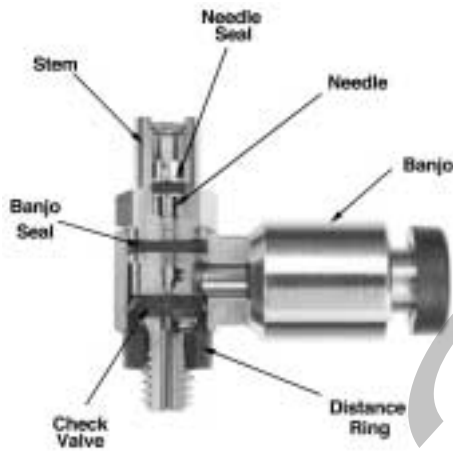
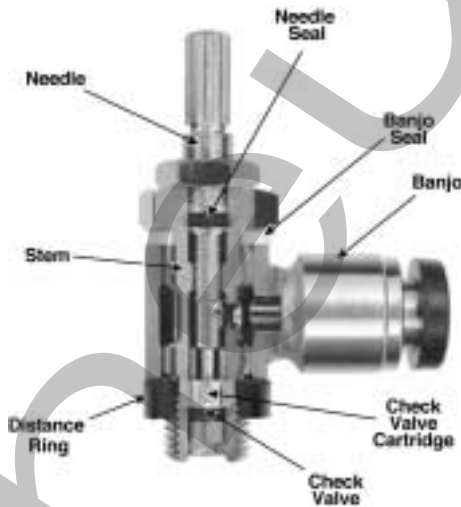


## Specifications

Fluid Air  
 Maximum Operating Pressure 10 Bar (145 PSI)  
 Minimum Operating Pressure 0.1 Bar (1.5 PSI)  
 Temperature Range -10° to +80°C  
 (-14° to +176°F)



Material Specifications For M5	
Banjo	Nickel Plated Brass
Stem	Nickel Plated Brass
Needle	Nickel Plated Brass
Check Valve	NBR (Buna-N)
Needle Seal	NBR (Buna-N)
Banjo Seal	NBR (Buna-N)
Distance Ring	Reinforced Nylon



Material Specifications For G1/8" & G1/4"	
Banjo	Nickel Plated Brass
Stem	Nickel Plated Brass
Needle	Nickel Plated Brass
Check Valve	NBR (Buna-N)
Check Valve Cartridge	Brass
Needle Seal	NBR (Buna-N)
Banjo Seal	Reinforced Nylon
Distance Ring	Reinforced Nylon

Flow Controls

Alignment Couplers

Flat-1 / Square Flat-1

Flat-II / Square Flat-II

F02, F03, F04 (multiple power)

F0P (multiple position)

Accessories

EF1 Cylinders

EF2 Cylinders

Twin Bore Cylinders

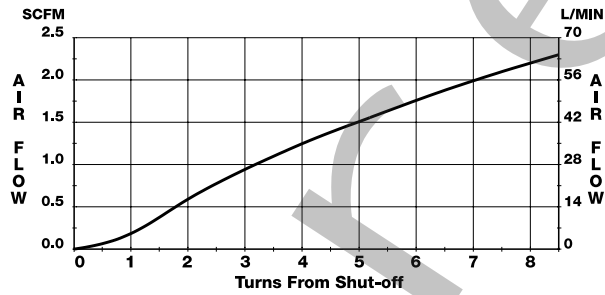
Position Sensing Switches

# Bimba Metric Flow Controls: FCPM Series

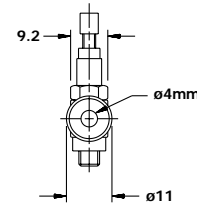
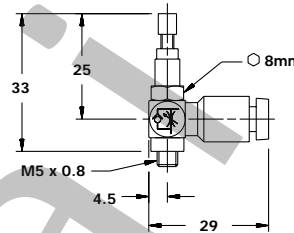
## M5 Port Mounted Flow Control Valves



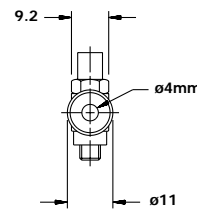
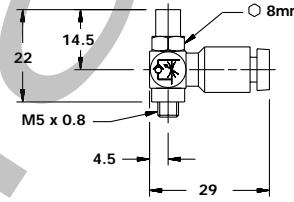
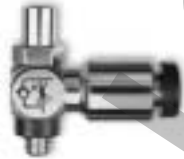
**M5 Controlled Flow Chart (at 5 Bar)**  
Maximum Free Flow Capacity 91-122 l/min



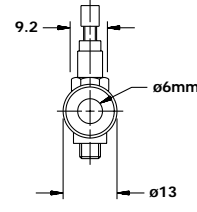
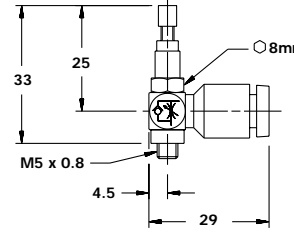
**For M5 port,  
FCPM-1-Q4-L  
4mm OD tubing  
2mm ID tubing**



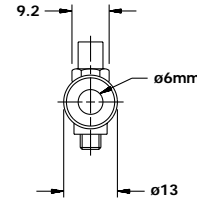
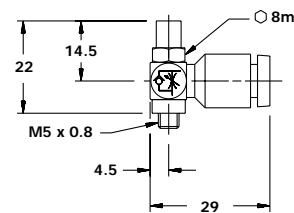
**For M5 port,  
4mm OD tubing  
2mm ID tubing  
FCPM-1-Q4-R**



**For M5 port,  
FCPM-1-Q6-L  
6mm OD tubing  
4mm ID tubing**



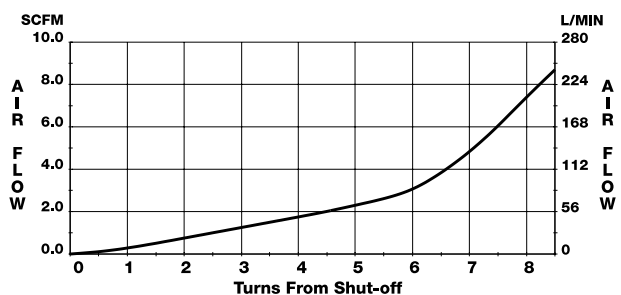
**For M5 port,  
6mm OD tubing  
4mm ID tubing  
FCPM-1-Q6-R**



