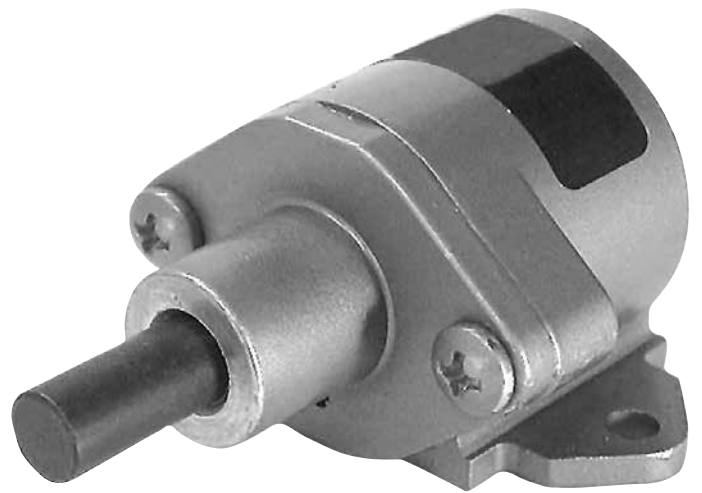




Specialty Cylinders

Bimba manufactures cylinders for every application, large or small, common or custom. Some actuators are designed to serve specialized applications, filling niches that more typical pneumatic actuators cannot.



Contents

497	Miniature Air Cylinders
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498	– Product Information
499	– Accessories
499	– How to Order

500	Single Acting Air Clamps
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Miniature Air Cylinders

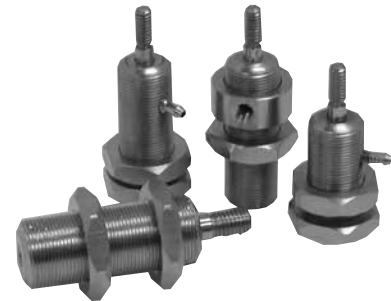
MA Series – Mini Adjustable Location Cylinders

These threaded body cylinders install quickly and easily without special mounting devices. Either drill a hole, insert your cylinder, and position with the pair of jam nuts or tap a hole and lock into position with a single jam nut. The MA-Series cylinders are electroless nickel plated for excellent corrosion resistance and a gleaming appearance.

Non-rotating: This option is available on 3/8" and 1/2" bore, single-acting, spring return cylinders.

Stroke Length Availability

The MA-250 (1/4" Bore) single acting is only available in 1/4" stroke lengths. The MA-250 double acting is available in 1/4", 1/2" and 1" stroke lengths. The MA-375 (3/8" Bore) and MA-500 (1/2" Bore) single acting is available in 1/4" and 1/2"; the double acting version is available in 1/4", 1/2", 1", 1 1/2" and 2" stroke lengths. By adding a spacer, all models are also available in fractional stroke lengths for no additional charge. (Dimensionally the cylinder will be the same as the next closest size up.) If other strokes are required, contact Bimba to quote a custom stroke length.



MA Series

MF Series – Mini Flat Mount Cylinders

Bimba's MF Series are miniature, rectangular flat mount cylinders. MF cylinders are available in both single and double-acting models with strokes up to 2".

All ports are tapped 10-32 except the front ports of 1/4" bore models, which have a 6-32 barb fitting. The standard location for the rear extend port is denoted by location "N" on the dimensional drawing. As an option, a rear side port can be ordered special. Contact Bimba for details.

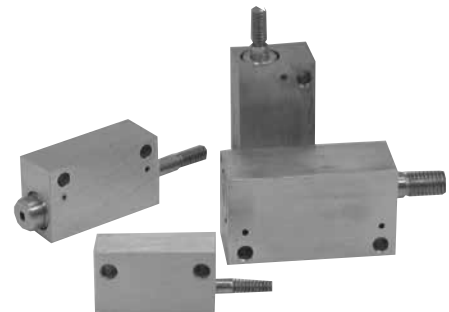
Mini Cylinders Mount Anywhere!

