

New

Bimba Non-Contact Position Feedback Cylinders



Bimba's non-contact Position Feedback Cylinders employ a new magnetostrictive sensor. The sensor tip, fixed inside the cylinder, senses position as a magnet mounted to the piston moves back and forth across the sensor tip's length. This provides many important advantages, and makes the Non Contact PFC the preferred solution for closed-loop pneumatic positioning applications.

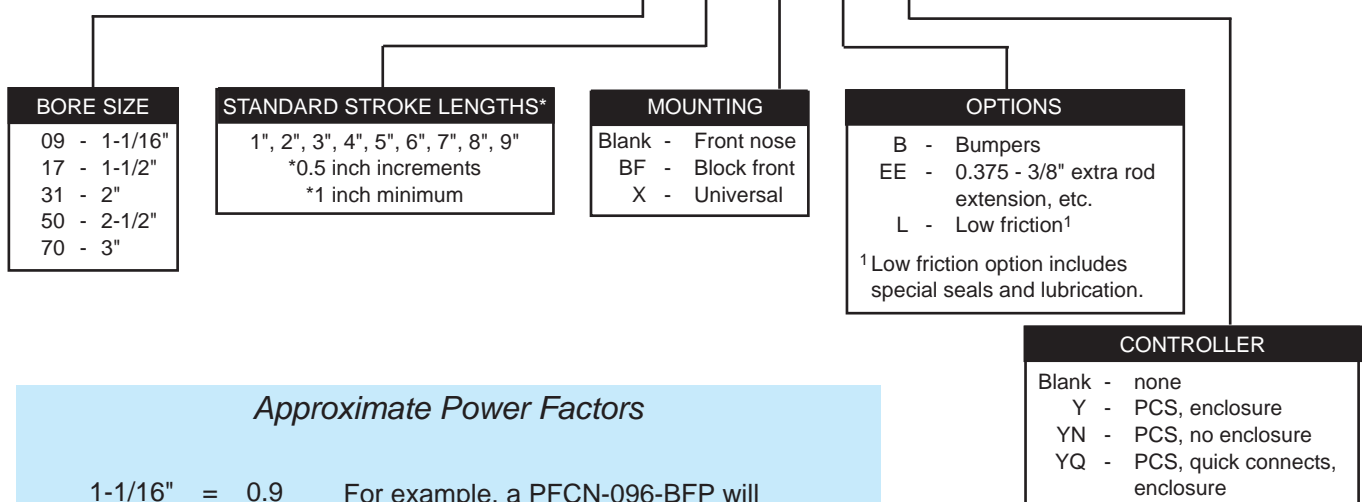
- PFCN is immune to conditions that deteriorate older technology PFC's, such as moisture, dirt, dirty air lines, and debris generated as pneumatic products wear.
- PFCN is immune to probe wear due to repeated short stroke cycling.
- Every PFCN is calibrated for 0 volts fully retracted and 10 volts fully extended. This simplifies use of multiple cylinders in an application and enables use of Bimba PCS controls.
- The magnetic piston facilitates use of a magnetic sensor as a failsafe for applications that require it.

How to Order

The model number of all Non-Contact Position Feedback Cylinders consists of three alpha-numeric clusters. These designate product type, bore size, stroke length, mounting style, and options. The exam-

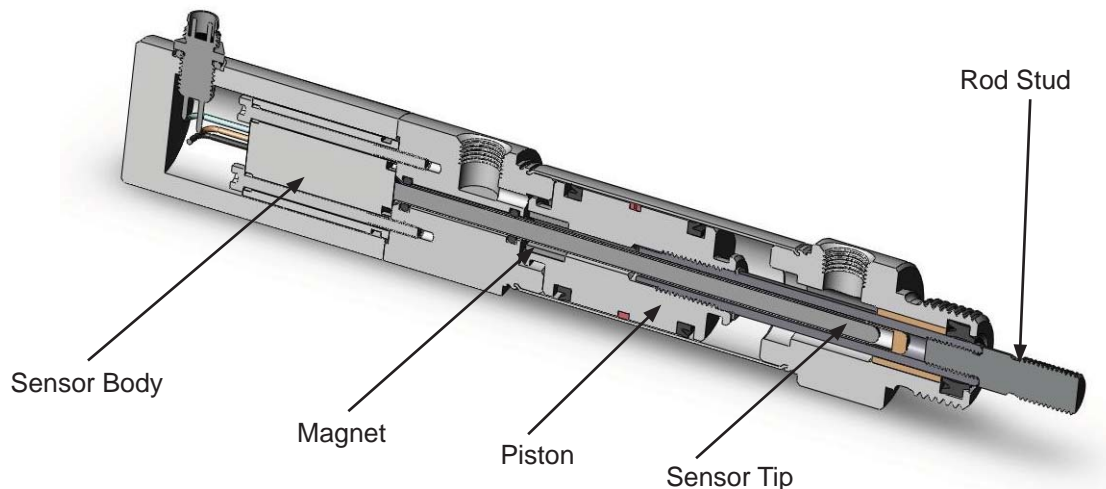
ple below describes PFCN-316-XBYN, a non-contact position feedback cylinder with 2 inch bore, 6 inch stroke, universal mount, bumpers, and a matching PCS controller with no enclosure.

