

# Pressure Testing & Isolation Plugs

- GripTight®
- GripTight MAX®
- GripTight® Elbow
- GripTight® Isolation
- Double Block and Bleed
- GripTight® Reverse Pressure
- High Lift Flange Weld
- OD GripTight®
- GripTight® PE

Testing & Isolation Plugs



# EST Group

Established in 1968 and headquartered in Hatfield Pennsylvania, Curtiss-Wright EST Group specializes in the development, and manufacture of highly-engineered pressure testing & isolation plugs that greatly simplify and expedite pressure testing and/or isolation of piping, tubing, valves, pressure vessels.

Core products include:

**GripTight® Test Plugs** - for high pressure hydrostatic testing of pipe, pipelines and pressure vessels. Safe and effective at working pressures to 15000 PsiG (1034 BarG). Pipe OD and ID sealing solutions available

**High Lift Flange Weld Test Plugs** - for isolating and hydrostatically testing weld joints of any welded flange to pipe connection

**Double Block & Bleed Isolation Plugs** – positively isolate pipe end hot work from potentially explosive upstream vapors; then weld and test the flange to pipe connection all with one tool

# CURTISS - WRIGHT

## Testing & Isolation

EST Group Field Services provides a full range of pipe and pressure vessel inspection and testing services. Capabilities include testing and certification of pipe and pressure vessels and field-testing of flange-to-pipe and flange-to-nozzle welds, as well as on-site training for all EST Group products. All tests are carried out to meet ANSI B16.5 requirements.

EST Group serves the power generation; petrochemical and refining; fine chemical and pharmaceutical; shipbuilding; oil and gas production; and engineering and construction industries worldwide.

Curtiss-Wright has a long history of solving tough problems that begins with a passion for understanding customer needs. Add to that unparalleled technical expertise, the highest standards of quality and a long heritage of innovative thinking. For nearly a century Curtiss-Wright's Industrial Division has been doing things the Wright way.

# POP-A-PLUG

## Pop-A-Plug® P2

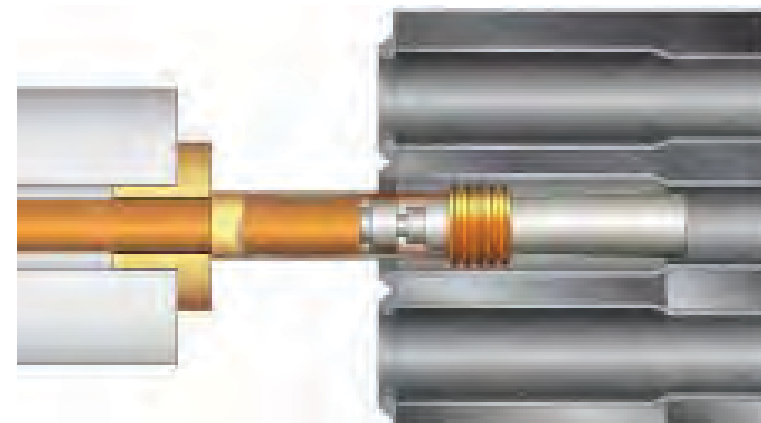
Heat Exchanger Tube Plugging System

The Pop-A-Plug P2 Heat Exchanger Tube Plugging System is the only mechanical tube plug that features both external and patented internally serrated rings designed to maintain a leak-tight seal under extreme thermal and pressure cycling. Pop-A-Plug P2 Tube Plugging System reduces downtime, eliminates welding and explosives, and will not damage your tubes, tubejoints or tubesheet.

Simple Installation – Prepare and size tubes using the brush and Go/No-Go gage supplied with kit, and install plug with hydraulic ram using shop air. As the ram pulls the tapered pin through the ring, it expands into the tube, creating a leak tight seal. When the proper force is reached, the breakaway “pops”. This controlled force provides a consistent, repeatable installation each time by any installer, while protecting surrounding tubes and ligaments.



