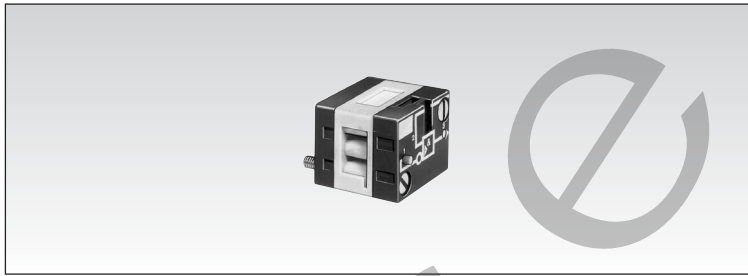


Position Detectors

EC Crouzet

Products and specifications subject to change without notice.

Pressure decay sensor



Part numbers

Pressure decay sensor

81 504 025

1

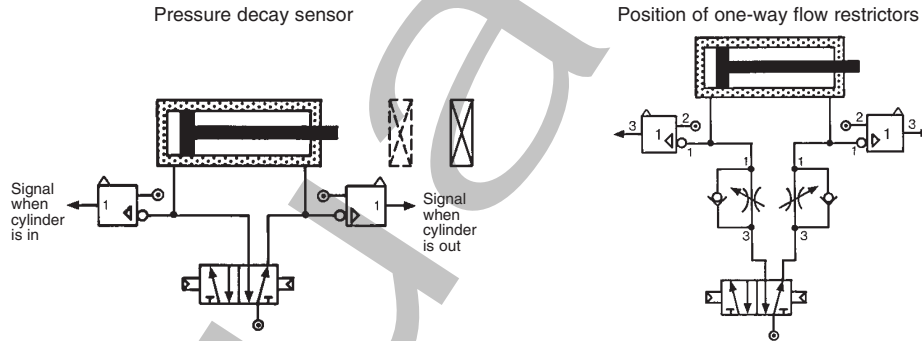
Symbol



Characteristics

Operating pressure	psi (bar)	30 > 120 (2 > 8)
Flow at 90 psi (6 bars)	cfm(Nl/min)	7 (200)
Tripping point at 90 psi (6 bar) supply	psi (bar)	4.5 (0.3)
Connection		Sub-base page 5/44 - 5/45 or PAC mounting
Operating temperature	°F (°C)	+25 > +120 (-5 > +50)
Mechanical life	operations	10 million
Weight	(grams)	25
Relay Color		Light grey

Connections

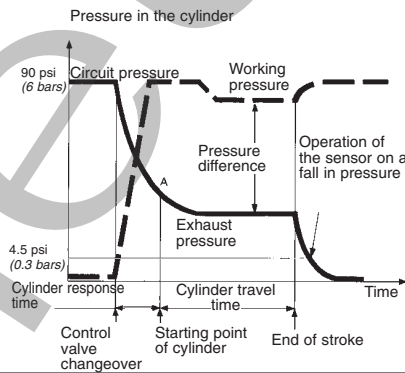


Principle of operation

Mounted in-line between the cylinder and the control valve, the sensor will give an output when the pressure in this line is exhausted and the cylinder is at end of stroke.

For the correct usage of sensors on a falling pressure, it is recommended that the practical cylinder load is limited to 60% of the theoretical force.

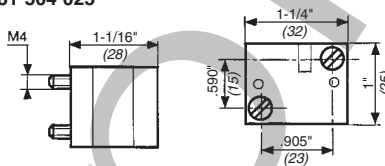
Evolution of pressure within a double-acting cylinder.



Note: Caution should be taken on application because mechanical binding or seal failure of cylinder or valve will cause sensor to give or not give output signal.

Dimensions

81 504 025



Note: Use (metric) for critical data.

To order, specify :

Standard products

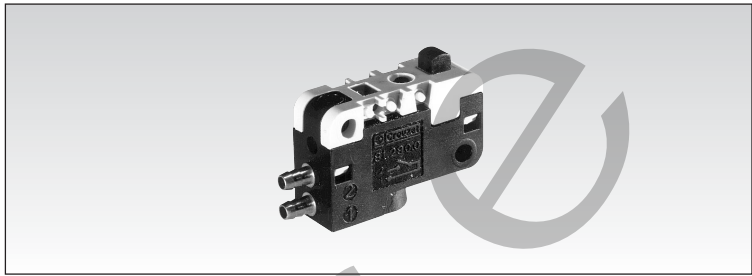
1

Part number

Example : Pressure decay sensor - 81 504 025

Low force position detectors

- Conforms to standard DIN 43365 Form A
- Low activation force < 1.7 oz. (50 g @ 4 bars) at 90 psi
- No continuous consumption of compressed air



Part numbers

Function	NO	81 290 501	—
	NC	—	81 290 001

Symbol

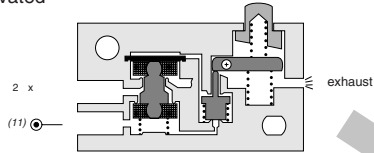


Characteristics

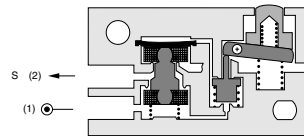
Orifice diameter	inches(mm)	5/64" (2)	5/64" (2)
Operating pressure	psi(bar)	30 > 120 (2 > 8)	30 > 120 (2 > 8)
Flow at 60 psi(4 bars)	cfm(Nl/min)	4.5 (130)	2.5 (>70)
Activation force at 90 (6 bars)	ounces(g)	<1.7 (< 50)	<1.7 (< 50)
Permissible fluid: air, inert gases			
Max/min. of fluid temperatures	°F(°C)	+20> +120 (-10 > +50)	+20> +120 (-10 > +50)
operating	°F(°C)	+20> +140 (-10 > +60)	+20> +140 (-10 > +60)
storage	°F(°C)	+20> +160 (-40 > +70)	+20> +160 (-40 > +70)
Mechanical life at 90psi (6 bars)	cycles	10 million	10 million
Response time on activation	ms	≤ 15	≤ 15
on release	ms	≤ 15	≤ 15
Barb connection for semi-rigid tubing	inches(mm)	0.106" I.D.x 5/32" O.D. (2.7x4)	0.106" I.D.x 5/32" O.D. (2.7x4)
Weight	grams	8.5	8.5

Principle of NC operation

Deactivated



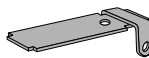
Activated



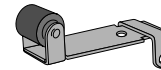
Operation accessories

Unless otherwise requested, flat and roller-ended levers are supplied loose.

