

# 86P40/86P60

## Pneumatic Pin Package | Single Shaft | Ordering and Technical Information

**86P40**

**-2**

**02**

**C8**

**G1**

**A**

**-K**

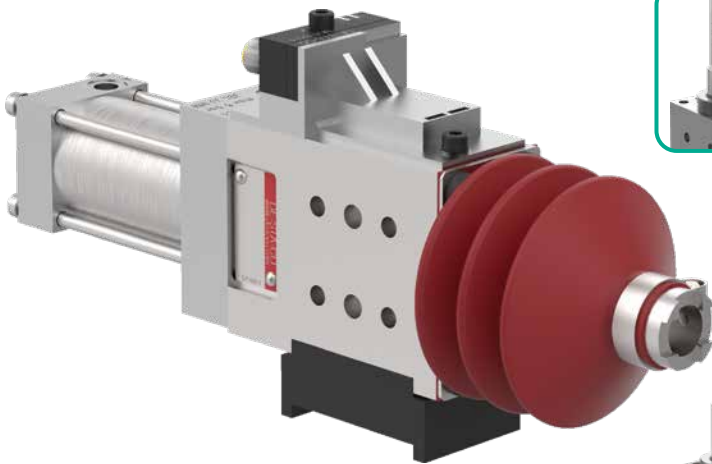
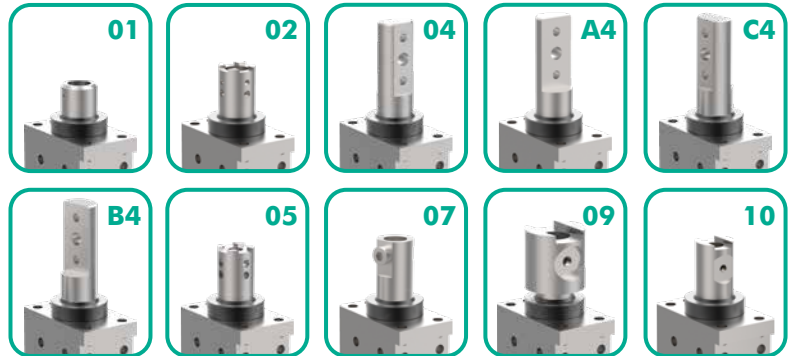
Ceramic Option  
for Piston Rod  
K

Base Model	Description
<b>86P40</b>	40 mm Cylinder (G1/8 Port)
<b>86P60</b>	63 mm Cylinder (G1/4 Port)

Hand Lever	Description
<b>-2</b>	No Handle
<b>H2</b>	Handle for Manual Control for 86P60 only (excludes <b>F, 8</b> stroke option)



Piston Rod	Description
<b>01</b>	Ø16 mm Inside Hole (Standard)
<b>02</b>	Ø16 mm M6 Threaded Inside Hole, Cross Groove
<b>04</b>	NAAMS Standard
<b>A4</b>	NAAMS Standard Rotated 180°
<b>B4</b>	NAAMS Standard Rotated 90°
<b>C4</b>	NAAMS Standard Rotated 270°
<b>05</b>	Ø10 mm Inside Hole, Cross Groove
<b>07</b>	Ø16 mm Inside Hole, NAAMS
<b>09</b>	Ø20 mm Straight Groove
<b>10</b>	Ø12 mm Straight Groove



**86P40**

**86P60**

Stroke Option:

**A, B, 2, 4    C, 6    F, 8**

**A, B, 2, 4    C, 6    F, 8**

Max Pushing Force at 5 bar [72 psi]:

620 N [139 lbf]

1550 N [348 lbf]

Max Retracting Force at 5 bar [72 psi]:

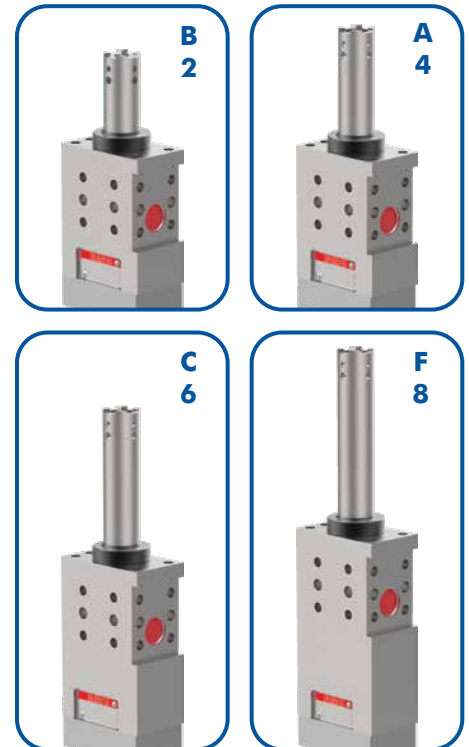
520 N [117 lbf]