Bimba's line of miniature air cylinders offers users a wide range of low-profile linear actuators. These versatile cylinders are available in both single-acting and double-acting models. They are ideal actuators in any application where space is limited.

Stroke Length Availability

This series is available in 1/4" and 1/2" standard stroke lengths.* By adding a spacer, all models are also available in fractional stroke lengths for no additional charge. (Dimensionally the cylinder will be the same as the next closest size up.) If other strokes are required, contact Bimba to quote a custom stroke length.

***NOTE:** The MF-250 (1/4" bore), Single Acting (SR or SE) is only available in 1/4" standard stroke length.



MF Series

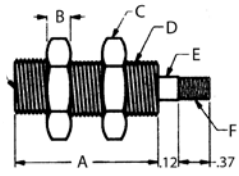
Technical Data

General Specifications	
Seals:	Buna-N (Viton Optional)
Temperature:	Buna-N seals = 0° F to 220° F (-18° C to 104° C)
Viton Seals:	0° F to 400° F
Operating Pressure:	to 125 PSI
Piston Rods:	Stainless Steel
Rod Bearings:	660 Bronze
Lubrication:	Recommended - non detergent petroleum based
Filtration:	40 Micron

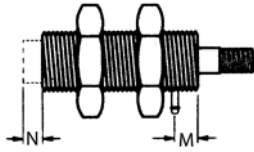
How To Specify

Product Information

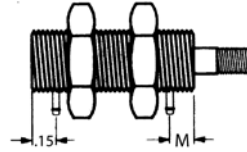
Dimensions – MA Series



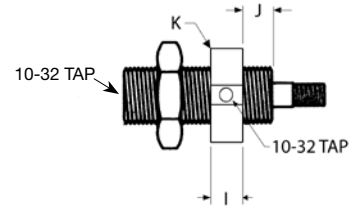
Basic Cylinder



Spring Extend Only



6-32 Barbs
(for use with 1/16" ID Hose)



Side and Rear Tapped

Bore	A=Stroke+	B	C	D	E	F	I	J	K	M	N
1/4"	0.81	.15	.62	3/8-32	.14	6-32	.31	.06	.62	.20	.10
3/8"	1.00	.18	.75	1/2-32	.17	8-32	.31	.21	.75	.37	.18
1/2"	1.06	.18	.87	5/8-32	.25	1/4-28	.31	.21	.87	.37	-

Dimensions – MF Series

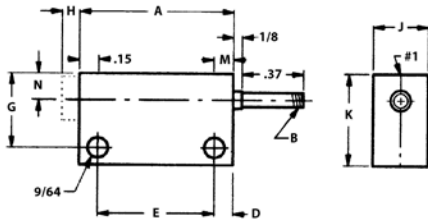


Figure 1: For strokes up to 1/2"

#1: Indicates port locations. The H dimension is for spring extend cylinders only.

When nominal forces are adequate, this table may be helpful.

Typical Spring Forces			
Spring Return Stroke	Ounces	Spring Extend Stroke	Ounces
250 - 1/4"	14-18	250 - 1/4"	25-29
375 - 1/4"	22-26	375 - 1/4"	30-34
375 - 1/2"	22-26	375 - 1/2"	54-58
500 - 1/4"	42-46	500 - 1/4"	62-66
500 - 1/2"	51-55	500 - 1/2"	78-80

