PEM® ROTARY INSTALLATION TECHNOLOGY

Allows prototype fasteners to be installed into thin sheet metal at a low axial force

The new PEM® rotary installation technology allows prototype fasteners to be installed into thin sheet metal, keeping one side of the panel aesthetically clean with no or minimal markings – while still providing strong pull-out and torque-out resistances.

Pre-release prototype fasteners are available. Please contact our engineering team to discuss your specific application details.

PEM® Rotary Installation Technology At-a-Glance

- New, innovative installation technology
- Enables a clean, smooth aesthetic by installing into thin panels while preserving the cosmetic surface
- Achieves permanent attachment with a significant reduction in axial installation force
- Tooling installs fasteners into sheets as thin as .047”/1.2mm*
- Provides greater flexibility in fastener material selection by using contact tool to displace material

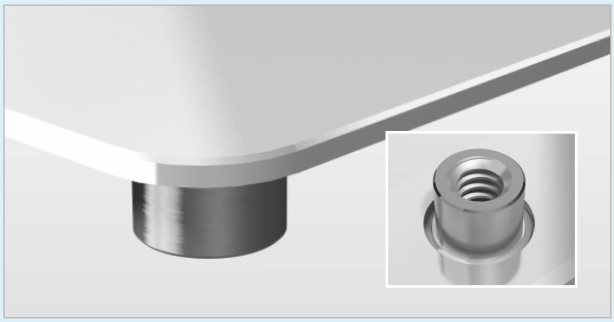
How the Technology Works

PEM® Rotary Installation Technology minimizes axial install force by using a rotating tool to apply torque to the panel. Sheet metal material is displaced radially inward into the fastener clinching features, securing the fastener in place.

This unique fastener installation technology allows the side of the sheet opposite the installation to remain smooth and unmarred.

PEM® Rotary Installation Tool System Features

- Rotary displacer tip can be used for high volume installation without reducing fastener clinch performance
- Displacer tip and thrust pin are interchangeable, allowing the tool holder to accommodate a range of thread sizes
- Displacer tip installation cycles can reach as high as 10,000 installations
- Functional across a range of standard machining spindle speeds and feed rates
- Prototype fasteners are designed specifically for rotary installation only



* Cosmetic marking may occur when using rotary install on very thin panels. Please contact your PEM® representative to discuss the specific aesthetic needs and technical requirements of your application.

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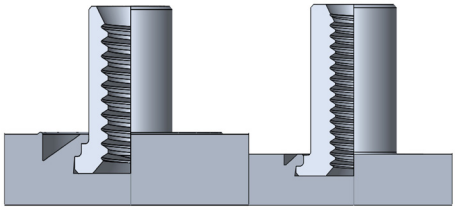
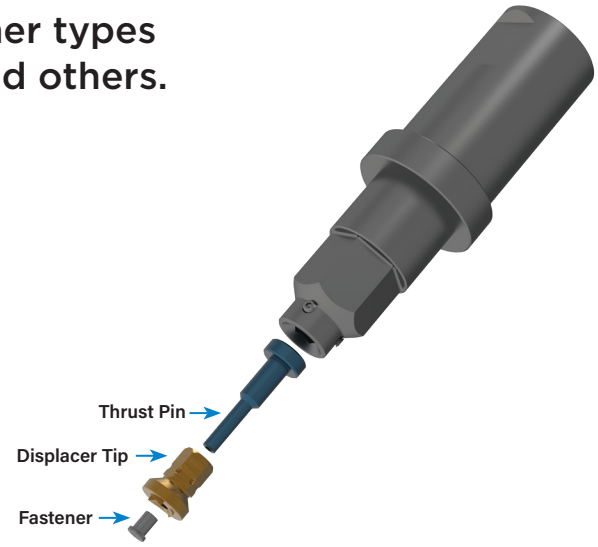
PEM® ROTARY INSTALLATION TOOL

Installs various prototype fastener types such as standoffs, studs, pins and others.





Rotary Installation Specifications

The fasteners listed in the chart below are pre-release prototype fasteners. Please contact our engineering team to discuss your specific application details.

Rotary Installation Specifications									
Prototype Fastener	Panel					Installation		Clinch Performance	
Recommended Thread Size	Sheet Thickness (mm)	Mounting Hole Dia. (mm)	Blind Hole Depth (mm)	Material	Installation Footprint Dia. (mm)	Time to Install (Seconds)	Expected Axial Force (N)	Expected Retention Force Nom. (N)	Expected Torque Resistance Nom. (N•m)
M1.6 - M3	1.7+	3.2 - 5	0.94 ±0.05	Aluminum Alloys	5 - 6.8	1 - 3	500 - 600	600 - 750	0.4 - 0.6
M1 - M2	1.2 - 1.7	3.2 - 4	0.5 ±0.05		4 - 4.8		150 - 230	130 - 180	0.2 - 0.3

Notes

- Recommended thread size range is based on typical clinch performance of comparable solutions.
- Install footprint refers to the maximum panel area impacted by displacer tip contact during installation.
- Prototype fasteners are seated in prepared blind holes, and hole depth is controlled by tolerance to ensure proper installation.
- Time to install refers to the duration of displacer tip contact with the panel during installation. This time is variable based on spindle speed and feed rate.

GLOBAL CONTACT INFORMATION

NORTH AMERICA
Danboro, Pennsylvania USA
info@pemnet.com
+1-215-766-8853
800-237-4736 (USA)

EUROPE
Galway, Ireland
europe@pemnet.com
+353-91-751714

ASIA/PACIFIC
Japan
daihyou@pemnet.jp
+042-798-7177

Singapore
singapore@pemnet.com
+65-6-745-0660

SHANGHAI, CHINA
china@pemnet.com
+86-21-5868-3688

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