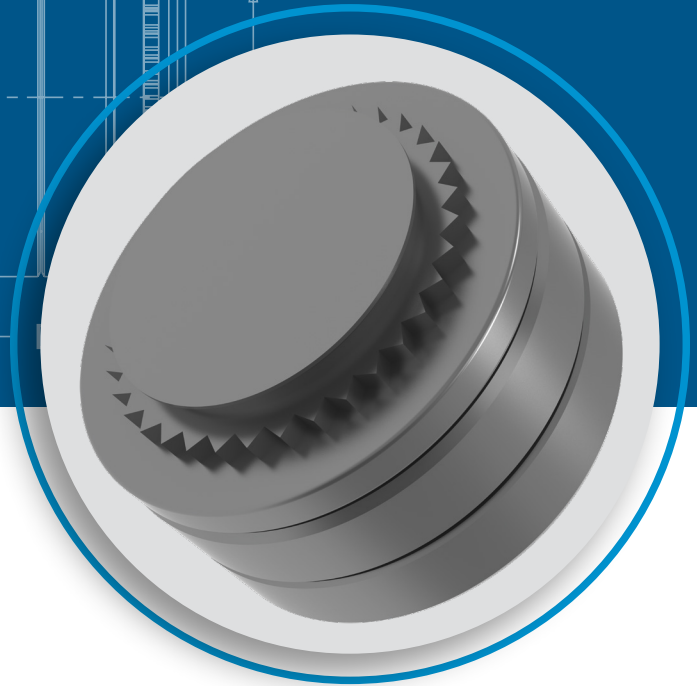
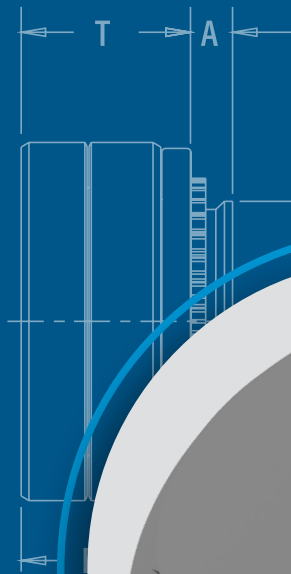
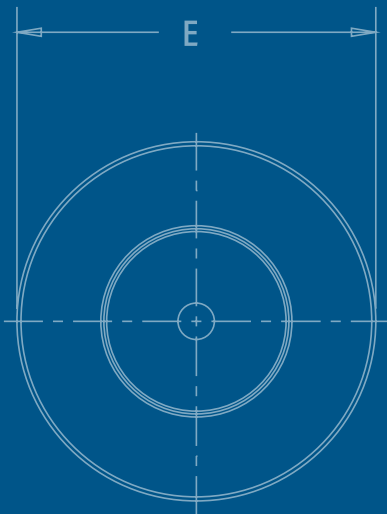




PFTR™

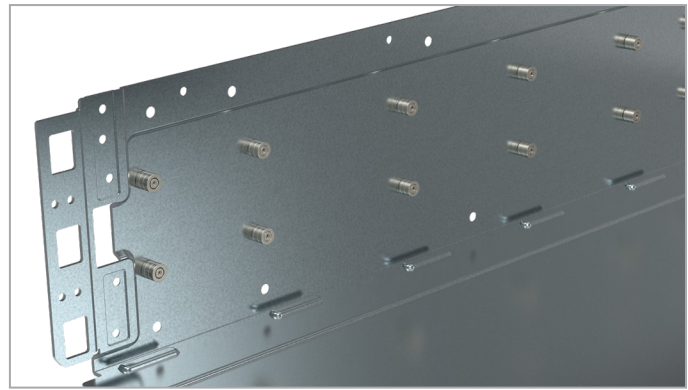
ROLLER BEARING FASTENERS



PEM® roller bearing fasteners support loads while guiding and positioning component.

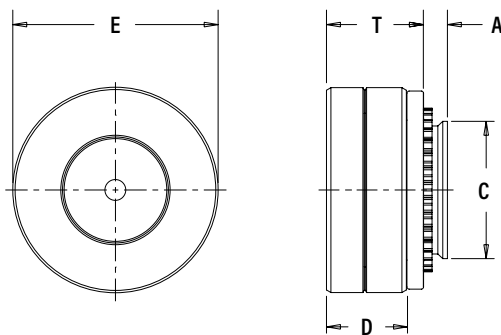
PEM® PFTRCS™ and PFTRFS™ roller bearing fasteners are easily installed, pre assembled low friction rollers, that give design engineers a more user-friendly option to the high friction of simple slide shelves without incurring the cost of expensive sliding rail assemblies.

