CURTISS-WRIGHT

EST Group

Curtiss-Wright EST Group

Engineering Reliability for Extreme Service



Since 1968, Curtiss-Wright EST Group has specialized in developing and manufacturing tools and systems that vastly simplify the maintenance of shell-and-tube and air-cooled heat exchangers. EST Group also engineers test plug systems that expedite in-service inspection of pipe, pipelines, piping systems and pressure vessels. Their plugging and testing systems have saved customers millions of dollars in maintenance and downtime in industries including power generation, petrochemical/refining, oil & gas production, fertilizers, engineering and shipbuilding.

Pop-A-Plug® - Heat Exchanger Tube Testing & Repair

The Pop-A-Plug Tube Plugging System is specially engineered to quickly prepare and plug leaking or degraded heat exchanger, condenser and boiler tubes.

The Pop-A-Plug family of products includes leak detection tools designed to minimize delays in equipment maintenance during turnarounds. Solutions include the G-160 Tube Testing Tools for early leak detection in shell-and-tube heat exchangers, boilers and condensers. These tools rapidly pinpoint tube leaks while providing a safer environment for plant personnel through the addition of patent-pending grippers.

Once leaks are identified, Pop-A-Plug Tube Plugs deliver a permanent and cost-effective plugging solution. Plugs are hydraulically installed with a unique breakaway that eliminates welding, thus avoiding the labor costs and time associated with welding in tapered plugs. Pop-A-Plug P2 High Pressure Tube Plugs maintain a helium leak-tight seal to 1 x 10^{-10} cc/sec without damaging tubes or tubesheets and can withstand extreme thermal and pressure cycling at working pressures up to 7,000 PsiG (483 BarG). Plugs are available in over 35 different materials, including exotic alloys that can tolerate aggressive corrosive environments.

Other specialized tools include Pop-A-Plug Tube Stabilizers for stabilizing fractured or severed heat exchanger tubes, and Hydra-loc® Tube Sleeving designed to repair damaged tube ends.



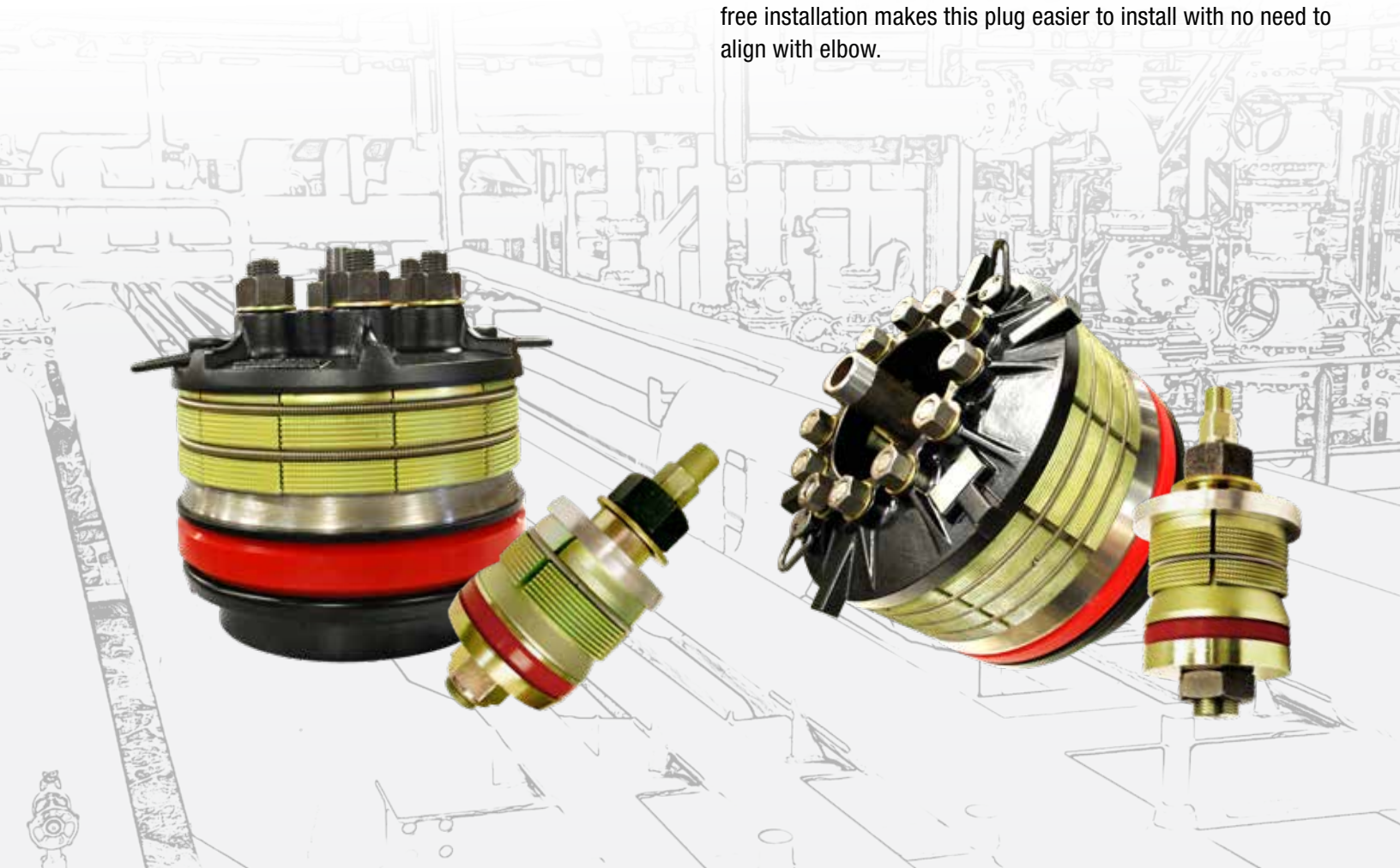
GripTight® - Pipe Testing & Isolation Plugs