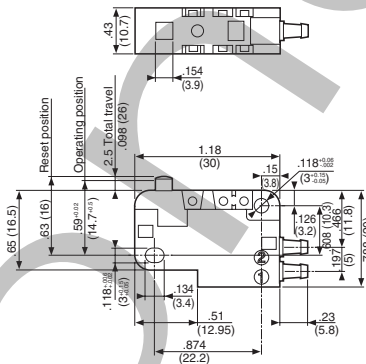
161 A
flat
79 215 741



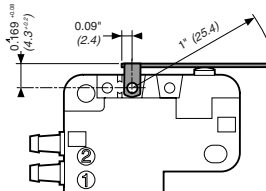
161 G
roller
70 507 529



Dimensions

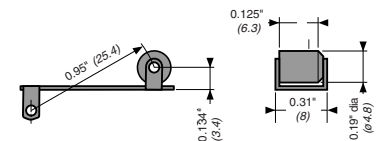


161 A



161 E

79 215 742



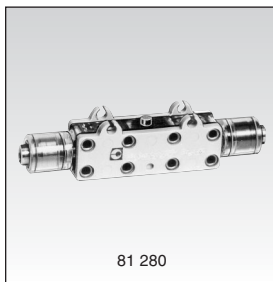
Use (metric) dimensions for critical data

Other information	To order, specify :						
On request : Wide range of actuators Connectable exhaust	<table border="0"> <tr> <td>Standard products</td> <td>1 Part number</td> <td>2 Accessory</td> </tr> <tr> <td></td> <td colspan="2">Example : Low force position detector 81 290 501 Flat lever 79 215 741</td> </tr> </table>	Standard products	1 Part number	2 Accessory		Example : Low force position detector 81 290 501 Flat lever 79 215 741	
Standard products	1 Part number	2 Accessory					
	Example : Low force position detector 81 290 501 Flat lever 79 215 741						

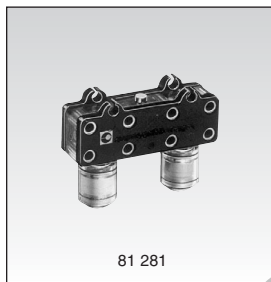
Products and specifications subject to change without notice.

"Microvalve" series position detectors

ORDER ONLINE



81 280



81 281



Part numbers

Version	NO (grey body color)	81 280 010	81 281 010	—
	NC (black body color)	81 280 510	81 281 510	81 283 510 not shown
Features		Horizontal output	Vertical output	Rear connection by screw

Symbol

NO



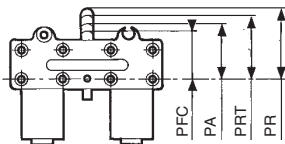
NC



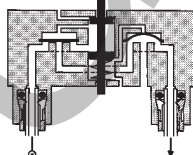
Characteristics

Operating pressure	psi(bar)	30 > 120 (2 > 8)	30 > 120 (2 > 8)	30 > 120 (2 > 8)
Orifice diameter	inches(mm)	0.106 (2.7)	0.106 (2.7)	0.106 (2.7)
Flow at 6 bars 90 psi (6 bar)	cfm(Nl/min)	7 (200)	7 (200)	4.8 (138)
Operating force 90 psi (6 cm)	oz. (N)	50 (15)	50 (15)	50 (15)
Effective travel	inches(mm)	0.04" (1)	0.04" (1)	0.04" (1)
Push-in connection for O.D. semi-rigid tubing (NFE 49100)	inches(mm)	5/32" (4)	5/32" (4)	5/32" (4)
Operating temperature	°F(°C)	+20 > +120 (-5 > +15)	+20 > +120 (-5 > +15)	+20 > +120 (-5 > +15)
Mechanical life	operations	5 million	5 million	5 million
Weight	grams	14	14	20

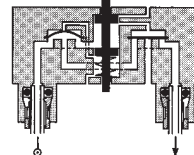
Principle of operation



NC



NO



Actuation positions :

PFC : End of travel position.....	0.423" (10.75)
PA : Operating position (max output kV).....	0.449" (11.4)
PRT : Release position (max. exhaust kV).....	0.463" (11.75)
PR : Rest position.....	0.488" (12.4)

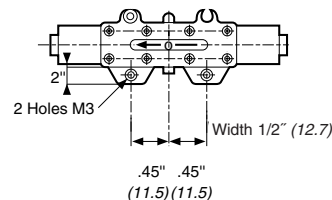
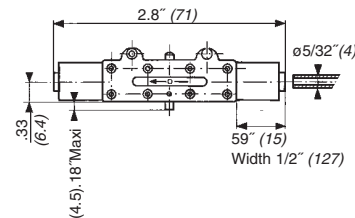
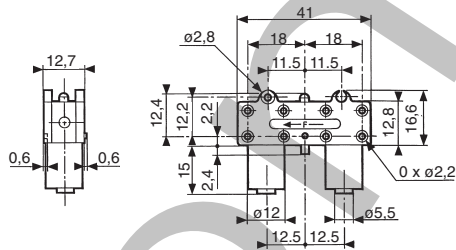
Non-connectable exhaust port is on the "output" side.

