

Air Cylinders For Workholding Applications



Table of Contents

LDN Air Cylinder Design & Features	2
LDN Air Cylinder Models	2
LDN Standard Through Hole Models	3
LDN/RE Through Hole Models with Stroke Control	4
LDN/LV Through Hole Models with Lock Valves and Stroke Control	5
LDN/A Adjustable Draw Tube Models	6
Mounting Plates and Draw Tubes	7
Rotary Unions for Coolant/Air Thru	7
Operating Valves	8
Air Filter/Regulator Units	8
Spindle Data Sheet.....	9

Commitment to Service

MicroCentric LDN Air Cylinders are available from stock and can be supplied with adapter plates and draw tubes to interface with any machine spindle or rotary table configuration. MicroCentric is not only committed to building the world's finest workholding products, but we also strive to provide our customers with the optimum solution for their machine tool applications, and provide unmatched service and support.



LDN Air Cylinder Design & Features

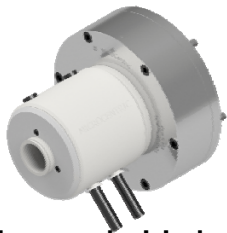
MicroCentric LDN Air Cylinders feature a high performance sealed design air bearing assembly. The air bearing incorporates a hardened steel journal and a housing supported by high speed sealed bearings. This advanced design combined with MicroCentric's precision manufacturing capability produces air cylinders of unmatched performance and reliability.

Air cylinders enable fine adjustment of draw tube force (clamping force) to prevent distortion of workpieces during clamping compared to hydraulic actuators. MicroCentric LDN Cylinders are maintenance free, requiring only filtered air to be provided continuously to the air bearing assembly during rotation.

LDN Air Cylinders can be adapted to all machine spindle and rotary table configurations to actuate jaw, collet, and diaphragm chucks. MicroCentric can supply spindle mounting plates and draw tubes as required, as well as a variety of precision workholding products.

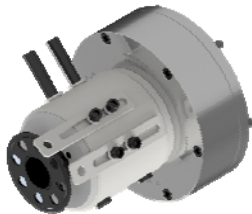
LDN Air Cylinder Models

LDN Standard Through Hole Models



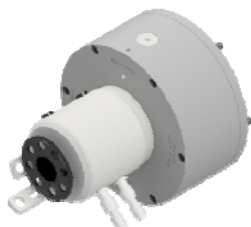
- Available in 6, 8, and 10 inch diameter models
- 1.102" (28mm) through hole
- Speeds up to 6,000 rpm
- Clamping force up to 5,200 lbs (2,360 kg)

LDN/RE Through Hole Models with Stroke Control



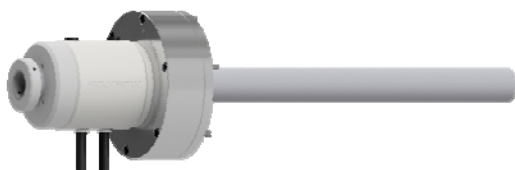
- Target and adjustable brackets for proximity switches
- Available in 6, 8, and 10 inch diameter models
- 1.102" (28mm) through hole
- Speeds up to 6,000 rpm

LDN/LV Through Hole with Lock Valve



- Built-in lock and relief valves
- 7 inch diameter
- 1.102" (28mm) through hole
- Speeds up to 6,000 rpm
- Available with stroke control