## G1/8 Port Mounted Flow Control Valves

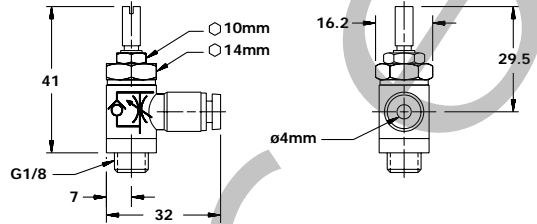


**G1/8 Controlled Flow Chart (at 5 Bar)**  
Maximum Free Flow Capacity 110-334 l/min

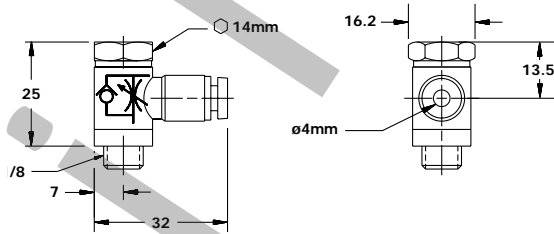


# Bimba Metric Flow Controls- FCPM Series

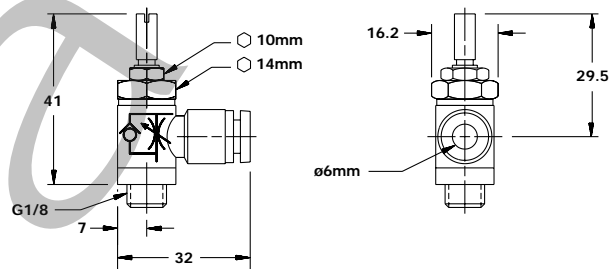
For G<sup>1</sup>/<sub>8</sub> port,  
FCPM-2-Q4-L  
4mm OD tubing  
2mm ID tubing



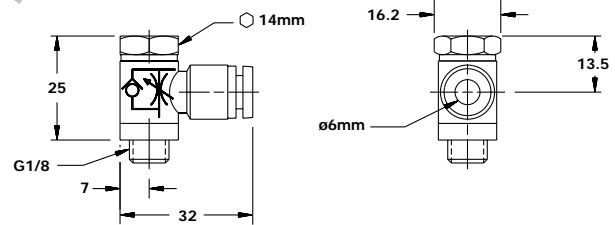
For G<sup>1</sup>/<sub>8</sub> port,  
4mm OD tubing  
2mm ID tubing  
FCPM-2-Q4-R



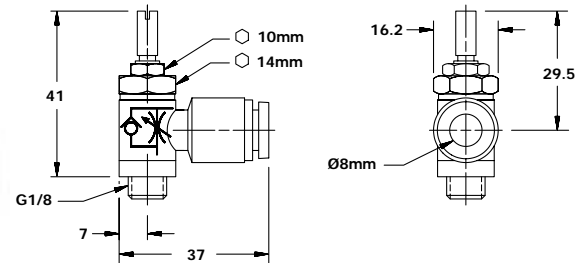
For G<sup>1</sup>/<sub>8</sub> port,  
FCPM-2-Q6-L  
6mm OD tubing  
4mm ID tubing



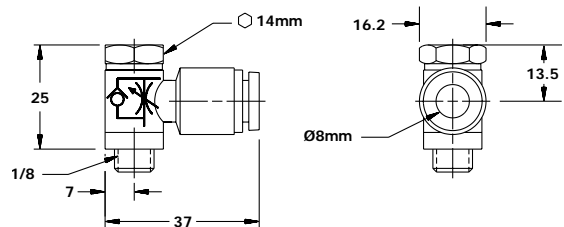
For G<sup>1</sup>/<sub>8</sub> port,  
6mm OD tubing  
4mm ID tubing  
FCPM-2-Q6-R



For G<sup>1</sup>/<sub>8</sub> port,  
FCPM-2-Q8-L  
8mm OD tubing  
6mm ID tubing



For G<sup>1</sup>/<sub>8</sub> port,  
8mm OD tubing  
6mm ID tubing  
FCPM-2-Q8-R



Flow Controls

Alignment Couplers

Flat-1 / Square Flat-1

Flat-II / Square Flat-II

FQ2, FQ3, FQ4  
(multiple power)

FQP  
(multiple position)

Accessories

EF1 Cylinders

EF2 Cylinders

Twin Bore Cylinders

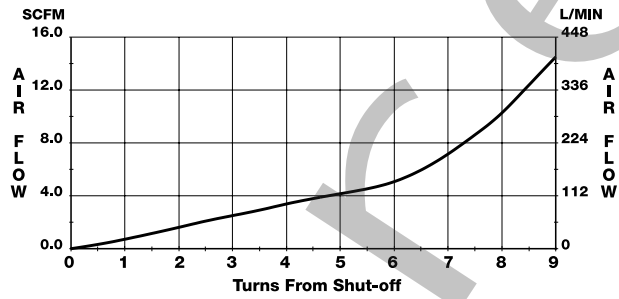
Position Sens Switches

# Bimba Metric Flow Controls: FCPM Series

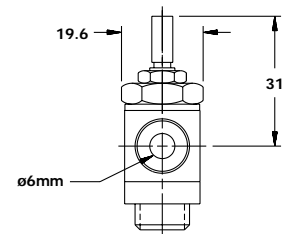
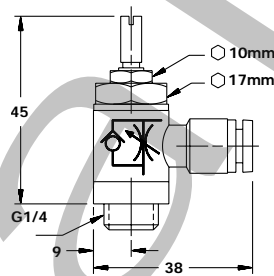
## G1/4 Port Mounted Flow Control Valves



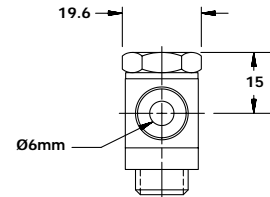
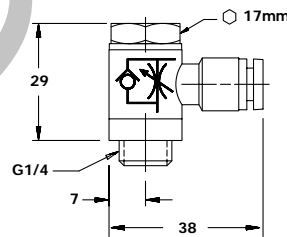
### G1/4 Controlled Flow Chart (at 5 Bar) Maximum Free Flow Capacity 394-634 l/min



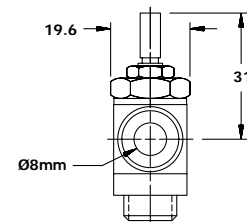
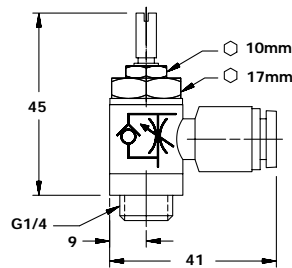
For G1/4 port,  
FCPM-4-Q6-L  
6mm OD tubing  
4mm ID tubing



