



Unique Products for the Gas Distribution Engineer



Gas Main Leak Repair

Pipe Cutting and Breaking for Mains Renewal

Gas-Free Hot Tapping

Gas Flow Stopping



Gas-Free Service Renewal and Abandonment

PE Pipe Pullers

Main Renewal and Abandonment

Ergonomic Digging Tools

Water Removal



PE Pipe Products

Torre Supraflow Tapping Tee

Excavator Attachments

Product Catalog

PLCS, LLC

www.plcsusa.com

102 Gaither Drive, Unit 1

Mount Laurel, NJ 08054

856-722-1333 | info@plcsusa.com



Unique Products for the Gas Distribution Engineer

Since 1980 PLCS, LLC. has supplied the North and South American natural gas distribution industry with systems for sealing gas leaks, lightweight Gas-Free* tapping machines, equipment for installing PE pipes and many other invaluable products.

See these quality products and more at: www.plcsusa.com



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Professional Use Only: The items in this catalog are intended to be used by professionals in the utility industry. Supplemental training, permits, or licenses may be needed to use items we sell. Many items can be harmful if used improperly; if in doubt, do not use them. We strongly recommend following product warnings, instructions, and operation according to your company procedures.

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PLCS LP (Low Pressure) Encapsulation

Since natural gas was introduced into cast iron pipes, the jute packing has dried out and the lead has moved. The result is joint leakage. PLCS Encapsulation provides a permanent repair to leaking joints.



- The proven, permanent solution to bell joint leaks!
- Don't replace cast iron pipes. Make them as good as new by encapsulating the joints with PLCS products.
- Over the last 40+ years, millions of joints have been permanently sealed by PLCS encapsulation.
- Tests by Cornell University (for the New York Gas Group) and British Gas prove 50 years minimum life expectancy.
- The joint is encapsulated in a tough, flexible layer of synthetic rubber that is permanently adhered to the pipe, yet allows the joint to move.
- A 6" bell joint can be sealed in less than 15 minutes.
- Used by more than 50 major gas utilities in the USA.

Discover PLCS Encapsulation & its Unique Advantages

Other PLCS data sheets cover repairing almost any kind of joint or fitting with encapsulation at pressures up to 60 psig.

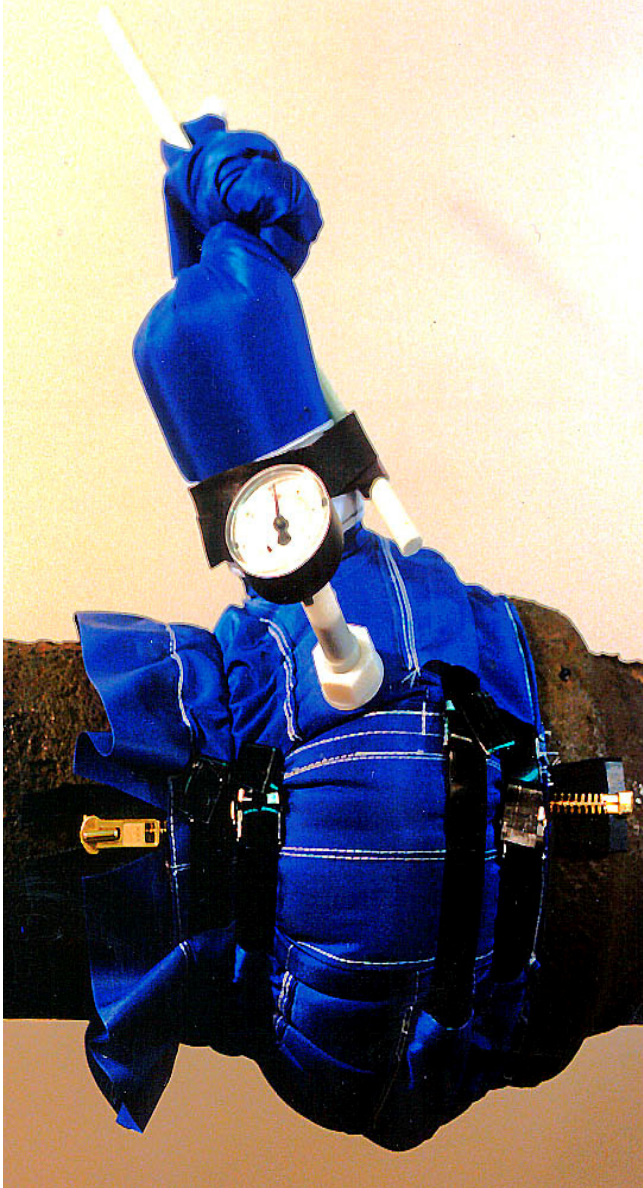
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PLCS MP (Medium Pressure) Encapsulation