LDN/A Adjustable Draw Tube Models

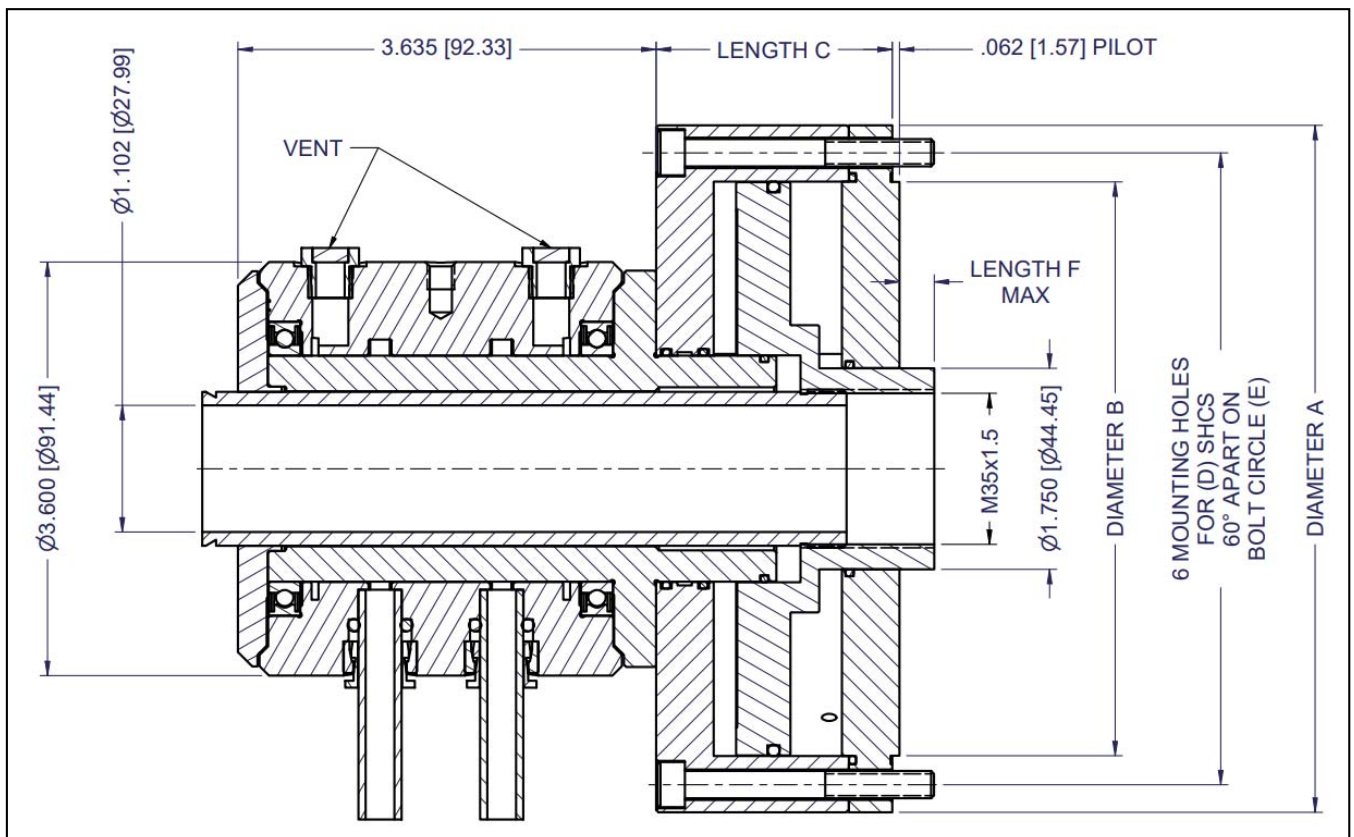


- Adjustable draw tube design to install collets and adjust collet tension on 5C spindles
- 6 inch diameter
- 1.063" (27mm) through hole
- Speeds up to 6,000 rpm
- 5C draw tubes available

LDN Standard Through Hole Models

Size	Cylinder Model	Through Hole	Piston Stroke	Max. Air Pressure	Draw Tube Force*	Max. rpm	Weight
6"	LDN-150	1.102"	.394"	150 psi	1,640 lb	6,000	12 lb
152 mm		28mm	10mm	10.5 kg/cm ²	745 kg		
8"	LDN-200	1.102"	.710"	150 psi	2,920 lb	5,000	23 lb
203 mm		28mm	18 mm	10.5 kg/cm ²	1,327 kg		
10"	LDN-250	1.102"	.710"	150 psi	5,200 lb	4,000	32 lb
254 mm		28mm	18 mm	10.5 kg/cm ²	2,364 kg		

*at 100psi (7 kg/cm²)