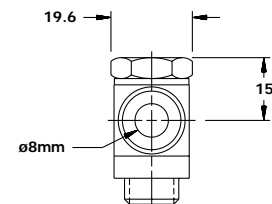
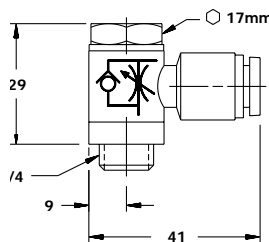
For G1/4 port,  
FCPM-4-Q6-R  
6mm OD tubing  
4mm ID tubing



For G1/4 port,  
FCPM-4-Q8-L  
8mm OD tubing  
6mm ID tubing

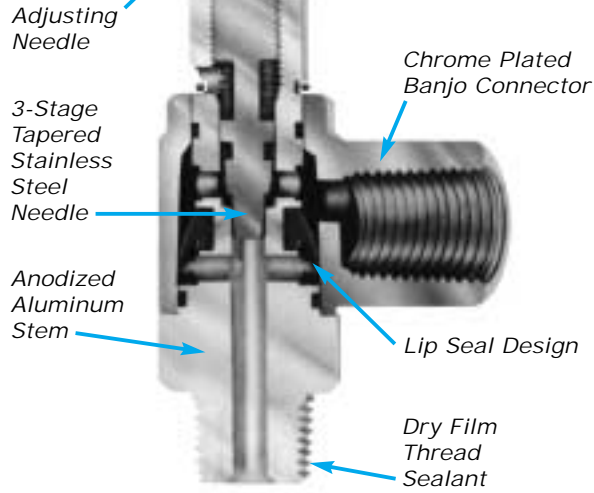


For G1/4 port,  
FCPM-4-Q8-R  
8mm OD tubing  
6mm ID tubing

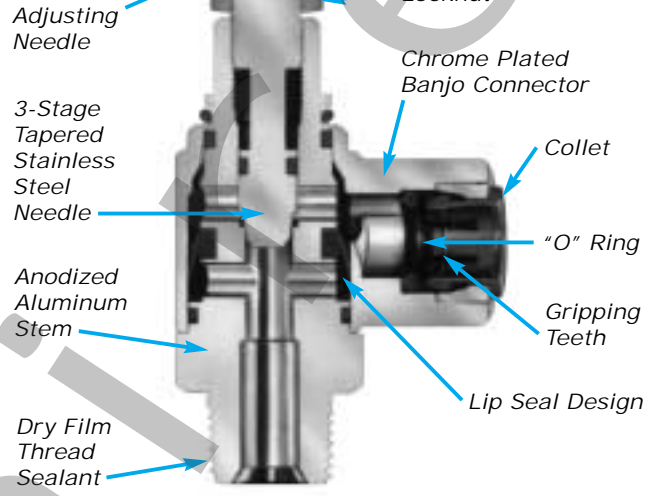


# Bimba Flow Controls

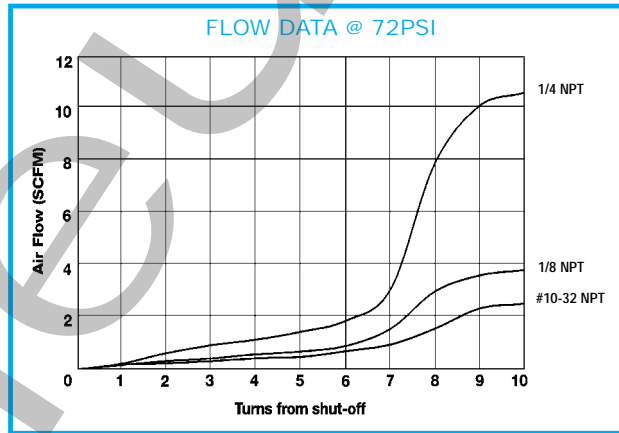
## FCP



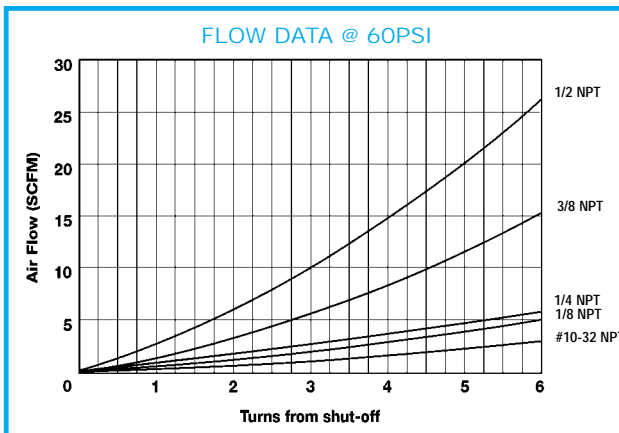
## FQP



## FQPS Series



## FQP & FCP Series



ORDER ONLINE

Flow Controls

Alignment Couplers

Flat-1 / Square Flat-1

Flat-II / Square Flat-II

FQ2, FQ3, FQ4 (multiple power)

FQP (multiple position)