Dimensions

81 281 010 - 81 281 510

81 280 010 - 81 280 510

81 283 510



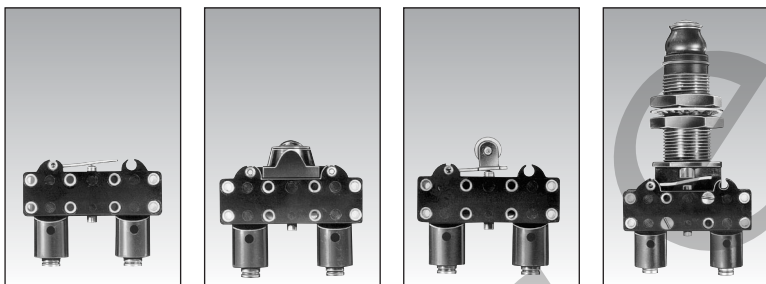
Use (metric) dimensions for critical data

Other information	To order, specify :
	<p>Standard products</p> <p>Standard products, non stocked</p> <p>1 Part number Example : "Microvalve" series position detectors - 81 280 010</p>

Products and specifications subject to change without notice.

"Microvalve" series position detectors

ORDER
ONLINE



Part numbers

Features	Short lever	With ball	With roller	Threaded barrel Plunger for 5/8" hole
Version NC Vertical output	81 281 502	81 281 504	81 281 509	81 737 501

Symbol

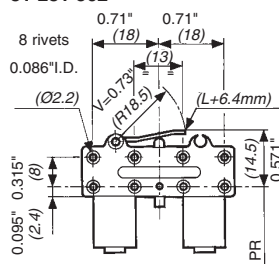


Characteristics

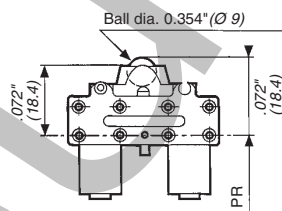
Operating pressure	psi (bar)	30 > 120 (2 > 8)	30 > 120 (2 > 8)	30 > 120 (2 > 8)	30 > 120 (2 > 8)
Orifice diameter	inches(mm)	0.04 (2.7)	0.04 (2.7)	0.04 (2.7)	0.04 (2.7)
Flow at 90 psi (6 bars)	cfm(Nl/min)	7 (200)	7 (200)	7 (200)	7 (200)
Operating force at 90 psi (6 bars)	oz(N)	50 (15)	50 (15)	50 (15)	83 (25)
Effective travel	inches(mm)	0.04" (1)	0.04" (1)	0.04" (1)	0.04" (1)
Push-in connection for semi-rigid tubing O.D. Inches(NFE 49100)	(mm)	5/32" (4)	5/32" (4)	5/32" (4)	5/32" (4)
Operating temperature	°F (°C)	+20>.+120(-5>+50)	+20>.+120(-5>+50)	+20>.+120(-5>+50)	+20>.+120(-5>+50)
Mechanical life	cycles	5 million	5 million	5 million	5 million
Weight	grams	16	18	18	90

Dimensions

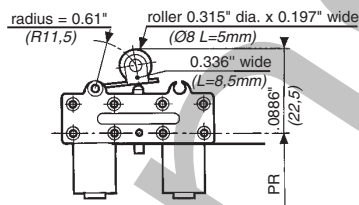
81 281 502



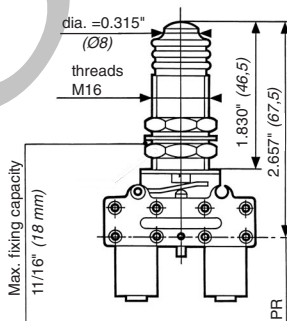
81 281 504



81 281 509



81 737 501



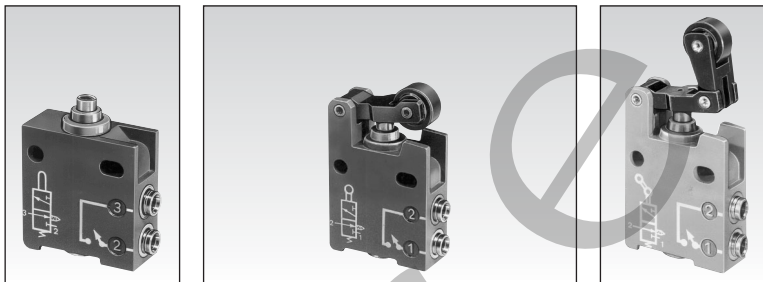
Actuation positions :
PR : Rest position

Use (metric) dimensions for critical data

Other information	To order, specify :
	<p>Standard products, non stocked</p> <p>1 Part number Example : "Microvalve" series position detectors - 81 280 002</p>

Products and specifications subject to change without notice.

"Miniature" series position detectors

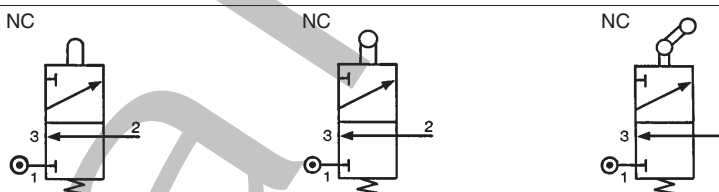


1

Part numbers

Version	Push-in connection for semi-rigid tubing (NFE 49100)				
	Ø 4 silenced exhaust	81 921 501	81 921 701	81 921 702	81 921 707
NC	M5 connectable exhaust	—	—	—	—
	Ø 4 connectable exhaust *	—	—	—	—
	Ø 6 connectable exhaust *	—	—	—	—
NO	Ø 4 silenced exhaust	—	—	—	—
	Ø 6 silenced exhaust	—	—	—	—
Control		Simple plunger	Lever with plastic roller	Lever with roller bearing	Lever with one-way trip plastic roller

