

## LINEAR VALVE ACTUATORS

FNW offers pneumatic valve actuators for linear valves such as knife gates, slide gates, and wedge gate valves. Actuators can be supplied with double-acting (air-to-open, air-to-close) and spring-return (air energized, spring to fail position closed or open) configurations depending on your control needs. Coupled with actuation accessories such as solenoids, position switches, and positioners, FNW can supply a valve with a complete control package. FNW can also supply hydraulic linear actuators. Whatever your linear actuator and control needs are, contact FNW with your specific application requirements.

### Features:

- Double Acting
- Bore Sizes 3-1/4" through 24"
- Pressure Rated to 150 PSI Air
- Chrome Plated Cylinder Interior
- Externally Removable Piston Rod Gland
- Dual Piston Rod Seal for Integrity and Rod Wiper
- Grooved Alignment Between Body and Caps
- Factory Tested
- -10°F to 165°F Temperature Range (Standard Seals)

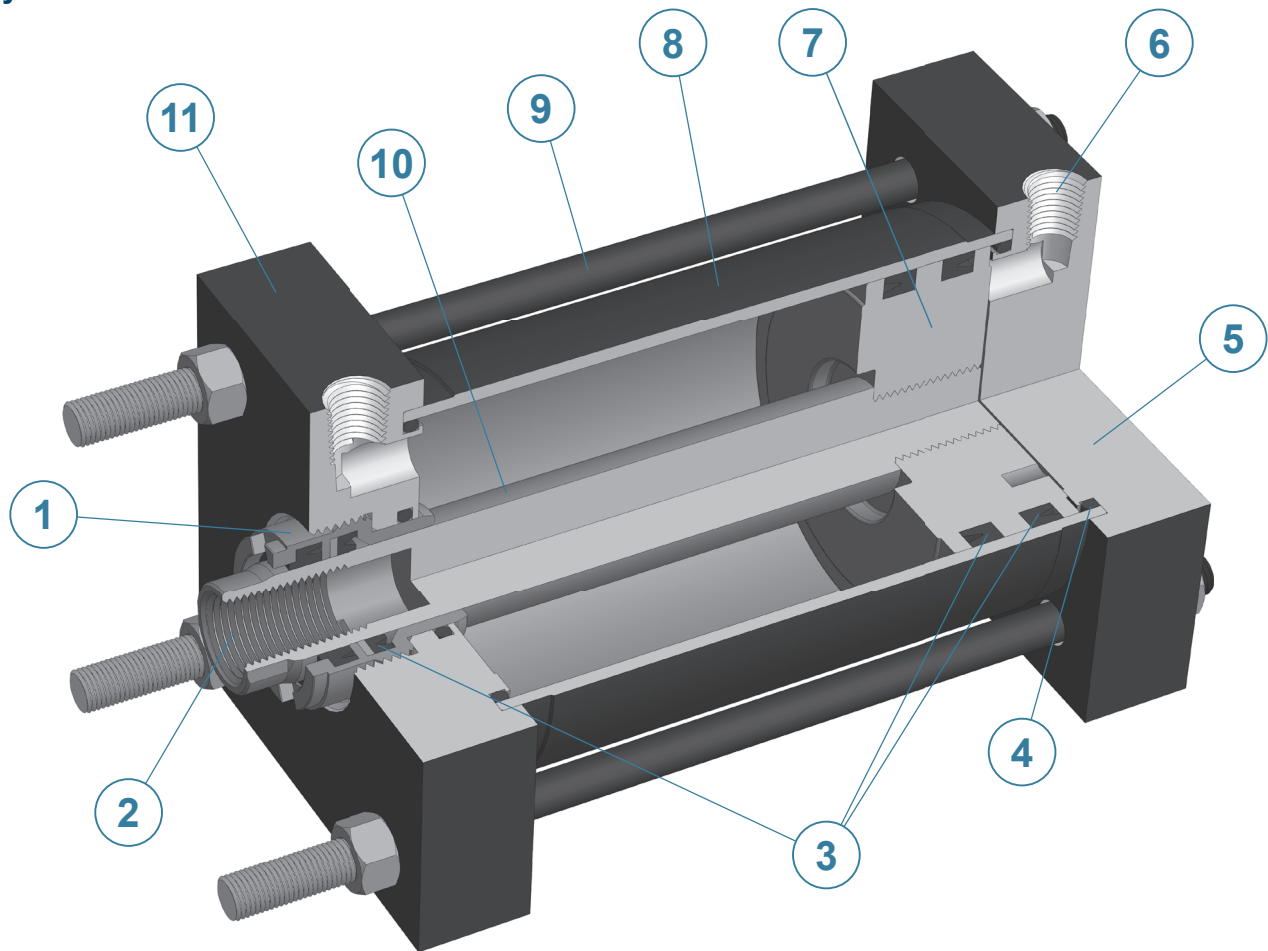
### Available Options:

- Stainless Steel Piston Rods
- Spring Return (Spring Extended or Retracted)
- Double Rod End Style
- Hi-Temp Seals (-10°F to 250°F)
- Low-Temp Seals (-50°F to 150°F, limited to bores sizes 14" and smaller)
- Configured for Water Service
- Lifting Eyes
  - Tie Rod Mounted (Ordered as an accessory)
  - Welded to cap face
- Epoxy Coated Exterior
- Stroke Adjuster
- Composite Cylinder Body

Additional options are available. Contact FNW sales for your specific application needs.