Accessories

EF1 Cylinders

EF2 Cylinders

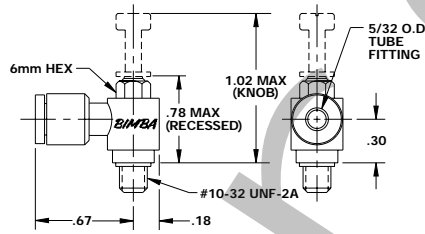
Twin Bore Cylinders

Position Sens Switches

# Bimba Miniature Quik-Flo® Flow Controls- FQPS Series

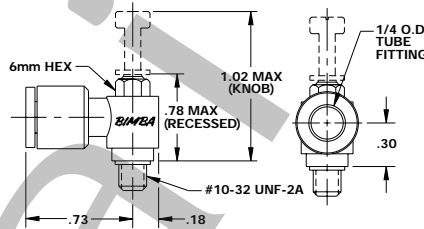
For 10-32 port,  
5/32" OD tubing

FQPS1 FQPS1K



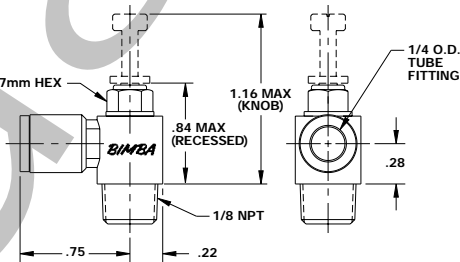
For 10-32 port,  
1/4" OD tubing

FQPS12 FQPS12K



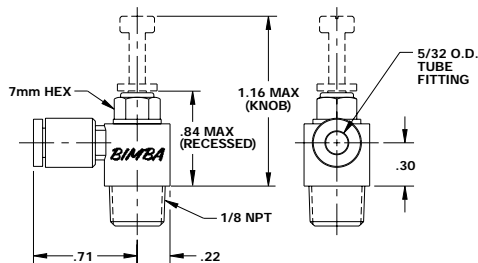
For 1/8 port,  
1/4" OD tubing

FQPS2 FQPS2K



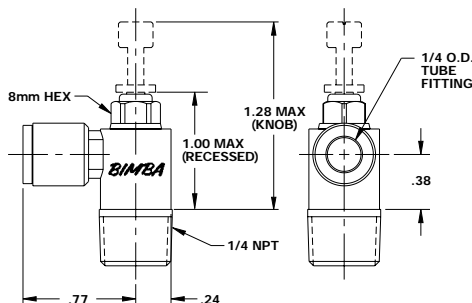
For 1/8 port,  
5/32" OD tubing

FQPS21 FQPS21K



For 1/4 port,  
1/4" OD tubing

FQPS44 FQPS44K



## Materials:

Adjusting knob and thread:  
Nickel-plated brass

Body:  
Glass-filled nylon

Tubing:  
Nylon, polyurethane and polyethylene tubing

Maximum Operating Pressure:  
135 PSI Air Only

Operating Temperature Range:  
30 degrees to 160 degrees F  
(0°C to 70°C)

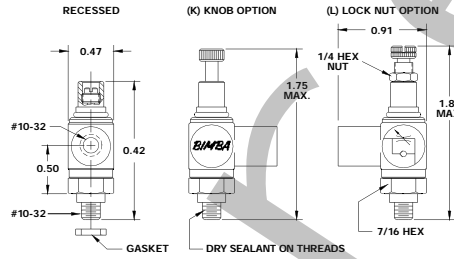
# Bimba Flow Controls- FCP Series

FCP1

FCP1K

FCP1L

For 10-32 port



Materials:

Banjo Connector:  
Chrome plated,  
zinc die cast

Banjo Retaining  
Ring:  
Zinc plated steel

Stem:  
High strength  
anodized  
aluminum alloy

Adjusting Needle:  
Stainless steel

"O" Rings and  
Lip Seal:  
Buna N

Maximum  
Operating  
Pressure:  
150 PSI Air Only

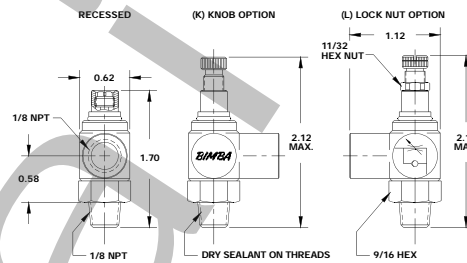
Operating  
Temperature  
Range:  
-20 degrees  
to +200 degrees F  
(-25°C to +95°C)

FCP2

FCP2K

FCP2L

For 1/8 port

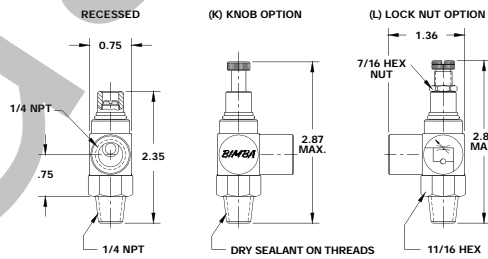


FCP4

FCP4K

FCP4L

For 1/4 port

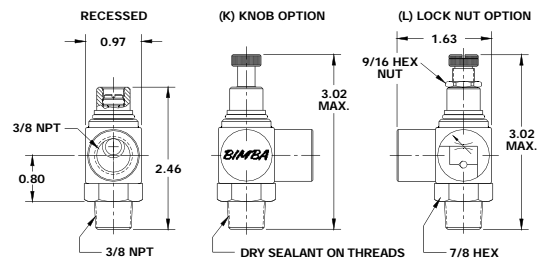


FCP6

FCP6K

FCP6L

For 3/8 port

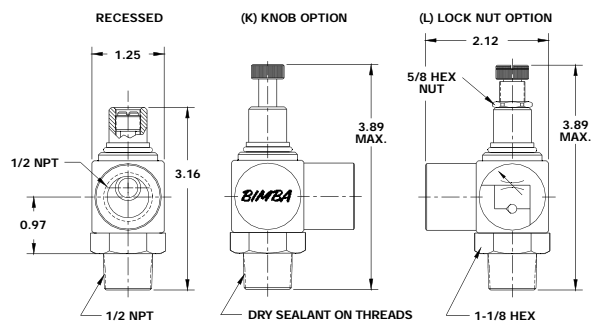


FCP8

FCP8K

FCP8L

For 1/2 port



Flow Controls

Alignment  
Couplers

Flat-1 /  
Square Flat-1

Flat-II /  
Square Flat-II

F02, F03, F04  
(multiple power)

F0P  
(multiple position)