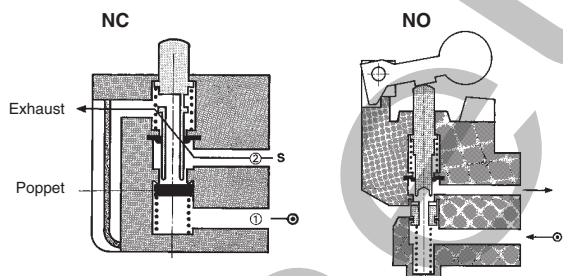
Symbol



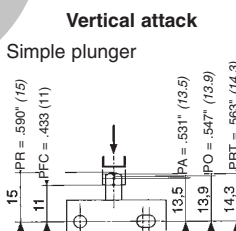
Characteristics

Operating pressure	psi (bar)	2 >120 (0.18>8)	2 >120 (0.18>8)	2 >120 (0.18>8)	2 >120 (0.18>8)
Orifice diameter	inches (mm)	0.106 (2.7)	0.106 (2.7)	0.106 (2.7)	0.106 (2.7)
Flow at 90 psi (6 bars)	cfm (NI/min)	7 (200)	7 (200)	7 (200)	7 (200)
Actuation force at 90 psi (6 bars)	oz (N)	63 (18)	63 (18)	63 (18)	63 (18)
Circuit function : NC		●	●	●	●
Circuit function: NO		—	—	—	—
Operating temperature	°F (°C)	+20>+120 (-5>+50)	+20>+120 (-5>+50)	+20>+120 (-5>+50)	+20>+120 (-5>+50)
Mechanical life	operations	10 million	10 million	10 million	10 million
Weight	grams	62	75	80	77

Principle of operation



Actuation travel

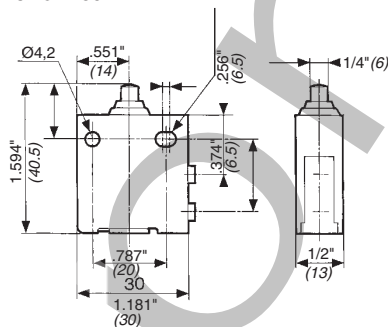


Actuation positions :

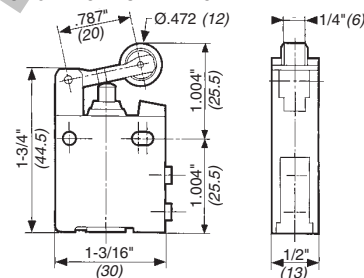
- PA : Operating position (max output CV)
- PFC : End of travel position
- PO : Mid-position closed (no exhaust, no outlet)
- PRT : Release position (max exhaust CV)
- PR : Rest position

Dimensions

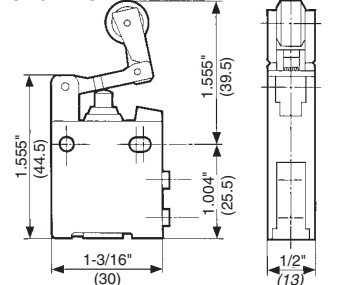
81 921 501



81 921 701 - 81 921 702



81 921 707

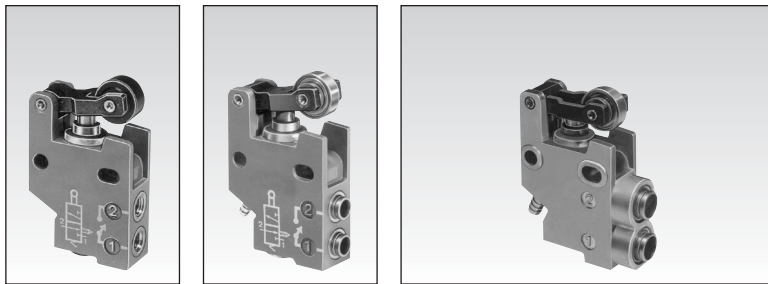


Use (metric) dimensions for critical data

Other information

* with barb for tube 0.106" (2.7) I.D. AND 5/32" (4) O.D.

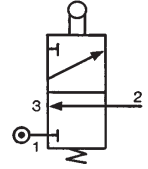
Products and specifications subject to change without notice.



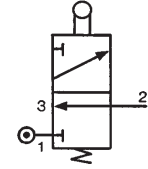
1

—	—	—	—
—	—	—	—
81 921 806	81 921 714	81 921 719	81 921 717
—	—	81 921 911	81 921 912
—	—	81 921 901	81 921 902
—	—	—	—
Lever with plastic roller	Lever with roller bearing	Lever with plastic roller	Lever with roller bearing

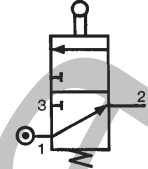
NC



NC



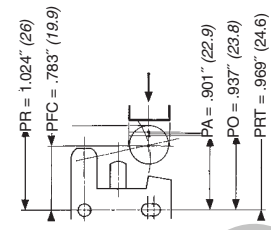
NO



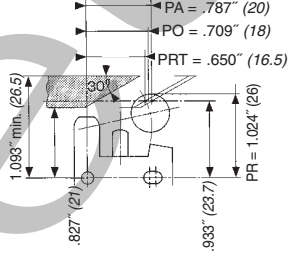
2 >120 (0.18>8)	2 >120 (0.18>8)	2 >120 (0.18>8)	2 >120 (0.18>8)
0.106 (2.7)	0.106 (2.7)	0.106 (2.7)	0.106 (2.7)
7 (200)	7 (200)	7 (200)	7 (200)
63 (18)	63 (18)	63 (18)	63 (18)
—	—	—	—
+20>+120 (-5>+50)	+20>+120 (-5>+50)	+20>+120 (-5>+50)	+20>+120 (-5>+50)
10 million	10 million	10 million	10 million
75	80	100	100

Horizontal actuating 30° cam (other angles of attack are also possible, 45° even 90°).