### POP – A – PLUG P2



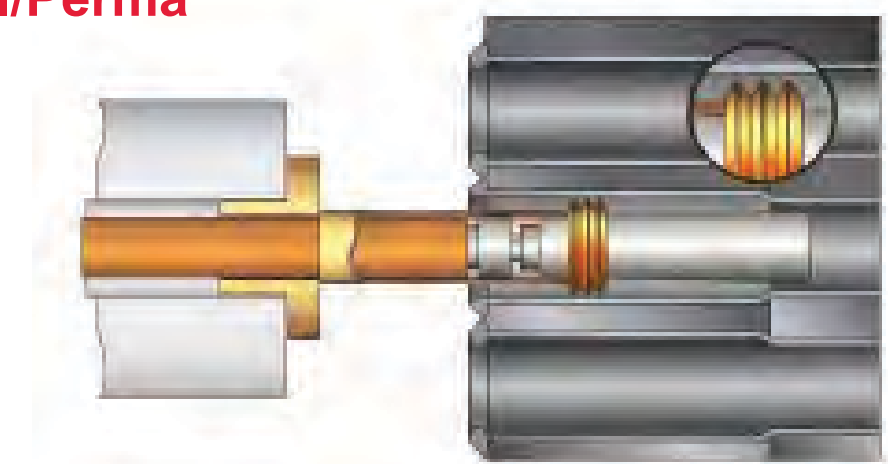
## Pop-A-Plug® CPI/Perma

Heat Exchanger & Condenser Tube Plugging System

Pop-A-Plug® CPI/Perma tube plugs are resistant to thermal cycling and are able to provide a seal that is helium leak tight. Pop-A-Plug® CPI/Perma tube plug installs using a controlled force. This protects against damage to tubesheet ligaments and adjacent tubesheet joints, extending the life of your heat exchanger and reducing total operating cost.



### POP – A – PLUG CPI/Perma





# GripTight® Elbow Test Plug

Versatile Design for Testing Elbow Configurations to 3350 PsiG (231 BarG)

EST Group's GripTight® Elbow Test Plug is a revolutionary new plug designed for testing long radius elbows. Patent-pending Dual-Serrated GripTight MAX® Grippers give this unique plug design enhanced holding power to 3350 PsiG (231 BarG) - providing a safe and effective solution for pipe spools and piping systems terminating in long radius elbows.

## GripTight® Elbow Test Plug

GripTight® Elbow Test Plugs facilitate testing in accordance with ASME PCC-2 and ASME Boiler and Pressure Vessel Codes.



- Orientation Independent Installation - no need to align with elbow
- Test Pressure - 3350 PsiG (231 BarG) - higher pressures available upon request
- Sizes for NPS ranging from 2" thru 24" (DN50 - DN600) - larger sizes built to order
- Patent-pending Dual-Serrated GripTight MAX® Gripper design
- Patent-pending Floating, Self-aligning Grippers & Seal
- Easy Installation - no welding or hot work required
- Ideal for horizontal & vertical applications
- Fits any long radius elbows
- Safe self gripping design uses test pressure to increase holding capability
- Saves significant time vs. welded-on end cap/pup procedures
- Laser-marked top washer clearly identifies part number, size range, pressure rating, and document number for operating instructions
- Designed to accommodate a large range of pipe materials including: Carbon Steel, Stainless Steel, Duplex, Inconel, Incoloy, Hastelloy, Chromoly, Clad Elbows, Hardened Materials

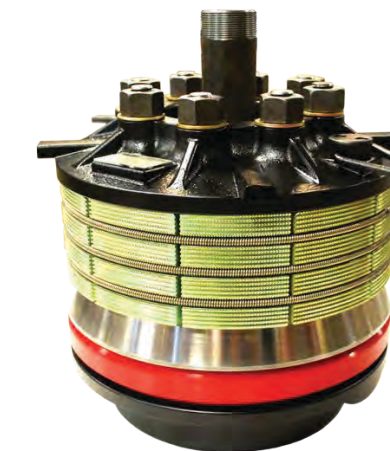
# GripTight MAX® Test Plug

## High Pressure Test Plug for Hardened Pipe

EST Group's GripTight MAX® Test Plug is a revolutionary new plug design which significantly increases the range of pipe materials and pressures that can be tested. It is highly effective in applications such as down hole / well-head piping, high pressure steam systems and in the replacement of older piping with newer high alloy hardened pipe materials used in refineries and chemical plants.

