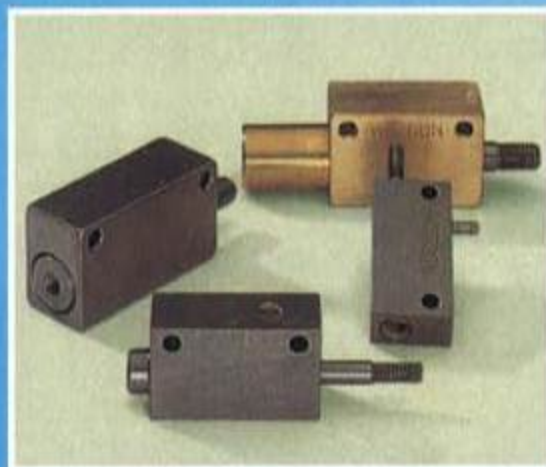


Miniature Air Cylinders and Right Angle Control Valves



Miniature Adjustable Location Air Cylinders - AL Series



Features

These threaded body cylinders install quickly and easily without requiring special mounting devices. Just drill the proper hole size, "pop" in your cylinder, and adjust it to position with the pair of jam nuts furnished on most models. Or tap a hole and lock into exact position with a single jam nut.

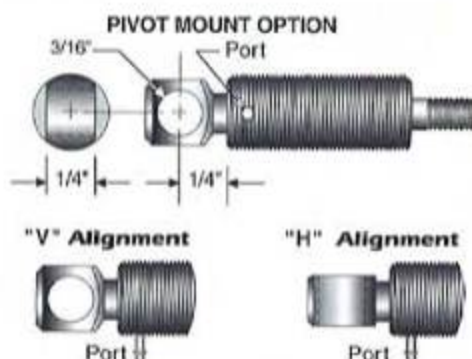
The AL-Series cylinders are electroless nickel plated for excellent corrosion resistance and a gleaming appearance. An optional **Hex-rod** for **non-rotating** applications is available on 3/8" and 1/2" bore, single acting, spring return cylinders.

The two models shown with front port rings are usually mounted against the ring shoulder. You'll need to order an extra jam nut if you want position-adjustability for them.

Rear Pivot Mount Option*

When ordering cylinders with Rear Pivot, please add the **prefix "RP"** to your desired cylinder part number and indicate port alignment preference with **suffix "H" or "V"**. ■ Example:

RP-AL2DBB+1/2-H indicates a 1/4" bore, double acting, front & rear barb side ports, 1/2" stroke, a Rear Pivot and the ports aligned with the hole of the Rear Pivot. (*Not available for spring extend models.)



Specifications

- Dimensions: Shown in the table opposite on page 3
- Standard strokes: Single acting 1/4" bore, 1/4" only
3/8" & 1/2" bores, 1/4" & 1/2"
- Double acting: 1/4" bore to 1"; 3/8" & 1/2" bores to 2"
- Seals: Buna N (Viton optional)
- Temperature: Buna N seals: -25°F to 220°F
(Viton seals: -15°F to 400°F)
- Operating pressure to 125 psi
- Piston rods are stainless steel
- Rod bearings are 660 bronze. Length = twice rod diameter
- Bodies & jam nuts are electroless nickel plated brass



New Non-rotating Option

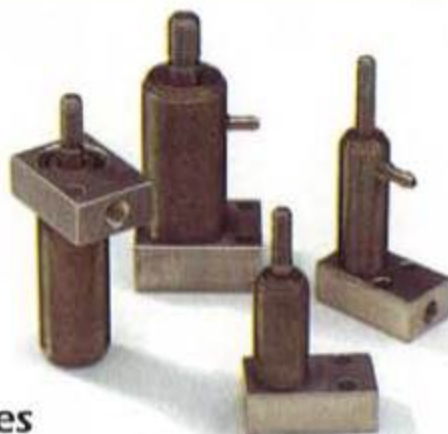
Hexagonal piston rod and mating rod bushing restricts rod rotation $\pm 1^\circ$ average in single acting, spring return cylinders.

When ordering, please use the part number prefix "ALX" as shown in the Selection Guide below.

Cylinder Style Selection Guide

	Cylinder Type	Cyl. No.	Bore Size	Part Number
Spring Return		#2	1/4"	AL2RRO+1/4"
		#3	3/8"	AL3RRO+Stroke ALX(Hex-rodprefix)
		#5	1/2"	AL5RRO+Stroke ALX(Hex-rodprefix)
Spring Extend		#2	1/4"	AL2EOP+1/4"
		#3	3/8"	AL3EOP+Stroke
		#5	1/2"	AL5EOP+Stroke
Double Acting		#2	1/4"	AL2DRP+Stroke
		#3	3/8"	AL3DRP+Stroke
		#5	1/2"	AL5DRP+Stroke
Double Acting		#2	1/4"	AL2DRB+Stroke
		#3	3/8"	AL3DRB+Stroke
		#5	1/2"	AL5DRB+Stroke
Double Acting		#2	1/4"	AL2DBB+Stroke
		#3	3/8"	AL3DBB+Stroke
		#5	1/2"	AL5DBB+Stroke

Front & Rear Base Mounting Air Cylinders



Features

Need more mounting options? Consider these electroless nickel plated Watson models. They come with a factory installed, aluminum mounting block that can be located on the front or rear of the cylinder body – or anywhere in between.