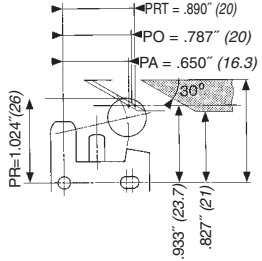
With lever



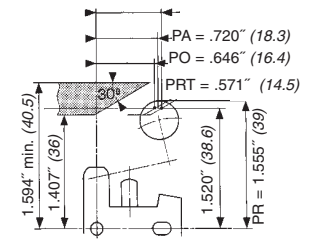
With lever



With lever



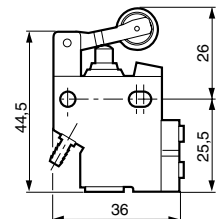
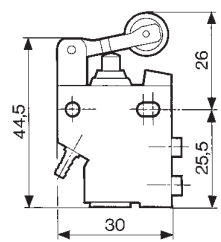
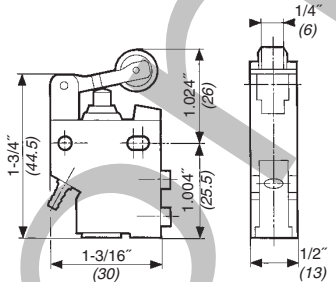
One-way trip lever



81 921 806 - 81 921 714 - 81 921 911 - 81 921 912

81 921 714

81 921 717 - 81 921 719
81 921 901 - 81 921 902
81 921 911 - 81 921 912



Use (metric) dimensions for critical data

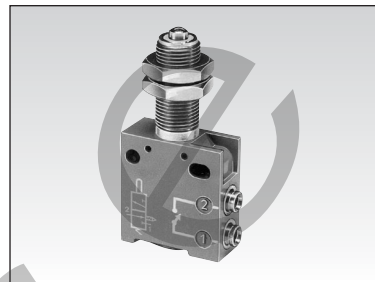
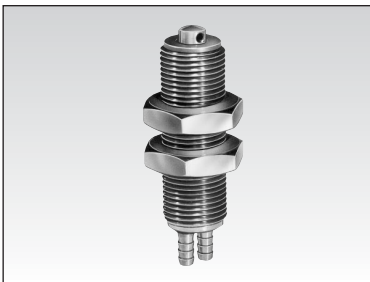
To order, specify :

Standard products	1 Part number
Standard products, non stocked	Example : "Miniature" series position detectors 81 921 501

Products and specifications subject to change without notice.

"Adjustable stop" series position detectors

ORDER ONLINE



Part numbers

1

Push-in connection for semi-rigid tubing (NFE 49100)

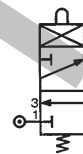
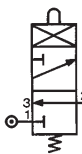
81 923 001

Barb for tube with 5/32" (4mm) O.D. x 0.106" (2.7mm) I.D.

81 921 505

Push-in connector for tube with 5/32" (4mm) O.D.

Symbol

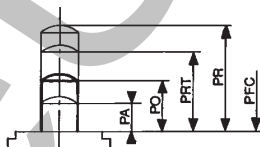
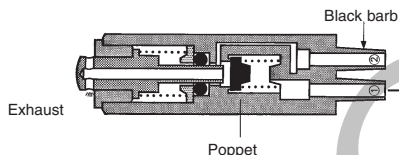


Characteristics

		81 923 001	81 921 505
Operating pressure	psi (bar)	2 > 120 (0.1 > 8)	2 > 120 (0.1 > 8)
Orifice diameter	inches (mm)	0.079" (2)	0.106" (2.7)
Flow at 90 psi (6 bar)	cfm (Nl/min)	5 (130)	7 (200)
Actuation force at 90 psi (6 bar)	oz (N)	56 (16)	94 (21)
Circuit function: NC		●	●
Max. load: without shock	lbs (daN)	2,200 (1000)	2,200 (1000)
Will stop a 2 1/2" Ø cylinder @ 90 psi: (6 bar) supply		●	●
Operating temperature	°F (°C)	+20 > +120 (-5 > +50)	+20 > +120 (-5 > +50)
Mechanical life	cycles	10 million	10 million
Weight	(grams)	27	90

Principle of operation

Actuation positions		81 923 001	81 921 505
PA : Operating position (max output Cv)	inches (mm)	0.016 (0.4)	0.028 (0.7)
PFC: End of travel position	inches (mm)	0 (0)	0 (0)
PO : Mid-point closed (no exhaust, no outlet)	inches (mm)	0.035 (0.9)	0.040 (1)
PRT : Release position (max. exhaust kV)	inches (mm)	0.059 (1.5)	0.059 (1.5)
PR : Rest position	inches (mm)	0.118 (3)	0.118 (3)

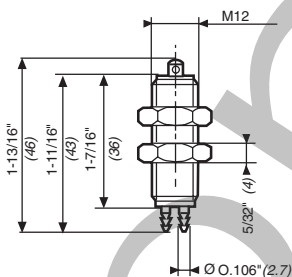


Actuation positions :

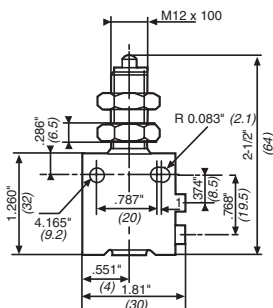
- PA : Operating position (max output Cv)
- PFC: End of travel position
- PO : Mid-position closed (no exhaust, no outlet)
- PRT : Release position (max exhaust Cv)
- PR : Rest position

Dimensions

81 923 001



81 921 505



Mounting

This should be as close as possible to the plunger

(Ø12.5) 1/2" dia. mounting hole

M12 threaded hole

Use (metric) for critical data.