Encapsulation works by encasing the leaking joint in a mold, filling the mold with a two part polyurethane sealant and pressurizing it to above mains pressure by twisting down the mold neck. This action stops the leak, as gas cannot leak from a low pressure to a higher pressure.



- Medium Pressure fabric molds are made from very high strength, non-stretch fabric.
- They are pressurized by twisting the necks down with an unbreakable fiberglass rod.
- A vent is often installed to remove trapped gas.
- A gauge records sealant pressure to make sure that it overcomes mains pressure, which can be up to 25psi.
- The sealant cures to a tough, flexible synthetic rubber that is permanently adhered to the pipe joint.
- Encapsulated joints are sealed for the lifetime of the pipe. They will never leak again.
- Stock kits are available for most standard joints and couplings.
- Almost any type of joint or fitting can be encapsulated with a custom made special kit.

Re-usable metal molds can be fabricated to encapsulate joints and fittings working at up to 60psi

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PLCS Special Fabric Mold Encapsulation

Gas distribution systems often include special fittings, with widely varying dimensions that were made by local foundries and fabricators. When one of these fittings leak, PLCS will design and manufacture a Special Encapsulation Mold to seal the leak.



- Encapsulation offers the easiest simplest and least expensive method for repairing a special fitting. Often it is the only way. The cost and disruption of a cutout is usually prohibitive.
- PLCS Special Encapsulation Molds can usually be made and shipped within 24 hours.
- They are supplied with constraints to control the shape of the finished encapsulation and place encapsulant where it is required, around the potential leakage points.
- The fitting is completely encapsulated in a tough, flexible synthetic rubber that is permanently adhered to it.
- Specials measurement guides are available from PLCS upon request.
- Fax or phone the measurements to PLCS and we will custom make a Special Mold to fit exactly.

Training: PLCS strongly recommends that customers begin their encapsulation program by sealing low pressure bell joints. only They can then progress to higher pressures, couplings and other joints

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PLCS Metal Mold Encapsulation

To seal leaks at pressures above 25 psi, it is necessary to use a metal mold.



Step 1: PLCS designs these on our CAD system. They are usually custom fabricated from steel in two halves, which are bolted together on the pipe.

Step 2: Pipe is prepared by grit blasting and priming

Step 3: The sealant is mixed and poured into the mold.

Step 4: The mold is capped and then pressurized with bottled nitrogen to above mains pressure. A gauge registers the sealant pressure. The nitrogen pressure is left on for 24-48 hours and then the mold is removed.

The steel mold belongs to the customer and can be reused many times. With a little care it will last many years. The whole operation is very simple and easy to learn by the own employees.

Field technicians are available for on-site instruction and supervision

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PLCS Flex-Kit Keyhole Encapsulation

PLCS Flex-Kit is an encapsulation repair system that utilizes a flexible semi-rigid fabric mold for remote installation through a vacuum excavated keyhole.

For over 15 years the Flex-Kit has proven to be the most efficient and economical combination for the permanent repair of leaking bell joints .



- A proven remote bell joint repair system.
- Disposable structured fabric mold with integral steel fastening system.
- Available for 3" to 12" LP Bell Joint repair.
- Each kit includes an easy to apply primer application system.
- The kit is Installed with economical long-handled tools.
- One-step pressurization cap with its integral piston.
- As a result of the structure of the mold, backfill can be immediate if a little care is taken.

Training: PLCS field technicians are available for on-site instruction and supervision.

Discover PLCS Encapsulation & its Unique Advantages: Other PLCS data sheets cover repairing almost any kind of joint or fitting with encapsulation at pressures up to 60 psig.