Rugged, over-sized rod bearings assure longer cycle life and reliable performance.

You get a variety of port location choices to simplify making air connections. Whether the air supply is hooked up directly to the cylinder body, or through the aluminum mounting block is your option.

Our new **non-rotating, hex-rod option** is now offered on single acting, spring return cylinders.

Our standard stroke lengths in single acting are:

- 1/4" bore - 1/4" stroke
- 3/8" & 1/2" bores - 1/4" & 1/2" strokes

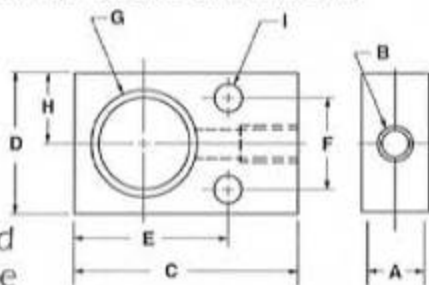
Our standard stroke lengths in double acting are:

- 1/4" bore - 1/4", 1/2" & 1" strokes
- 3/8" & 1/2" bores - 1/4", 1/2", 1", 1-1/2" & 2" strokes

Although not standard, we offer strokes in 1/8" increments up to our maximum stroke lengths by use of internal stops. When ordering, for example, a 3/8" bore X 3/4" stroke in the double acting with both side port/fittings in the AL series, the part number will be "AL3DBB+3/4." *Keep in mind that when calculating your OA Dimensions, use the NEXT LONGEST STANDARD stroke dimensions.

Mounting Base

The standard bases are aluminum. If you require complete corrosion resistance, electroless nickel plated mounting bases can be ordered subject to a minimum lot charge.



New Non-rotating Option

Hexagonal piston rod and mating rod bushing restrict rod rotation $\pm 1^\circ$ average in single acting, spring return cylinders.

When ordering, please use the "hex rod prefix" in your part number as shown in the Selection Guide below.

How to Order:

[1] Choose the basic model number of the cylinder you want from the convenient Cylinder Selection Guide below. [2] Replace the (♦) with the Cyl. # corresponding to bore size. [3] Add the stroke.

Cyl #	2	3	5
Bore	1/4"	3/8"	1/2"

Example: If your basic model selection is **AF♦RBO+**, and you want to specify a 3/8" bore with a 1/2" stroke, then your part number becomes **AF3RBO+1/2**.

For the non-rotating option, use the hex rod prefix given in the selection guide. The part number would become **AFX3RBO+1/2**.

Cylinder Selection Guide (Basic Model No.)

	Spring Return		Spring Extend
	Single Acting	Double Acting	Double Acting
Single Acting	AR♦RRO+ ARX (Hex rod prefix)	AF♦RRO+ AFX (Hex rod prefix)	AR♦EOP+
	AR♦RSO+ ARX (Hex rod prefix)	AF♦RBO+ AFX (Hex rod prefix)	AR♦EOB+
Double Acting	AR♦DRP+	AR♦DRB+	AF♦DRS+
	AR♦DSP+	AR♦DSB+	AF♦DBS+
-SPECIAL			NOTE: For custom location of your mounting base please specify the "X" dimension and ports required.

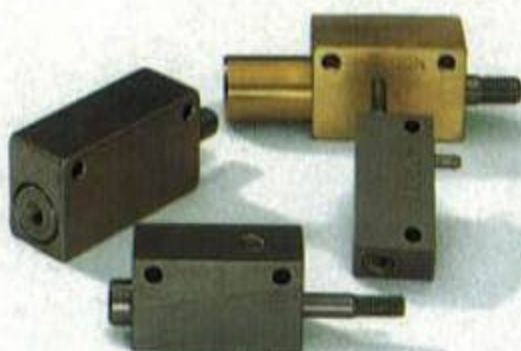
MOUNTING BASE DIMENSIONS

Cyl.	A	B	C	D	E	F	G	H	I
#2 5/16	10-32	7/8	1/2	.562	5/16	3/8-32	1/4	9/64	
#3 5/16	10-32	7/8	5/8	.687	7/16	1/2-32	5/16	9/64	
#5 3/8	10-32	15/16	3/4	.812	1/2	5/8-32	3/8	9/64	

