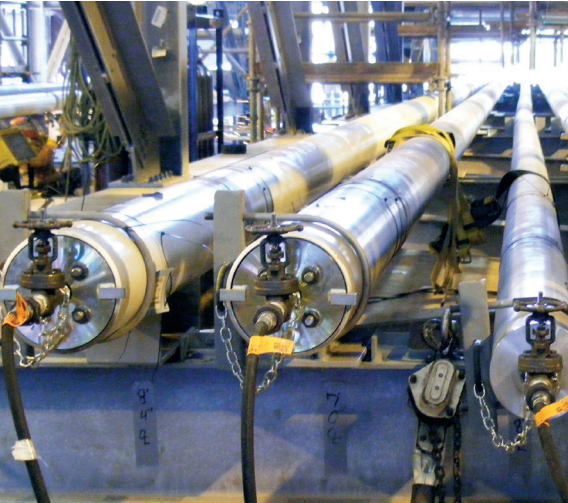


**CURTISS -
WRIGHT**

EXONDER®
A World of High Quality Products

EST Group



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
Socket Weld (SQS)
LW100

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 open end pipe, piping systems, tubing and pressure vessels.

Core products include:

- **GripTight® Test Plugs** – for high pressure hydrostatic testing of open end pipe, piping systems, tubing 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.

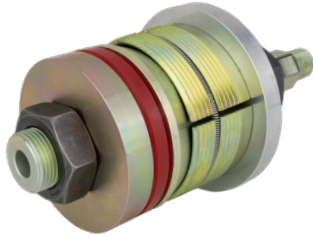
EST Group Field Services provides a full range of pipe and pressure vessel inspection and testing services. Capabilities include testing and certification of pipe and pressure vessels and field-testing of flange-to-pipe and flange-to-nozzle welds, as well as on-site training for all EST Group products. 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.



Test & Isolation Plugs and Accessories



GripTight®

Uses test pressure to seal more securely against the pipe's inner diameter and will not loosen or eject under high pressure. The result is a quicker installation, improved sealing, and all around safer testing.

Test Pressure

Up to 14000 PsiG (965 BarG)*
Rated to 80% of yield for ASTM A-106 Grade B Pipe

Size Range

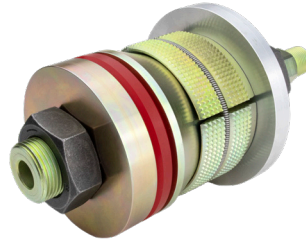
1" to 24" NPS (DN25 to DN600)
Larger sizes available upon request

Standard Seal Material

Urethane**

Features

- Reduces test times up to 80%
- Eliminates welding end caps - no welding, grinding or cutting required
- Uses test pressure to grip more securely
- Reusable, compatible with hydrostatic testing



GripTight MAX®

Patented dual-serrated gripper design for safe and reliable testing at high pressures up to 15000 PsiG (1034 BarG). Highly effective for testing high pressure steam systems, high alloy hardened pipe materials, and down hole/well-head piping. Also effective for testing non-metallic materials including Fiberglass Reinforced Plastic (FRP) and Glass Reinforced Epoxy (GRP).

Test Pressure

Up to 15000 PsiG (1034 BarG)*

Size Range

3/8" to 48" NPS (DN10 to DN1200)
Larger sizes available upon request

Standard Seal Material

Urethane**

Features

- Patented dual-serrated gripper design provides more gripping points on pipe I.D. surface
- Hardened shaft, grippers, and cone increases durability, extends service life, and reduces wear
- Ideal for hardened pipe applications up to HRC 32
- Reusable, compatible with hydrostatic or pneumatic testing



GripTight® Elbow

Eliminate welding on end caps! Versatile plug designed for testing long radius elbows without welding. Patented GripTight MAX self-aligning gripper & seal design provides a safe and effective solution for testing pipe spools and piping systems terminating in long radius elbows.

