

CATALOG
air cylinders

KG Series

Air Cylinders for Valve Actuation

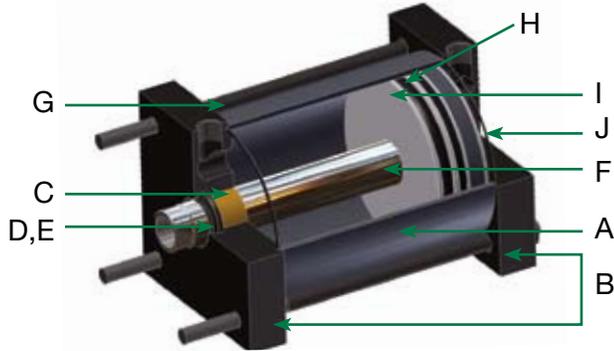


NUMATICS®

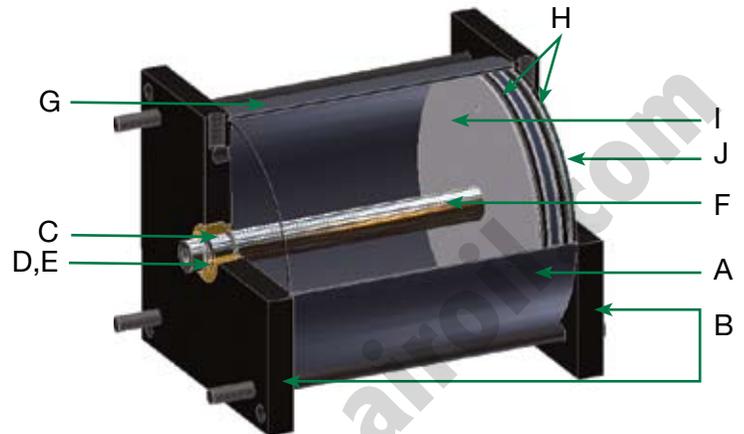
www.numatics.com



4" Bore



16" Bore



Features:

The KG Series is an air cylinder line that is designed and built to excel in the most challenging applications. The KG Series encompasses many value-added features and benefits that you expect from a Numatics cylinder.

A - Tube

Aluminum tube is standard on 1-1/2" – 8" bore cylinders (with the exception of 7" bore). The aluminum tube is hard coat anodized. The hard coating is an electro-chemical process, which produces a very dense surface of aluminum oxide. This surface has extreme hardness (60 RC.), excellent wear and corrosion resistance, and low coefficient of friction.

Composite tube is standard on 7" and 10" – 24" bore cylinders. Our composite tubing is a robust material that weighs less than traditional metallic materials. Composite tubing is also an option on 1-1/2" – 6" and 8" bore.

B - End Caps

The standard KG Series end caps are accurately machined from precision square steel blocks. The end caps are either painted with standard black paint or painted with black epoxy paint. Note that standard black paint is the standard and the black epoxy paint is an option.

A recess on the piston-mating surface (at both ends) enables the air to work on a larger piston area for effortless breakaway (even at both ends).

C - Rod Bushing

1-1/2" - 14" bore has a sintered bronze bushing.
16" - 24" bores has a 660 removable bronze bushing.

D - Rod Seal

A urethane rod/wiper is standard on 1-1/2" - 14" bore.
A nitrile rounded lip seal is standard on 16" - 24" bore.

E - Rod Wiper

The standard urethane rod wiper/rod seal combination is standard on 1-1/2" – 14" bores. A separate urethane rod wiper is standard on 16" – 24" bores.

F - Piston Rod

High strength steel (100,000 psi minimum yield) piston rod has a ground, polished, and chrome plated surface. This surface provides maximum life for both the rod bushing and the seals.

G - Tie Rods

The tie rods are 100,000 psi minimum yield steel for maximum holding power. They are roll formed for superior strength and engagement.

H - Piston Seal

The piston seal 1-1/2" – 8" bores is a nitrile o-ring seal. Nitrile lip seals are standard offering on 10" – 24" bores.

I - Piston

The solid aluminum alloy piston is strong and durable.
1-1/2" - 14" bore 6061-T6 aluminium piston.
16" - 24" bore A36 steel piston.