GripTight MAX® Test Plugs are also effective for testing non-metallic materials such as Fiberglass Reinforced Plastic (FRP) and Glass Reinforced Epoxy (GRE) piping systems. Please call Customer Service for information regarding these applications.

- Test pressures to 15000 PsiG (1034 BarG)
- Hardened shaft, grippers, and cone for increased durability
- Stocked sizes for NPS ranging from 3/8" to 8" (DN10 - DN200), larger sizes up to 24" (DN 600) built to order
- Patent-pending dual-serrated gripper design
- Test open-end pipe and tube up to HRC 32
- Ideal for Chromoly, Duplex, Hastelloy, Inconel, Clad, and other high alloy pipe and tubing
- Facilitates testing in accordance with ASME PCC-2 and ASME Boiler and Pressure Vessel Codes
- Positioning washer prevents plug loss in pipe end
- Save over 80% in testing time vs. welded-on end cap procedures
- Laser-marked components clearly identify part number, size range, pressure rating, and document number for operating instructions

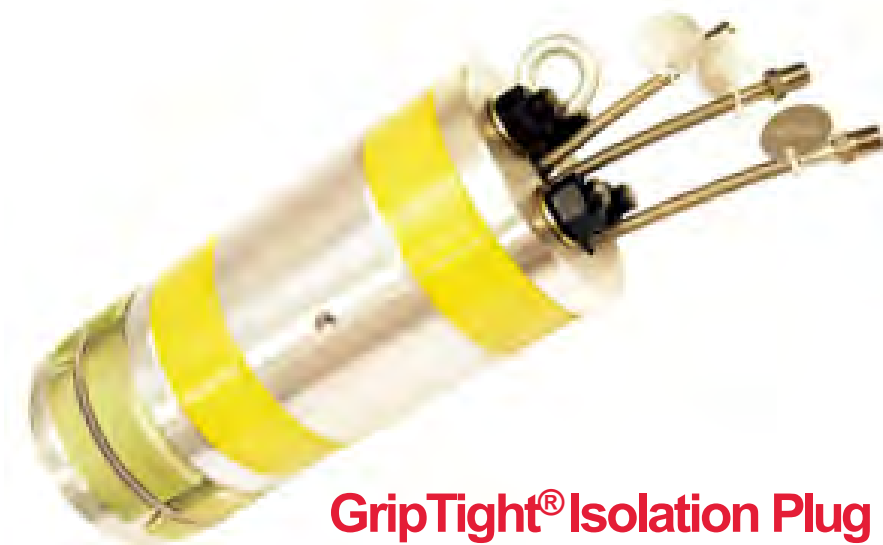


# Test & Isolation Plugs

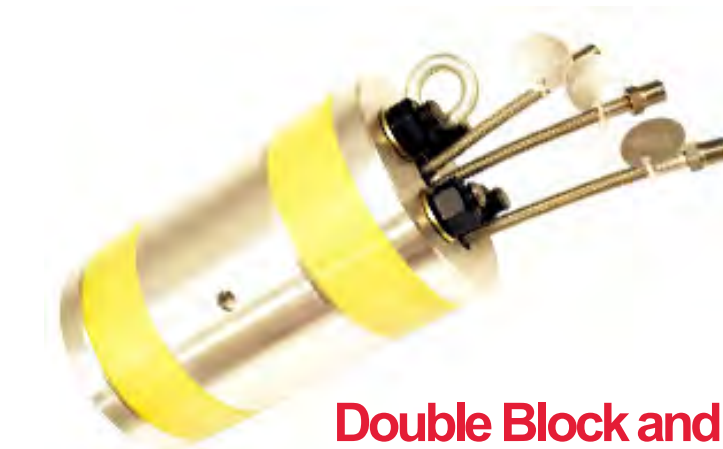
## GripTight® Isolation Plug

Isolate and monitor potentially explosive vapors during hot work, and hydrotest new weld connections with one easy to operate tool. Dual port design creates a positive pressure barrier between the seals - safely isolating hot work from any residual upstream gases. GripTight Isolation Test Plugs integrate a Double Block and Bleed Test Plug with GripTight Grippers, ensuring operational safety, and minimizing the risk of blowout /expulsion due to unexpected upstream pressure in the line.

- Monitor potentially explosive vapors during hot work
- Minimize risk of accidental blowout/expulsion due to improper use or unexpected upstream pressure
- Uses less than a gallon (3.785 liters) of water, reducing waste water, treatment expenses, and facilitates testing in remote areas of facilities



**GripTight® Isolation Plug**



**Double Block and Bleed**

## Double Block and Bleed

Isolate and monitor potentially explosive vapors during hot work, and hydrotest new weld connection with one easy to use tool. Dual port design creates a positive pressure barrier between the seals - safely isolating hot work from any residual upstream gases. The volume of water required is so small that testing can be accomplished using a simple hand pump. Easily facilitates testing in remote areas of the facility.

- Monitor potentially explosive vapors during hot work
- Uses less than a gallon (3.785 liters) of water, reducing waste water, treatment expenses, and facilitates testing in remote areas
- Lightweight, aluminum and steel construction



