Precision Shot Pin Cylinders

For locating production material through precisely pierced holes

Sealed Mechanism - Lubricated For Life

Lightweight, compact design

Non-Rotating Rod

www.btmcomp.com

810-364-4567
WHERE THEY ARE USED

BTM’s Precision Shot Pin Cylinders are ideal for locating production material through precisely pierced holes. They are used in a variety of manufacturing industries including Automotive and Appliance. Our Precision Shot Pin Cylinders are commonly applied in welding applications, however, they can be used anywhere your production requires locating through precision holes - including clamping and fixturing.

FEATURES

- Shot pin type action
- Uses standard (NAAMS) mounting (Same as BTM STC model clamps)
- One piece body including an integral cylinder with a heavy wall
- Sealed mechanism lubricated for life
- Non-rotating rod
- Optional prefitted proximity switches
- Lightweight, compact design
- Excellent side load capability
- Maximum .002” side to side movement at end of extended pin
- Maximum ¼” twist at end of extended pin
- Standard NAAMS mounting pattern on pin
### PPL-52

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore Diameter</td>
<td>52mm (2.0&quot;)</td>
</tr>
<tr>
<td>Retract Force</td>
<td>934N (210lbs) @ 5.5 BAR (80 PSI)</td>
</tr>
<tr>
<td>Extend Force</td>
<td>1001N (225lbs) @ 5.5 BAR (80 PSI)</td>
</tr>
<tr>
<td>Anti-Rotation</td>
<td>± 0° 4'</td>
</tr>
<tr>
<td>Approximate Weight</td>
<td>4.3 kg (9.5 lbs)</td>
</tr>
</tbody>
</table>

### PPL-62

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore Diameter</td>
<td>62mm (2.5&quot;)</td>
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<tr>
<td>Retract Force</td>
<td>1512N (340lbs) @ 5.5 BAR (80 PSI)</td>
</tr>
<tr>
<td>Extend Force</td>
<td>1557N (350lbs) @ 5.5 BAR (80 PSI)</td>
</tr>
<tr>
<td>Anti-Rotation</td>
<td>± 0° 4'</td>
</tr>
<tr>
<td>Approximate Weight</td>
<td>5.5 kg (12 lbs)</td>
</tr>
</tbody>
</table>

### PPL-62C

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore Diameter</td>
<td>62mm (2.5&quot;)</td>
</tr>
<tr>
<td>Retract Force</td>
<td>1312N (295lbs) @ 5.5 BAR (80 PSI)</td>
</tr>
<tr>
<td>Extend Force</td>
<td>1557N (350lbs) @ 5.5 BAR (80 PSI)</td>
</tr>
</tbody>
</table>
| Lateral Movement Tolerance | 20mm Stroke = ±0.25mm  
                          | 40mm Stroke = ±0.51mm  
                          | 60mm Stroke = ±0.76mm |
| Anti-Rotation    | ± 0° 30'                          |
| Approximate Weight| 3.4 kg (7.5 lbs)                  |
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>Bore Ø</td>
<td>52mm (2.0in.)</td>
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<tr>
<td>Stroke</td>
<td>See Chart below</td>
</tr>
<tr>
<td>Recommended Operating Pressure</td>
<td>5.5-7 BARS (80-100 PSI)</td>
</tr>
<tr>
<td>Retract Force</td>
<td>934N (210 lbs) @ 5.5 BAR (80 PSI)</td>
</tr>
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<td>Extend Force</td>
<td>1001N (225 lbs) @ 5.5 BAR (80 PSI)</td>
</tr>
<tr>
<td>Anti-Rotation</td>
<td>±0° 4'</td>
</tr>
<tr>
<td>Approx. Weight</td>
<td>4.3 kg (9.5 lbs)</td>
</tr>
</tbody>
</table>