- Low-profile bearing can be captivated with either a clinch or flare, creating a cost-effective tray slide method
- Simple installation and ease of design into limited footprint spacing applications
- Supports loads while guiding and positioning components
- Eliminate the need for oil lubricants and loose hardware typically used in drawer sliders
- Self clinching and flaring roller bearing fasteners are easily installed into pre punched or drilled holes in sheets as thin as .040" / 1mm



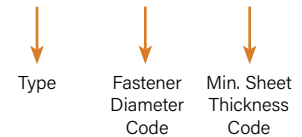
Fastener drawings and models are available at www.pemnet.com. Custom sizes are available on special order. [Contact us](#) for more information.

PEM® PFTRCS™ Self Clinching Roller Bearing Fasteners



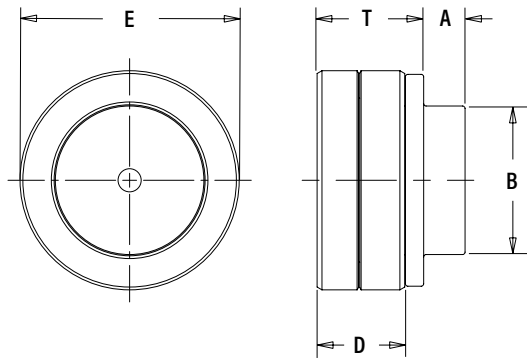
Part Number Designation

PFTRCS - 9.0 - 1.0



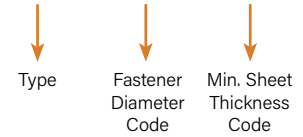
| Type | Fastener Diameter Code | Min. Sheet Thickness Code | A (Shank) Max. | | Min. Sheet Thickness | | Hole Size in Sheet +.003" / +0.08mm | | C Max. | | D Nom. | | E ±.006" / ±0.15mm | | T Nom. | | Min. Dist. Hole C/L to Edge | |
|--------|------------------------|---------------------------|----------------|------|----------------------|----|--|-----|--------|------|--------|-----|--------------------|----|--------|-----|-----------------------------|-----|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| PFTRCS | 5.0 | 1.0 | .038 | 0.97 | .040 | 1 | .130 | 3.3 | .129 | 3.28 | .154 | 3.9 | .197 | 5 | .177 | 4.5 | .177 | 4.5 |
| PFTRCS | 9.0 | 1.0 | .038 | 0.97 | .040 | 1 | .240 | 6.1 | .239 | 6.08 | .154 | 3.9 | .354 | 9 | .177 | 4.5 | .295 | 7.5 |

PEM® PFTRFS™ Flaring Roller Bearing Fasteners



Part Number Designation

PFTRFS - 5.0 - 1.0



| Type | Fastener Diameter Code | Min. Sheet Thickness Code | A (Shank) Nom. | | Sheet Thickness Range | | Hole Size in Sheet +.003" / +0.08mm | | B Max. | | D Nom. | | E ±.006" / ±0.15mm | | T Nom. | |
|--------|------------------------|---------------------------|----------------|-----|-----------------------|---------|--|-----|--------|------|--------|-----|--------------------|----|--------|-----|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| PFTRFS | 5.0 | 1.0 | .071 | 1.8 | .040 - .047 | 1 - 1.2 | .130 | 3.3 | .129 | 3.28 | .154 | 3.9 | .197 | 5 | .177 | 4.5 |
| PFTRFS | 9.0 | 1.0 | .071 | 1.8 | .040 - .047 | 1 - 1.2 | .240 | 6.1 | .239 | 6.08 | .154 | 3.9 | .354 | 9 | .177 | 4.5 |

Material and Finish Specifications

| Type | | Component Material | | Standard Finishes | | For Use in Sheet Hardness HRB 80 / HB 150 or less ⁽²⁾ |
|-------------------------------|-------------------------|----------------------------|-------------------------------|--|---|---|
| | | 300 Series Stainless Steel | Through Hardened Carbon Steel | Passivated and/or Tested per ASTM A380 | Semi-bright Electroless Nickel per ASTM B733 ⁽¹⁾ | |
| PFTRCS | Roller Bearing | ▪ | | ▪ | | ▪ |
| | Retainer ⁽³⁾ | | ▪ | | ▪ | |
| PFTRFS | Roller Bearing | ▪ | | ▪ | | No limit |
| | Retainer ⁽³⁾ | | ▪ | | ▪ | |
| Part Number Code for Finishes | | | | None | EN | |

- (1) See PEM [Technical Support](#) section of our web site for related plating standards and specifications.
- (2) HRB - Hardness Rockwell "B" Scale. HB - Hardness Brinell.
- (3) Fastener retainer is waxed eliminating the need for lubrication.