Accessories

EF1 Cylinders

EF2 Cylinders

Twin Bore  
Cylinders

Position Sens  
Switches

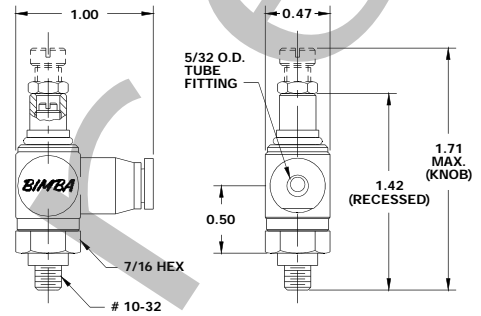
ORDER  
ONLINE

# Bimba Quik-Flo® Flow Controls: FQP Series

For 10-32 port,  
5/32" OD tubing

FQP1

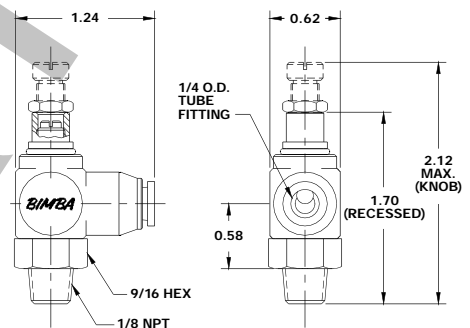
FQP1K



For 1/8 port,  
1/4" OD tubing

FQP2

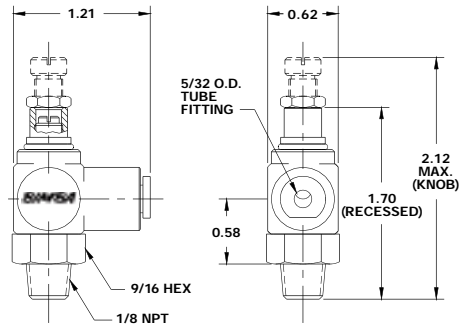
FQP2K



For 1/8 port,  
5/32" OD tubing

FQP21

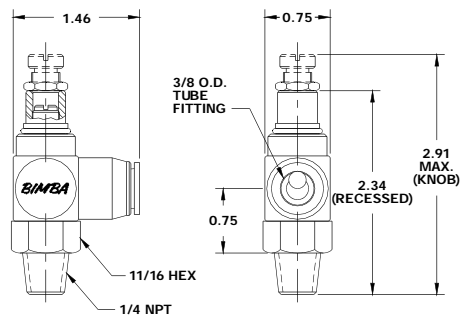
FQP21K



For 1/4 port,  
3/8" OD tubing

FQP4

FQP4K



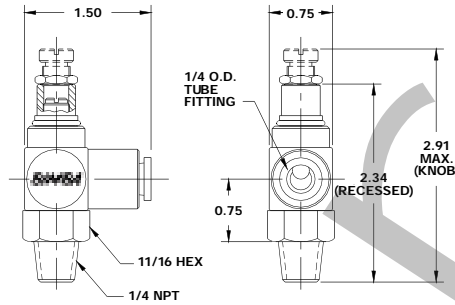


# Bimba Quik-Flo® Flow Controls- FQP Series

FQP44

FQP44K

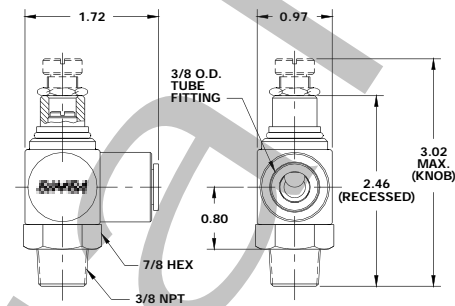
For 1/4 port,  
1/4" OD tubing



FQP6

FQP6K

For 3/8 port,  
3/8" OD tubing



## Bimba Needle Valves

Bimba offers a range of Quik-Flo® Needle Valves, allowing for controlled flow of both the air intake and exhaust through the same valve. A needle valve can control a double acting cylinder's extension and retraction by controlling the volume of air entering the cylinder and the volume of air leaving the cylinder.

For additional dimensional information, reference Quik-Flo® Flow Controls on pages 10 and 11. For example, reference FQP1 for QNV1 dimensions.

Model	Tube Size	Port Size	Cv
QNV1	5/32"	#10-32	.09
QNV1K	5/32"	#10-32	.09
QNV2	1/4"	1/8" NPT	.21
QNV2K	1/4"	1/8" NPT	.21
QNV44	1/4"	1/4" NPT	.44
QNV44K	18.00 1/4"	1/4" NPT	.44
QNV6	3/8"	3/8" NPT	.73
QNV6K	22.15 3/8"	3/8" NPT	.73

## WARRANTY

All Bimba products are warranted against defects in workmanship or material under normal conditions and usage for a period of two years from the date of shipment. Your exclusive remedy in the event of such a defect is to return the product to our factory for repair, replacement or refund, clearly identified by the Bimba Returned Goods Authorization number. This Warranty does not cover products which have been subject to misuse, negligence, accidents, misapplications or tampering in a way so as to affect their normal performance. Bimba shall not be liable for special, indirect or consequential damages.

Bimba gives no warranty, express or implied, as to merchantability, fitness for particular purpose as sold, description, quality or any other matter beyond that specified above. Bimba does not assume, nor authorize anyone else to assume for it, any other obligation or liability in connection with the sale or use of its products.

All prices are F.O.B. Monee, Illinois and subject to change without notice. Product enhancements resulting from our continuing quality improvement effort may necessitate changes in specifications without notice.

## Materials:

**Banjo Connector:**  
Chrome plated,  
zinc die cast

**Banjo Retaining Ring:**  
Zinc plated steel

**Stem:**  
High strength anodized  
aluminum alloy

**Adjusting Needle:**  
Stainless steel

**"O" Rings and Lip Seal:**  
Buna N

**Collet:**  
Acetal copolymer

**Gripping teeth:**  
Stainless steel

**Collet Retainer  
(if applicable):**  
Brass

**Locknut:**  
Chrome-plated brass

**Tube Types:**  
All plastic tubing,  
including nylon and  
polyethylene

**Maximum  
Operating  
Pressure:**  
150 PSI Air Only

**Operating  
Temperature  
Range:**  
14 degrees to  
+167 degrees F  
(-25° to +75°C)

ORDER  
ONLINE

Flow Controls

Alignment  
Couplers

Flat-1 /  
Square Flat-1

Flat-II /  
Square Flat-II

FQ2, FQ3, FQ4  
(multiple power)

FQP  
(multiple position)

Accessories

EF1 Cylinders

EF2 Cylinders

Twin Bore  
Cylinders

Position Sens  
Switches

# Bimba Metric Flow Controls- FCPM Series

## How to Order

The Model Number for all extruded track mount switches consists of three alphanumeric clusters. These designate switch type and lead length. Please refer to the chart below for an example of Model Number MSCQCX. This is a Solid State switch with PNP output including a Quick Connect cable attachment and a 5 meter mating cable.

### MSC X QCX

Switch Type	
MR-	Magnetic Reed Switch
MSC-	GMR Source (PNP) output
MSK-	GMR Sink (NPN) output
MS-	GMR auto-configure

Optional
X - Include if 144" (3.6m) pigtail lead needed (not applicable with Quick Connect)

Optional
Q - 8mm Quick Connect without cable
QC - 2 meter mating cable accompanies switch
QCX - 5 meter mating cable accompanies switch

## List Prices

Base Model	Base Model with Options			
MR (Magnetic Reed)	MRX (3.6m leads)	MRQ (Quick Connect)	MRQC (2m mating cable)	MRQCX (5m mating cable)
MSC (GMR Source output)	MSCX (3.6m leads)	MSCQ (Quick Connect)	MSCQC (2m mating cable)	MSQCX (5m mating cable)
MSK (GMR Sink output)	MSKX (3.6m leads)	MSKQ (Quick Connect)	MSKQC (2m mating cable)	MSKQCX (5m mating cable)
MS (Auto-configure)	MSX (3.6m leads)	MSXQ (Quick Connect)	MSQC (2m mating cable)	MSQCX (5m mating cable)