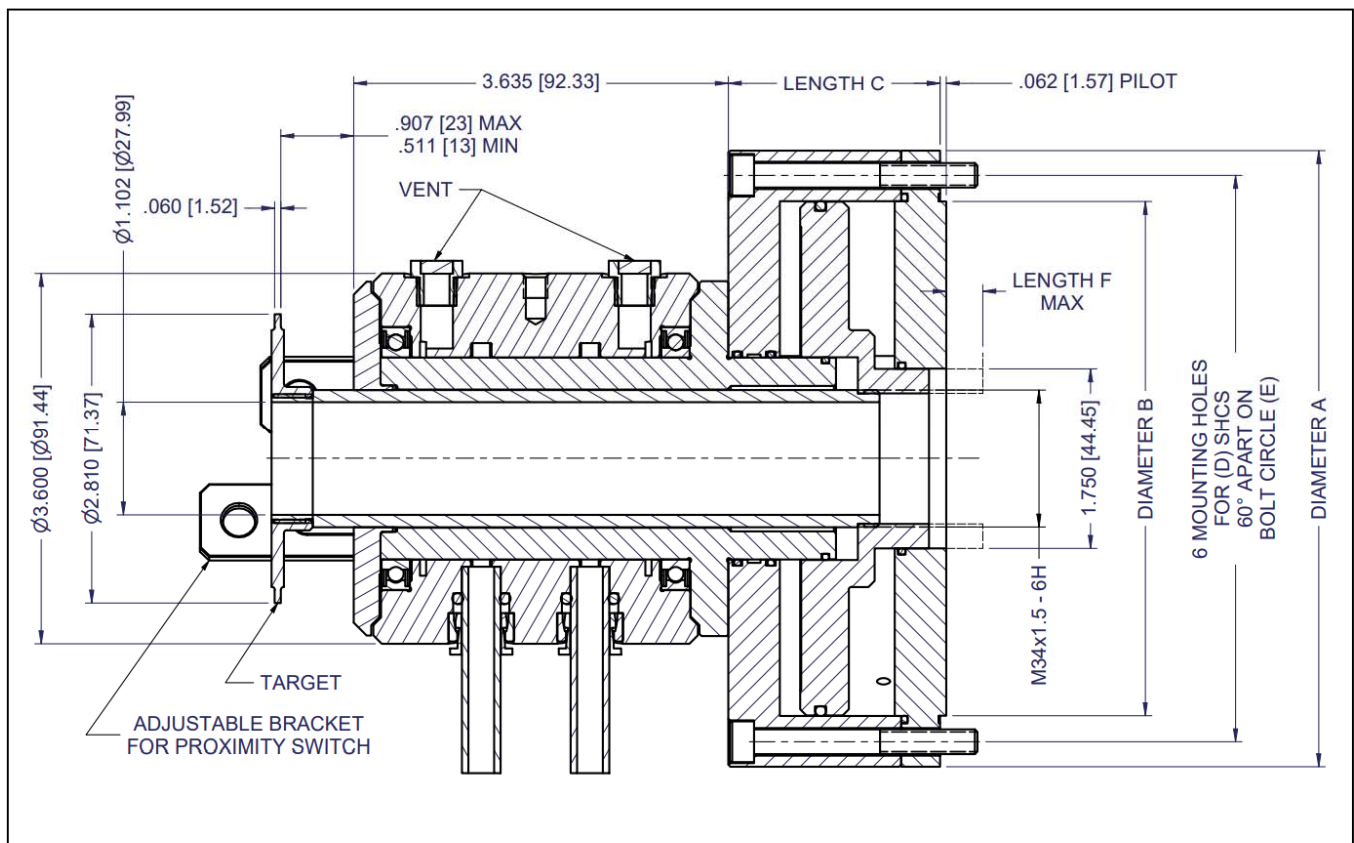


Model	A	B	C	D	E	F
LDN-150	5.980"	4.995"	2.053"	M6	5.500"	.500"
	151.89mm	126.87mm	52.15mm	M6	139.70mm	12.7mm
LDN-200	7.980"	6.495"	3.186"	M8	7.250"	.355"
	202.69mm	164.97mm	80.92mm	M8	184.15mm	9mm
LDN-250	10.000"	8.495"	3.186"	M8	9.250"	.355"
	254mm	215.77mm	80.92mm	M8	234.95mm	9mm