1400 N [315 lbf]

Accessories	Description
<b>00</b>	No Accessories
<b>H1</b>	Adaptor (86P0-20000H1)
<b>E1</b>	External Guide for <b>A, B</b> (82ZB-009-2, Ceramic 82ZB-181-1)
<b>E2</b>	External Guide for <b>C</b> (82ZB-090-1, Ceramic 82ZB-105-1)
<b>E4</b>	External Guide for <b>F</b> (82ZB-180-1, Ceramic 82ZB-179-1)
<b>J1</b>	External Guide for <b>A, B</b> (82ZB-184-1, Ceramic 82ZB-183-1) + Adaptor (86P0-20000H1)
<b>F1</b>	Bellows for piston rods <b>02, 05, 07, 10</b> in strokes <b>A, B, 2, 4</b> (82ZB-013-3)
<b>G1</b>	Bellows <b>F1</b> + Adaptor <b>H1</b> for piston rods <b>02, 05, 07, 10</b> in strokes <b>A, B, 2, 4</b>



Stroke	Description
	<b>Anti-Twist Device/Low Accuracy</b>
<b>B</b>	20 mm Stroke (8MF-071-1)
<b>A</b>	40 mm Stroke (8CE-231-1)
<b>C</b>	60 mm Stroke (8CE-231-1)
<b>F</b>	80 mm Stroke (8CE-231-1)
	<b>Anti-Twist Device</b>
<b>2</b>	20 mm Stroke (86P0-20000002)
<b>4</b>	40 mm Stroke (86P0-20000004)
<b>6</b>	60 mm Stroke (86P0-20000006)
<b>8</b>	80 mm Stroke (86P0-20000008)



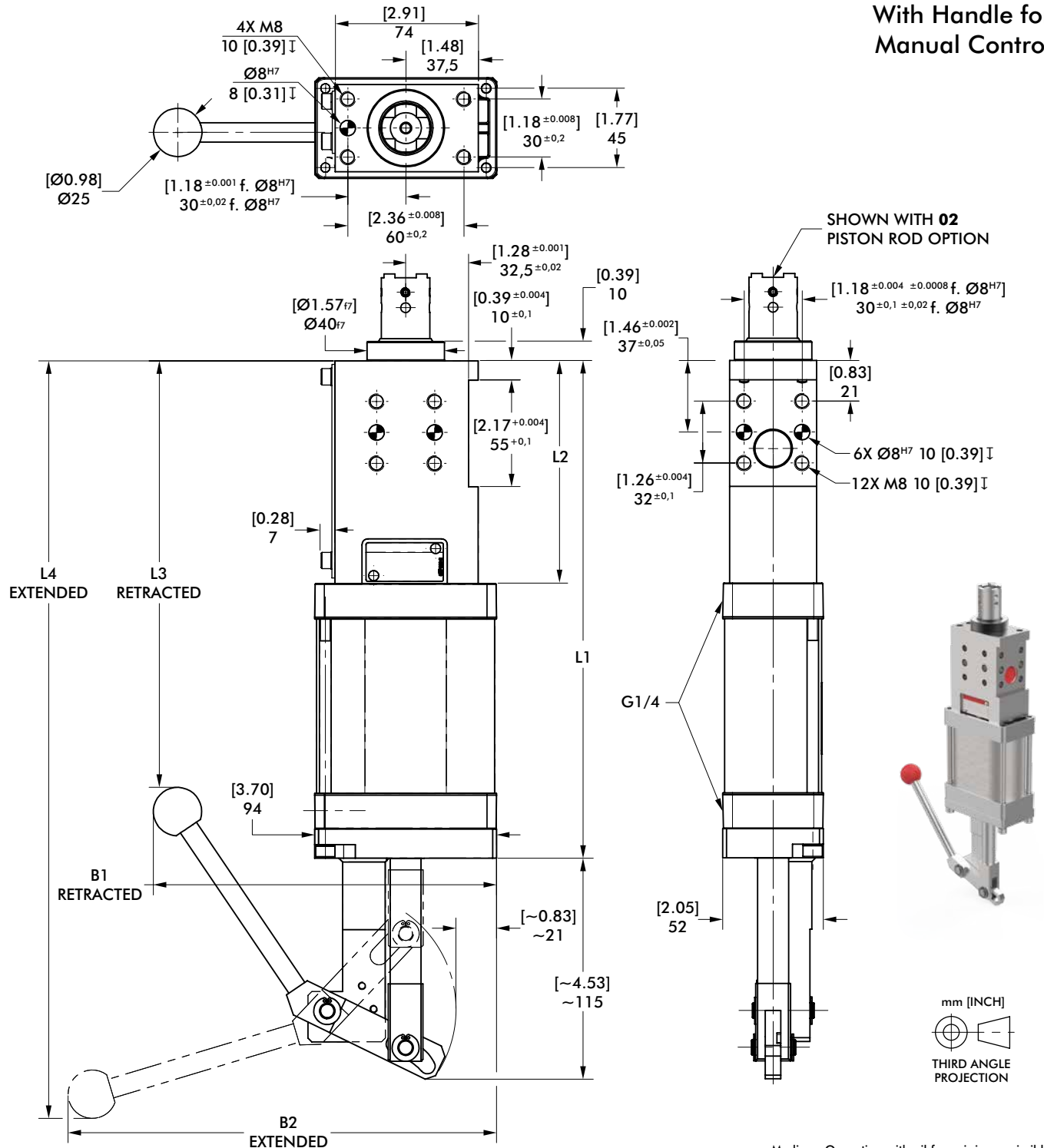
Sensor	Description
<b>L4</b>	Cover Plate for <b>A, B, 2, 4</b> (86P0-200L4)
<b>L6</b>	Cover Plate for <b>C, 6</b> (86P0-200L6)
<b>L8</b>	Cover Plate for <b>F, 8</b> (86P0-200L8)
<b>C8</b>	Inductive Sensing System with M12x1 Connector for <b>A, B, 2, 4</b> (86P0-200C8), for <b>C, 6</b> (86P0-200C8006), for <b>F, 8</b> (86P0-200C8008)
<b>D8</b>	Inductive Sensing System with 90° M12x1 Swivel Connector for <b>A, B, 2, 4</b> (86P0-200D8), for <b>C, 6</b> (86P0-200D8006), for <b>F, 8</b> (86P0-200D8008)





## Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

With Handle for Manual Control

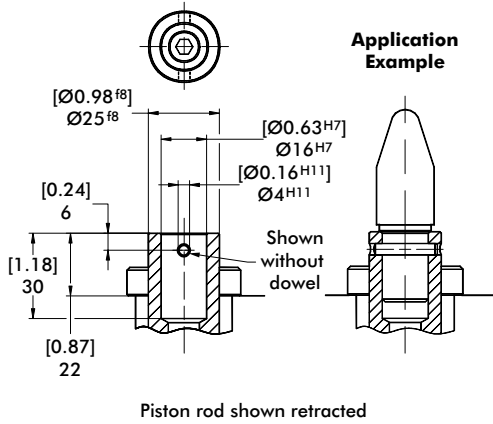


Base Model	Stroke Option	Stroke +2 [0.08] mm [in]	B1 (retracted) mm [in]	B2 (extended) mm [in]	L1 mm [in]	L2 mm [in]	L3 (retracted) mm [in]	L4 (extended) mm [in]	Weight Kg [lbs]
86P60H2	B, 2	20 [0.79]		216 [8.50]	217 [8.54]	95 [3.74]	179 [7.05]	253 [9.96]	2,3 [5.07]
	A, 4	40 [1.57]	177 [6.97]	229 [9.02]				306 [12.05]	
	C, 6	60 [2.36]		222 [8.74]	257 [10.12]	115 [4.53]	220 [8.66]	392 [15.43]	2,6 [5.73]