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Compression Coupling Encapsulation

Permanently seal leaks on 3/4" to 2" metallic compression type couplings.



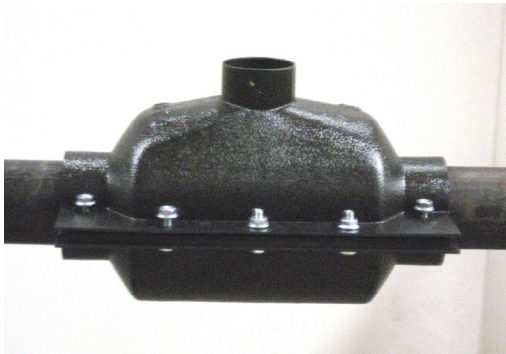
- Thousands have already been installed, saving millions of dollars.
- Simple, safe, permanent and very economical.
- Installed in traditional excavations or keyhole excavations using long-handled tools.
- Avoids costly welded pumpkins.

Sealant passes British Gas LC8 specification and the Cornell University/Wyle Labs tests for the New York Gas Group and backed by PLCS exclusive 10-year warranty.

Simple Installation



- Tighten compression nuts to stop the leak.
- Grit blast and prime repair area.



- Fit mold onto the coupling.
- Mix sealant, pour into the mold and fit cap.
- Can be backfilled immediately.



- Cured repair cross section shown for illustration.

A Metal Mold System is also available. Used in traditional excavations where the leak cannot be stopped and will work against a maximum of 60 psi. in the main.

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Encapsulation Tooling



Portable Grit Blaster

Portable Grit Blaster— PLCS recommends Clemco Model 1042, 1 Cu. ft. Classic Blast Machine System or similar for any Encapsulation leak sealing campaign. See section [Grit Blasting for PLCS Encapsulation](#) for details or call PLCS.



1/2" Air Drill
Part # 49-A3025

High torque low speed (500-600 rpm) 1/2" Air Drill with a planetary gearing system used with a Jiffy Mixer required to properly mix the PLCS Encapsulation sealant.

Common air drills with a single gear drive run at 2000 - 3000 rpm free air speed. These will not have enough power to mix the sealant, especially in cold weather.



Small Jiffy Mixer
(for up to 5 liter mix)
Part # 10-542

The Jiffy Mixer used with the 1/2" Air Drill (49-A3025) is a heavy duty, extremely efficient stainless steel mixer designed to quickly and thoroughly mix PLCS Encapsulation sealant.



Medium Jiffy Mixer
(5 liter mix & larger)
Part # 10-544

The mixer has two sets of specially welded blades. The vertical blades keep the mixing action between them. The horizontal blades move the sealant from the upper and lower areas of the container into the mixer head eliminating unwanted aeration. The leading edge of the lower horizontal blade will scrape the bottom of the mixing container to bring all settled material particles into the mixing head. All result in a thoroughly mixed Encapsulation sealant.



Tie Tool
(for nylon bands)
Part # 10-541

Hand tool used to tighten and to apply the correct torque to the nylon bands included in 3"-8" PLCS Low Pressure Bell Joint Encapsulation Kits. The tool provides a mechanical advantage to secure the nylon ties by squeezing the handles. The heavy duty tool is made from steel with padded foam grip handles to provide comfort and a built in cutter to cut off the excess.



Band-It Tool
(for steel bands)
Part # 10-540

Hand tool used to tighten and to apply the correct torque to the steel bands included in PLCS Encapsulation Kits. The robust dropped forged tool has a corrosion resistant blue epoxy coated finish with a built in cutter and spring loaded gripper lever for easy operation.