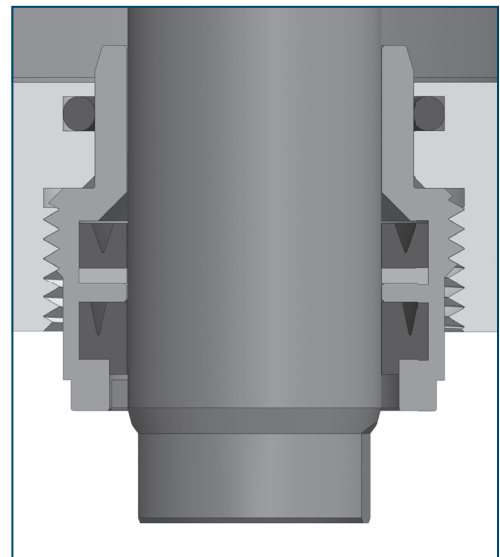


## Cylinder Construction

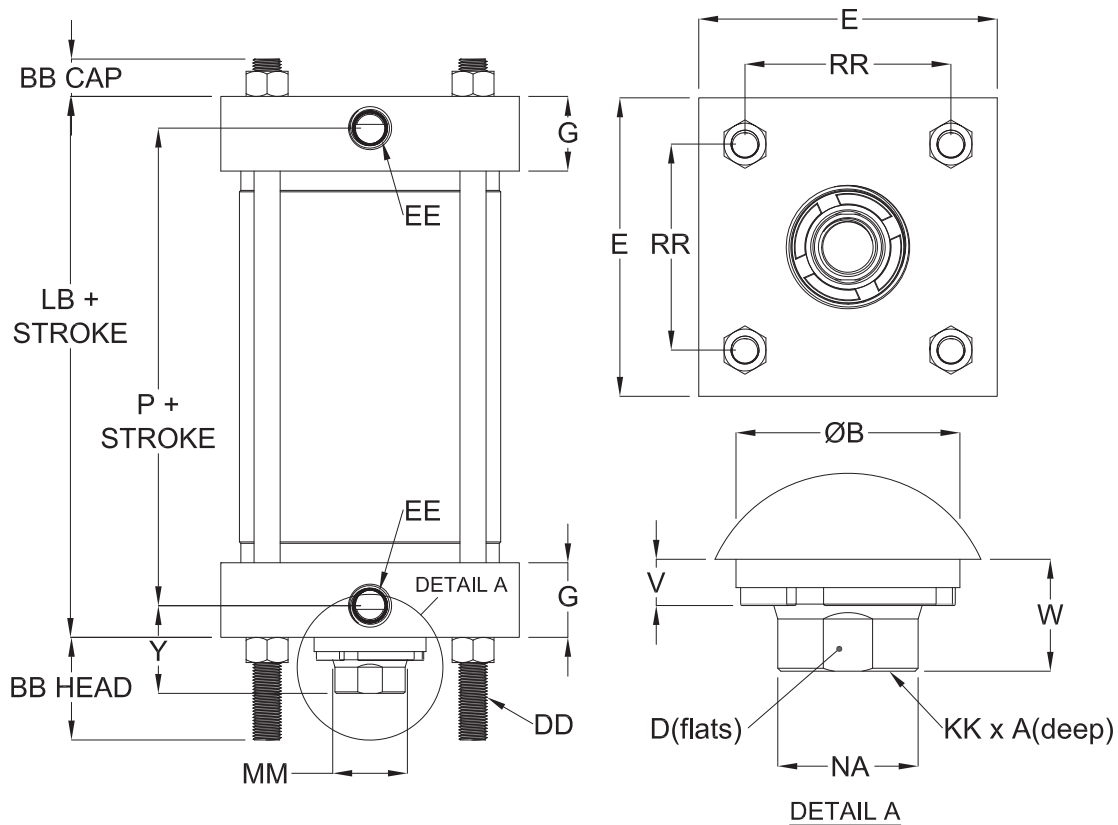


### Features Description

1. The Rod Gland Assembly is externally removable without disassembling the cylinder. The rod gland incorporates a primary and secondary seal to assure leak-free service and longevity. The secondary seal acts as a rod wiper to prevent contamination from entering the cylinder. In addition, the secondary seal acts as a back up in the event of primary seal failure.
2. Standard cylinders include a female threaded piston rod connection and come standard with two wrench flats to facilitate rod end attachment.
3. Wear compensating lip seals are used throughout the rod gland and piston assembly to assure leak free operation and optimal performance over the life of the cylinder.
4. O-ring sealed alignment grooves are located at each end of the body to assure tube to head alignment and leak free operation.
5. Heads and caps are made from heavy duty steel and are machined to provide concentricity.
6. NPT air supply ports are standard throughout the entire bore range and side ported to facilitate accessory mounting.
7. Pistons are constructed from a single piece, nodular iron
8. Cylinder bodies are steel with chrome plated inner diameters for smooth operation.
9. All tie rods are made from high strength material rated to a minimum yield of 100,000 PSI.
10. All piston rod assemblies utilize induction case hardened, medium carbon steel and are hard chrome plated and polished to a 10 RMS surface finish.
11. Cylinder exterior is enamel coated for added corrosion resistance.



Externally Removable/Replaceable Rod Gland Assembly with Dual Piston Rod Seals/Wiper



**Dimensions (inches)**

Bore	MM	KK	A	øB	D	NA	V	W	Y	BB		DD	E	EE (NPTF)	G	NA	R	Add Stroke (Inches)	
										Head	Cap							LB	P