Test Pressure

3350 PsiG (231 BarG)*

Size Range

2" to 24" NPS (DN50 - DN600)
Larger sizes available upon request

Standard Seal Material

Urethane**

Features

- Orientation free installation
- Save significant time over welding end caps
- Patented dual-serrated GripTight MAX grippers
- Patented self-aligning gripper/seal design
- Fits most long radius elbows
- Reusable, compatible with hydrostatic or pneumatic testing

*Higher pressures available upon request

**Alternative seal materials are available including Neoprene, Fluoroelastomer, Silicone, EPDM, Natural Rubber, Nitrile Buna-N, and SBR Buna-S.

Test & Isolation Plugs and Accessories



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.

Test Pressure

2250 PsiG (155 BarG) between the seals
Upstream pressures up to 1500 PsiG (103 BarG)*

Size Range

3/4" to 48" NPS (DN20 to DN1200)
Larger sizes available upon request

Standard Seal Material

Urethane**

Features

- 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
- ASME PCC-2 Type IV testing device¹



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.

Test Pressure

2250 PsiG (155 BarG)* between the seals
Upstream pressure rated to 10 PsiG (0.7 BarG)*

Size Range

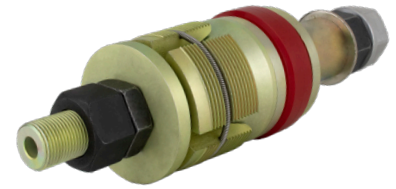
3/4" to 48" NPS (DN20 to DN1200)
Larger sizes available upon request

Standard Seal Material

Urethane**

Features

- 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
- ASME PCC-2 Type IV testing device¹



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.

Test Pressure

2250 PsiG (155 BarG)*

Size Range

2" to 12" NPS (DN50 to DN300)
Larger sizes available upon request

Standard Seal Material

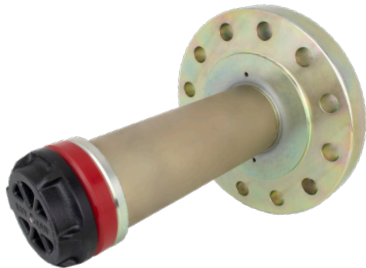
Urethane**

Features

- 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
- ASME PCC-2 Type I testing device¹

* Higher pressures available upon request. ** Alternative seal materials are available including Neoprene, Fluoroelastomer, Silicone, EPDM, Natural Rubber, Nitrile Buna-N, and SBR Buna-S.

1. ASME PCC-2 (Article 503) - "Test Devices for Localized Pressure or Tightness Testing of Welded Repairs"



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.

Test Pressure

150 #	450 PsiG	31.0 BarG
300 #	1125 PsiG	77.6 BarG
600 #	2250 PsiG	155.1 BarG

Size Range

3/4" to 24" NPS (DN20 to DN600)
Higher flange classes & pressures available

Standard Seal Material

Urethane**

Features

- 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
- ASME PCC-2 Type III testing device¹



OD GripTight®

Test open or plain end pipe and tube by sealing pipe 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.

Test Pressure

5000 PsiG (345 BarG)

Size Range

1/4" to 4" ANSI pipe sizes (DN8 to DN100) &
1/2" to 3 1/2" (12.7mm to 88.9mm) OD tube sizes

Standard Seal Material

Urethane with Fluoroelastomer O-ring*

Features

- 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



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.

Test Pressure

375 PsiG (26 BarG) Max
Varies by plug size, SDR, and material grade

Size Range

2", 3", 4", 6" and 8" (DN50 to DN200)

Standard Seal Material

Urethane with Fluoroelastomer and Nitrile/Buna-N O-rings*

Features

- 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



Socket Weld SQS

Designed to facilitate testing socket weld fittings and couplings. During installation, grippers expand within the socket holding the plug in position while the seal element expands and seals off the bore of the fitting. Designed for ASTM A105 3000 lb. carbon steel socket weld fittings.