## To Order Cable Connectors Separately

Base Model	Description
C4	2 meter – straight
C4X	5 meter – straight

## Mounting

### To Install:

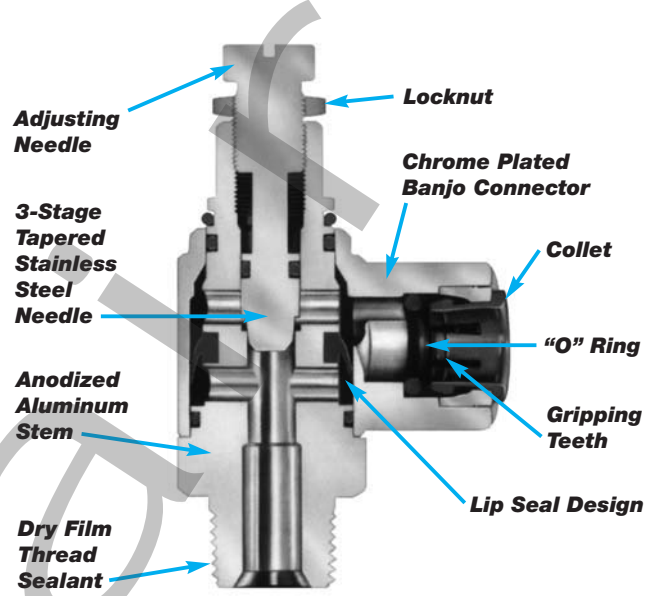
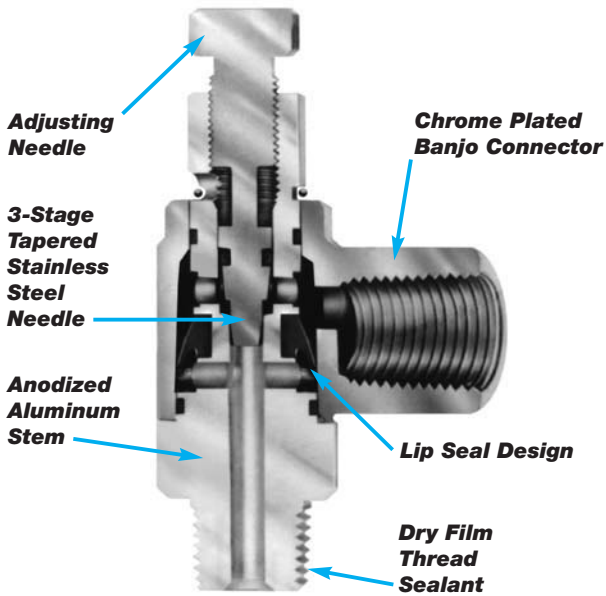
Slide the switch into the cylinder's switch track. Extend and retract the cylinder while positioning the switch until the switch's operating window is correct. Secure the switch in the cylinder track by turning the set screw with a hex driver. Cycle the cylinder (both extending and retracting) a number of times to confirm correct operation and adjust as required.

**Note: Maximum torque on set screw is .170 N-m (1.5 in.-lbs.). Do not overtighten.**

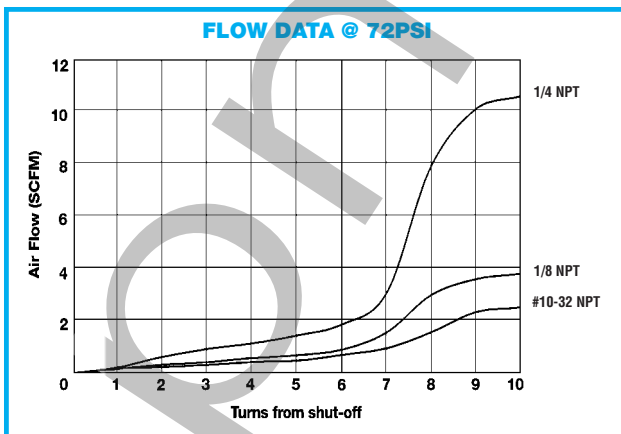
All prices are F.O.B. Monee, Illinois and are subject to change without notice

FCP

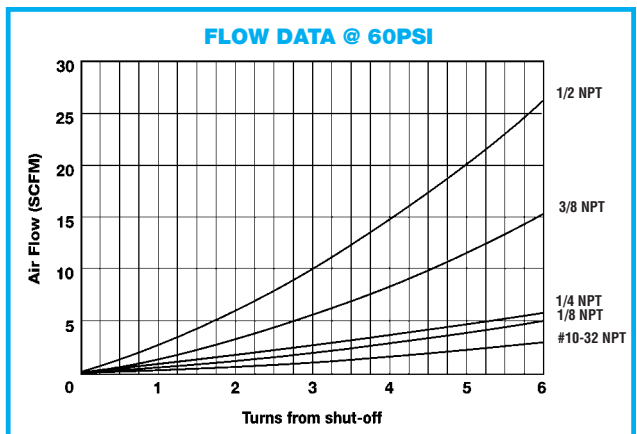
FQP



FQPS Series



FQP & FCP Series

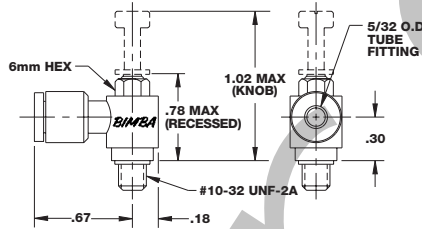


- Flow Controls
- Linear Thrusters
- Pneu-Turn Rotary Actuators
- Ultram Cylinders
- Shock Absorbers
- Pneu Moment (Pneumatic Actuators)
- Transition Plates
- Multi-Axis Configurations
- Position Sensing Switches
- Application Checklist