Bore	Stroke	A	B	D	E	G	H	I	J	K	M	N	O	Front Port	Rear Port
1/4"	1/4"	1.06	6-32	.12	0.81	7/16"	.10	.31	3/8"	5/8"	.20	.18	5/16"	6-32	10-32
	1/2"	1.31	6-32	.12	1.06	7/16"	-	.31	3/8"	5/8"	.20	.18	5/16"	Barb	Tap
3/8"	1/4"	1.25	8-32	.15	0.93	5/8"	.18	.37	1/2"	3/4"	.37	.25	7/16"	10-32	10-32
	1/2"	1.50	8-32	.15	1.18	5/8"	.18	.37	1/2"	3/4"	.37	.25	7/16"	Tap	Tap
1/2"	1/4"	1.31	1/4-28	.15	1.00	3/4"	-	.37	5/8"	7/8"	.37	.31	9/16"	10-32	10-32
	1/2"	1.56	1/4-28	.15	1.25	3/4"	-	.37	5/8"	7/8"	.37	.31	9/16"	Tap	Tap

Dimensions For Cylinders With Strokes Over 1/2"

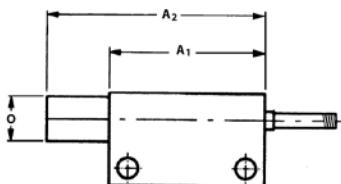


Figure 2: For strokes over 1/2"

Bore	A ₁	A ₂
1/4"	1.06	0.81 + Stroke
3/8"	1.25	1.00 + Stroke
1/2"	1.31	1.06 + Stroke

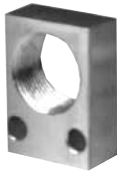
Accessories

Description	Model Number
Fitting: 10-32 to 1/16" ID Hose	PMHF
Fitting: 6-32 Barb to 1/16" ID Hose	PMBF
Hex Nut for 1/4" Bore Cylinder	PMH-250
Hex Nut for 3/8" Bore Cylinder	PMH-375
Hex Nut for 1/2" Bore Cylinder	PMH-500
1/16" ID Tube Clear Polyurethane (50 ft.)	11NAT

Mounting Blocks



PMB-250



PMB-375



PMB-500

Bore	PMB 250 1/4"	PMB 375 3/8"	PMB 500 1/2"
Width	0.503	0.626	0.75
Height	0.879	0.876	0.94
Depth	0.314	0.314	0.38
Hole (2)	0.14	0.139	0.136

How to Order

MA - 500 x 1.00 - DA - R B (***)

Series		Bore		Stroke	Type	Rear Port		Front Port	Options	
MA	Mini Adjustable	250	1/4" Bore	See "Stroke Length Availability" on page 497 for particular series	DA	O	None (Spring Extend)	O	VI	Viton Seal
MF	Mini Flat	375	3/8" Bore		SR	R	Rear Tapped (10-32)	S	NR	Non-Rotating (Hex Rod) (MA Series only)
		500	1/2" Bore		SE	S	Side Tapped (10-32)*	B		
						B	6-32 Barb (for 1/16" ID Hose)	B		

* Special Order (non-stock; contact factory)

Product Features

Single Acting Air Clamps

Economical single-acting air clamps provide gripping power on the out stroke and spring retraction. They are ideal for use in drill fixtures and for bending, swaging, forming, crimping, and pressing operations. Because 3-way valves may be used, hook-ups are quick and easy.

Adjustable Stroke Models

H0X01, H1X12, V0X01, and V1X12 models are supplied with an adjustable front head so that the user may adjust the length of the stroke by as much as one inch.



VOX01



H-1



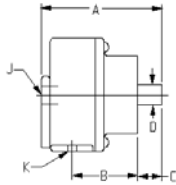
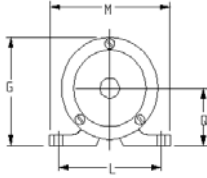
V-1

Technical Data

Specifications	
Pressure:	Air to 150 PSI
Temperature:	-40° F to 250° F (-40° C to 121° C)
Rod Material:	Nitrotec plated steel on 1" bore models, ground and polished on all others.
Seals:	Custom molded one-piece neoprene cups
Body & Cover:	Aluminum on adjustable models, cast aluminum on all other models. Cast iron on H-12 and H-283.
Lubrication:	Petroleum base oil
Filtration:	40 Micron minimum