J - Tube End Seal

The tube end seals are compression type and reusable.

K - Ports

Our enhanced port design enables the cylinder to work more efficiently. Through the use of precise machining depths and tool shape, we are able to smooth the flow path into and out of the cylinder.

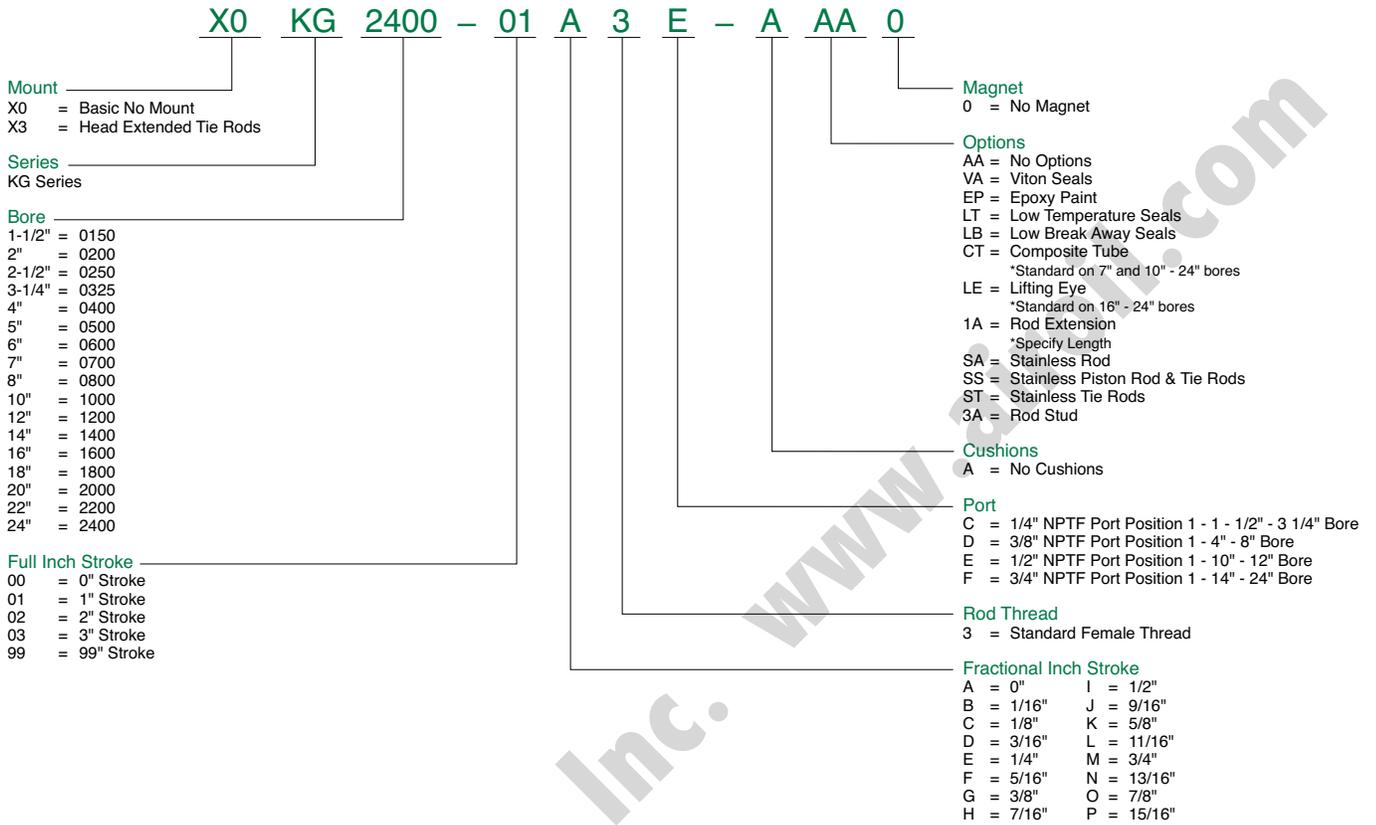
Standard Specifications:

- Bore sizes from 1-1/2" to 24"
- Piston rod diameters from 5/8" to 3-1/2"
- Nominal pressure rating is 150 psi air
- Standard temperature -10°F to 165°F (-23°C to 74°C)
- Optional low temperature seal -40°F to +165°F (-40°C to +74°C)
- Optional Viton Seals 0°F to +400°F -17°C to +204°C
- NPTF ports

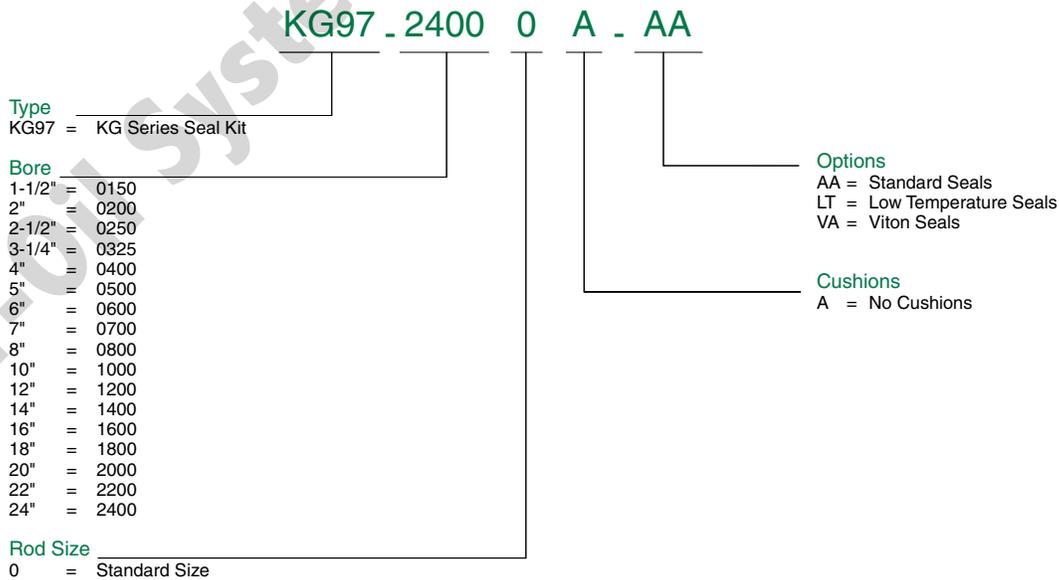


KG Series

How to Order



Seal Kit How to Order

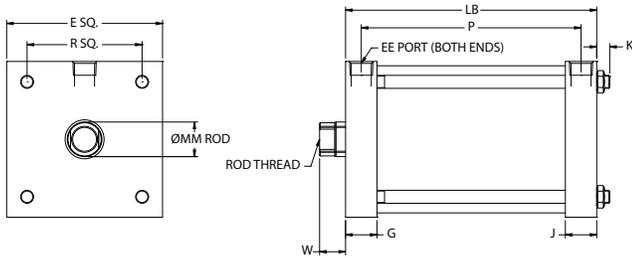




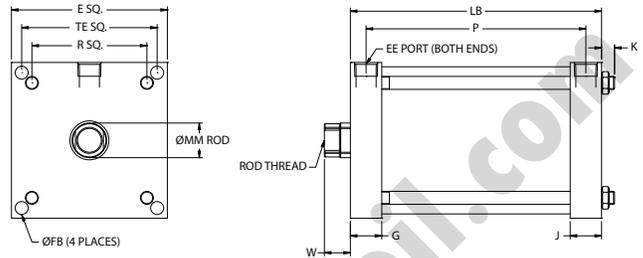
KG Series

1-1/2" - 14" Bore

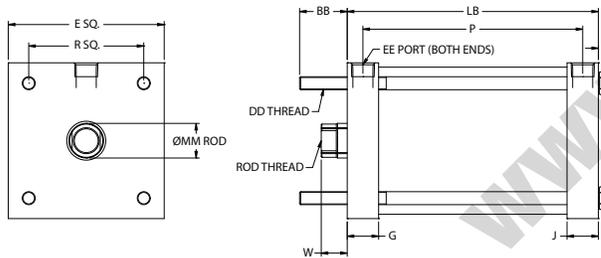
X0 MOUNT (1 1/2" - 6" BORES)