CYLINDER DIMENSIONS

Cyl.	Bore	A = Stroke+	B	C	D	E	F	G	H	I	J	K	L	M	N
#2	1/4"	0.81	.15	.62	3/8-32	.14	6-32	.37	.12	.31	.06	.62	.15	.20	.10
#3	3/8"	1.00	.18	.75	1/2-32	.17	8-32	.37	.12	.31	.21	.75	.15	.37	.18
#5	1/2"	1.06	.18	.87	5/8-32	.25	1/4-28	.37	.12	.31	.21	.87	.15	.37	-

Rectangular Flat Mount Air Cylinders - FM Series



Features

Here's an alternative mounting choice for your cylinders. Centered around the design of the smooth bodied, nose mount cylinders on page 6, Watson flat mount cylinders are available in both single and double acting models with strokes up to 2" in 1/4" increments.

As an option all cylinders can be ordered with electroless nickel plating for a bright appearance and corrosion protection in harsh environments.

To facilitate making your plumbing connections, Watson offers a choice of rear and side port locations as shown in the side view of Figure 1 above right. Rear port is located at the center line at dimension 'N'; standard side ports are located at dimensions 'L' & 'M' in position #1 ('I' port in position #2 is optional). The end view shows port positions #1 & #2.

For strokes over 1/2" Figure 2 shows allowable ports: rear port at 'N' only, and side port at 'M' in position #1. ('I' port location is optional.)

Do you need a special rod extension, odd stroke, or different port locations? Ask us for a quotation. We want to work with you on your special requirements.

Specifications

- Standard stroke availability
Single acting: 1/4" bore, 1/4" only; 3/8" & 1/2" bores, 1/4" & 1/2"
Double acting: 1/4" bore to 1"; 3/8" & 1/2" bores to 2"
- Seals: Buna N (Viton optional)
- Temperature: Buna N seals: -25°F to 220°F (Viton: -15°F to 400°F)
- Operating pressure to 125 psi
- Piston rods are stainless steel
- Rod bearings are 660 bronze. Length = 2 times rod diameter
- Cylinder bodies are brass

When Ordering

Use the Cylinder Selection Guide to **choose your part number, specify your stroke, and indicate any optional porting.**

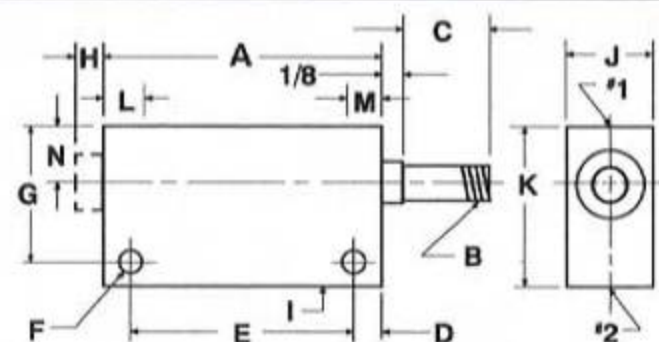


Figure 1: for strokes up to 1/2".
#1 indicates location of ports 'L' & 'M'; #2 locates port 'I'.
The 'H' dimension is for spring extend cylinders only.

Cylinder Selection Guide

		Bore	Part No.
Single Acting	Single Acting	1/4"	FM2RRO + 1/4
	Spring Return	3/8"	FM3RRO + Stroke
	Rear Port	1/2"	FM5RRO + Stroke
	Single Acting	1/4"	FM2RBO + 1/4
	Spring Return	3/8"	FM3RBO + Stroke
	Rear Side Port	1/2"	FM5RBO + Stroke
Double Acting	Single Acting	1/4"	FM2EOB + 1/4
	Spring Extend	3/8"	FM3EOS + Stroke
	Front Side Port	1/2"	FM5EOS + Stroke
	Double Acting	1/4"	FM2DRB + Stroke
Double Acting	Rear Port and	3/8"	FM3DRS + Stroke
	Front Side Port	1/2"	FM5DRS + Stroke
	Double Acting	1/4"	FM2DBB + Stroke
	Both Side Ports	3/8"	FM3DSS + Stroke
		1/2"	FM5DSS + Stroke

Longer Strokes Made To Order

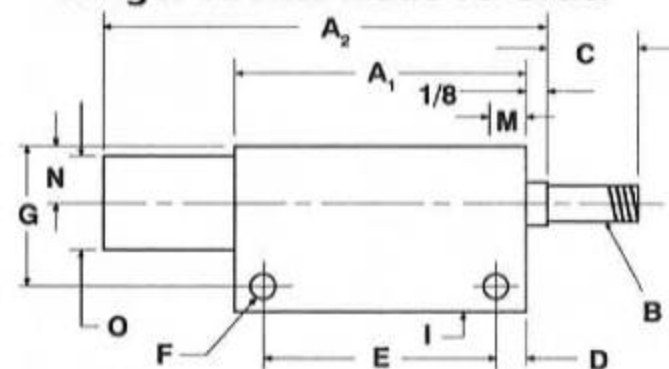


Figure 2: for strokes over 1/2".