Test Pressure

5000 PsiG (345 BarG)

Size Range

1/2" to 2" NPS (DN15 to DN50)
Larger sizes available upon request

Standard Seal Material

Urethane**

Features

- Unique "Twin Cone" design provides uniform gripper expansion that ensures 100% contact between the test plug and the socket weld fitting
- Long wearing urethane seals provide easy plug installation and removal
- Replacement grippers and seals available, allowing you to use the SQS hydrostatic test plug multiple times



LW100

Highly versatile, lightweight, and cost effective temporary sealing solution for low pressure applications. Lightweight aluminum construction substantially reduces manpower and heavy lifting equipment required for installation and removal, resulting in lower costs per test.

Test Pressure

100 PsiG (7 BarG)

Size Range

4" to 36" NPS (DN100 to DN900)
Larger sizes available upon request

Standard Seal Material

Urethane**

Features

- Provides significant cost savings when compared to other testing options
- Can be used as isolation or purge plug
- Easy installation & maintenance



Safety Gag

Provides a secondary restraint of the plug for an added measure of safety. Prevents damage that may occur due to incorrectly installed plugs ejecting from the pipe during pressurization. Gags fasten quickly to pipe OD and plug inlet.

Operating Pressure

Reference Test/Isolation Plug Pressure Rating

Size Range

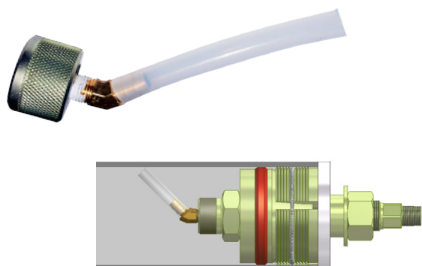
1/2" to 24" NPS (DN15 to DN600)
Larger sizes through 42" NPS (DN1050) available

Standard Material

Zinc Plated Carbon Steel

Features

- Bolt on clamp for easy installation and removal
- Provides enhanced safety during testing
- Safe, reliable, and easy to use



GripTight® Vent Caps

Safely fill and drain pipes during hydrostatic testing. Vents can be installed with tubes at high and low points in the area being tested in order to fill with test medium and displace air/gases in the pipe being tested.

Operating Pressure

Reference Test/Isolation Plug pressure rating

Size Range

1¼" to 8" NPS (DN32 to DN200)

Standard Material

Zinc plated Carbon Steel body / Polyethylene tube

Features

- Installs easily
- Facilitates hydrostatic testing best practices per ASME B31.1 & ASME PCC-2



Test Plug Lifting Arm

Designed to maneuver larger test plugs securely with cranes, forklifts, or other lifting mechanisms. Provides greater stability and operator safety during installations. Three models available for use with plug sizes from 10" to 48" (DN250 to DN1200).

Size Ranges

10"-24" (DN250-DN600)
26"-36" (DN650-DN900)
38"-48" (DN950-DN1200)

Max. Capacity

10"-24" - 1,500lbs. (680.4kg)
26"-36" - 3,500lbs. (1,587.6kg)
38"-48" - 6,500lbs. (2,948.4kg)

Standard Material

Powder coated Carbon Steel

Features

- Improves safety and installation time
- Can be adapted for use with Special Test/Isolation plugs



Hydrostatic Test Pumps

P Series Hand Pump

Suitable for all hydrostatic testing applications. Self-contained, portable hand pump with 5 gallon reservoir for testing tubes, pipes and pressure vessels when air is not available.

Output Pressure: Up to 3000 PsiG (207 BarG)

Includes: high pressure bleed valve, hose with swivel fitting

P Series Pump

Suitable for all hydrostatic testing applications. Portable pump for testing tubes, pipes and pressure vessels in the field or shop. Self-contained, lockable aluminum toolbox.

Output Pressure: 2500 and 10000 PsiG (172/689 BarG) models available

Includes: 4" (100 mm) pressure gauge, high pressure hose, and quick couplings for air and water inlet connections.

Blue Max 3

Suitable for all hydrostatic testing applications. Enclosed cabinet provides safe & quiet operation, protects components from damage.

Output Pressure: 1000, 3600, and 10000 PsiG (69, 248, 689 BarG) models available

Includes: 4" (100 mm) pressure gauge, mating quick connect couplings for air inlet, water inlet and high pressure outlet connections.

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Product animations, instructions, and detailed technical information are available on our website: www.cw-estgroup.com

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