X0 MOUNT (7" - 14" BORES)



X3 MOUNT (1 1/2" - 14" BORES)



KG Series Standard Mount - X0 Mount

BORE	E	G	J	K	P	R	W	EE	FB	MM	LB	TE	Rod Thread
1-1/2	2.000	1.000	1.000	0.250	2.188	1.430	0.625	1/4	-	5/8	3.125	-	7/16-20
2	2.500	1.000	1.000	0.313	2.188	1.840	0.625	1/4	-	5/8	3.125	-	7/16-20
2-1/2	3.000	1.000	1.000	0.313	2.313	2.190	0.625	1/4	-	5/8	3.250	-	7/16-20
3-1/4	3.750	1.000	1.000	0.375	2.344	2.760	0.750	1/4	-	1	3.250	-	3/4-16
4	4.500	1.000	1.000	0.375	2.344	3.320	0.750	3/8	-	1	3.250	-	3/4-16
5	5.500	1.000	1.000	0.500	2.594	4.100	0.750	3/8	-	1	3.500	-	3/4-16
6	6.500	1.000	1.000	0.500	2.594	4.880	0.750	3/8	-	1	3.500	-	3/4-16
7	7.500	1.000	1.000	0.625	2.719	5.730	0.750	3/8	9/16	1	3.625	6.750	3/4-16
8	8.500	1.000	1.000	0.625	2.719	6.440	0.750	3/8	11/16	1	3.625	7.570	3/4-16
10	10.625	1.250	1.250	0.750	3.469	8.060	1.000	1/2	13/16	1	4.625	9.400	3/4-16
12	12.750	1.250	1.250	0.750	3.969	9.410	1.000	1/2	13/16	1 3/8	5.125	11.100	1-14
14	14.750	1.500	1.500	0.875	4.750	10.900	1.000	3/4	15/16	1 3/8	6.125	12.870	1-14

KG Series Head Extended Tie Rod Mount - X3 Mount

BORE	E	G	J	K	P	R	W	BB	DD	EE	MM	LB	TE	Rod Thread
1-1/2	2.000	1.000	1.000	0.250	2.062	1.430	0.625	1.000	1/4-28	1/4	5/8	3.125	-	7/16-20
2	2.500	1.000	1.000	0.313	2.062	1.840	0.625	1.125	5/16-24	1/4	5/8	3.125	-	7/16-20
2-1/2	3.000	1.000	1.000	0.313	2.187	2.190	0.625	1.125	5/16-24	1/4	5/8	3.250	-	7/16-20
3-1/4	3.750	1.000	1.000	0.375	2.156	2.760	0.750	1.375	3/8-24	1/4	1	3.250	-	3/4-16
4	4.500	1.000	1.000	0.375	2.156	3.320	0.750	1.375	3/8-24	3/8	1	3.250	-	3/4-16
5	5.500	1.000	1.000	0.500	2.406	4.100	0.750	1.750	1/2-20	3/8	1	3.500	-	3/4-16
6	6.500	1.000	1.000	0.500	2.406	4.880	0.750	1.750	1/2-20	3/8	1	3.500	-	3/4-16
7	7.500	1.000	1.000	0.625	2.406	5.730	0.750	2.000	5/8-18	3/8	1	3.625	6.750	3/4-16
8	8.500	1.000	1.000	0.625	2.531	6.440	0.750	2.000	5/8-18	3/8	1	3.625	7.570	3/4-16
10	10.625	1.250	1.250	0.750	3.281	8.060	1.000	2.250	3/4-16	1/2	1	4.625	9.400	3/4-16
12	12.750	1.250	1.250	0.750	3.781	9.410	1.000	2.250	3/4-16	1/2	1 3/8	5.125	11.100	1-14
14	14.750	1.500	1.500	0.875	4.500	10.900	1.000	2.500	7/8-14	3/4	1 3/8	6.125	12.870	1-14