General Cylinder Dimensions

Cyl.	Bore	Stroke	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Side Port	Rear Port
#2	1/4"	1/4	1.06	6-32	.37	.12	0.81	9/64	7/16	.10	.31	3/8	5/8	.15	.20	.18	5/16	6-32	10-32
		1/2*	1.31	6-32	.37	.12	1.06	9/64	7/16	-	.31	3/8	5/8	.15	.20	.18	5/16	Barb	Tap
#3	3/8"	1/4	1.25	8-32	.37	.15	0.93	9/64	5/8	.18	.37	1/2	3/4	.15	.37	.25	7/16	10-32	10-32
		1/2	1.50	8-32	.37	.15	1.18	9/64	5/8	.18	.37	1/2	3/4	.15	.37	.25	7/16	Tap	Tap
#5	1/2"	1/4	1.31	1/4-28	.37	.15	1.00	9/64	3/4	-	.37	5/8	7/8	.15	.37	.31	9/16	10-32	10-32
		1/2	1.56	1/4-28	.37	.15	1.25	9/64	3/4	-	.37	5/8	7/8	.15	.37	.31	9/16	Tap	Tap

Dimensions for Cylinders with strokes over 1/2"

Cyl.	Bore	A ₁	A ₂
#2	1/4	1.06	0.81 + Stroke
#3	3/8	1.25	1.00 + Stroke
#5	1/2	1.31	1.06 + Stroke

* Note: 'I' Port is optional with 6-32 factory installed barb on 1/4" bore models; 10-32 tap on 3/8" & 1/2" bore models.
Dimensions "L" and "M" for Side Port Cylinders.

*When calculating your OA dimensions, use the NEX LONGEST standard stroke dimensions.

Miniature Back-to-Back Air Cylinders

Made To Order



Features

BB models consist of two separate, single-ended AL Series cylinders joined together by a common rear head (sleeve).

You have the complete flexibility within a given bore size to select the combination of strokes and cylinder action you need.

These units also perform as 3 or 4 position cylinders as shown in the diagrams at the top right of this page.

Specifications & Dimensions

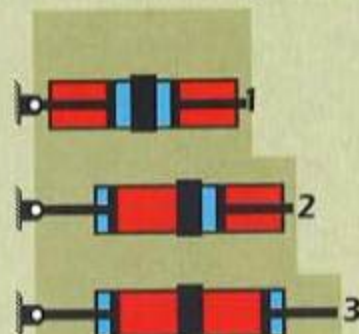
Please refer to AL Series cylinders specifications and dimensions on pages 2 and 3.

Cyl.#	Bore	Sleeve Dimensions	
		O.D.	Length
#2	1/4"	1/2"	5/8"
#3	3/8"	5/8"	5/8"
#5	1/2"	3/4"	5/8"

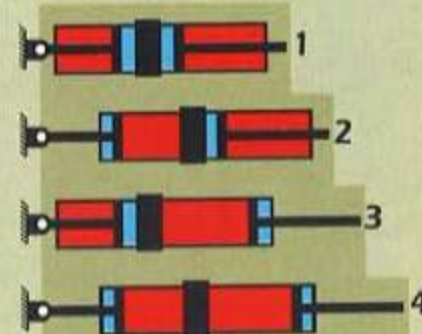
How to Order

Refer to the Cylinder Selection Guide for the Model No. which gives you the action you require. Replace (+) with Cylinder Bore Number (2, 3 or 5) and add your strokes (+, +).

Use as 3-Position Cylinder



Use as 4-Position Cylinder

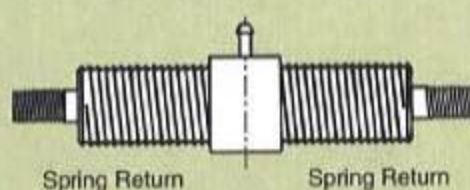


■ Pressure applied to piston ■ Open to atmosphere

Cylinder Selection Guide

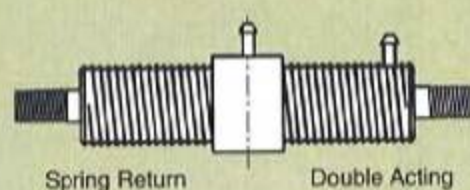
Simultaneous Operation
Cylinders separated by 9/64"