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Grit Blasting for Encapsulation

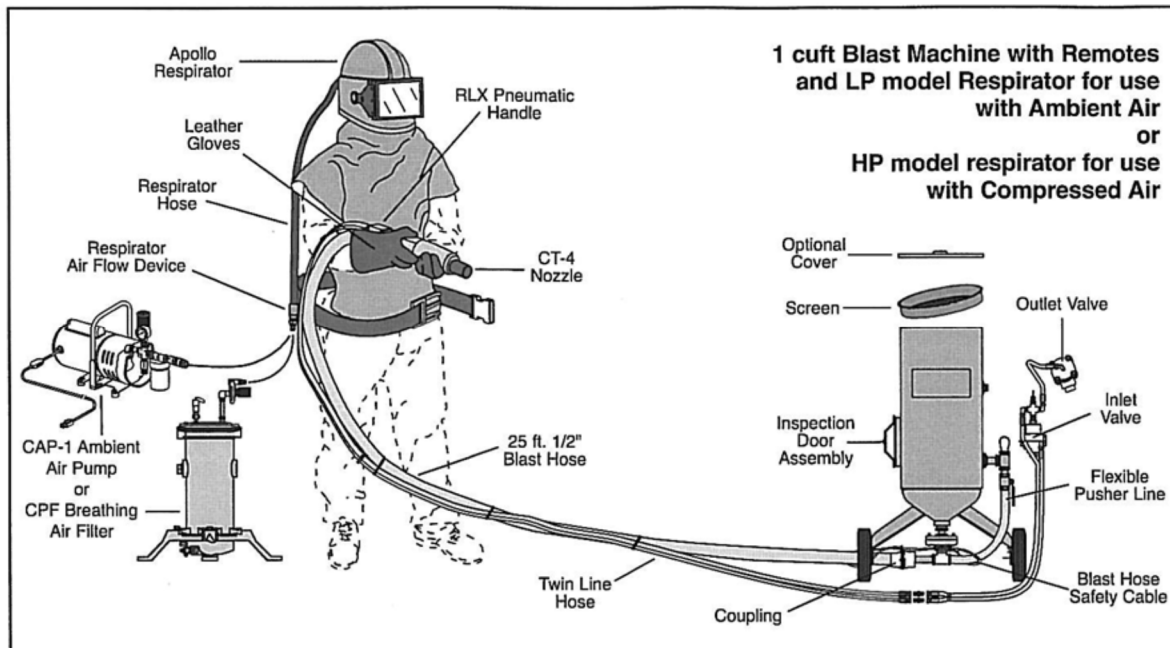


Grit Blasting is often incorrectly called Sand Blasting because people used sand before they found out its limitations and dangers. When a piece of sand hits the metal it pulverizes on contact therefore has very little energy left to actually move the corrosion. It takes much longer to clean the pipe and polishes it rather than leaving the correct surface profile or "key".



Medium size grit is best. PLCS recommends Black Beauty Medium (Coal Slag) by Harsco Minerals www.harsco.com/minerals or EG 14 (Copper Slag) from Opta Minerals www.optaminerals.com or 1240 Medium Grade Patriot Blast (Coal Slag) from Ensio Resources, Inc www.ensioresources.com used with a 1/4" tungsten carbide lined nozzle, such as a Clemco CT-4, for longer life.

Typical Pressure Blast Machine Set Up



Continued on next page.

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Grit Blasting for Encapsulation

Blast Machine



**Clemco Model
1042**

PLCS recommends Clemco Model 1042 (pictured) 1 Cu. ft. Classic Blast Machine System or similar for any Encapsulation leak sealing campaign.

This is a field-portable industrial quality blast machine rated at 125 psi working pressure. The Model 1042 holds 100 lbs of abrasive grit (media) providing about 15 minutes of blasting at 80 psi with a No. 4 (1/4") nozzle.

One-man operated with remote control dead man at the nozzle for safety and efficiency. An optional cool air tube assembly can supply cool air to the helmet to keep the operator cool during hot weather.

It also comes with a state-of-the-art NIOSH-approved respirator, which requires its own air supply. You must use a Breathing Air Filter to supply air from the compressor or an Ambient Air Pump to supply clean, cool, oil-free air to the operator.

IMPORTANT - There must be no oiler on the air line from the compressor. The operator must not be allowed to breathe air contaminated with oil and oil will be deposited on the pipe joint so the sealant will not adhere to it.

Please call PLCS for typical blaster packages and quotes.

Grit Blasting for PLCS Encapsulation: 3 Things to Remember

1. **Correct Pressure and Volume**
2. **The Right Nozzle and Hose**
3. **Use Proper Technique**

1. Correct Pressure and Volume

To clean down to bare metal the grit must hit the surface with sufficient force. The right combination of air pressure, air volume and blast equipment components will quickly remove the scale from the pipe. We recommend 100 psi from a 100+ CFM (cubic feet per minute) compressor.