# Bimba Miniature Quik-Flo® Flow Controls- FQPS Series

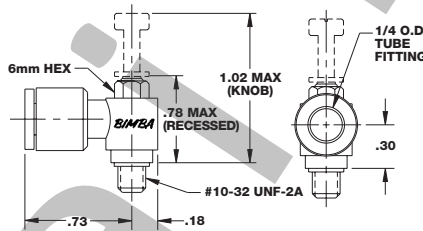
For 10-32 port,  
5/32" OD tubing

**FQPS1 FQPS1K**



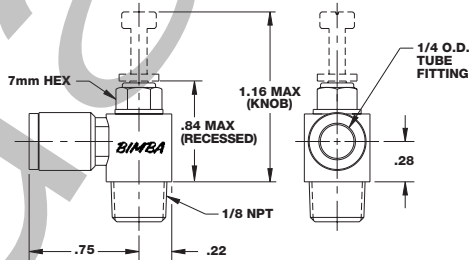
For 10-32 port,  
1/4" OD tubing

**FQPS12 FQPS12K**



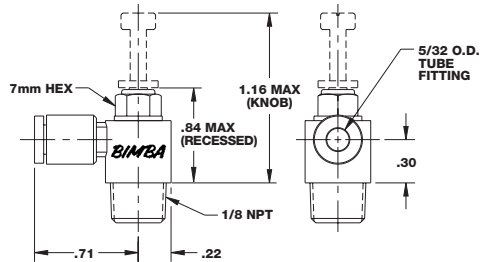
For 1/8 port,  
1/4" OD tubing

**FQPS2 FQPS2K**



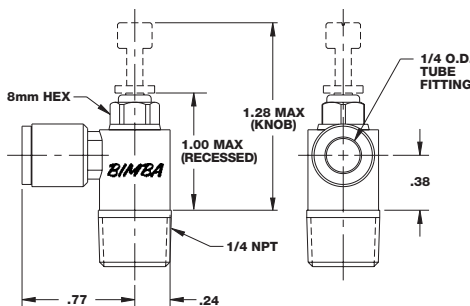
For 1/8 port,  
5/32" OD tubing

**FQPS21 FQPS21K**



For 1/4 port,  
1/4" OD tubing

**FQPS44 FQPS44K**



**Materials:**

Adjusting knob and thread:  
Nickel-plated brass

Body:  
Glass-filled nylon

Tubing:  
Nylon, polyurethane and polyethylene tubing

**Maximum Operating Pressure:**  
135 PSI Air Only

**Operating Temperature Range:**  
30 degrees to 160 degrees F  
(0°C to 70°C)

(Units shown in inch for all drawings)

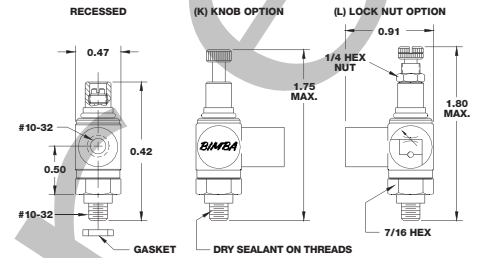
**FCP1**

**FCP1K**

**FCP1L**



*For 10-32 port*



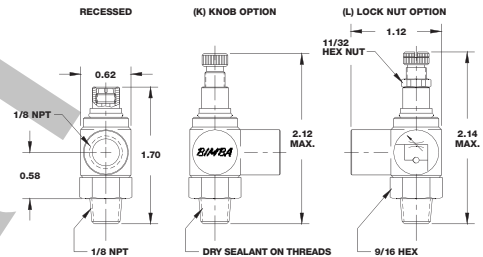
**FCP2**

**FCP2K**

**FCP2L**



*For 1/8 port*



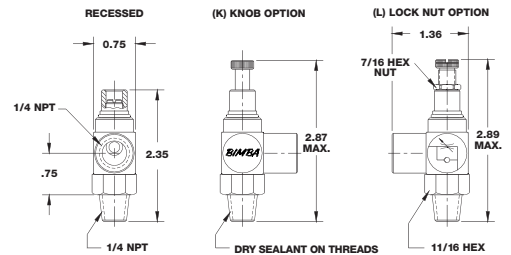
**FCP4**

**FCP4K**

**FCP4L**



*For 1/4 port*



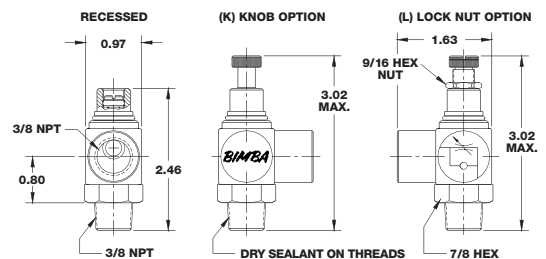
**FCP6**

**FCP6K**

**FCP6L**



*For 3/8 port*



(Units shown in inch for all drawings)

**Materials:**

**Banjo Connector:** Chrome plated, zinc die cast  
**Banjo Retaining Ring:** Zinc plated steel

**Stem:** High strength anodized aluminum alloy

**Adjusting Needle:** Stainless steel

**“O” Rings and Lip Seal:** Buna N

**Maximum Operating Pressure:** 150 PSI Air Only

**Operating Temperature Range:** -20 degrees to +200 degrees F (-25°C to +95°C)

Flow Controls

Linear Thrusters

Pneu-Turn Rotary Actuators

Ultram Cylinders

Shock Absorbers

Pneu Moment (Pneumatic Actuators)

Transition Plates

Multi-Axis Configurations

Position Sensing Switches

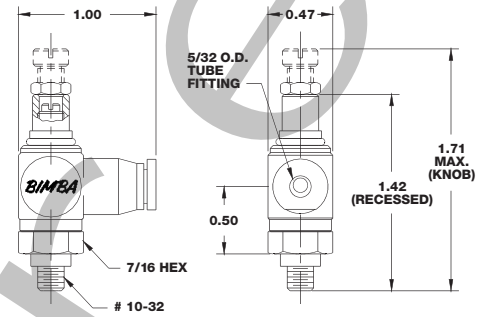
Application Checklist

# Bimba Quik-Flo® Flow Controls: FQP Series

For 10-32 port,  
5/32" OD tubing

**FQP1**

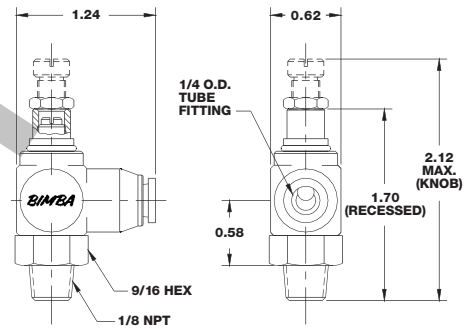
**FQP1K**



For 1/8 port,  
1/4" OD tubing

**FQP2**

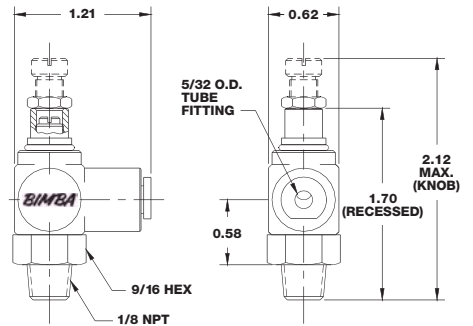
**FQP2K**



For 1/8 port,  
5/32" OD tubing

**FQP21**

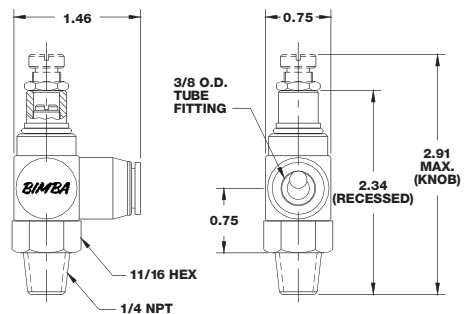
**FQP21K**



For 1/4 port,  
3/8" OD tubing

**FQP4**

**FQP4K**



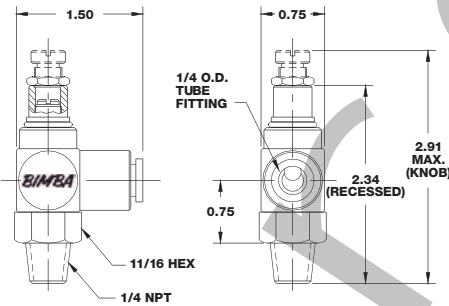
(Units shown in inch for all drawings)