Model BBS(+)-RR+, +



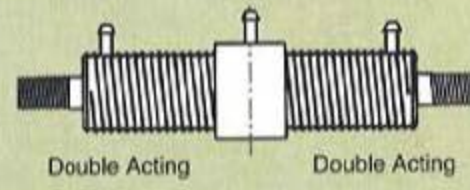
Spring Return Spring Return

Model BBS(+)-RD+, +



Spring Return Double Acting

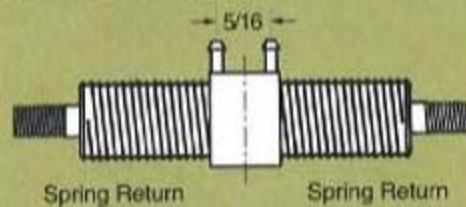
Model BBS(+)-DD+, +



Double Acting Double Acting

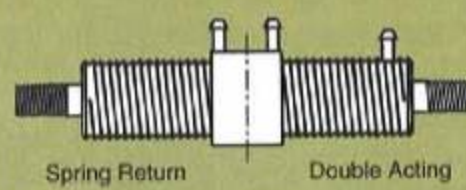
Individual Operation
Cylinders butt together

Model BBI(+)-RR+, +



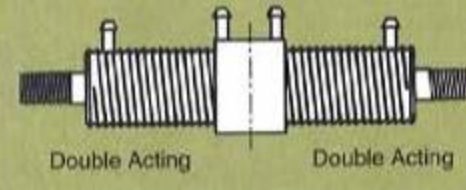
Spring Return Spring Return

Model BBI(+)-RD+, +



Spring Return Double Acting

Model BBI(+)-DD+, +



Double Acting Double Acting

Accessories & Technical Data

Brass Barb Fittings

For use with 1/16" ID hose.

Dimensions: 0.368 OAL,
6-32 Thread, 0.052 hole size.



Start clean, dry fitting in about 1/2 - 1 turn. Use wire or similar object to apply a drop of Loctite® wicking #290 Adhesive/Sealant at the junction of thread and tapped hole. Finish threading fitting into hole and allow to cure.

Taps for Cylinder Bodies

Can be located at: Latch Machinery
8404 St. Clair Avenue, Cleveland, Ohio 44103
Phone (216) 361-3555

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

Typical Spring Forces

Spring Return		Spring Extend	
#2 - 1/4" stroke	14 - 18 ozs.	#2 - 1/4" stroke	25 - 29 ozs.
#3 - 1/4" stroke	22 - 26 ozs.	#3 - 1/4" stroke	30 - 34 ozs.
#3 - 1/2" stroke	22 - 26 ozs.	#3 - 1/2" stroke	54 - 58 ozs.
#5 - 1/4" stroke	42 - 46 ozs.	#5 - 1/4" stroke	62 - 66 ozs.
#5 - 1/2" stroke	51 - 55 ozs.	#5 - 1/2" stroke	78 - 80 ozs.



NO LONGER AVAILABLE

Features
Watson's nose mount cylinders feature extended stroke and rod bearings for long life. You can choose from a minimum of 1/4", 3/8" and 1/2" bores available in single and double rod end strokes in 1/4" increments.

As a special option, nose mount cylinders can be ordered with electroless nickel plating for superior corrosion resistance and a bright appearance.

Watson welcomes your special requirements, too. Ask us for a quotation. We'll be glad to work with you.

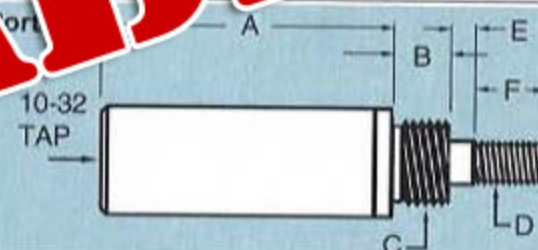
Specifications

- Standard stroke availability
Single acting: 1/4" bore, 1/4" only
3/8" & 1/2" bores, 1/4" and 1/2"
Double acting: 1/4" bore to 1"
3/8" & 1/2" bores to 2"
- Seals: Buna N (Viton optional)
- Temperature:
Buna N seals: -25°F to 220°F
(Viton seals: -15°F to 400°F)
- Operating pressure to 125 psi
- Piston rods are stainless steel
- Rod bearings are 660 bronze
- Bodies & fittings are brass
- Optional electroless nickel plating subject to minimum lot charge

When Ordering

Use the convenient Selection Guide to **select the part number** for the cylinder you want **and specify the stroke**.