PFCN - 316 - XBYN



Approximate Power Factors

1-1/16" = 0.9	For example, a PFCN-096-BFP will exert a force of 0.9 times the air lines pressure; a PFCN-506-XB will exert a force of 5.0 times the air line pressure.
1-1/2" = 1.7	
2" = 3.1	
2-1/2" = 5.0	
3" = 7.0	



Specifications

Positioning error due to temperature at 70 ±15° F by stroke length								
1" Stroke	2" Stroke	3" Stroke	4" Stroke	5" Stroke	6" Stroke	7" Stroke	8" Stroke	9" Stroke
3.74%	0.93%	0.63%	0.48%	0.34%	0.28%	0.23%	0.20%	0.16%
0.0373 in.	0.0186 in.	0.0189 in.	0.0191 in.	0.0168 in.	0.0167 in.	0.0160 in.	0.0162 in.	0.0144 in.

*Variations in temperature will cause output voltage to change.
To determine error at a temperature range other than what is in the table above, contact Bimba Technical Support.*

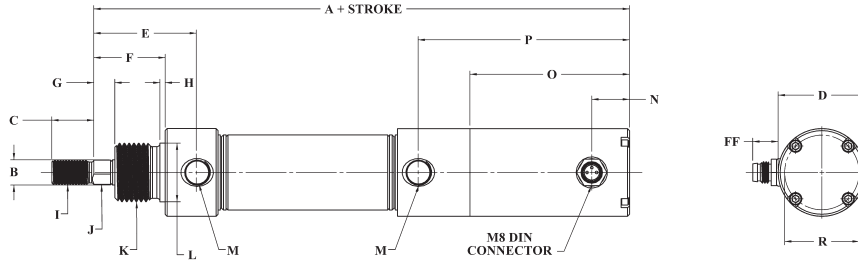
- Operating temperature: -20° to 200°F (-28° to 93°C).
- Accuracy: ± 0.016 inch maximum anywhere along the stroke (calculated value combining Non-Linearity, Repeatability, Hysteresis effects at a constant temperature).
 - Non-Linearity: ± 0.010 inch
 - Repeatability: ± 0.001 inch
 - Hysteresis: ± 0.001 inch
- Signal output: 0 V DC retracted and 10 V DC extended, all stroke lengths (into 100 kOhms minimum and 300 pF maximum)
- Excitation (Supply) Voltage: 24 ±10% V DC (50mA maximum current)
- Maximum end of stroke impact speed: 10 in/sec.
- Rated Life of the Cylinder: 1400 linear miles (at 10 inches/sec, no load, room temperature)
- Over voltage and polarity protection
- Cylinder RoHs compliant.
- IP-68 rated connector standard.

List Prices

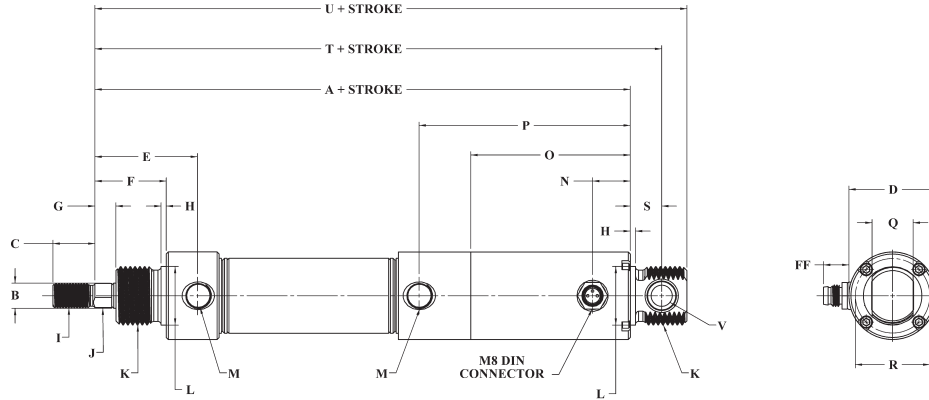
Bore	Base	Stroke Adder (per inch)	Mounting		Options			*Controller		
			BF Block Front	X Universal	B Bumpers	EE Extra Extention (per inch)	L* Low Friction	*Y	*YN	*YQ
1-1/16" (09)	\$465.00	\$15.30	\$17.70	\$4.90	\$4.40	2.85	\$13.00	\$510.00	\$540.00	\$600.00
1-1/2" (17)	498.00	18.35	19.05	5.75	5.35	7.00	13.00			
2" (31)	539.00	21.25	23.10	7.20	6.90	9.30	13.00			
2-1/2" (50)	584.00	24.25	27.90	9.05	8.65	12.00	13.00			
3" (70)	636.00	27.40	35.80	12.00	13.00	12.00	13.00			