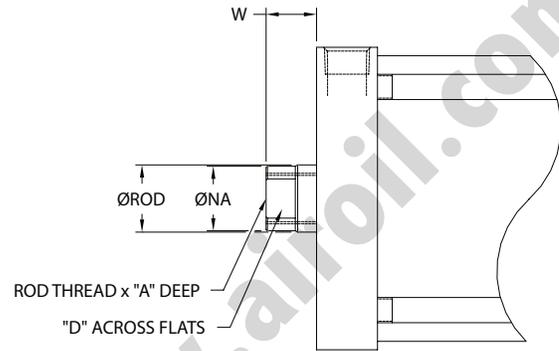


1-1/2" - 14" Rod End

Rod

BORE	ROD	A	D	W	NA	Rod Thread
1-1/2	5/8	0.750	0.500	0.625	0.585	7/16-20
2	5/8	0.750	0.500	0.625	0.585	7/16-20
2-1/2	5/8	0.750	0.500	0.625	0.585	7/16-20
3-1/4	1	1.125	0.813	0.750	0.960	3/4-16
4	1	1.125	0.813	0.750	0.960	3/4-16
5	1	1.125	0.813	0.750	0.960	3/4-16
6	1	1.125	0.813	0.750	0.960	3/4-16
7	1	1.125	0.813	0.750	0.960	3/4-16
8	1	1.125	0.813	0.750	0.960	3/4-16
10	1	1.125	0.813	1.000	0.960	3/4-16
12	1 3/8	1.625	1.125	1.000	1.313	1-14
14	1 3/8	1.625	1.125	1.000	1.313	1-14

ROD END (1 - 1/2" - 14" BORES)

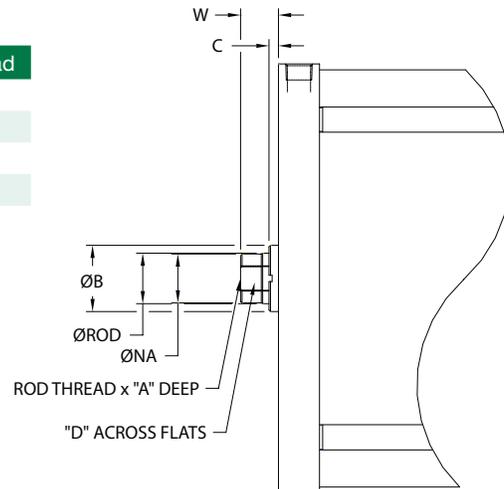


16" - 24" Rod End

Rod

BORE	ROD	A	B	C	D	W	NA	Rod Thread
16	2	1.625	2.625	0.375	1.750	1.500	1.940	1-14
18	2	2.000	2.625	0.375	1.750	1.500	1.940	1 1/8-12
20	2	2.000	2.625	0.375	1.750	1.500	1.940	1 1/4-12
22	3	2.000	4.750	0.375	2.625	2.250	2.940	1 1/4-12
24	3 1/2	2.000	4.750	0.375	3.000	2.250	3.440	1 1/4-12

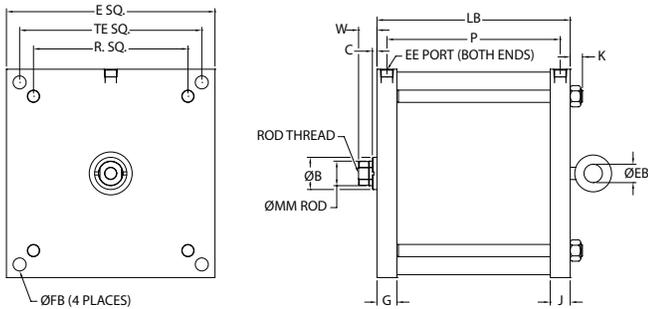
ROD END (16" - 24" BORES)



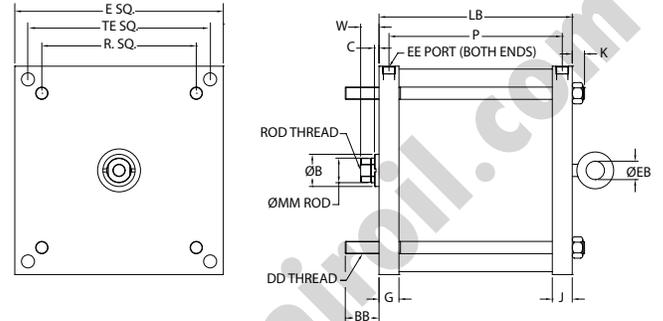


16" - 24" Bore

XO MOUNT (16" - 24" BORES)