**USE FLOW CONTROLS TO REDUCE IMPACT**

**PPL 52 Model Assembly Numbers**

<table>
<thead>
<tr>
<th>Port Options</th>
<th>Cylinder Stroke</th>
<th>1 Direct Mount Pin</th>
<th>2 Standard L-Block</th>
<th>3 90° L-Block</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1/4 Port</td>
<td>23mm</td>
<td>751400A</td>
<td>751500A</td>
<td>752300A</td>
</tr>
<tr>
<td></td>
<td>45mm</td>
<td>751400B</td>
<td>751500B</td>
<td>752300B</td>
</tr>
<tr>
<td></td>
<td>60mm</td>
<td>751400C</td>
<td>751500C</td>
<td>752300C</td>
</tr>
<tr>
<td>3/8-18 NPT Port</td>
<td>23mm</td>
<td>761000A</td>
<td>761100A</td>
<td>761200A</td>
</tr>
<tr>
<td></td>
<td>45mm</td>
<td>761000B</td>
<td>761100B</td>
<td>761200B</td>
</tr>
<tr>
<td></td>
<td>60mm</td>
<td>761000C</td>
<td>761100C</td>
<td>761200C</td>
</tr>
</tbody>
</table>

**SENSOR OPTIONS**

The two-position proximity sensors have two sensor heads: S01 and S02.

S02 normally reads the extended condition of the cylinder.

*If S02 is required for the retracted position (transposed switch configuration), order the switch code with a T for Transposed. Example TSC1.*

**Available Switch Codes**

- Turck DC or AC
  - SC1
  - SC2
  - SC1AC
  - SC2AC
- Pepperl + Fuchs DC Only
  - SC1PDC
  - SC2PDC
- Allen Bradley DC Only
  - SC1ABDC
  - SC2ABDC
- Balluff DC Only
  - SC1BDC
  - SC2BDC

The Sensor Housing can be specified to be in either the SC1 or SC2 Position.

**HOW TO ORDER**

**BTM NUMBER**  -  **SENSOR OPTION**

PPL-52 Assembly No.  -  Sensor Package Code

Example:

730800A  -  SC2AC
**SHAFT OPTIONS**

**STANDARD DIRECT MOUNT SHAFT FOR USE WITH N.A.A.M.S. LOCATING PINS (REF. FULL METRIC No. APS193M)**

- **Mounting Surface**
  - Ø16.0 ±0.015
  - Ø31.7 ±0.03
  - Ø8.0 F7 ±0.03

- **Clamp Cap**
  - Ø60.0 ±0.015

- **Mounting Surface**
  - Ø66.0 (Extended) ±0.03

**90° L-BLOCK SHAFT OPTION**

- **Mounting Surface**
  - Ø92.0 (Extended) ±0.03

**NOTE:**
- All dimensions for shaft are the same as standard L-block shaft option except that they are rotated 90º from that position.

**STANDARD L-BLOCK SHAFT OPTION FOR USE WITH N.A.A.M.S. L-BLOCKS & LOCATING PIN RETAINERS**

- **Mounting Surface**
  - Ø11.0 through (3) holes ±0.03

- **Offset**
  - MAX.

**USE L-BLOCK SHAFT OPTION FOR OFFSET MOUNTING OF PINS**

- **Mounting Surface**
  - Ø92.0 (Extended) ±0.03

- **50.0 Offset MAX.**

**NOTE:**
- All dimensions for shaft are the same as standard L-block shaft option except that they are rotated 90º from that position.
SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore Ø</td>
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<tr>
<td>Stroke</td>
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<td>Anti-Rotation</td>
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<td>Approx. Weight</td>
<td>5.5 kg (12 lbs)</td>
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USE FLOW CONTROLS TO REDUCE IMPACT

SENSOR OPTIONS

The two-position proximity sensors have two sensor heads: S01 and S02.

S02 normally reads the extended condition of the cylinder.

If S02 is required for the retracted position (transposed switch configuration), order the switch code with a T for Transposed. Example TSC1.