3-1/4	1.000	3/4 - 16	1.13	1.499	0.88	0.94	0.31	0.75	1.19	1.38	0.50	3/8 - 24	4.00	1/4"	1.00	0.94	2.76	3.25	2.38
4	1.000	3/4 - 16	1.13	1.499	0.88	0.94	0.31	0.75	1.19	1.38	0.50	3/8 - 24	4.50	3/8"	1.00	0.94	3.32	3.25	2.38
5	1.000	3/4 - 16	1.13	1.499	0.88	0.94	0.31	0.75	1.19	1.81	0.63	1/2 - 20	5.50	3/8"	1.00	0.94	4.10	3.50	2.63
6	1.000	3/4 - 16	1.13	1.499	0.88	0.94	0.38	0.88	1.31	1.81	0.63	1/2 - 20	6.50	3/8"	1.00	0.94	4.88	3.38	2.50
7	1.000	3/4 - 16	1.13	1.499	0.88	0.94	0.38	0.88	1.31	2.00	0.75	5/8 - 18	7.50	3/8"	1.00	0.94	5.73	3.50	2.63
8	1.000	3/4 - 16	1.13	1.499	0.88	0.94	0.38	0.88	1.31	2.00	0.75	5/8 - 18	8.50	3/8"	1.00	0.94	6.44	3.50	2.63
10	1.000	3/4 - 16	1.13	1.499	0.88	0.94	0.38	1.00	1.56	2.25	0.88	3/4 - 16	10.63	1/2"	1.31	0.94	7.92	4.25	3.13
12	1.375	1 - 14	1.63	1.999	1.13	1.31	0.38	1.00	1.56	2.25	0.88	3/4 - 16	12.75	1/2"	1.31	1.31	9.40	4.31	3.19
14	1.375	1 - 14	1.63	1.999	1.13	1.31	0.38	1.00	1.69	2.50	1.00	7/8 - 14	14.75	3/4"	1.56	1.31	10.90	4.88	3.50
16	1.750	1-1/4 - 12	1.63	2.374	1.50	1.69	0.50	1.25	1.94	2.75	1.13	1 - 14	17.00	3/4"	1.56	1.69	12.59	5.13	3.75
18	2.000	1-1/2 - 12	2.25	2.624	1.69	1.94	0.56	1.50	2.19	3.25	1.25	1-1/8 - 12	19.00	3/4"	1.69	1.94	14.14	5.63	4.25
20	2.000	1-1/2 - 12	2.25	2.624	1.69	1.94	0.56	1.50	2.19	3.25	1.38	1-1/4 - 12	21.00	3/4"	1.69	1.94	15.77	5.88	4.50
22	3.000	2-1/4 - 12	3.50	3.749	2.63	2.88	0.63	2.25	3.06	3.50	1.38	1-1/4 - 12	23.00	3/4"	1.94	2.88	17.18	6.50	4.88
24	3.500	2-1/2 - 12	3.50	4.249	3.00	3.38	0.63	2.25	3.56	3.50	1.38	1-1/4 - 12	25.25	3/4"	2.44	3.38	18.74	7.75	5.13

**Weight (pounds)**

Bore	Add Values for Total Weight		Bore	Add Values for Total Weight	
	Base Weight (lbs.)	Weight per inch of stroke (lbs.)		Base Weight (lbs.)	Weight per inch of stroke (lbs.)
3-1/4	12.97	0.70	12	181.23	3.16
4	17.10	0.87	14	277.02	3.70
5	27.45	1.09	16	384.26	6.09
6	37.24	1.40	18	526.85	7.09
7	51.50	1.71	20	668.35	7.91
8	66.17	2.13	22	899.78	12.10
10	125.56	2.63	24	1295.20	14.99