X3 MOUNT (16" - 24" BORES)



Dimensions

BORE	C	E	G	J	K	P	R	W	BB	DD	EB	EE	FB	MM	LB	TE	Rod Thread
16	0.38	17.000	1.750	1.750	1.000	4.125	12.590	1.500	2.750	1-14	1.25	3/4	1	2.000	5.750	14.850	1-14
18	0.38	19.000	1.750	1.750	1.125	4.125	14.140	1.500	3.250	1 1/8-12	1.25	3/4	1 1/16	2.000	5.750	16.690	1 1/8-12
20	0.38	21.000	1.750	1.750	1.250	4.375	15.770	1.500	3.250	1 1/4-12	1.50	3/4	1 1/4	2.000	6.000	18.430	1 1/4-12
22	0.38	23.000	2.000	2.000	1.250	5.688	17.180	2.250	3.500	1 1/4-12	1.50	3/4	1 1/4	3.000	7.500	20.150	1 1/4-12
24	0.38	25.250	2.500	2.500	1.250	6.188	18.740	2.250	3.500	1 1/4-12	1.50	3/4	1 1/4	3.500	8.500	21.745	1 1/4-12

Torque Tolerances Aluminum Tubing

BORE	(lbs-ft)
1-1/2	10
2	20
2-1/2	20
3-1/4	30
4	30
5	60
6	60
8	90

Cylinder Weight Chart

BORE	Base Weight (lbs)	Per Inch Stroke (lbs)
1-1/2	3.3	0.2
2	5.3	0.3
2-1/2	7.1	0.3
3-1/4	11.2	0.5
4	14.9	0.5
5	24.8	0.6
6	32.7	0.7
7	45.9	0.9
8	56.8	1.0
10	108.6	1.3
12	157.6	1.6
14	252.7	1.9
16	438.6	2.5
18	556.8	3.0
20	706.3	3.4
22	1027.4	4.7
24	1403.4	5.6

Lifting Eyes

BORE	EB Ø	Lifting Eye Capacity (LBS)
3-1/4	1.00	1300
4	1.19	2400
5	1.19	2400
6	1.19	2400
7	1.19	2400
8	1.19	2400
10	1.25	3000
12	1.25	3000
14	1.25	3000
16	1.25	3000
18	1.50	5000
20	1.50	5000
22	1.50	5000
24	1.50	5000

Torque Tolerances Composite Tubing

BORE	(lbs-ft)
7	60
10	100
12	100
14	200
16	200
18	400
20	500
22	800
24	800



Complimentary Products

The KG Series is robust air cylinder line that is designed to perform in the most demanding cylinder applications. One of the most popular applications for the KG Series is to provide a versatile method to automate Knife Gate Valves. The KG Series cylinder is designed to withstand the harshest Knife Gate industries and applications, i.e., water and wastewater treatment plants, power industry, pulp and paper mills, and the mining industry.

As more processes and systems move to automated control and monitoring, the need for actuated knife gate and slide gate valves becomes apparent. Actuation provides remote, out-of-sight operation, faster cycling, lower operating costs, better process management and safer operation. The KG Series air cylinder actuators from Numatics provide a versatile and cost effective method of automation.

Furthermore, the KG Series cylinder line was designed to perform in general industry Knife Gate applications as well. For example, chemical processing, brewing, cement, tanneries, sugar mills, and chemical plants to name a few.

Additional Numatics products that are designed with the Knife Gate applications in mind include the following:

Delta Series™

The Numatics Delta Series™ offers premium filtration for applications which require high flows. The standard aluminum end caps on every element, premium manual drain, seals made of Viton®, and available 3 micron internal pleated prefilter sets the Delta Series™ apart from other competitors.



Numatics 4-way, High Flow, Solenoid Valve



Air Cylinders tailored to your specific requirements.

NUMATICS®

World Class Supplier
of Pneumatic Components



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