LDN/RE Through Hole Models with Stroke Control

Size	Cylinder Model	Through Hole	Piston Stroke	Max. Air Pressure	Draw Tube Force*	Max. rpm	Weight
6"	LDN-150/RE	1.102"	.394"	150 psi	1,640 lb	6,000	12 lb
152 mm		28mm	10mm	10.5 kg/cm ²	745 kg		5.5 kg
8"	LDN-200/RE	1.102"	.710"	150 psi	2,920 lb	5,000	23 lb
203 mm		28mm	18 mm	10.5 kg/cm ²	1,327 kg		10.5 kg
10"	LDN-250/RE	1.102"	.710"	150 psi	5,200 lb	4,000	32 lb
254 mm		28mm	18 mm	10.5 kg/cm ²	2,364 kg		14.5 kg

*at 100psi (7 kg/cm²)

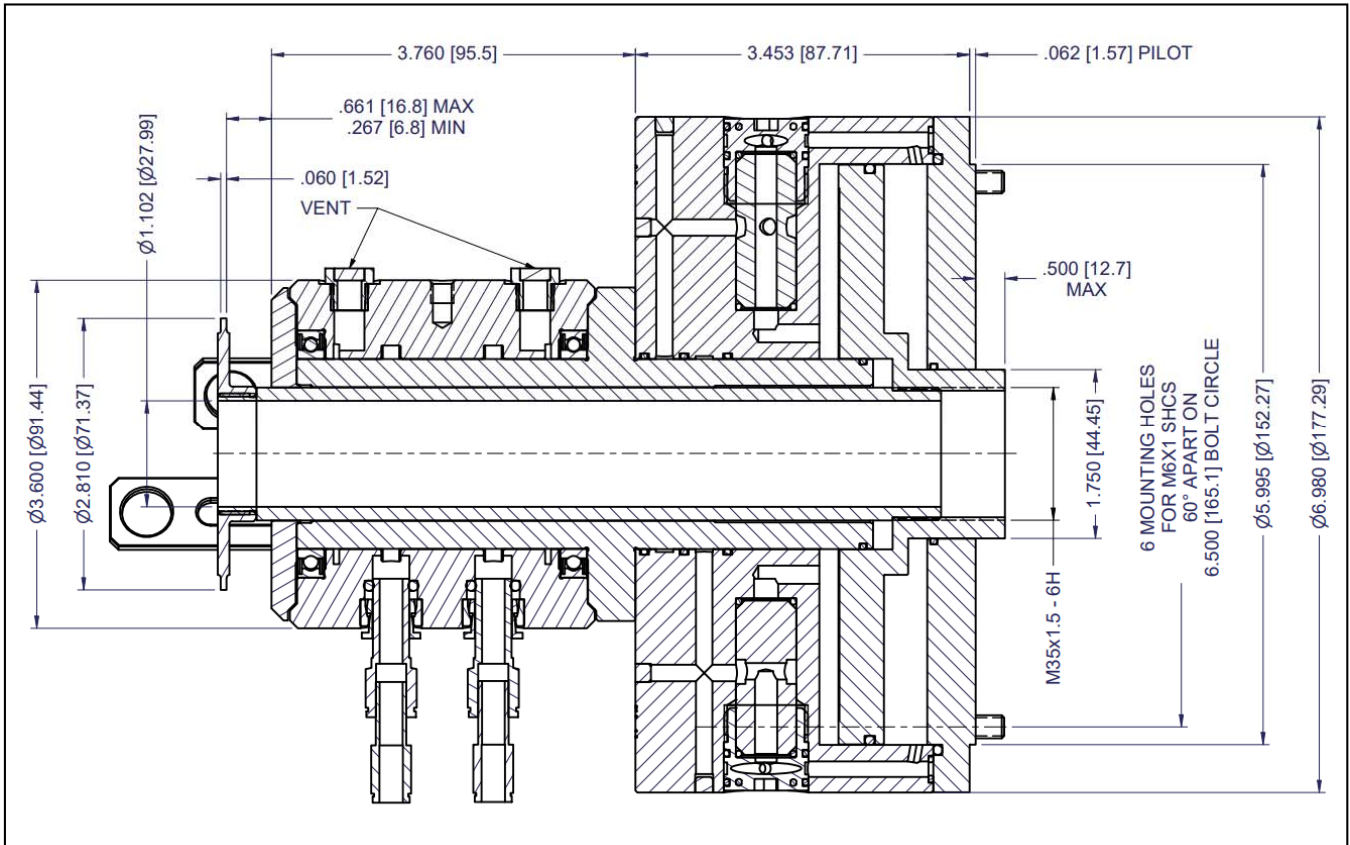


Model	A	B	C	D	E	F
LDN-150/RE	5.980"	4.995"	2.053"	M6	5.500"	.500"
	151.89mm	126.87mm	52.15mm	M6	139.70mm	12.7mm
LDN-200/RE	7.980"	6.495"	3.186"	M8	7.250"	.355"
	202.69mm	164.97mm	80.92mm	M8	184.15mm	9mm
LDN-250/RE	10.000"	8.495"	3.186"	M8	9.250"	.355"
	254mm	215.77mm	80.92mm	M8	234.95mm	9mm

LDN/LV Through Hole Models with Lock Valves and Stroke Control*

Size	Cylinder Model	Through Hole	Piston Stroke	Max. Air Pressure	Draw Tube Force*	Max. rpm	Weight
7"	LDN-178/RE	1.102"	.394"	150 psi	2,520 lb	6,000	24 lb
178mm		28mm	10mm	10.5 kg/cm ²	1140 kg		11 kg

*at 100psi (7 kg/cm²)