Other information

To order, specify :

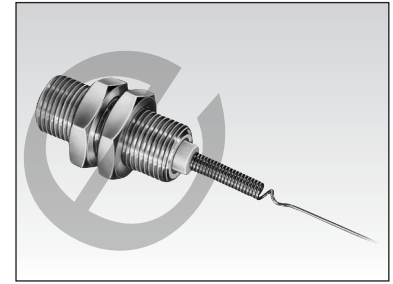
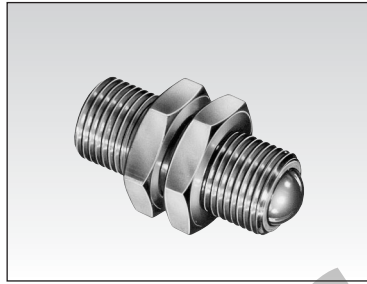
Standard products

Standard products, non stocked

1 Part numbers

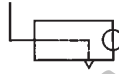
Example : "Adjustable stop" series position detectors - 81 923 001

Products and specifications subject to change without notice.



Part numbers

	81 512 201	81 512 401
Version	with ball	with wire
Symbol		1



Characteristics

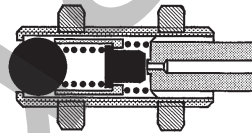
Push-in connection for semi-rigid tubing O.D. (NFE 49100)	inches (mm)	5/32" (4)	5/32" (4)
Life at 90 psi (6 bars)	cycles	10 million	10 million
Actuation force at 90 psi (6 bars)	oz (N)	2.77 (0.8)	0.09 (0.025)
Supply provided by leak sensor relay		•	•
Operating temperature	°F (°C)	+20>+120 (-5>+50)	+20>+120 (-5>+50)
Weight	(grams)	24.5	23.5

Connection

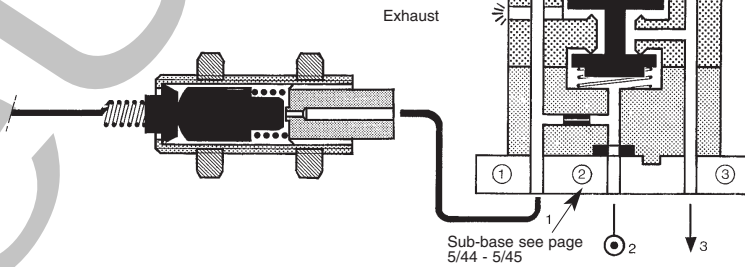


Principle of operation

Supplied at industrial pressure, the relay produces a permanent bleed at its input port. A sensor shutting off this bleed causes the relay to switch.

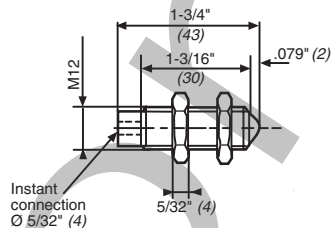


81 502 435 (see page 5/28)

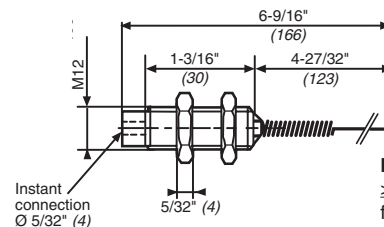


Dimensions

81 512 201



81 512 401



Note:
≥ 8° deflection for actuation

Note: Clearance hole of Ø 1/2" (12.5) or threaded hole M12 required for mounting.

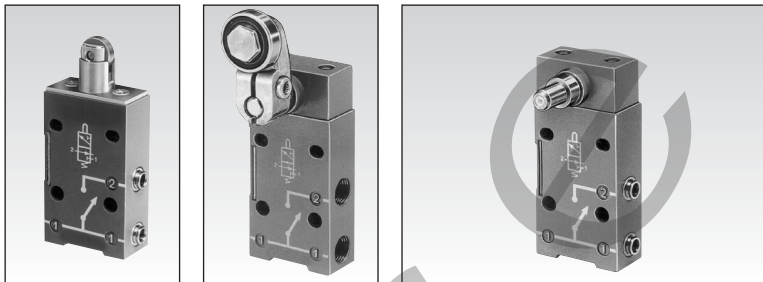
use (metric) for critical data

Other information	To order, specify :
	<p>Standard products</p> <p>1 Part number Example : "Sensitive" position detectors - 891 592 201</p>

Products and specifications subject to change without notice.

"Compact" series position detectors

ORDER ONLINE

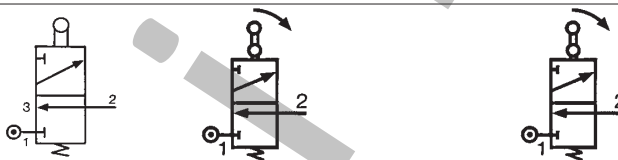


1

Part numbers

Features	Direct acting 81 922 401	Rotary actuator 81 922 205	Rotary actuator 81 922 010	Rotary actuator 81 922 210
Version	Roller plunger with unthreaded barrel	Right-hand rotary head with roller lever (CNOMO)	Programmable rotary head without lever	Programmable rotary head without lever

Symbol



Characteristics

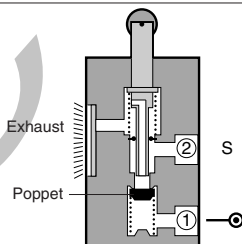
BSP		—		1/8		—		1/8	
Connection	push-in for semi-rigid tubing O.D.(NFE 49100)	inches (mm)	5/32" (4)	—	—	5/32" (4)	—	—	—
Operating pressure	psi (bar)		2 > 120 (0.1>8)	2 > 120 (0.1>8)	2 > 120 (0.1>8)	2 > 120 (0.1>8)	2 > 120 (0.1>8)	2 > 120 (0.1>8)	2 > 120 (0.1>8)
Bore diameter	inches (mm)		0.118 (3)	0.118 (3)	0.118 (3)	0.118 (3)	0.118 (3)	0.118 (3)	0.118 (3)
Flow at 90 psi (6 bars)	cfm (Nm ³ /h)		7 (12)	7 (12)	7 (12)	7 (12)	7 (12)	7 (12)	7 (12)
Activation force at 90 psi (6 bars)	oz (daN)		90 (2.5)	90 (2.5)	90 (2.5)	90 (2.5)	90 (2.5)	90 (2.5)	90 (2.5)
Circuit function: NC			●	●	●	●	●	●	●
Mechanical life	operations		10 million	10 million	10 million	10 million	10 million	10 million	10 million
Silenced or connectable (1/8) exhaust			●	●	●	●	●	●	●
Operating temperature	°F (°C)		+20>+120 (-5>+50)	+20>+120 (-5>+50)	+20>+120 (-5>+50)	+20>+120 (-5>+50)	+20>+120 (-5>+50)	+20>+120 (-5>+50)	+20>+120 (-5>+50)
Weight	(grams)		150	193	175	175	175	175	175