Single Acting	Spring Return	Side Port
Bore	Part Number	Stroke
1/4"	NM2RBO + 1/4	1/4"
3/8"	NM3RBO + stroke	1/4"
1/2"	NM5RBO + stroke	1/4"



Single Acting • Spring Return • Side Port

Bore	Part Number
1/4"	NM2RBO + 1/4
3/8"	NM3RBO + stroke
1/2"	NM5RBO + stroke



Single Acting • Spring Extend • Side Port

Bore	Part Number
1/4"	NM2EOB + 1/4
3/8"	NM3EOB + stroke
1/2"	NM5EOB + stroke



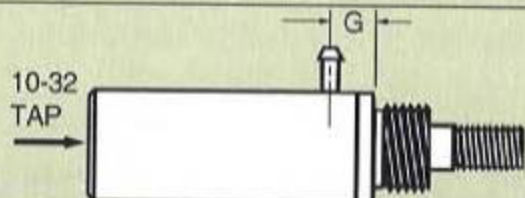
Double Acting • Side Ports

Bore	Part Number
1/4"	NM2DBB + stroke
3/8"	NM3DBB + stroke
1/2"	NM5DBB + stroke



Double Acting • Side and Rear Port

Bore	Part Number
1/4"	NM2DRB + stroke
3/8"	NM3DRB + stroke
1/2"	NM5DRB + stroke

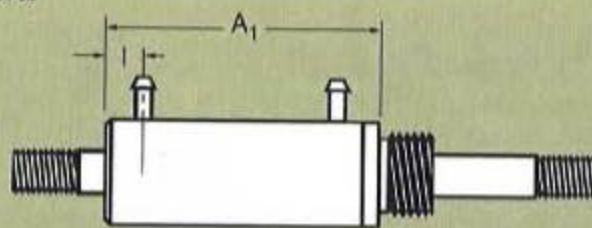


Single Acting • Spring Return • Side Ports

Bore	Part Number
1/4"	ND2RBO + 1/4
3/8"	ND3RBO + stroke
1/2"	ND5RBO + stroke

Double Acting • Side Ports

Bore	Part Number
1/4"	ND2DBB + stroke
3/8"	ND3DBB + stroke
1/2"	ND5DBB + stroke



Cylinder Dimensions

Cyl.	Bore	A = Stroke+	A ₁ = Stroke+	B	C	D	E	F	G	H	I	O.D.
#2	1/4"	+ 0.87	+ 0.93	.43	5/16-24	6-32	.12	.37	9/32	.15	.20	3/8"
#3	3/8"	+ 0.93	+ 1.18	.50	3/8-24	8-32	.12	.37	13/32	.15	.37	1 1/2"
#5	1/2"	+ 1.00	+ 1.18	.50	9/16-18	1/4-28	.12	.37	13/32	.15	.37	5/8"

Right Angle Flow Control, Needle and Check Valves



Features

Expect reliable performance at all pressure levels and flow rates when you specify Watson right angle flow control and needle valves. You get **2 PSI break-away with generous reverse flow volume, and bubble tight sealing with precise adjustability for the controlled flow side.** Watson check valves are also bubble tight and open at 2 PSI in reverse flow.

Every Watson valve is 100% factory tested. We want your valve to deliver the precision control your application deserves!

Watson valves are offered with your choice of two knobs for easy hand adjustment, or with slotted stems for screw driver adjustment. A lock nut is standard to secure your flow setting during equipment operation. Choose either in-line or popular panel mount styles.



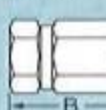
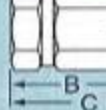
Specifications

- Valve body and cap are aluminum
- Valve orifice and needle are brass
- 1/8 NPT needles have a 4° included angle
- 1/4 NPT needles have a 6° included angle
- 3/8 NPT needles have a 8° included angle
- Seals: Buna N (Viton optional)
- Temperature: Buna N seals: -25°F to 220°F
Viton seals: -15°F to 400°F
- Operating pressure to 150 psi


Product Dimensions

NPT Size	A	B	B ₁	C	D
1/8	3/4	1-1/4	1-9/16	2-3/32	1/2-20
1/4	1	1-7/16	1-27/32	2-11/32	5/8-18
3/8	1-1/4	1-5/8	2-1/8	2-19/32	3/4-16