2. The Right Nozzle and Hose

A 1/4" nozzle used with medium size grit achieves the best result for our purpose. The nozzle restricts the passage of air and grit. The compressed air speeds up as it passes through the nozzle, accelerating the abrasive in the air stream. As the inside of the nozzle wears the mixture slows down and you lose pressure. When the operator notices a loss of production it is time to replace the nozzle.

PLCS recommends a 25' x 1/2" ID blast hose for good results. Using a longer hose and bending or looping it will cause a drop in pressure. Friction against the walls of the blast hose will slow the grit velocity. Try not to use a longer blast hose than is necessary.

3. Use Proper Technique

The media valve at the bottom of the tank determines how much abrasive grit mixes in with the air going to the nozzle. Use far less grit than air, so it feels like 10% grit to 90% air. When first starting to blast, keep the media valve closed and run air only for a few minutes to clear the hose of any residual grit and remove any moisture from the hose. Then open the media valve a little at a time to introduce a small amount of grit into the airstream. The operator will notice when the optimum amount of grit is in the airstream because it is cleaning most efficiently and he can hear a steady abrasive flow. Too little abrasive causes a high-pitched sound and too much an erratic pulsing. Experiment until optimal flow is achieved.

During the blasting operation keep the nozzle about 2 to 3 inches from the pipe surface at a slight angle from straight on. Move the nozzle with a smooth constant stroke. Do not whip the nozzle back and forth, or concentrate in one area, both will result in a lack of productivity.

Always use clean, dry air and grit. At the end of each work day empty the blast hopper and blow out any residual grit from the hose by operating the blaster until only air is exiting the hose. If grit is left in the blaster overnight, humidity will cause the grit to clump together, clogging the nozzle and making it close to impossible to use the next day.

Use a high quality compressor air line water separator to prevent any moisture from entering the blast hose. Moisture impedes the overall blasting operation and discharges water onto the pipe. This will affect the adhesion of the sealant to the pipe and may result in a failed repair.

NEVER use an oiler on the compressor air line. (See IMPORTANT above)

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PLCS Anabond Anaerobic Sealants

PLCS Anabond Anaerobic Sealant produces an excellent quality joint repair without the inconvenience of clamps, grit blasting, repair molds, resin mixing, or even full excavation of the joint.

PLCS Anabond Anaerobic Sealant cost savings are significant and the process could not be simpler. Add vacuum excavation, eliminate the shoring and the cost savings are dramatic.

PLCS offers a great sealing solution in the least time at the lowest cost.



- Four viscosities are used to suit different joint packings.
- The injection gun is sealed to prevent sealant leakage in the unlikely event of a tube burst.
- Tested and approved by Cornell University for the New York Gas Group.
- Designed specifically for keyhole excavations.
- Often requires uncovering the top of the joint only, eliminating shoring on large pipe and deep mains.
- Immediate backfill.
- Environmentally safe.
- Thousands of joints sealed with **PLCS Anaerobics** every year.
- Sold worldwide for more than 20 years.

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In-Weg Seals

The most cost effective permanent repair for large diameter pipes.



In-Weg synthetic rubber seals are installed over the interior of the joint from inside man-entry pipes.

Can be used cast iron, concrete and steel pipes with diameters from 400 mm (16") to 3660 mm (144") these seals permanently eliminate leaks at internal pressures up to 20 bar (300psi.)



Excavations for access are usually 600 meters apart but can be much more, causing little disruption to traffic. Manufactured in the USA, well over 80,000 have been successfully installed worldwide.

In-Weg seals are locked into place by stainless or carbon steel retaining bands, depending on the application. Seals can be used with specially manufactured sleeves to permanently seal cracks, reducers or disused branches.

EPDM synthetic rubber seals are classified by Underwriters Laboratories (UL) to ANSI/NSF standard 61-1991 for use with potable water.

Nitrile synthetic rubber seals are manufactured to BGC/LC6 standard for use on natural gas lines.