Accessories

Accessories		79 452 103	79 452 104	79 452 123	79 452 124	79 452 133
Lever with roller	plastic	—	●	●	●	●
Lever with adjustable roller	bearing	—	●	●	●	●
Adjustable steel rod lever	plastic	—	●	●	●	●
	bearing	—	●	●	●	●

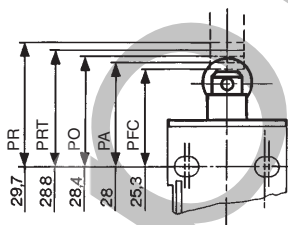
2

Principle of operation



Vertical attack

Detectors with roller plunger with unthreaded barrel.

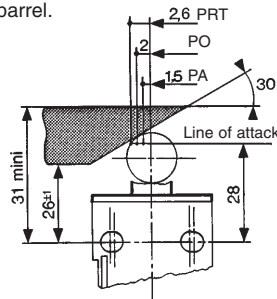


Actuation positions :

- PA : Operating position (max output kV)
- PFC : End of travel position
- PO : Mid-position closed (no exhaust, no outlet)
- PRT : Release position (max exhaust kV)
- PR : Rest position

Horizontal attack

Detectors with roller plunger with unthreaded barrel.



Other information

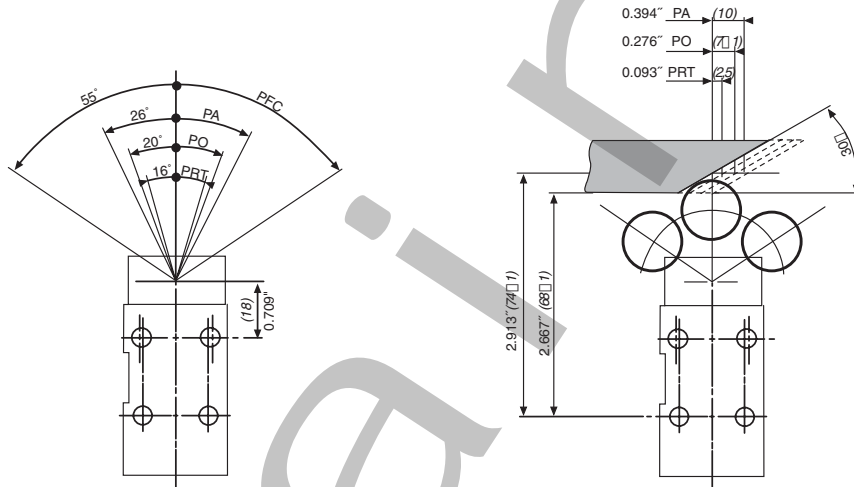
The detectors 81 922 010 and 81 922 210 can operate to both left and right.

Products and specifications subject to change without notice.

Rotary actuator

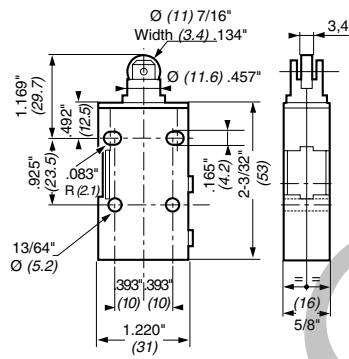
Detectors with levers

81 922 - 81 922 0 - 81 922 2

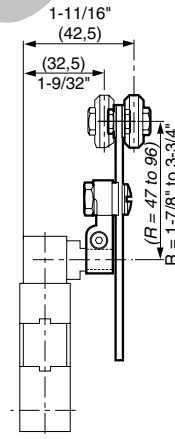


Dimensions

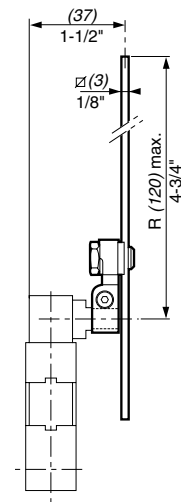
81 922 401



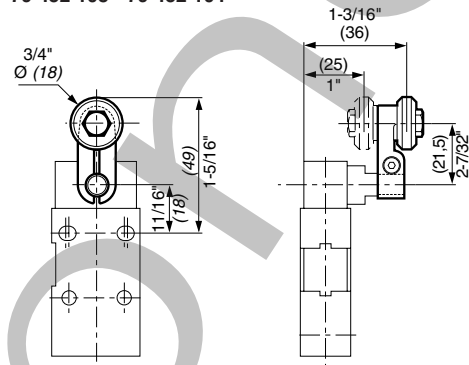
79 452 123 - 79 452 124



79 452 133



81 922 205 - 81 922 0 - 81 922 2
79 452 103 - 79 452 104



Use (metric) dimensions for critical data.