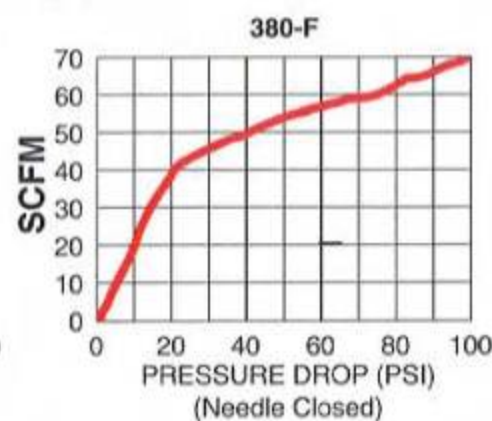
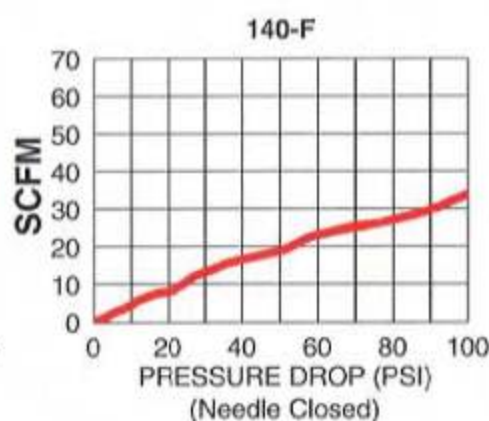
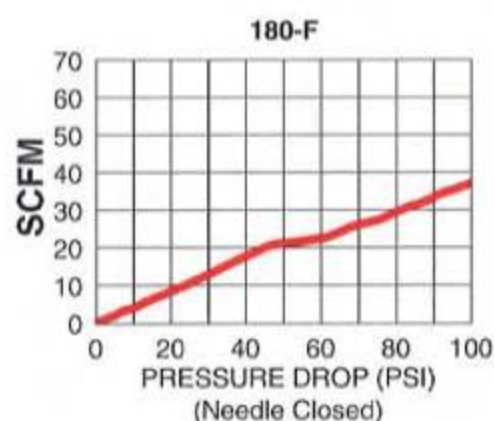
Ordering Guide – Flow Control & Needle Valves

Right Angle Valve Type & Configuration	NPT Size	Flow Control Part Number	Needle Valve Part Number
Panel Mount, Slotted Stem 	1/8" 1/4" 3/8"	180-F-PM 140-F-PM 380-F-PM	180-N-PM 140-N-PM 380-N-PM
Slotted Stem 	1/8" 1/4" 3/8"	180-F 140-F 380-F	180-N 140-N 380-N
Panel Mount With Knob* 	1/8" 1/4" 3/8"	180-F-PM-K* 140-F-PM-K* 380-F-PM-K* (* Use "LK" for large knob)	180-N-PM-K* 140-N-PM-K* 380-N-PM-K* (* Use "LK" for large knob)
With Knob* 	1/8" 1/4" 3/8"	180-F-K* 140-F-K* 380-F-K* (* Use "LK" for large knob)	180-N-K* 140-N-K* 380-N-K* (* Use "LK" for large knob)

Ordering Guide – Check Valves & Knobs

Check Valve Configuration	NPT Size	Check Valve Part Number	Knobs	St'd Knob	Large Knob
	1/8" 1/4" 3/8"	180-C 140-C 380-C	St'd* Large	180-K 140-K 380-K	180-LK 140-LK 380-LK

*Note: Small knob fits through panel mounting hole without removal.





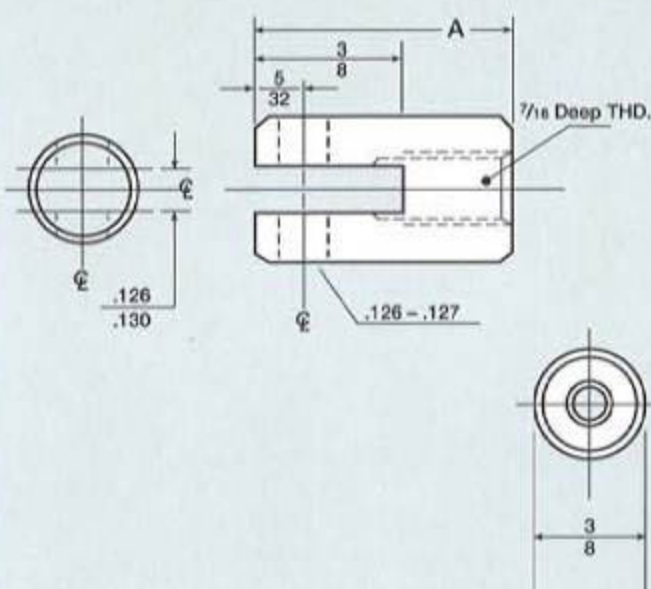
**WATSON
PNEUMATICS**

Rod Clevis



If it is versatility you seek, **Watson Pneumatics** is your answer! In addition to the threaded O.D., the aluminum base, the flat mount and the nose mount options already offered, **Watson Pneumatics** is pleased to introduce the Rod Clevis option! You may count on top-notch quality and service from **Watson** — our products live up to your expectations!