*Specify option L for closed loop position control applications requiring optimal positioning performance. Use Bimba PCS Controls for best results (options Y, YN, YQ).

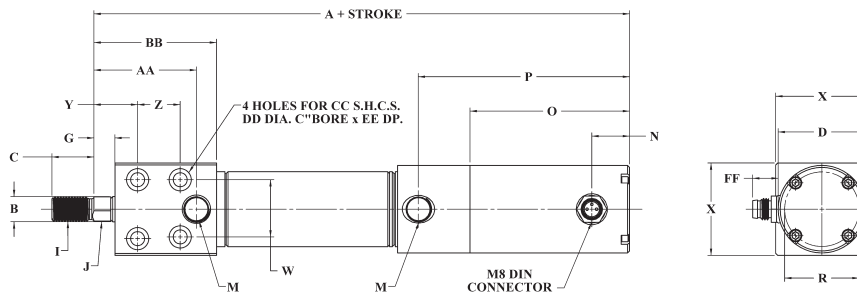
Nose mount



Universal Mount



Block Mount



Dimensions (in.)

Bore	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1-1/16" (09)	7.47	φ0.38	0.63	φ1.31	1.54/Option L 1.52	1.06	0.31	0.08	3/8-24 UNF	0.31	7/8-14 UNF	φ0.87	1/8 NPT	0.56
1-1/2" (17)	7.80	φ0.50	0.88	φ1.58	1.72	1.13	0.31	0.09	7/16-20 UNF	0.44	1-1/8-12 UNF	φ1.12	1/4 NPT	0.56
2" (31)	7.75	φ0.63	1.00	φ2.09	2.10	1.38	0.38	0.11	1/2-20 UNF	0.50	1-1/4-12 UNF	φ1.25	1/4 NPT	0.40
2-1/2" (50)	8.31	φ0.75	1.25	φ2.58	2.28	1.50	0.44	0.13	5/8-18 UNF	0.63	1-3/8-12 UNF	φ1.37	3/8 NPT	0.40
3" (70)	8.62	φ0.75	1.25	φ3.13	2.53	1.69	0.44	0.13	5/8-18 UNF	0.63	1-1/2-12 UNF	φ1.62	3/8 NPT	0.40

Bore	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF
1-1/16" (09)	2.38	3.14	0.62	φ1.11	0.47	7.94	8.31	φ0.31	0.88	1.38	0.75	N/A	1.52	1.82	#10	φ0.33	0.20	0.38
1-1/2" (17)	2.38	3.25	0.74	φ1.33	0.56	8.36	8.83	φ0.38	1.25	1.75	0.69	0.75	1.68	2.00	1/4	φ0.41	0.25	0.38
2" (31)	2.03	2.91	0.86	φ1.63	0.66	8.38	8.88	φ0.44	1.44	2.25	0.75	1.00	1.75	2.41	3/8	φ0.58	0.39	0.38
2-1/2" (50)	2.00	3.03	0.99	φ2.06	0.75	9.06	9.69	φ0.50	1.88	2.75	0.88	1.25	2.13	2.72	7/16	φ0.67	0.45	0.38
3" (70)	2.00	3.03	0.99	φ2.44	0.81	9.43	10.06	φ0.50	2.25	3.25	0.94	1.38	2.31	2.91	1/2	φ0.77	0.52	0.38

Bumper length adder 0.25"

