Smart Ram Plus™

FAQ

What are Pop-A-Plug® Tube Plugs?

Pop-A-Plug tube plugs are mechanically engineered plugs designed to permanently seal leaking heat exchanger tubes. They are widely used in critical heat exchanger repair applications, and recognized as a tubeside repair method in ASME PCC-2 (Article 312). Pop-A-Plug Tube Plugs are installed using specialized tools designed to ensure proper installation force and long-term reliability.

The Smart Ram Plus system is designed specifically to install Pop-A-Plug tube plugs while providing digital verification and automated reporting of each installation.

What is a Tube Plugging System?

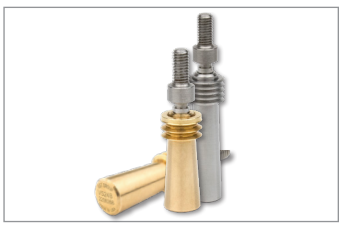
A tube plugging system is a repair solution used to permanently seal damaged or leaking tubes in heat exchangers, condensers, boilers, and feedwater heaters. By installing tube plugs inside the tube ends, maintenance teams can isolate failed tubes and restore equipment performance without replacing the entire heat exchanger.

Tube plugging is commonly used in power plants, petrochemical facilities, refineries and chemical processing plants where heat exchangers play a critical role in operations.

How are Heat Exchanger Tubes Plugged?

Heat exchanger tubes are typically plugged by installing a specially engineered tube plug into the tube opening at the tubesheet. A hydraulic installation tool applies controlled force to expand or seat the plug securely inside the tube.

Modern tube plugging systems, such as the Smart Ram Plus installation platform, measure installation force and confirm proper plug installation while recording installation data for maintenance documentation.



Pop-A-Plug® Tube Plugs

What Equipment is Used for Pop-A-Plug® Installations?

Tube plug installation typically requires specialized equipment including:

- tube plugs
- tube preparation tools
- hydraulic ram/installation tools
- installation verification equipment

The Smart Ram Plus system combines a cordless hydraulic installation tool with digital reporting technology that verifies installation force and automatically records installation details.

Why is Installation Verification Important for Tube Plugging?

Proper tube plug installation is critical to maintaining heat exchanger reliability. If a plug is not installed correctly, leakage or premature failure may occur.

An installation verification system can help confirm that the required installation force was achieved and provide objective confirmation that the plug has been installed correctly. Systems like Smart Ram Plus also generate digital installation reports that improve traceability and maintenance documentation.

What Industries Use Tube Plugging Systems?

Tube plugging systems are widely used across industries that rely on heat exchangers for thermal performance, including:

- Power generation
- Nuclear power plants
- Oil & Gas / Refineries
- Petrochemical processing
- Chemical manufacturing
- Industrial cooling systems

These industries commonly perform tube plugging during planned maintenance outages to restore heat exchanger efficiency.

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