Rod Clevis / Pin Dimensions



Cyl	A	Pin O.A.L.	Nut
#2	5/8	9/16	6/32
#3	3/4	9/16	8/32
#5	3/4	9/16	1/4 - 28



Distributed by:

Manufacturing little products with big solutions for today's design engineer

2 YEAR LIMITED WARRANTY

Subject to the following conditions, **WATSON PNEUMATICS** warrants to its immediate purchaser (Purchaser) that at the time of shipment this product is free and clear of all liens and encumbrances, is free from defects in material and workmanship and will conform to **WATSON PNEUMATICS'** applicable product specifications or to Purchaser's written specifications to the extent they have been accepted in writing by **WATSON PNEUMATICS**. All products are subject to **WATSON PNEUMATICS'** normal manufacturing and commercial variations and practices. The foregoing warranty is in lieu of and excludes all other warranties not expressly set forth herein, whether expressed or implied by operation of law or otherwise, including but not limited to any implied warranties of merchantability or fitness for purpose. Purchaser's exclusive remedy and **WATSON PNEUMATICS'** sole liability under this warranty is expressly limited to the correction, replacement or refund of purchase price, at **WATSON PNEUMATICS'** option, of products which are returned freight prepaid, accompanied by proof of purchase and written claim of defect, and which upon inspection by **WATSON PNEUMATICS** and in **WATSON PNEUMATICS'** sole judgment do not comply with this warranty.

All warranties made by **WATSON PNEUMATICS** or imposed upon **WATSON PNEUMATICS** by law shall expire two (2) years from date of shipment by **WATSON PNEUMATICS**. This warranty does not cover and no warranty is made with respect to:

A: failures not reported to **WATSON PNEUMATICS** within period specified above;

B: failure or damage due to misapplication, misuse, abuse, improper storage or handling, abnormal conditions of temperature, water, dirt, corrosive substances or other contaminants;

C: products which have been repaired with parts or materials not furnished or approved by **WATSON PNEUMATICS** or by anyone other than **WATSON PNEUMATICS'** authorized representative or products which have been in any way tampered with or altered; and

D: products damaged in shipment or storage or otherwise without fault of **WATSON PNEUMATICS**.

LIMITATIONS ON LIABILITY

WATSON PNEUMATICS' total responsibility for any claims, damages, losses or liabilities related to the product covered hereunder shall not exceed the purchase price of such product. In no event shall **WATSON PNEUMATICS** be liable for any special, indirect, incidental or consequential damages of any character, including but not limited to loss of use of productive facilities or equipment, lost profits, property damage, transportation, installation or removal of lost production whether suffered by Purchaser or any third party.

WATSON PNEUMATICS disclaims all liability for any and all costs, claims, demands, charges, expenses or other damages, either direct or indirect, incident to all property damage arising out of any cause of action based on strict liability. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

WATSON PNEUMATICS reserves the right to add and/or remove products from the standard product line, in addition, **WATSON PNEUMATICS** reserves the right to change any product design without prior notification.

Cylinder Part Numbers

NM = Nose mount (Page 6)
 ND = Nose mount double rod (Page 6)
 FM = Flat mount (Page 4)
 AL = Adjustable location (Page 2)
 ALX = Adjustable location, non rotating
 AF = Front base mount (Page 3)
 AFX = Front base mount, non rotating
 AR = Rear base mount (Page 3)
 ARX = Rear base mount, non-rotating
 AS = Special base location (Page 3)
 BB = Back to back (Page 5)

2 = 1/4 bore
 3 = 3/8 bore
 5 = 1/2 bore

R = Spring return
 E = Spring extend
 D = Double acting

Family Model	Cyl. # Bore	Action	Rear Port	Front Port	Stroke
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O = No port
 R = Rear tapped
 S = Side tapped
 B = 6-32 barb

O = No port
 P = Port ring tapped
 S = Side tapped
 B = 6-32 barb

Example: AL5DRB+1 1/2 is an Adjustable Location, 1/2" bore, double acting cylinder with 10-32 tapped rear port, front 6-32 barb port, and 1-1/2" stroke.

Note: All tapped ports are 10-32

About Watson Pneumatics—

How many times have you thought of making a product in-house because available market offerings were inferior for your purposes?

Watson had its beginning doing just that - developing precision, right-angle flow control valves for their own use because they couldn't find any that performed up to their expectations. Working on demanding fluid power applications, Watson needed bubble tight control valves with minimal crack pressures of 2psi or less. They needed reliable, consistent performance over the whole range of adjustment. And full flow in the free-flow direction. After months of developmental testing in an engineering laboratory in Gainesville, Florida, Watson's chief engineer emerged with an exceptional valve design - and an idea for expanding Watson's business. If Watson needed unique flow controls, then others would too. Watson began marketing its new control valves.

Since that first design and simple beginning, Watson has established manufacturing operations in Cleveland, Ohio, and expanded its innovative product line to include the versatile family of precision, miniature air cylinders you'll find in this catalog.

Expect extra services from Watson. One week standard shipment. Two day turn around on rush orders. Prompt quotations when you need modifications to standard products. But most of all, expect reliable performance and the highest quality from all Watson products. Watson 100% inspects and tests every cylinder and every valve before it leaves the factory. After all, we want you to have products that truly live up to your expectations!

Watson Pneumatics

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