ALH System-One Equipment Platform

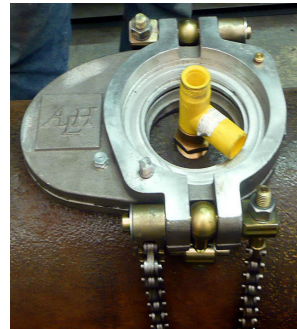
Can the gas distribution tapping machine do all this Gas-Free?*



Cutting
Tapping



Plug
Insertion/Extraction



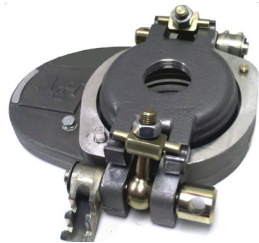
Metallic & PE Tee
Insertion/Extraction



Sight Glass
Inspection



Vulcanized Saddles
Fit CI & Steel mains



Threaded Fitting
Adapter



60 psi rating



High Speed
Taps & Holesaws
3/4"-2 1/2"



By-Pass Assembly and
Bagging Off System for Gas Flow Stopping



Vent & Purge
Adapter



Camera
Entry

**In a controlled gas environment*

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ALH System-One Tapping Equipment

System-One live mains entry system meets stringent Gas-Free* standards, and handles any maintenance operation requiring up to a 2½" tapping.



- ¾ " to 2½" live entry in an extremely compact lightweight package.
- Operates on mains up to 60 psig.
- A realistic alternative to working "open hole."
- Interchangeable components cover multiple applications.
- Operates on cast iron and steel and under development for PE.
- Handles operations ranging from camera entry to under pressure street tee replacement and live internal bell joint repair.
- No throttling procedures required.
- No expensive control fittings to purchase or leak.
- Total safety with sensible economics.

Exclusive Distribution Pressure Design

Driven by the need to protect the environment and the ever present requirement to improve safety standards in the industry, ALH offers an effective new technology already adopted by many US Gas Utilities. System-One is designed for the relatively low pressures used in gas distribution. The equipment is compact and light, the procedures simple and the economics viable. Gas-Free* operations at both Low and Medium Pressure are now a reality, without exposure to the risks associated with open hole work.

An Escape from Escaping Gas

Today, much low and some medium pressure distribution maintenance is still carried out while gas escapes from open holes cut in the pipe. This practice contradicts worldwide trends where increasing the levels of safety and environmental concerns have become important Issues. Acceptance of the status quo is the result of deep-set traditions, created before there was a viable alternative.

* In a controlled gas environment

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ALH System-One Drill Head

The $\frac{3}{4}$ " to $2\frac{1}{2}$ " Drill Head performs all the functions of a conventional drilling and tapping machine while preventing the uncontrolled escape of gas at all times. Two large diameter internal drive bearings ensure unequalled accuracy of tapping for leak free threads.



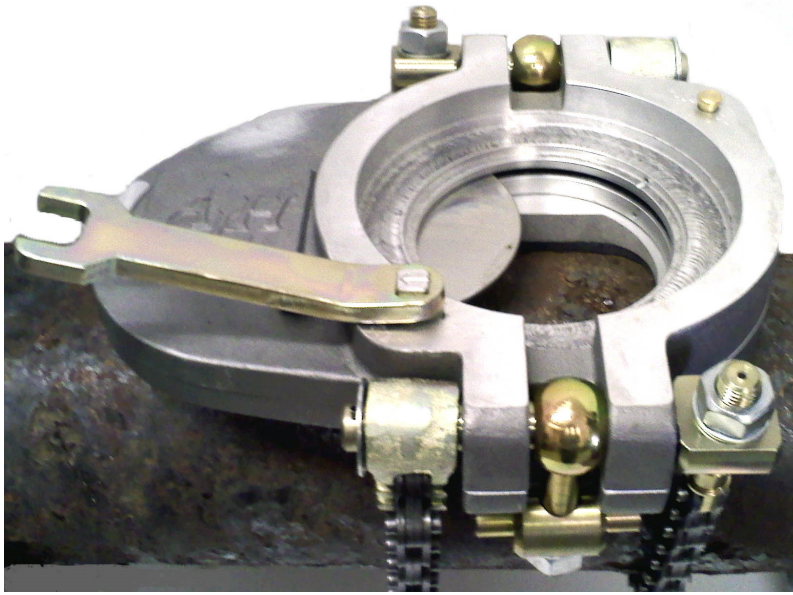
- The Drill Head locks into a recess on the Control Valve ensuring automatic alignment.
- In the raised position, the drill shaft is held in an internal Locksquare to prevent accidental damage to the gate.
- High speed precision holesaws and Skip-tooth taps load together for time saving and accuracy.
- Specially designed ALH taps ensure a high quality thread pattern.
- Stops on the tap head automatically ensures a perfect taper thread is cut without measurement, ensuring a leak free final seal when the plug is installed.
- Although power equipment is available for drilling, tapping loads are still low enough to manually cut $2\frac{1}{2}$ " taper threads.
- A magnetic coupon retention system is standard eliminating dropping the coupon.