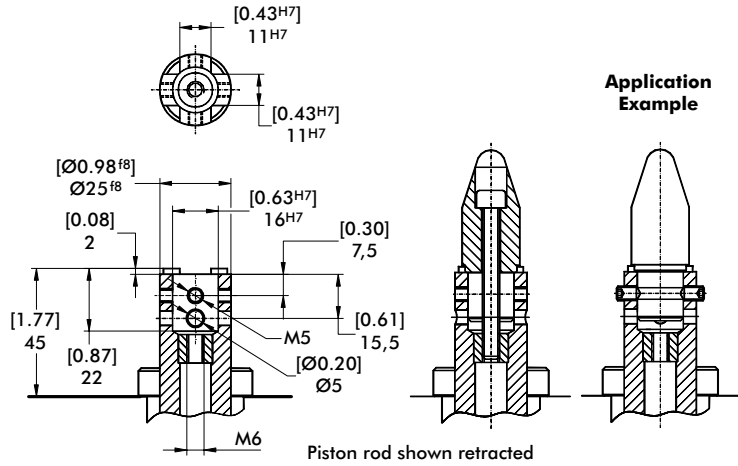
# 86P40/86P60 PISTON RODS

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

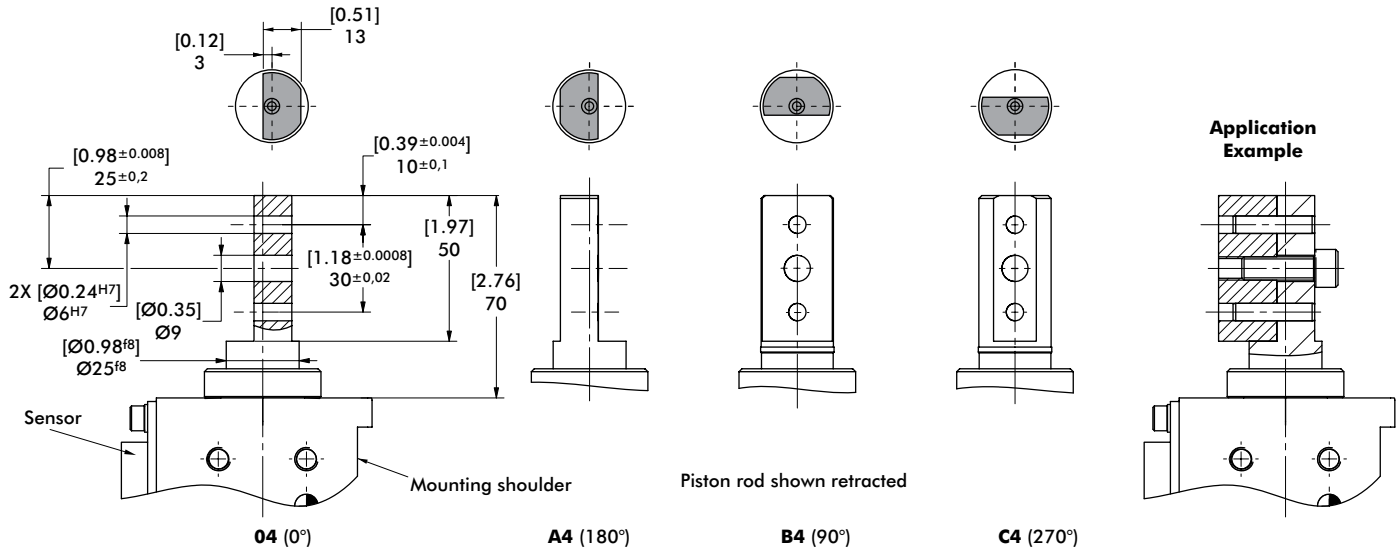
## 01 Ø16 mm Inside Hole



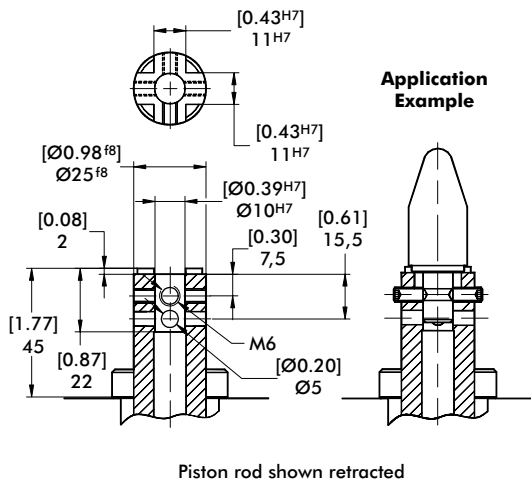
## 02 Ø16 mm M6 Threaded Inside Hole, Cross Groove