Available Switch Codes

- Turck DC or AC
  - SC1
  - SC2
  - SC1AC
  - SC2AC
- Pepperl + Fuchs DC Only
  - SC1PDC
  - SC2PDC
- Allen Bradley DC Only
  - SC1ABDC
  - SC2ABDC
- Balluff DC Only
  - SC1BDC
  - SC2BDC

The Sensor Housing can be specified to be in either the SC1 or SC2 Position

PPL 62 Model Assembly Numbers

<table>
<thead>
<tr>
<th>Port Options</th>
<th>Cylinder Stroke</th>
<th>Direct Mount Pin</th>
<th>Standard L-Block</th>
<th>90° L-Block</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1/4 Port</td>
<td>20mm</td>
<td>751600A</td>
<td>751700A</td>
<td>752400A</td>
</tr>
<tr>
<td></td>
<td>40mm</td>
<td>751600B</td>
<td>751700B</td>
<td>752400B</td>
</tr>
<tr>
<td></td>
<td>60mm</td>
<td>751600C</td>
<td>751700C</td>
<td>752400C</td>
</tr>
<tr>
<td>3/8-18 NPT Port</td>
<td>20mm</td>
<td>761300A</td>
<td>761400A</td>
<td>761500A</td>
</tr>
<tr>
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<td></td>
<td>60mm</td>
<td>761300C</td>
<td>761400C</td>
<td>761500C</td>
</tr>
</tbody>
</table>

HOW TO ORDER

BTM NUMBER – SENSOR OPTION

PPL-62 Assembly No. – Sensor Package Code

EXAMPLE

731000A – SC2AC
DIMENSIONAL INFORMATION

SHAFT OPTIONS

1. STANDARD DIRECT MOUNT SHAFT FOR USE WITH N.A.A.M.S. LOCATING PINS (REF. FULL METRIC No. APS193M)

2. STANDARD L-BLOCK SHAFT OPTION FOR USE WITH N.A.A.M.S. L-BLOCKS & LOCATING PIN RETAINERS

3. 90° L-BLOCK SHAFT OPTION

4. USE L-BLOCK SHAFT OPTION FOR OFFSET MOUNTING OF PINS

NOTE: ALL DIMENSIONS FOR SHAFT ARE THE SAME AS STANDARD L-BLOCK SHAFT OPTION EXCEPT THAT THEY ARE ROTATED 90° FROM THAT POSITION.
**SPECIFICATIONS**

<table>
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<tr>
<th>Parameter</th>
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</thead>
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<tr>
<td>Bore Ø</td>
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</tr>
<tr>
<td>Lateral Movement Tolerance</td>
<td>20mm Stroke = ±0.25mm</td>
</tr>
<tr>
<td></td>
<td>40mm Stroke = ±0.51mm</td>
</tr>
<tr>
<td></td>
<td>60mm Stroke = ±0.76mm</td>
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<td>3.4 kg (7.5 lbs)</td>
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**USE FLOW CONTROLS TO REDUCE IMPACT**

**SENSOR OPTIONS**

If SO2 is required for the retracted position (transposed switch configuration), order the switch code with a T for Transposed.

*Example TSC.*

**Available Switch Codes**

- **Turck DC or AC**
  - SC
  - SCAC
- **Pepperl + Fuchs DC Only**
  - SCPDC
- **Allen Bradley DC Only**
  - SCABDC
- **Balluff DC Only**
  - SCBDC

**PPL 62C Model Assembly Numbers**

<table>
<thead>
<tr>
<th>Port Options</th>
<th>Cylinder Stroke</th>
<th>Direct Mount Pin</th>
<th>Standard L-Block</th>
<th>90° L-Block</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 NPT &amp; G1/4 Port</td>
<td>20mm</td>
<td>754100A</td>
<td>778400A</td>
<td>778500A</td>
</tr>
<tr>
<td></td>
<td>40mm</td>
<td>754100E</td>
<td>778400B</td>
<td>778500B</td>
</tr>
<tr>
<td></td>
<td>60mm</td>
<td>754100B</td>
<td>778400C</td>
<td>778500C</td>
</tr>
<tr>
<td>Manually Operated (Power Assist) 1/4 NPT &amp; G 1/4 Port</td>
<td>20mm</td>
<td>754100C</td>
<td>778400D</td>
<td>778500D</td>
</tr>
<tr>
<td></td>
<td>40mm</td>
<td>754100F</td>
<td>778400E</td>
<td>778500E</td>
</tr>
<tr>
<td></td>
<td>60mm</td>
<td>754100D</td>
<td>778400F</td>
<td>778500F</td>
</tr>
</tbody>
</table>