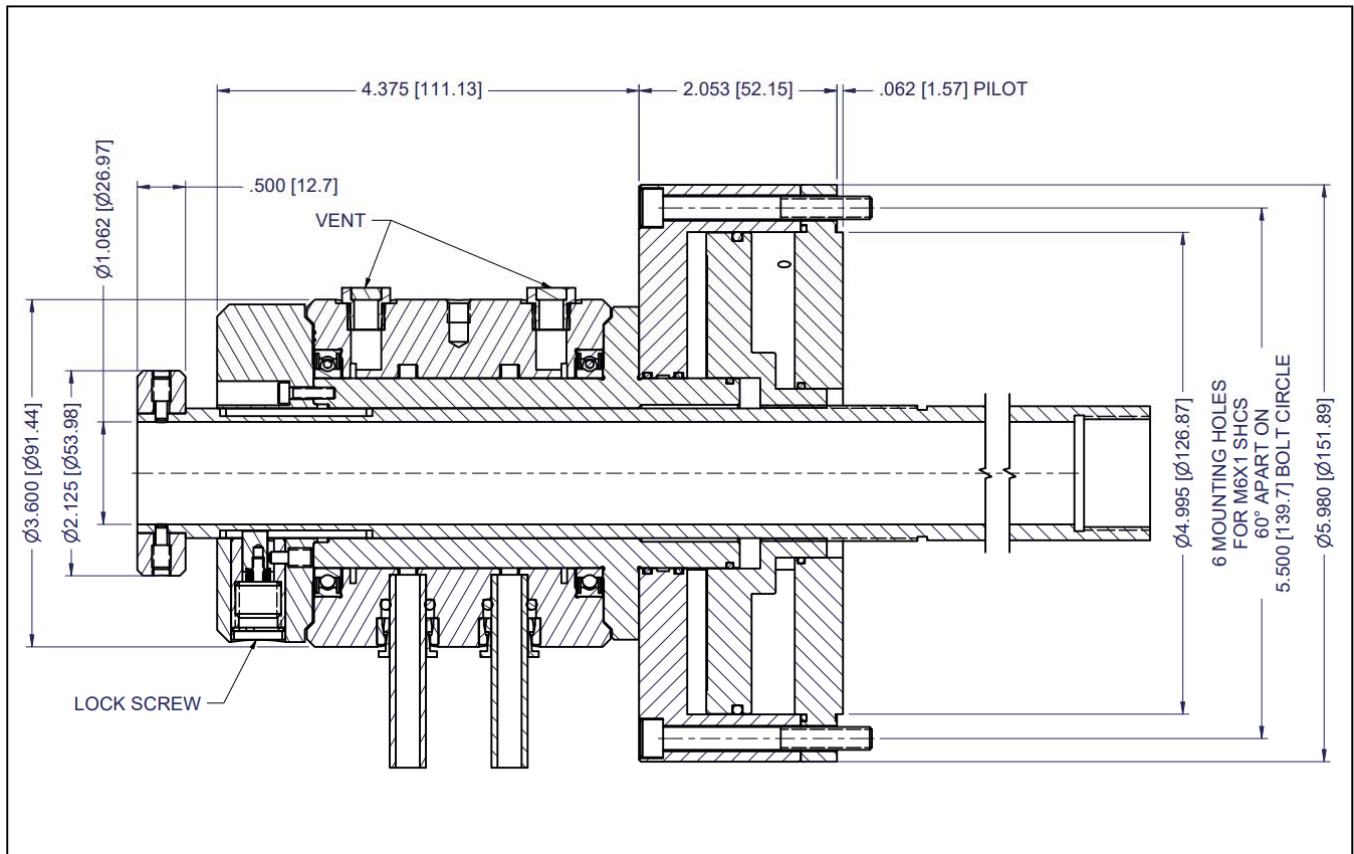


*Optional stroke control shown

LDN/A Adjustable Draw Tube Models

Size	Cylinder Model	Through Hole	Piston Stroke	Max. Air Pressure	Draw Tube Force*	Max. rpm	Weight