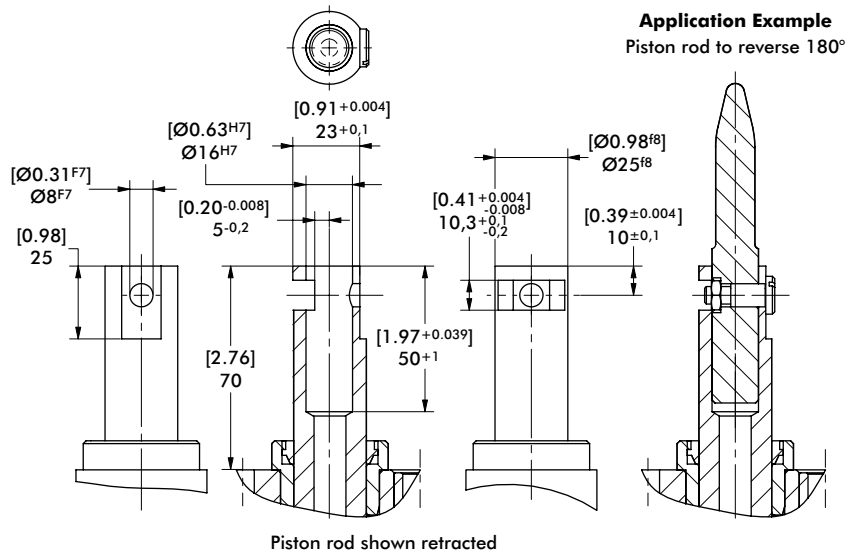
## 04, A4, B4, C4 NAAMS Standard



## 05 Ø10 mm Inside Hole, Cross Groove



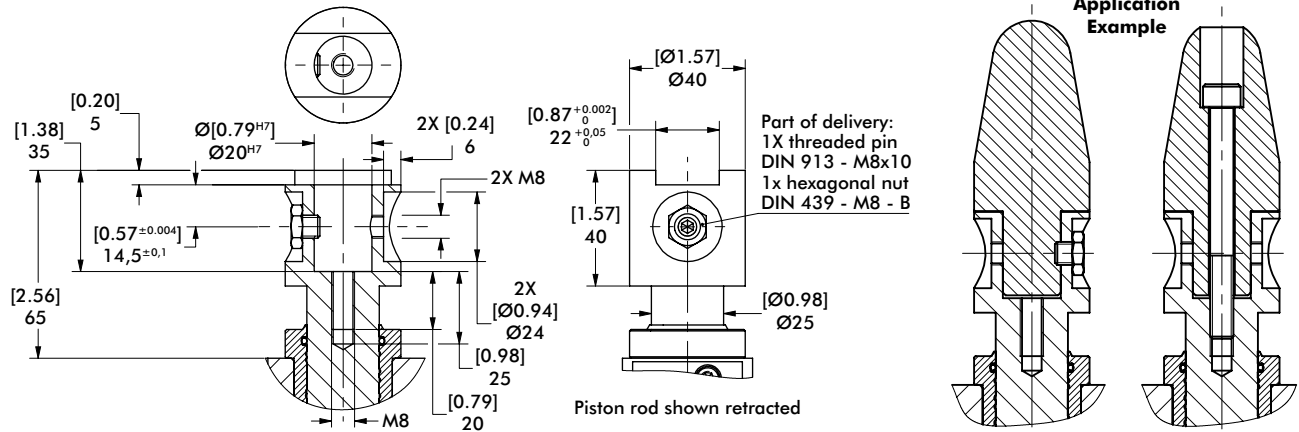
## 07 Ø16 mm Inside Hole, NAAMS



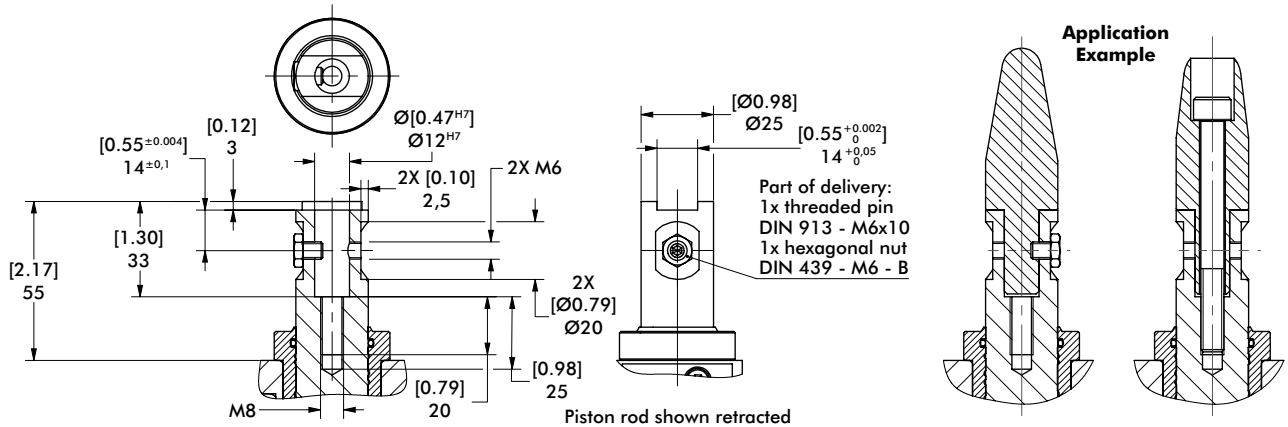
# 86P40/86P60 PISTON RODS

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

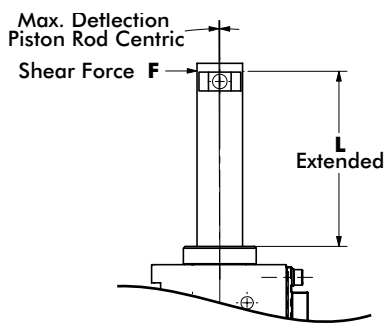
## 09 Ø20 mm Straight Groove



## 10 Ø12 mm Straight Groove



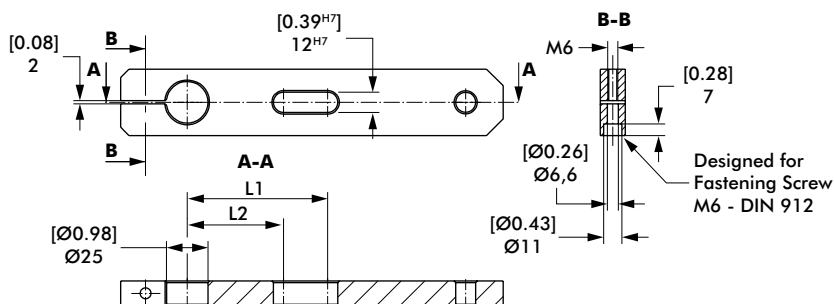
## Max Deflection for Centering Pin



Model no.	Shear force N [lbs]	L mm [in]	Stroke mm [in]	Deflection mm [in]
86P40 / 60-2...B / 2	200 [45]	52 [2.05]	20 [0.79]	0,06 [0.002]
86P40 / 60-2...A / 4		70 [2.76]	40 [1.58]	0,09 [0.004]
86P40 / 60-2...C / 6		90 [3.54]	60 [2.36]	0,12 [0.005]
86P40 / 60-2...F / 8		115 [4.53]	80 [3.15]	0,15 [0.006]

**Caution:** Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs]. Also independently of the stroke, less transverse forces, when the overall height L2 > 120 mm [4.7 in] ( L2 = extended piston rod plus centering pin ).