# Test & Isolation Plugs

## GripTight® Reverse Pressure

Pressure test flange-to-pipe welds with full radial, hoop and axial stresses – equivalent to the stresses that would be produced when using a blind to pressurize the entire piping system. Pressure testing can effectively verify the weld integrity providing the user confidence that the flange and weld will properly function when placed into service

- Subjects the flange-to-pipe weld to full radial, hoop and axial stresses during hydrostatic testing
- Flange-to-pipe welds can be tested without needing to pressurize the entire system
- Optional lanyard assembly acts as visual plug movement indicator allowing the operator to monitor the plug position during testing and halt work if improper installation occurred



**GripTight® Reverse Pressure**



**High Lift Flange/Weld**

## High Lift Flange/Weld

Monitor upstream conditions, isolate and purge the weld area, perform the weld, and hydro test the weld joint with one easy tool. No blind flanging upstream, no vacuum truck for evacuating the line, and no X-raying. Each test requires a minimum amount of water, no need to fill the entire line. You will use less water and minimize your environmental impact. Operating pressures to ANSI B16.5 requirements.

- Designed to function in four distinct ways: as a purge dam, weld fixture, test plug, and a weld isolation plug
- Flange-to-pipe welds are tested without needing to pressurize the entire system
- Ported center shaft allows for upstream monitoring
- Segmented compression tube design allows for the adjustment of the distance between the flange and seal

# Test & Isolation Plugs

## OD GripTight®

Test open or plain end pipe and tube by sealing the OD. Patented design allows for the bore of the sealing element to be larger than the pipe OD during installation, preventing damage to the seal.

- One plug can be used for a range of pipe schedule sizes
- Patented design prevents damage to the seal during installation and removal
- Lightweight aircraft aluminum construction
- Metric pipe and tubing sizes available

**OD Grip Tight**



**Grip Tight PE**

## GripTight® PE

Designed for pressure testing polyethylene applications. Testing can be performed on reels, in open trenches, on installed pipe and joined pipe sections. Can also be used as a night cap to keep open pipe ends sealed and clean overnight or during work intervals.

- Patented dual seal design
- Easily installed by hand, no special tools required
- Conservatively rated to 150% of maximum operating pressure required under 49 CFR 192.513





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