TPC-32 Power Clamp Catalog

Weld-contamination sealed, pneumatic, precision, locking Power Clamp

> One Clamp Model for Single and Dual Arm Clamps

> Uses a TRILOK Locking Mechanism

> Compact & Light-Weight

... and more.

Part of our Power Clamp line of Products.


BTM COMPANY

www.btmcomp.com

810-364-4567
INTRODUCTION

BTM's TPC-32 features a 32mm bore, and a three point locking mechanism which is designed to remain locked even if air pressure is lost. This clamp is compact, light weight, and sealed against weld-contamination.

TPC-32 CLAMP FEATURES

- Patented TriLok Mechanism
- Sealed Mechanism - Lubricated for Life of Clamp
- Integral Cylinder with Heavy Wall
- Body is constructed of Aircraft Aluminum, Hard coated to a Rockwell C-70 for Excellent Wear Characteristics
- One clamp model for single and dual arm clamps
- Access to manually unlock clamp linkage
- Integrated proximity switches do not need to be readjusted when arm opening changes.

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TPC-32 CLAMPS UTILIZE PATENTED TRILOK TECHNOLOGY

A three point lock. The Mechanism does not unlock if air pressure is lost.

This surface repeats its position with a high degree of accuracy throughout the life of the unit.

When used as a toggle clamp, the arm is shimmed so that the TRILOK mechanism is not engaged. The locking takes place within the linkage.
### Bore Size
31.8 [1.25] DIA. - 791.7mm² [1.23in²]

### Maximum Full Cycle Cylinder Volume
38.5 cm³ [2.35in³]

### Recommended Operating Pressure
2.75 to 7 BAR [40 to 100 PSI] (Lubricated or Non-Lubricated Compressed Air)

### Weight
1.0 kg [2.21 lbs] Without Arm

### Clamping Torque
12.4 Nm @ 5.5 BAR [9.16 lbf @ 80 PSI]

### Cycle Time
- 1.0 second closing cycle
- 1.25 second opening cycle

### Arm Rotation (Deg.)
- 35°
- 50°
- 65°
- 80°
- 95°
- 110°
- 120°

### Cylinder Stroke (mm)
- 11.5
- 14.1
- 16.6
- 19.2
- 21.8
- 24.4
- 24.6

### Arm Rotation (Deg.)
- 35 50 65 80 95 110 120

### Cylinder Stroke (mm)
- 11.5
- 14.1
- 16.6
- 19.2
- 21.8
- 24.4
- 24.6

### HOW TO ORDER

<table>
<thead>
<tr>
<th>CLAMP SERIES</th>
<th>TPC</th>
<th>32</th>
<th>N</th>
<th>120</th>
</tr>
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<tbody>
<tr>
<td>CLAMP SIZE</td>
<td></td>
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<td>PORT OPTION</td>
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<td>ARM OPENING</td>
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<table>
<thead>
<tr>
<th>LEFT ARM</th>
<th>RIGHT ARM</th>
<th>OFFSET ARM MOUNTING</th>
<th>SWITCH</th>
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<tr>
<td>90A L</td>
<td>783502H</td>
<td>OAM</td>
<td>BDC</td>
</tr>
<tr>
<td>90A R</td>
<td>783502H</td>
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</tbody>
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### CLAMP ASSEMBLY

<table>
<thead>
<tr>
<th>Arm Opening</th>
<th>BTM Number</th>
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<tbody>
<tr>
<td>35°</td>
<td>PD217700A</td>
</tr>
<tr>
<td>50°</td>
<td>PD217700B</td>
</tr>
<tr>
<td>65°</td>
<td>PD217700C</td>
</tr>
<tr>
<td>80°</td>
<td>PD217700D</td>
</tr>
<tr>
<td>95°</td>
<td>PD217700E</td>
</tr>
<tr>
<td>110°</td>
<td>PD217700F</td>
</tr>
<tr>
<td>120°</td>
<td>PD217700G</td>
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### PORT OPTION

<table>
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<tr>
<th>N</th>
<th>1/8 NPT</th>
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<tbody>
<tr>
<td>G</td>
<td>G1/8</td>
</tr>
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</table>

### Switch - (See Page 6 for More Info)

- NS (No Switch)
- BDC (DC Switch)
- BAC (AC Switch)
**TPC-32 POWER CLAMP**

**ARMS STYLE**

**STRAIGHT ARM - BTM No. 783502H**

![Straight Arm Dimensions](image)

Note: Please see "Yoke Arm" Below for dimensions not shown.

**YOKE ARM - BTM No. 783501H**

![Yoke Arm Dimensions](image)

**OFFSET ARM MOUNTING (OAM) OPTION**

**OAM OPTION - BTM No. 783503H**

![Offset Arm Mount Dimensions](image)

OFFSET ARM MOUNT ORDER CODE ‘OAM’ MOUNTS RIGHT, LEFT, OR DUAL 90A POSITION SHOWN

**MAX. WEIGHT ALLOWABLE ON CLAMP ARM**

- **Distance from Pivot Point “A” (mm)**
  - Weight (kg): 0.0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0

- **Distance from Pivot Point “A” (in)**
  - Weight (lbs): 0.0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0
### BDC - TURCK DC