## Example application of an off-center centering pin (Example component shown below is to be made by the customer)



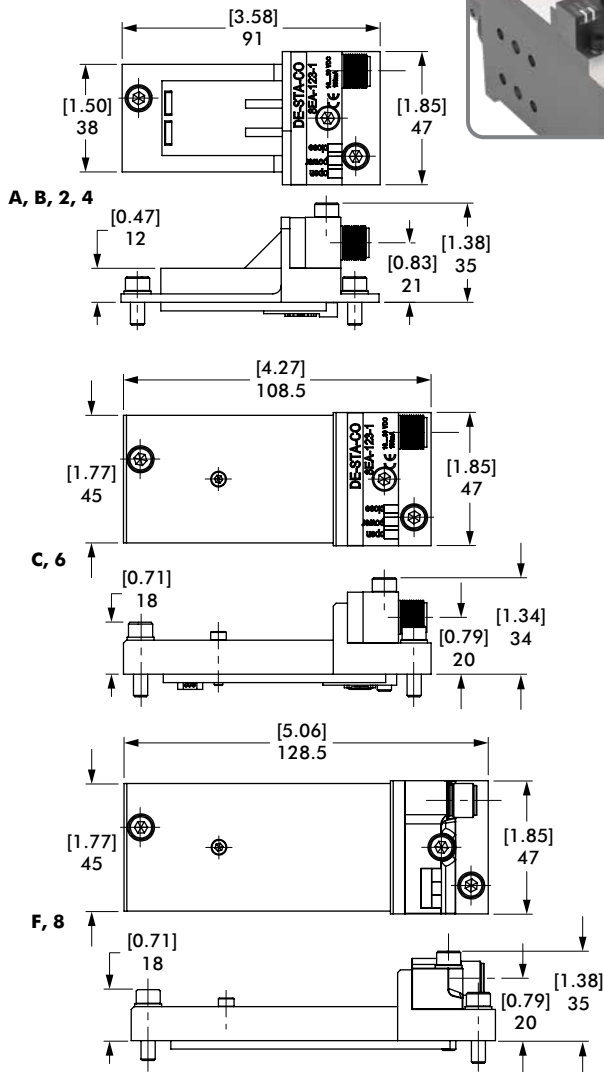
Model no.	L1 mm [in]	L2 mm [in]
86P40 / 60-2...E1	62 [2.44]	58 [2.28]
86P40 / 60-2...E2		
86P40 / 60-2...E4	84,5 [3.33]	80,5 [3.17]
86P40 / 60-2...J1*		

\*J1 is not available with 60 or 80 mm strokes.

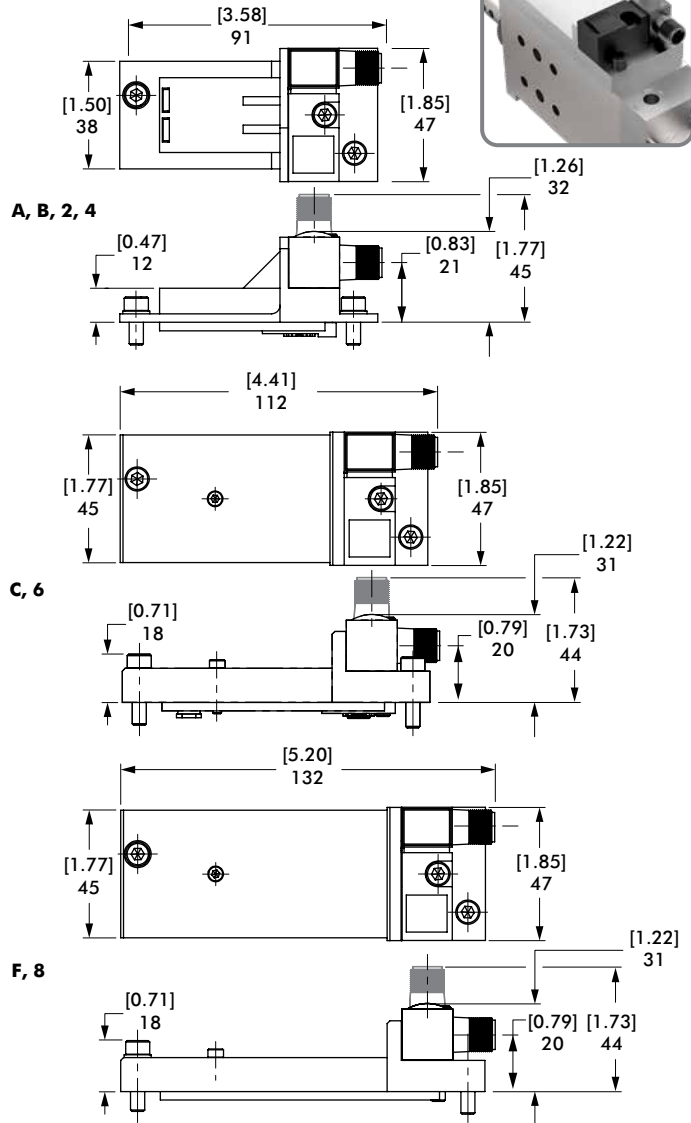
# 86P40/86P60 SENSORS

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

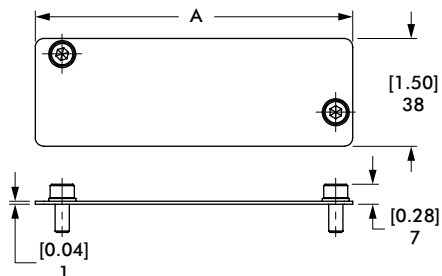
## C8 Inductive Sensing System



## D8 Inductive Sensing System with 90° Swivel Connector



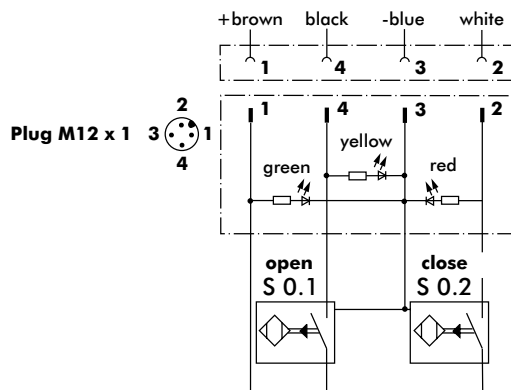
## L4, L6, L8 Sensor Cover Plate



Cover Plate Option	Stroke Option	A mm [in]
L4	A, B, 2, 4	92 [3.62]
L6	C, 6	112 [4.41]
L8	F, 8	132 [5.20]

## Inductive Sensor Wiring Diagram for C8, D8

Sensing system immune to interference from AC / DC arc welding.