The key to a successful mains entry operation is to ensure that the entry tap is true and accurate. The System-One Drill Head locates into a machined cavity on the upper surface of the ALH Control Valve. The valve is positioned precisely on the main with individual polymer faced aluminum saddles for each main diameter. The result is a rock steady drilling platform.

This precision fit allows easy reassembly of the equipment over a fitting for removal or replacement.

ALH System-One Control Valve

The System-One Control Valve acts as a lightweight, stable platform for all other System-One components. Opening and closing the valve gate during the operation of the system ensures control of the gas at all times.



- Each additional system component secures onto the valve platform to allow a different maintenance operation.
- The valve throat is large enough to insert a variety of tees.
- Low profile construction ensures accuracy in tapping and precise positioning for the most sophisticated maintenance operations.
- Fits all sizes of cast iron and steel mains up to 48”.
- Gas-Free* bagging off on all ferrous mains and PE (entry under development)
- New applications are continuously being added.

* In a controlled gas environment

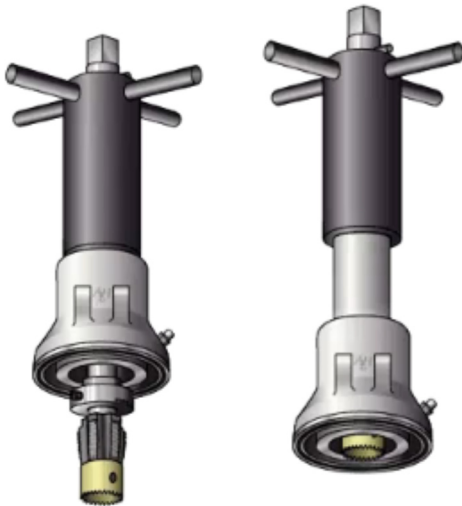
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phone: (856) 722-1333 • fax: (856) 273-9723 • e-mail: info@plcsusa.com • web: www.plcsusa.com

ALH System-One Drills & Taps

System-One offers the first real advance in 50 years of drill and tapping cast iron and steel. The system combines specially designed high speed Machine Steel Taps with a range of Fine Tolerance Holesaws on a single cutting shaft, that does not require a pilot drill. The combination ensures the minimum amount of metal is cut and the speed of the cut is increased dramatically without compromising accuracy.



HOLESAWS

- Holesaws cut cast iron and steel at high speed through to 2½" diameter.
- High level of accuracy while inexpensive to replace.
- Designed for hand or powered operations.
- Magnetic coupon retention system.

TAPS

- No power is required for taps on cast iron or steel to 2½" diameter.
- Skip-tooth design eliminates unreasonable tapping force on larger sizes.
- Tap depth sets automatically.
- Tap follows Holesaw in a single operation.



Hand tapping in cast iron always produces a significantly better thread form, but often results in excessive tapping loads. To solve this, the System-One has specially engineered the larger taps with a Skip-tooth design that reduces the load by half yet is capable of producing an extremely high quality thread form by hand.

- Cheater bars' are never required, even when cutting a 2½" taper with a course 8 threads per inch.
- Taps are loaded onto the drill shaft behind the holesaw cutter so changeover time is eliminated.
- The result is a completed 2½" drill and tap in cast iron in seven minutes or less.

