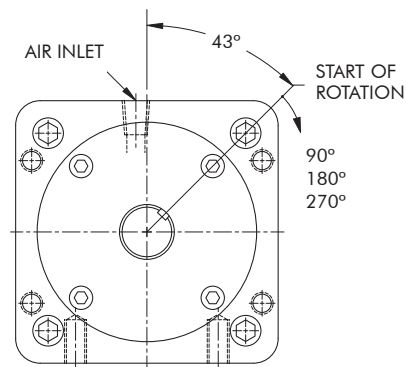


Shaft Load Capacity



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.