High-pressure pipe testing is safer than ever, thanks to EST Group's GripTight family of test plugs. Unlike other pipe testing plugs that can loosen and eject under high pressure, GripTight plugs use the system's own test pressure to seal more securely against the pipe's inner diameter.

GripTight patented gripper technology uses this pressure to grip against the ID of the pipe. The greater the pressure, the greater the grip—resulting in more reliable installation, better sealing and safer testing.

The GripTight MAX Test Plug eliminates the need to weld on end caps and/or test heads reducing test times by up to 80%. When properly installed, the gripper technology ensures that the plug cannot be ejected under operating pressures up to a rating of 15,000 PsiG (1,034 BarG). The plug's hardened shaft, cone, and gripper increases durability and reduces wear. GripTight MAX is perfect for pressure testing open-ended pipe in applications such as down hole / well-head piping, high pressure steam systems, and high alloy hardened materials up to HRC 32.

For testing pipe spools and piping systems terminating in elbows, EST Group designed the GripTight Elbow Plug. It eliminates welding on end caps and/or test heads, and tests long radius elbows up to 3,350 PsiG (231 BarG). Orientation free installation makes this plug easier to install with no need to align with elbow.



Safe and Secure Isolation

Conventional flange-to-pipe weld testing often carries high costs and risks in the form of downtime and delays, wastewater disposal challenges and potentially dangerous work conditions. The GripTight® Isolation Plug is a one-tool solution that resolves these challenges to keep workers safer during hot work.

The GripTight Isolation Plug integrates gripper technology with the functionality of Double Block and Bleed (DBB) Plugs. The dual port system allows water to circulate between seals, providing fast cooling during pre/post weld procedures. At the same time, the upstream port allows operators to positively isolate and monitor potentially explosive vapors during hot work. This feature helps minimize the risk of an accidental blowout or expulsion due to improper setting or unexpected upstream pressure spikes.

After repair work is complete and the weld area has cooled, the plug is repositioned over the weld for pressure testing up to 2,250 PsiG (155 BarG). By effectively isolating a small section around a pipe weld, hydrotesting can be performed with less than a gallon (3.8 L) of water (rather than filling the entire line with thousands of gallons of water). This not only reduces fill time and minimizes the logistics of handling large volumes of water, but it also helps get the line back into service more quickly.

The plug's lightweight aluminum/steel construction makes it easy to maneuver and install. In many cases, the plug can be positioned by field personnel without the added expense of a crane or other lifting devices.

Specialty Tools

EST Group also offers a complete line of compact, lightweight tools for tapping into existing pipelines under pressure. The Pipe Tapping Tools are installed by simple bolt-on installation—with no welding or explosives required—and are ideal for decontamination and decommission work of pipes operating at pressures up to 285 PsiG (19.6 BarG).

For more information, visit cw-estgroup.com. Contact us at est-info@curtisswright.com or +1 215.721.1100 / 800.355.7044 to speak with one of EST Group's Product Experts today!

Article published in Hydrocarbon Processing, 2018 October issue.

North, Central & South America **EST Group** 2701 Township Line Road Hatfield, PA 19440-1770 USA | +1.215.721.1100 +1.800.355.7044 | est-info@curtisswright.com
Europe / Middle East / Africa **EST Group B.V.** Hoorn 312D 2404 HL Alphen aan den Rijn The Netherlands | +31.172.418841 | est-emea@curtisswright.com
China +86.400.636.5077 | est-china@curtisswright.cn | **Singapore** +65.3158.5052 | est-asia@curtisswright.com