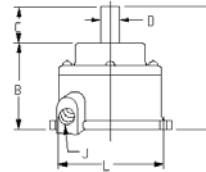
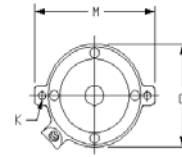
Product Information

Dimensions



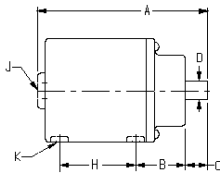
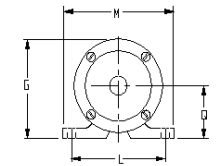
Single Side Lug

Dimension	H-1	HOX-01	H1X-12	H-41	H-71
A	2-25/32	4	5	4-7/8	5-5/16
B	1-11/32	Var.		2-1/4	2-3/4
C	5/8	Var.		1-1/2	1-7/16
D	5/16	5/16		1/2	3/4
G	1-1/4	1-9/16		3-1/16	3-23/32
J	1/8 NPTF	1/8 NPTF		1/8 NPTF	1/4 NPTF
K	3/16	.200		1/2 Slot	21/64
L	1-5/8	1-5/8		3 1/2	4-5/8
M	2	2-1/8		4-7/16	5-3/8
Q	5/8	13/16		1-9/16	1-15/16



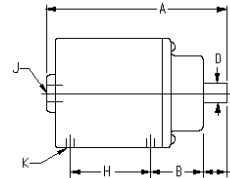
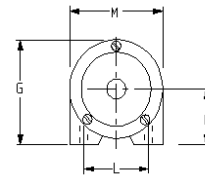
Base Mount

Dimension	V-1	VOX-01	V1X-12	V-41
A	2-5/8	3-13/16	4-13/16	4-5/8
B	1-15/16	Var.		3-3/16
C	11/16	Var.		1-7/16
D	5/16	5/16		1/2
G	1-9/16	1-3/4		3
J	1/8 NPTF	1/8 NPTF		1/8 NPTF
K	3/16	.200		.257
L	1-11/16	1-5/8		3-3/4
M	2-1/8	2		4-1/4



Double Side Lug

Dimension	H-72	H-73	H-12	H-283
A	6-5/16	7-5/16	7	9
B	2-3/16	2-3/16	2-9/16	3-1/2
C	1-7/16	1-7/16	1-7/16	1-7/16
D	3/4	3/4	3/4	1-1/4
G	3-11/16	3-11/16	5-1/16	7-1/16
H	2-1/16	3-1/16	2-5/16	7-1/16
J	1/4 NPTF	1/4 NPTF	3/8 NPTF	1/2 NPTF
K	21/64	21/64	1/2 Slot	1/2-13
L	4-5/8	4-5/8	5-1/2	5-5/8
M	5-1/4	5-1/4	7	6-3/4
Q	1-7/8	1-7/8	2-9/16	3-9/16



Bottom Flush

Dimension	H-42	H-122
A	5-13/16	7-9/16
B	2-5/8	2-5/8
C	1-7/16	1-7/16
D	1/2	3/4
G	3-1/16	4-31/32
H	-	2-1/2
J	1/8 NPTF	3/8 NPTF
K	1/4-20	5/16-18
L	2-1/4	2-1/4
M	3	4-13/16
Q	1-9/16	2-9/16

How to Order

How To Order

Models	Return‡	Bore(″)	Stroke(″)	Output*
H-1 & V-1	4	1	11/16	68
HOX01 & VOX01	5	1	0 to 1	62
H1X12 & V1X12	5	1	1 to 2	61
H-41 & V-41	9	2-1/4	1	361
H-42	10	2-1/4	2	353
H-71	18	3	1	682
H-72	13	3	2	675
H-73	14	3	3	679
H-12	39	4	2	1206
H-122	27	4	2-5/8	1204
H-283	40	6	3	2763

‡ Maximum weight in pounds that spring will return.

* Force in pounds at 100 PSI input pressure with maximum spring resistance.