To order, specify :

Standard products

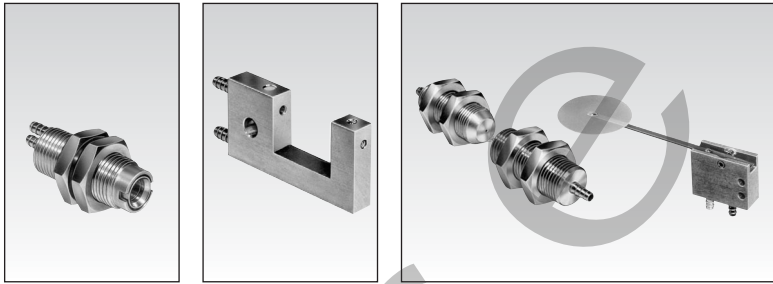
Standard products,
non stocked

1 Part number

2 Accessory

Example : "Compact" series position detectors 81 922 010 - Lever with plastic roller 79 452 103

Position detectors



Part numbers

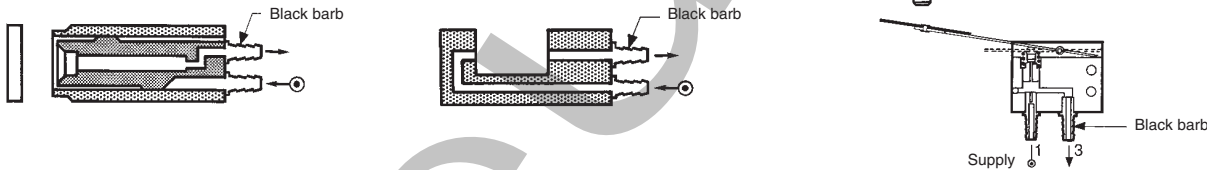
	81 371 401	81 372 201	81 372 401	81 372 901
detector	proximity	fixed gap	adjustable gap	palette
Symbol				

1

Characteristics

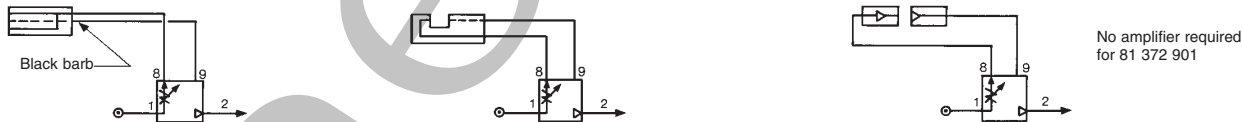
Detection distance	inches (mm)	1/4 > 3/8 (6 > 10)	11/16" (18)	4 (100)	—
Supply pressure	psi (bar)	8 > 40 (0.5 > 2.5)	8 > 40 (0.5 > 2.5)	8 > 40 (0.5 > 2.5)	—
Minimum output pressure	psi (mbar)	0.02 (1)	0.02 (1)	0.02 (1)	—
Unlimited life (static component)		●	●	●	—
Operating temperature	°F (°C)	-5 > +160 (-20 > +70)	-5 > +160 (-20 > +70)	-5 > +160 (-20 > +70)	-5 > +160 (-20 > +70)
Consumption at supply pressure of:	8 psi (0.5 b) cfm (NI/h)	0.5 (800)	0.05 (70)	0.06 (100)	—
	40 psi (2.5 b) cfm (NI/h)	1.5 (2500)	1.30 (2244)	0.45 (700)	—
Barb connection for semi-rigid tubing (NFE 49100)	inches(mm)	5/32" O.D. x 0.106" I.D. (2.7 x 4)	5/32" O.D. x 0.106" I.D. (2.7 x 4)	5/32" O.D. x 0.106" I.D. (2.7 x 4)	5/32" O.D. x 0.106" I.D. (2.7 x 4)
Operating pressure	nozzle psi (bar)	—	—	—	30 to 120 (2 to 8)
	sensor @ 8" 1" (200 mm) psi (bar)	—	—	—	30 to 120 (2 to 8)
	@ 4" (100 mm) psi (bar)	—	—	—	15 to 60 (1 to 4)
Flow	nozzle at 30 psi (2 bar) cfm (NI/h)	—	—	—	0.20 (320)
	sensor at 30 psi (2 bar) cfm (NI/h)	—	—	—	0.20 (320)
Trip force of palette	at 30 psi (2 bar) supply oz (N)	—	—	—	0.11 (0.03)
	at 90 psi (6 bar) supply oz (N)	—	—	—	0.33 (0.08)
Sensor consumption for relay supply at 90 psi (6 bar)	cfm (NI/min)	—	—	—	0.18 (5)
Weight	grams	36	9	36	14

Principle of operation

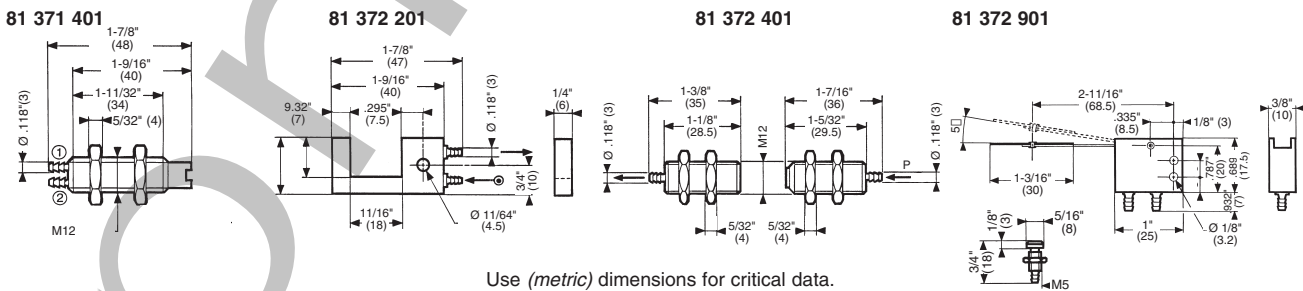


Connection

For use with amplifier on page 5/29



Dimensions



Use (metric) dimensions for critical data.

Other information	To order, specify :
	Standard products
	Standard products, non stocked
	1 Part number
	Example : Position detectors - 81 371 401

Products and specifications subject to change without notice.