# Bimba Quik-Flo® Flow Controls: FQP Series

**FQP44**

**FQP44K**

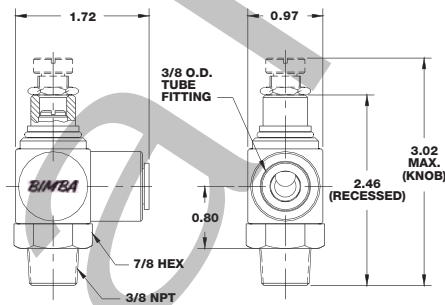
For 1/4 port,  
1/4" OD tubing



**FQP6**

**FQP6K**

For 3/8 port,  
3/8" OD tubing



(Units shown in inch for all drawings)

**Materials:**

**Banjo Connector:**  
Chrome plated,  
zinc die cast

**Banjo Retaining Ring:**  
Zinc plated steel

**Stem:**  
High strength anodized  
aluminum alloy

**Adjusting Needle:**  
Stainless steel

**"O" Rings and  
Lip Seal:**  
Buna N

**Collet:**  
Acetal copolymer

**Gripping teeth:**  
Stainless steel

**Collet Retainer  
(if applicable):**  
Brass

**Locknut:**  
Chrome-plated brass

**Tube Types:**  
All plastic tubing,  
including nylon  
and polyethylene

**Maximum Operating Pressure:**  
150 PSI Air Only

**Operating Temperature Range:**  
14 degrees to +167 degrees F (-25° to +75°C)

## Bimba Needle Valves

Bimba offers a range of Quik-Flo® Needle Valves, allowing for controlled flow of both the air intake and exhaust through the same valve. A needle valve can control a double acting cylinder's extension and retraction by controlling the volume of air entering the cylinder and the volume of air leaving the cylinder.

For additional dimensional information, reference Quik-Flo® Flow Controls on pages 6 and 7. For example, reference FQP1 for QNV1 dimensions.

Model		Tube Size	Port Size	Cv
QNV1		5/32"	#10-32	.09
QNV1K	11.90	5/32"	#10-32	.09
QNV2		1/4"	1/8" NPT	.21
QNV2K	14.15	1/4"	1/8" NPT	.21
QNV44		1/4"	1/4" NPT	.44
QNV44K	18.00	1/4"	1/4" NPT	.44
QNV6		3/8"	3/8" NPT	.73
QNV6K	22.15	3/8"	3/8" NPT	.73

# Bimba Extruded Linear Thrusters



The Bimba Extruded Thruster is a rugged, guided actuator with a cylinder integral to the thruster block. The sleek body incorporates switch mounting, for a clean, space-efficient package.

## How to Order

The model number for Extruded Linear Thrusters consists of three alphanumeric clusters. These designate product type, bore size and stroke length, and options.

Please note the following features are standard, and are included in all model numbers: **E** (inch-series threading), and **M** (magnet for position sensing).

Model	
ET	- Extruded Thruster Extended Shafts; 4 bushings
ETS	- Extruded Thruster Shafts Flush; 2 bushings
ETD	- Extruded Thruster Double-end; Saddle Mount

Bore Size	
12	- 12mm
16	- 16mm
20	- 20mm
25	- 25mm
32	- 32mm

Options	
U.S. Customary Units	
<b>E</b>	Inch Series Porting/Mounting <b>*Standard; included in all model numbers</b>
External Bumpers	
<b>EB</b>	External Bumpers, Retract
<b>EB1</b>	External Bumpers, Extend
<b>EB2</b>	External Bumpers, Both Ends
ETS - EB available only	
No Stroke Reduction with Bumpers	
Extend Bumpers include One Set of Collars	
Shock Absorbers	
<b>K__</b>	First _ will be: 1-Both Ends 2-Extend Only 3-Retract Only
	Second _ will be: 1-Light Duty 2-Medium Duty 3-Heavy Duty
ETS - K3 available only (retract only)	
See Minimum Stroke Note in Stroke Table	
Magnetic Position Sensing	
<b>M</b>	MRS Position Sensing <b>*Standard; included in all model numbers</b>
Alternate Port Location	
<b>P</b>	Ports on Top Surface Must be specified if Option X is ordered
Fluoroelastomer Seals	
<b>V</b>	High Temperature (0 to 275 deg F)
Ball Bushings	
<b>X</b>	Ball Bushings and Hardened Shafts Must specify Option P with X Option

**ET - 16100 - EK12M**

Standard Stroke Lengths 5mm Increments to 255mm		
Exceptions		
ET with Option X (Ball Bearings)	ET with Option K (Shock Absorbers)	ETD with Option X Only 2 Bushings (not 4) when stroke is less than
Minimum Stroke Length		
26mm	N/A	26mm
26mm	N/A	26mm
26mm	N/A	26mm
39mm	16mm	39mm
42mm	45mm	42mm

## List Prices

Model Type	12mm	16mm	20mm	25mm	32mm
ET (extended shafts, 4 bushings)					
add per 5mm stroke	0.55	0.65	0.70	0.75	1.05
ETS (shafts flush, 2 bushings)					
add per 5mm stroke	0.50	0.55	0.60	0.65	0.90
ETD (double-end, saddle mount)					
add per 5mm stroke	0.55	0.65	0.70	0.75	1.05
Options	12mm	16mm	20mm	25mm	32mm
EB (External Bumpers, Retract)					
EB1 (External Bumpers, Extend)	18.00	18.00	22.00	26.50	30.00
EB2 (External Bumpers, Both Ends)					
K__ (Shock Absorbers); Per End	82.65	104.65	116.95	130.00	140.55
V (High Temperature Seals)					
X (Ball Bushings) ETS	50.00	50.00	60.00	62.50	72.75
X (Ball Bushings) ETD and ET					

No Charge Options: P  
Included as Standard in Base: E, M