Custom sizes are available on special order.
[Contact us](#) for more information.

Installation

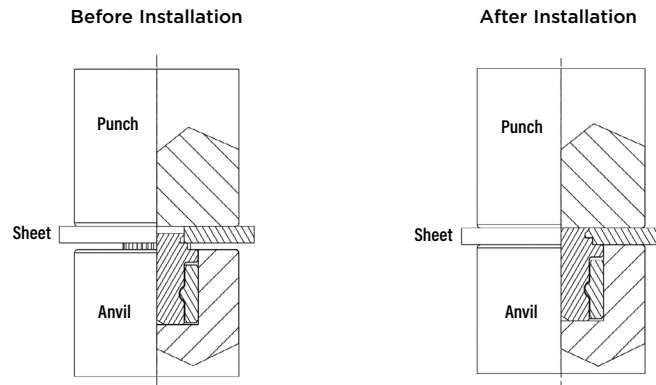
Self Clinching Installation

1. Prepare properly sized mounting hole in sheet. Do not perform any secondary operations such as deburring.
2. Place fastener into the anvil hole and place the mounting hole (preferably the punch side) over the shank of the fastener.
3. With installation punch and anvil surfaces parallel, apply squeezing force until the head of the nut comes into contact with the sheet material.

Installation tooling⁽¹⁾

| Fastener Dia. Code | HAEGER® Part Number | | PEMSERTER® Part Number | |
|--------------------|---------------------|-------------|------------------------|-----------|
| | Anvil | Punch | Anvil | Punch |
| 5.0 | H-330-5MM | H-108-0020L | 8026559 | 975200048 |
| 9.0 | H-330-9MM | H-108-0020L | 8026560 | 975200048 |

(1) [Click here](#) for a quote on Haeger® custom installation tooling.



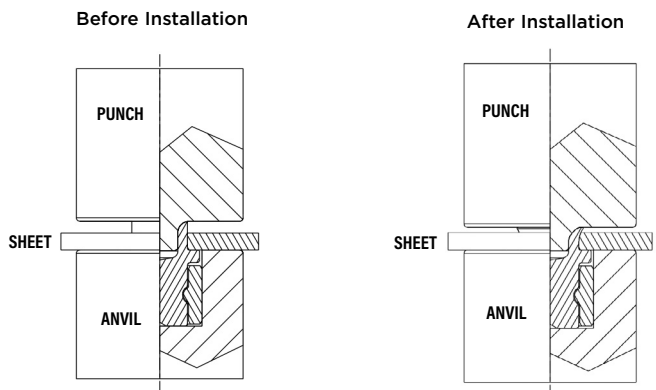
Flaring Installation

1. Prepare properly sized straight through mounting hole in sheet.
2. Place fastener into the anvil hole and place the mounting hole over the shank of the fastener as shown in diagram.
3. Using a punch flaring tool and a recessed anvil, apply squeezing force until the shoulder of the fastener contacts the sheet. As the fastener seats itself in the proper position, the punch tool will flare the extended portion of the shank outward to complete the installation. If installing into a smooth panel, the fastener shank will protrude after installation. Flare may protrude up to 0.5mm Max.

Installation tooling⁽¹⁾

| Fastener Dia. Code | HAEGER® Part Number | | PEMSERTER® Part Number | |
|--------------------|---------------------|---------------|------------------------|---------------|
| | Anvil | Punch | Anvil | Flaring Punch |
| 5.0 | H-330-5MM | H-193-5.0-1.0 | 8026559 | 8026557 |
| 9.0 | H-330-9MM | H-193-9.0-1.0 | 8026560 | 8026558 |

(1) [Click here](#) for a quote on Haeger® custom installation tooling.