6"	LDN/A-150	1.063"	.394"	150 psi	1,640 lb	6,000	15.4
152 mm		27mm	10mm	10.5 kg/cm ²	745 kg		7 kg

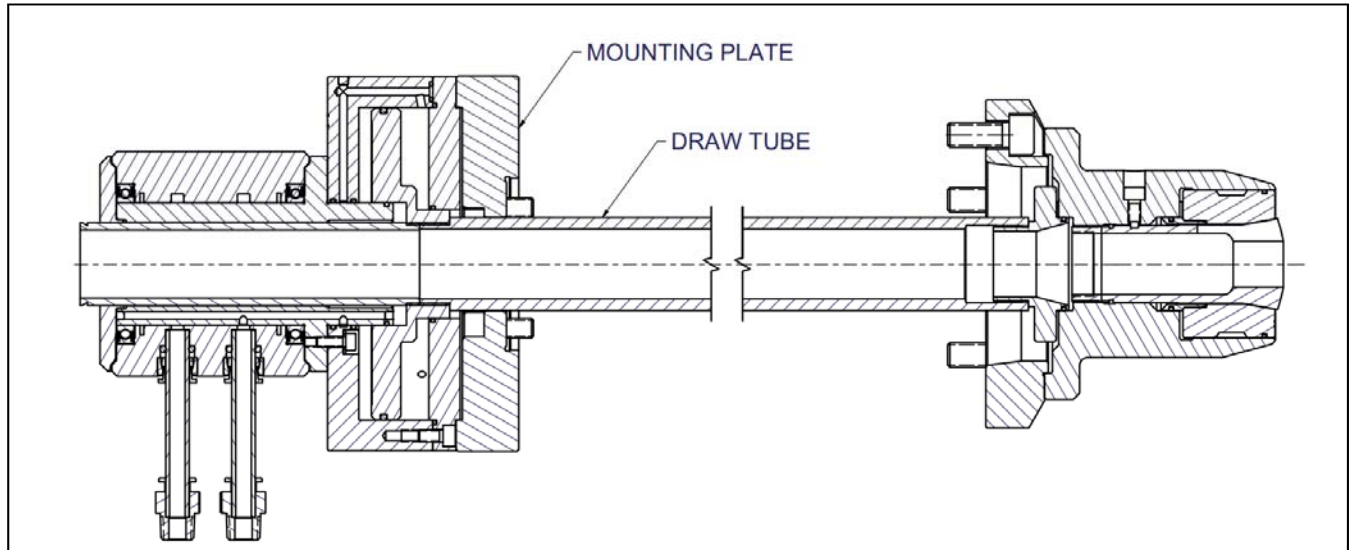
*at 100psi (7 kg/cm²)