Ni2-BTM-0.16-BDS-2AP6X3-H1141/S34

#### LED INDICATORS
- YELLOW - SO1 OUTPUT ENERGIZED
- GREEN - POWER ON
- RED - SO2 OUTPUT ENERGIZED

#### SPECIFICATIONS
- **Rated Operating Distance (Sn)**: 2mm
- **Mounting Mode**: Non-Flush
- **Hysteresis H (Differential Travel)**: 3 - 15%
- **Max. Relative Temperature Drift**: ≤ ± 10%
- **Min. Repeat Accuracy**: ≤ 2%
- **Operation Temperature**: -25ºC to +70ºC (-13ºF to +158ºF)
- **Rated Operational Voltage (DC) Ue**: 10-30 VDC
- **Max. Ripple**: ≤ 10% Ue
- **Rated Operational Current (DC) Ie**: ≤ 200 mA
- **No-Load Current I0**: ≤ 15 mA
- **Max. Off-State Current**: ≤ 0.1 mA
- **Max. Switching Frequency**: ≤ 0.03 kHz
- **Rated Insulation Voltage**: 0.5 kV
- **Output Function**: 4-Wire, Normally Open, PNP
- **Short-Circuit Protection**: Yes
- **Max. Voltage Drop at Ie**: ≤ 1.8 V
- **Wire Breakage and Reverse Polarity Protection**: Yes, Complete
- **Degree of Protection**: IP 67
- **Housing Style**: Dual Sensor; BTM
- **Dimensions**: 47 X 18 X 18 mm (1.85" x .71" x .71")
- **Housing Material**: Plastic, PBT-GF20-V0
- **Wiring**: Connector, M12X1 EUROCON
- **Cable**: Ø 2; LFJPY-11Y3; PUR; 0.16 m
- **Cross Section**: 3 X 0.08mm²
- **Vibration Resistance**: 55 Hz (1 mm)
- **Shock Resistance**: 30 X g (11 ms)

### BAC - TURCK AC

Ni2-BTM-0.16-BA-2ADZ32X4-B3151/S34

#### LED INDICATORS
- YELLOW - SO1 OUTPUT ENERGIZED
- GREEN - POWER ON
- RED - SO2 OUTPUT ENERGIZED

#### SPECIFICATIONS
- **Rated Operating Distance (Sn)**: 2mm
- **Mounting Mode**: Non-Flush
- **Hysteresis H (Differential Travel)**: 3 - 15%
- **Max. Relative Temperature Drift**: ≤ ± 10%
- **Min. Repeat Accuracy**: ≤ 2%
- **Operation Temperature**: -25ºC to +70ºC (-13ºF to +158ºF)
- **Rated Operational Voltage (AC) Ub**: 20-250 VAC
- **Rated Operational Voltage (DC) Ub**: 10-300 VDC
- **Rated Operational Current (AC) Ie**: ≤ 100 mA
- **Rated Operational Current (DC) Ie**: ≤ 100 mA
- **Max. Off-State Current**: ≤ 1.7 mA
- **Max. Switching Frequency**: ≤ 0.03 kHz
- **Rated Insulation Voltage**: 1.5 kV
- **Output Function**: 4-Wire, 2 X Normally Open
- **Max. Voltage Drop at Ie**: ≤ 6 V
- **Min. Operational Current Ie**: 3 mA
- **Degree of Protection**: IP 67
- **Housing Style**: Dual Sensor; BTM
- **Dimensions**: 47 X 18 X 18 mm (1.85" x .71" x .71")
- **Housing Material**: Plastic, PBT-GF20-V0
- **Wiring**: Connector, M12X1 EUROCON
- **Cable**: Ø 2; LFJPY-11Y3; PUR; 0.16 m
- **Cross Section**: 3 X 0.08mm²
- **Vibration Resistance**: 55 Hz (1 mm)
- **Shock Resistance**: 30 X g (11 ms)
WARRANTY INFORMATION

BTM Company, LLC. warranties its TPC-32 Clamps against defects in material and workmanship for the life of the tool/program for which the clamp was originally sold or one million cycles, whichever comes first.

This warranty is limited to replacing or repairing at BTM’s option, F.O.B. BTM’s factory, any part found by BTM to be defective in materials and/or workmanship. Any application of a BTM product outside the intended use of the product shall not be warranted by BTM Company, LLC. Furthermore, BTM will not be liable for any expenses incurred for repairs or replacement made outside BTM’s facilities without written consent (or damages arising out of such replacements or repairs). Under no circumstances will BTM be held responsible for any consequential damages.

The warranty is limited to the repair or replacement of the defective part(s) and does not include installation.

This warranty is the only warranty extended by the seller in connection with any sale made hereunder and is in lieu of all other warranties, express, implied or statutory including warranties of merchantability and fitness for purpose.
### OTHER PRODUCTS FOR AUTOMATION

<table>
<thead>
<tr>
<th><strong>Clamps</strong></th>
<th><strong>Grippers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Clamp Image" /></td>
<td><img src="image2" alt="Gripper Image" /></td>
</tr>
<tr>
<td>From heavy duty precision sealed locking power clamps to simple light duty OMNI models, BTM manufactures clamps in a range of styles and sizes for a wide variety of applications.</td>
<td>BTM manufactures a high quality line of grippers ranging from heavy duty models to light duty models in a variety of styles and sizes.</td>
</tr>
</tbody>
</table>

### OTHER QUALITY BTM PRODUCTS TO CONSIDER

#### Pin Locator Clamps

- BTM’s Locator Clamps are ideal for locating & holding production material and are used in a variety of manufacturing areas including automotive & refrigeration.

- Pin Sizes range from as small as 6mm (PLC-25 Light Duty Clamp) to as large as 40mm (PLC-63 & LPLC-38 locking clamp).

- Single Finger Hook Models (without the locating pin) are also available in both locking and non-locking configurations.

#### Rod-Locking Pin Locator Clamps

- These clamps employ a rod locking feature which allows the clamp to retain the part when air pressure is removed/lost.

#### Precision Shot Pin Cylinders

- BTM’s Precision Shot Pin Cylinders are ideal for locating production material through precisely pierced holes - including clamping and fixturing.

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For more information, or to view our other products, please visit: 

www.BTMcomp.com