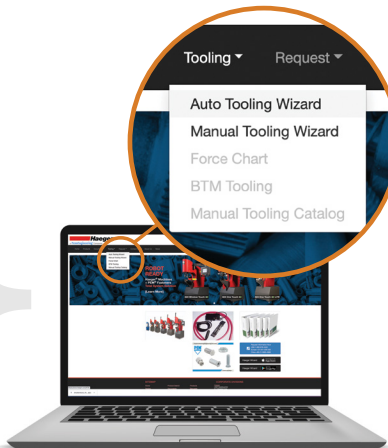


For Additional HAEGER® and PEMSERTER® Tooling Information / Part Numbers

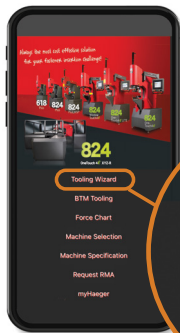


HAEGER® MANUAL TOOLING CATALOG

HAEGER® AUTO TOOLING CATALOG



Go to haeger.com to access the Auto and Manual Tooling Wizards



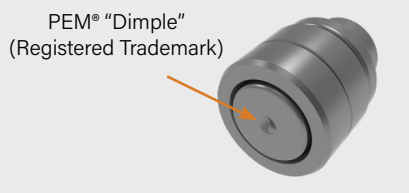
Or download the HAEGER WIZZARD Phone App

OneTouch 4e XYZ-R
Tooling Wizard
BTM Tooling



PEMSERTER® MANUAL TOOLING CATALOG

PEMSERTER® AUTO TOOLING CATALOG



PEM® "Dimple"
(Registered Trademark)



Fastener drawings and models are available at www.pemnet.com

PFTRCS™ Performance Data⁽¹⁾

| Fastener Diameter Code | Test Sheet Thickness | | Test Sheet Material | | | | | |
|------------------------|----------------------|--------|--------------------------|--------|---------|--------|-----------|-----|
| | | | Cold-Rolled Steel HRB 53 | | | | | |
| | | | Installation | | Pushout | | Side-Load | |
| (in.) | (mm) | (lbs.) | (kN) | (lbs.) | (N) | (lbs.) | (N) | |
| 5.0 | .040 | 1 | 1416 | 6.3 | 100 | 445 | 45 | 200 |
| 9.0 | .040 | 1 | 2316 | 10.3 | 150 | 670 | 85 | 380 |

| Part Number | Max. Number of Traveling Cycles at 200mm/s ⁽²⁾ | Bearing Load Max. | |
|----------------|---|-------------------|-----|
| | | (lbs.) | (N) |
| PFTRCS-5.0-1.0 | 100 | 45 | 200 |
| PFTRCS-9.0-1.0 | 210 | 45 | 200 |

PFTRFS™ Performance Data⁽¹⁾

| Fastener Diameter Code | Test Sheet Thickness | | Test Sheet Material | | | | | | | | | | | |
|------------------------|----------------------|--------|--------------------------|--------|---------|--------|-----------|--------------------------|--------------|--------|---------|--------|-----------|-----|
| | | | Cold-Rolled Steel HRB 65 | | | | | Cold-Rolled Steel HRB 60 | | | | | | |
| | | | Installation | | Pushout | | Side-Load | | Installation | | Pushout | | Side-Load | |
| (in.) | (mm) | (lbs.) | (kN) | (lbs.) | (N) | (lbs.) | (N) | (lbs.) | (kN) | (lbs.) | (N) | (lbs.) | (N) | |
| 5.0 | .040 | 1 | 2517 | 11.2 | 287 | 1280 | 83 | 370 | 2517 | 11.2 | — | — | — | — |
| | .047 | 1.2 | | | — | — | — | — | | | 326 | 1450 | 105 | 470 |
| 9.0 | .040 | 1 | 3215 | 14.3 | 342 | 1520 | 130 | 580 | 3215 | 14.3 | — | — | — | — |
| | .047 | 1.2 | | | — | — | — | — | | | 388 | 1730 | 139 | 620 |

| Part Number | Max. Number of Traveling Cycles at 200mm/s ⁽²⁾ | Bearing Load Max. | |
|----------------|---|-------------------|-----|
| | | (lbs.) | (N) |
| PFTRFS-5.0-1.0 | 100 | 45 | 200 |
| PFTRFS-9.0-1.0 | 210 | 45 | 200 |

- (1) Published installation forces are for general reference. Actual set-up and confirmation of complete installation should be made by observing proper seating of fastener as described in the installation steps. Other performance values reported are averages when all proper installation parameters and procedures are followed. Variations in mounting hole size, sheet material, and installation procedure may affect performance. Performance testing this product in your application is recommended. We will be happy to provide technical assistance and/or samples for this purpose.
- (2) The maximum number of traveling cycles is tested at 200mm/s under 200N load.

All PEM® products meet our stringent quality standards. If you require additional industry or other specific [quality certifications](#), special procedures and/or part numbers are required. Please contact your local sales office or representative for further information.

Regulatory [compliance information](#) is available in Technical Support section of our website. Specifications subject to change without notice. See our website for the most current version of this bulletin.



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