LDN Air Cylinder Options & Accessories

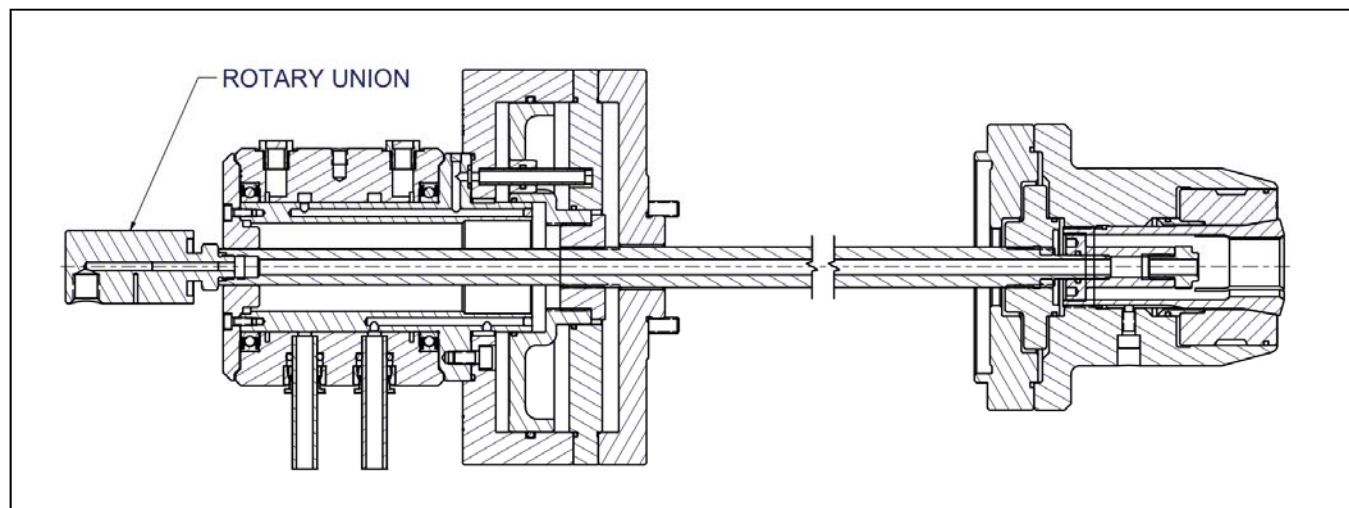
Mounting Plates and Draw Tubes

Spindle mounting plates and draw tubes to adapt LDN Air Cylinders to a specific machine spindle or rotary table are quoted on request. Refer to Page 9 for spindle data sheet.



Rotary Unions for Coolant/Air Thru

Rotary unions can be mounted to the rear of LDN Air Cylinders to supply coolant or air through the machine spindle to the workholding fixture.



Operating Valves

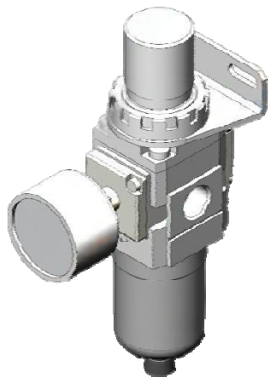


<i>Model</i>	<i>Port Size</i>	<i>Max Pressure</i>	<i>Handle Movement</i>
HV-10	1/8" NPT	150 psi 10 kg/cm ²	1/4 Turn
FV-10	1/4" NPT	150 psi 10 kg/cm ²	N/A

The HV-10 is a 2 position manual hand valve that directs and exhausts air to open and close LDN Air Cylinders.

The FV-10 is a 2 position manual foot valve that directs and exhausts air to open and close LDN Air Cylinders.