**HOW TO ORDER**

**BTM NUMBER** – **SENSOR OPTION**

(See the above chart for BTM No.)

**EXAMPLE**

754100A – SCAC
SHAFT OPTIONS

1. DIRECT MOUNT PIN OPTION

   - Locating pins per customer application
   - Ø25.4
   - Ø16 H7 as shown
   - M8x1.0 H6 tap thru (2) holes
   - Ø8 f7 thru (2) holes

2. STANDARD L-BLOCK SHAFT OPTION FOR USE WITH N.A.A.M.S. L-BLOCKS & LOCATING PIN RETAINERS

   - Ø8 f7 thru (2) holes

3. 90° L-BLOCK SHAFT OPTION

   - Note: All dimensions for shaft are the same as standard l-block shaft option except that they are rotated 90° from that position

4. USE L-BLOCK SHAFT OPTION FOR OFFSET MOUNTING OF PINS

   - Ø11 thru (2) holes
   - Ø8 f7 thru (2) holes
   - Ø25.4

DIMENSIONAL INFORMATION PPL-62C
Visit us online at: www.BTMcomp.com

BTM’s website features 24/7 access to the most up to date product information.

Download:

- Catalogs
- Brochures & Flyers
- Product Information
- ...and More!
NEED TO LOCATE **AND** CLAMP THROUGH A HOLE?

Try

**BTM**

**PIN LOCATOR CLAMPS**

A BTM Pin Clamp locates and holds a part inexpensively and accurately.

- Inexpensively because it combines a locating pin with a power clamp or gripper in one device that is lightweight and easy to mount.

- Accurately because it engages GD&T oriented holes already in the part.

**PLC-25**
Light Duty
Non-Locking

**PLC-45**
Non-Locking

**PLC-63**
Non-Locking

**RLPC-45**
Rod-Locking

**RLPC-63**
Rod-Locking

**LPLC-38**
Locking
(Manual LPLC-38M Version Shown)
BTM has a wide range of products to meet your needs including (but definitely not limited to):

### PNEUMATIC CLAMPS & GRIPPERS

**Light & Heavy Duty Clamps**

Clamps range from light duty omni-directional head clamps to heavy duty precision sealed power clamps.

**Light & Heavy Duty Grippers**

BTM’s Gripper line ranges from compact light duty models to locking & non-locking heavy duty models.

### PIN PRODUCTS

**Precision Shot Pin cylinders**

BTM’s Precision Part Locators are used whenever your production needs require locating precise holes in a workpiece.

**Pin Locator Clamps**

BTMs’ Pin Locator Clamps and Single Finger clamps are used in stationary part nests, welding fixtures, transfer systems, robot end effectors and numerous other clamping applications. These clamps locate and hold the work while other operations are performed.

Standard pin sizes range from 12.5mm - 40mm.

### SHEET METAL JOINING

**Tog-L-Loc®**

BTM’s Tog-L-Loc® sheet metal joining system is a cold forming process that quickly joins pre-painted, galvanized, coated, and dissimilar metals.

**WWW.TOG-L-LOC.COM**

**Lance-N-Loc®**

BTM’s Lance-N-Loc® Joining System produces clean, strong and consistent joints in most coated or uncoated metals.

**Ways to Tog-L-Loc®**

- Die Sets
- Handheld Units
- Hydraulic Units
- Universal Presses
- Specialized Units

For more information, or to see our full line of products, please visit:

www.BTMcomp.com