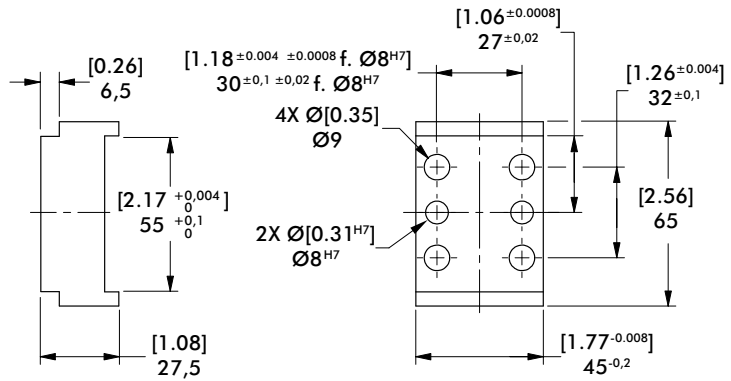




# 86P40/86P60 OPTIONS

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

## H1 Adaptor



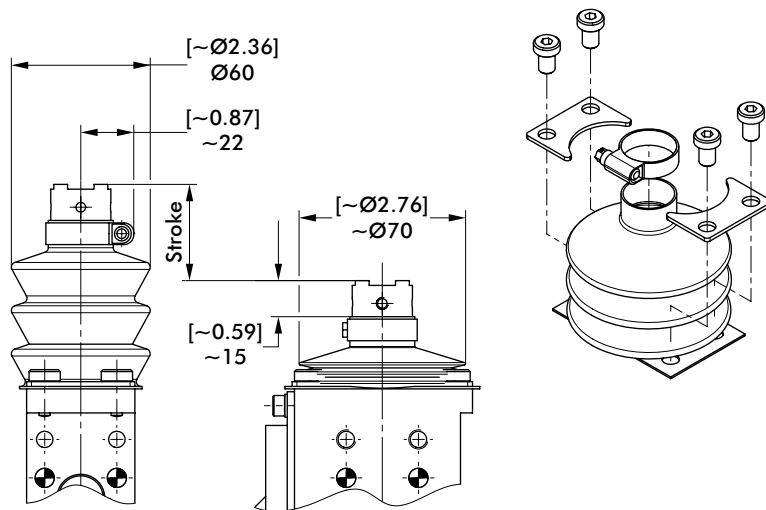
## F1 Bellows (Piston Rod Cover)



extended



retracted

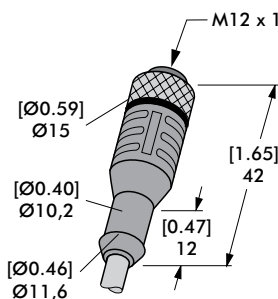


## G1 Adaptor + Bellows

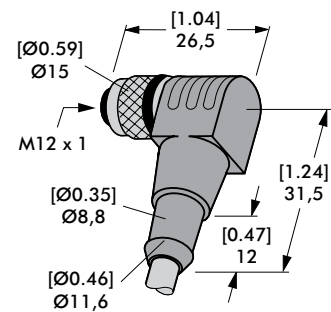
(See dimensions above)



## Sensor Cable Accessories



**Straight Cable**  
8EL-002-1



**Angular Cable**  
8EL-003-1

### Sensor Cables (1 connector & 5m cable)

Order no.