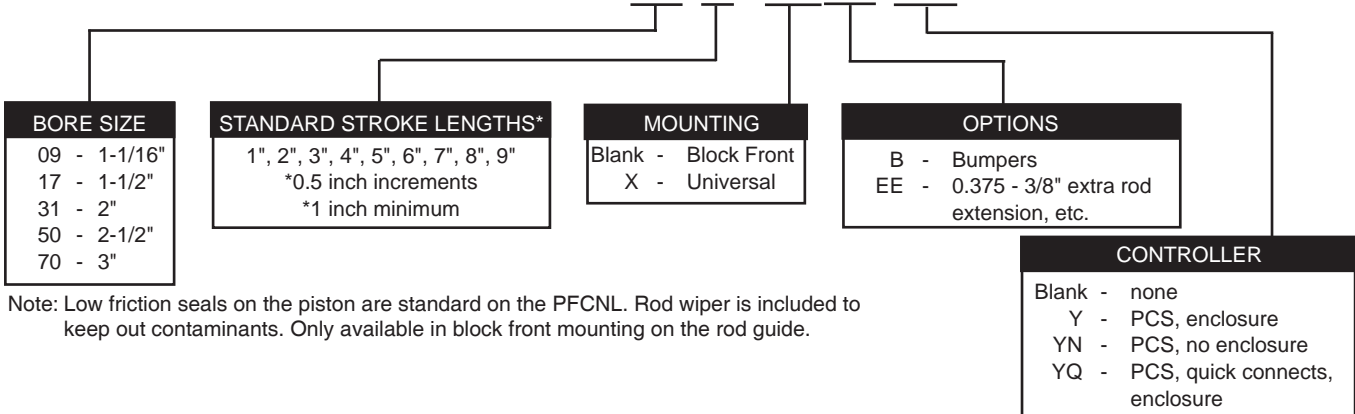
Bimba Non-Contact PFC Rod Lock

How to Order

The model number of all Non-Contact PFC Rod Lock Cylinders consists of three alpha-numeric clusters. These designate product type, bore size, stroke length, mounting style, and options. The example below

describes PFCNL-703-XBYQ, a non-contact position feedback cylinder with 3 inch bore, 3 inch stroke, universal mount, bumpers, and low friction seals, and matched PCS controller with an enclosure and quick connects.

PFCNL - 70 3 - X B YQ



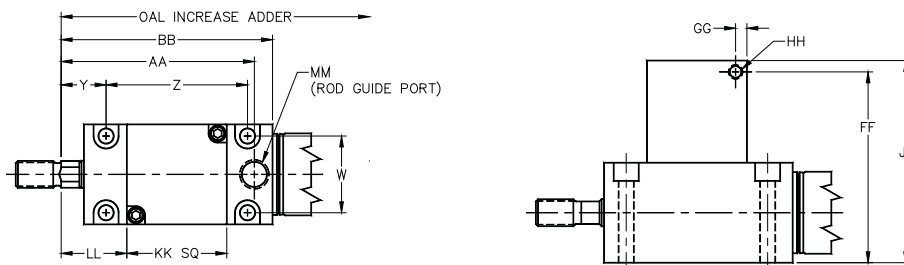
Note: Low friction seals on the piston are standard on the PFCNL. Rod wiper is included to keep out contaminants. Only available in block front mounting on the rod guide.

List Prices

Bore	Base	Stroke Adder (per inch)	Mounting	Options		Controller		
			X Universal	B Bumpers	EE Extra Extension (per inch)	*Y	*YN	*YQ
1-1/16" (09)	\$550.00	\$15.30	\$4.90	\$4.40	\$2.85	\$510.00	\$540.00	\$600.00
1-1/2" (17)	598.00	18.35	5.75	5.35	7.00			
2" (31)	665.00	21.25	7.20	6.90	9.30			
2-1/2" (50)	772.00	24.25	9.05	8.65	12.00			
3" (70)	874.00	27.40	12.00	13.00	12.00			

*Use Bimba PCS Controls for best results (options Y, YN, YQ).

Dimensions*



Bore	W	Y	Z	AA	BB	FF	GG	HH	JJ	KK	LL	MM	OAL Increase Adder
1-1/16" (09)	1.06	0.62	1.95	2.66	2.91	2.62	0.16	#10-32	2.78	1.38	0.90	1/8 NPT	1.08
1-1/2" (17)	1.25	0.64	2.75	3.36	3.68	3.13	0.25	1/8 NPT	3.38	1.75	1.14	1/4 NPT	1.68
2" (31)	1.62	0.82	3.13	3.97	4.34	4.20	0.38	1/8 NPT	4.45	2.25	1.26	1/4 NPT	1.94
2-1/2" (50)	1.88	0.87	3.62	4.62	5.05	5.34	0.33	1/4 NPT	3.67	2.75	1.31	3/8 NPT	2.33
3" (70)	2.25	0.90	4.17	5.17	5.59	5.86	0.50	1/4 NPT	6.28	3.25	1.35	3/8 NPT	2.69

*All other dimensions are same as the non-contact PFCN cylinders.