Air Filter/Regulator Unit

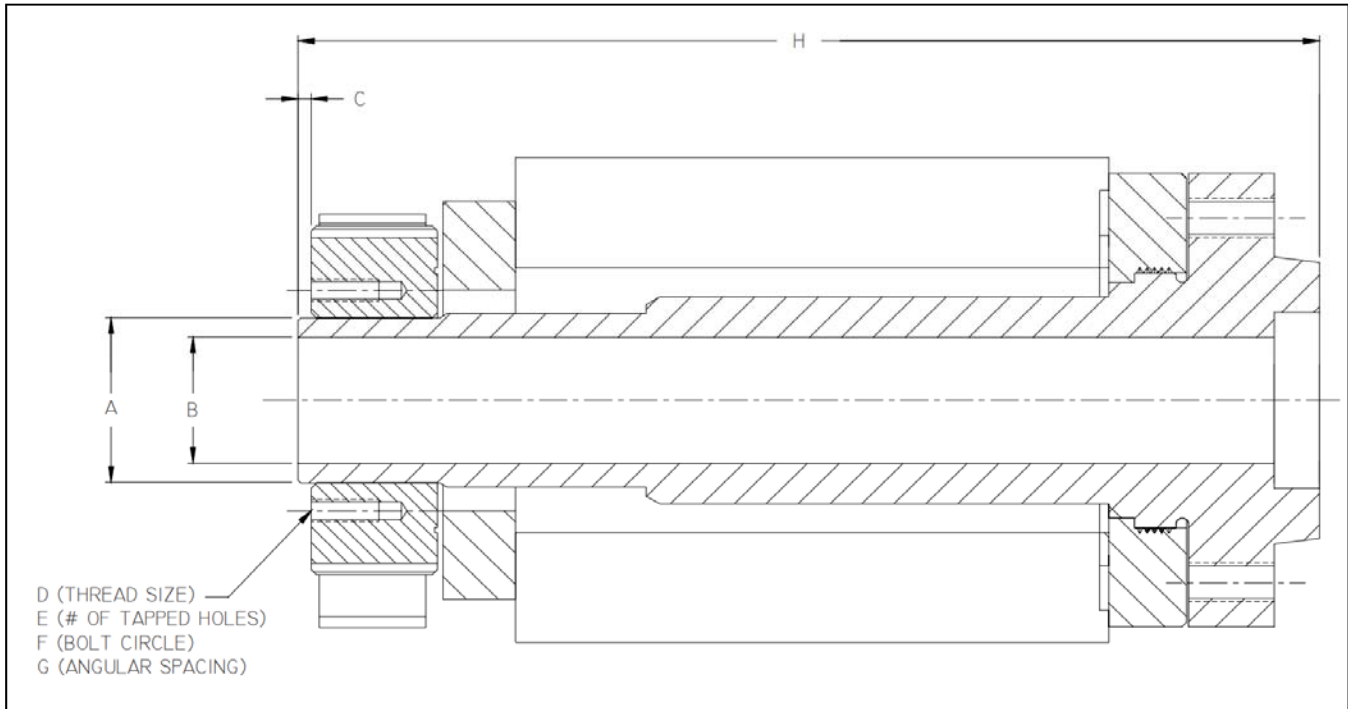


<i>Model</i>	<i>Port Size</i>	<i>Max Pressure</i>	<i>Operating Range</i>
FR-10	1/8" NPT	150 psi 10 kg/cm ²	5 to 125 psi 0.5 to 9 kg/cm ²

The FR-10 is used to set operating air pressure of LDN Air Cylinders, and ensures that the LDN Air Cylinder is supplied with dry, clean air. Water that accumulates in the filter unit can be purged by the manual drain. A pressure gage is included with each unit.

Spindle Data Sheet

Company		Date	
Cylinder Model		Ref. No.	



A completed copy of this data sheet is required when LDN Air Cylinders are supplied with spindle adapter plates and draw tubes.

If the spindle of your machine has a threaded mounting or is configured differently than this diagram, a detailed drawing of the spindle must be submitted to assure that the adapter plate and draw tube that is supplied is correct.

Contact us at **1-800-573-1139** if you have any questions about completing this data sheet.

Machine Make	
Machine Model	
Machine Serial No.	
A Pilot Diameter	
B Spindle bore	
C Length of Pilot	
D Thread Size	
E # of Tapped Holes	
F Bolt Circle	
G Angular Spacing	
H Length of Spindle	



MicroCentric Corporation • 25 South Terminal Drive, Plainview, NY 11803 USA
Tel: 516-349-7220 • Fax: 516-349-9354 • e-mail: sales@MicroCentric.com

1-800-573-1139

www.microcentric.com