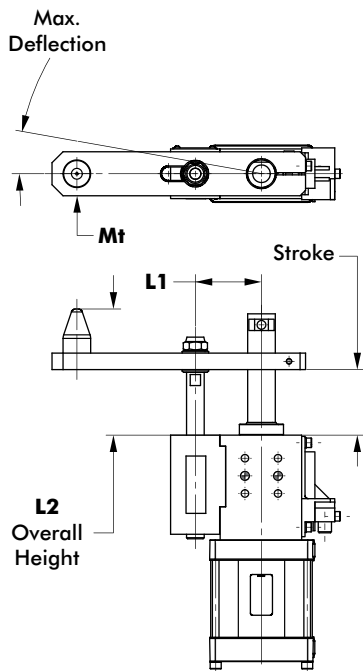
M12x1 connector, straight, 5-pin

**8EL-002-1**

M12x1 connector, 90° angular, 4-pin

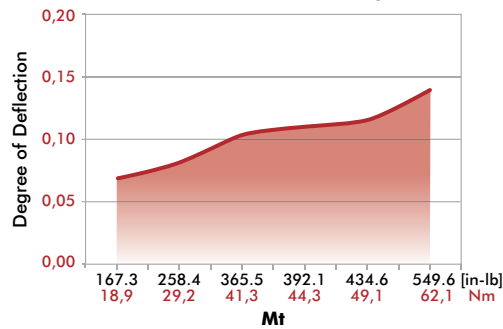
**8EL-003-1**

### Deflection with External Guide **E1, E2, E4, J1**

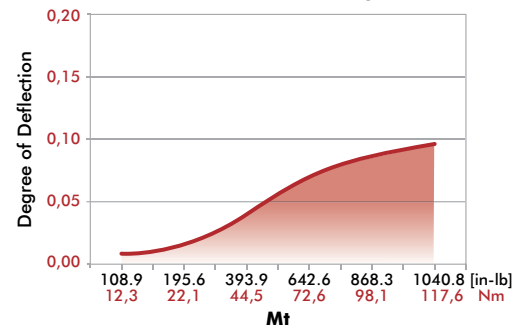


**L1** = 60mm without Adapter  
**L1** = 82,5mm with Adapter

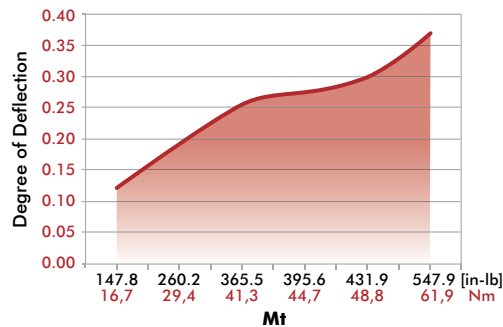
**20/40mm Stroke without Adaptor - E1**



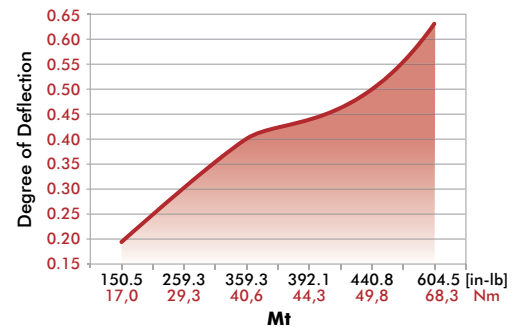
**20/40mm Stroke with Adaptor - J1**



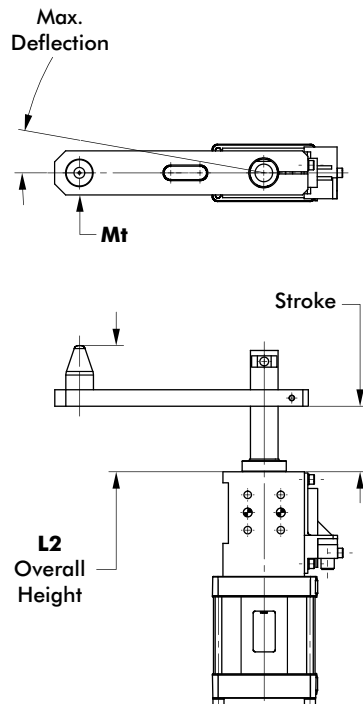
**60mm Stroke without Adaptor - E2**



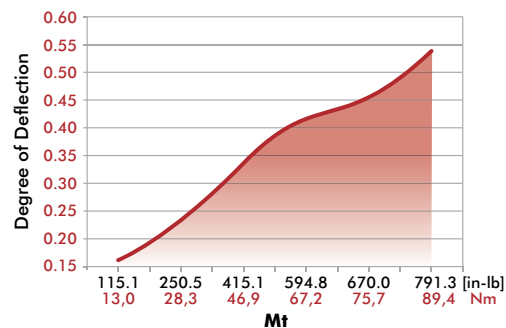
**80mm Stroke without Adaptor - E4**



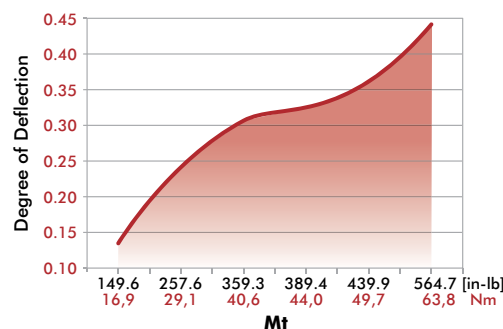
### Deflection without External Guide



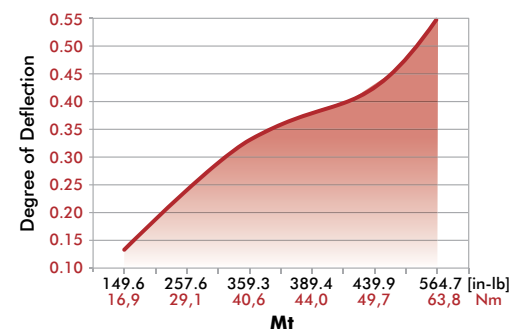
**20/40mm Stroke**



**60mm Stroke**



**80mm Stroke**



**Caution:** Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs]. Also independently of the stroke, less transverse forces, when the overall height L2 > 120 mm [4.7 in] ( L2 = extended piston rod plus centering pin ).