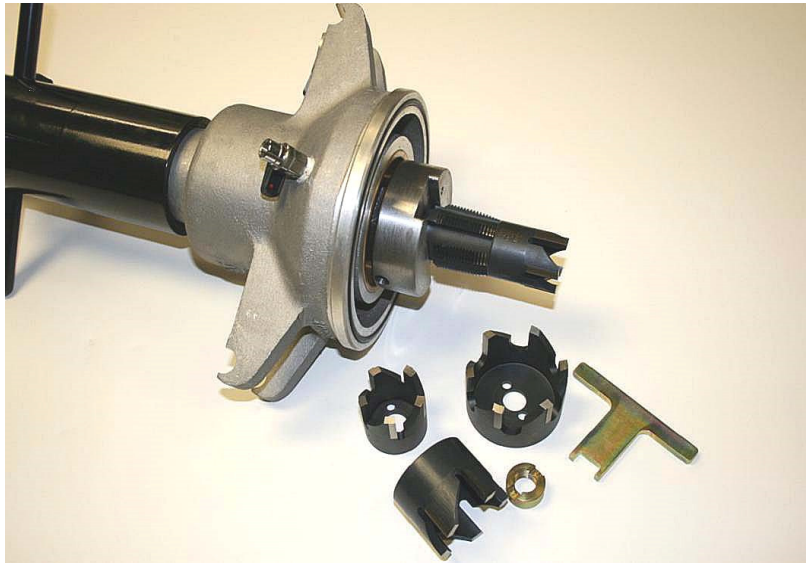
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ALH System-One Cutter for Steel Mains

Extremely durable HSS shell cutter designed specifically for cutting steel mains.



- No pilot drill required.
- Less effort and faster than other style cutters.
- Unique design produces chips not swarf ribbons.
- Cut and tap in one continuous operation.
- Attaches easily to the ALH System-One with one nut.
- Can be re-sharpened.
- Always use Kool-Mist as a heat sink.

Size	Part Number	Description
1"	46-A0304	1" System-One Cutter for Steel Mains
1 1/4"	46-A0305	1 1/4" System-One Cutter for Steel Mains
1 1/2"	46-A0306	1 1/2" System-One Cutter for Steel Mains
2"	46-A0307	2" System-One Cutter for Steel Mains
2 1/2"	46-A0308	2 1/2" System-One Cutter for Steel Mains
	46-0045-0020	Cutter Retaining Nut
	46-0045-0021	Retaining Nut Tightening Tool

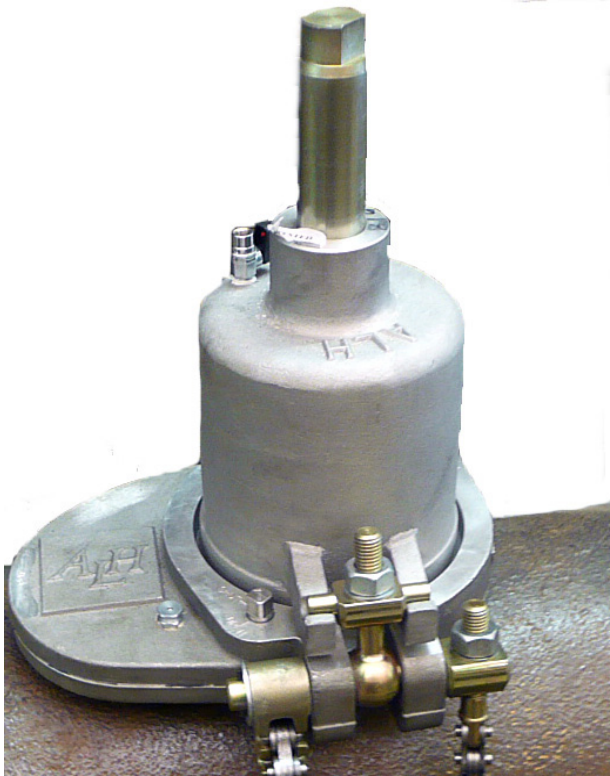
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ALH System-One Fitting Canopy

The System-One Fitting Canopy provides a Universal method of inserting a wide range of mains connectors & pipe fittings into cast iron and steel mains at any pressure up to 60 psig without throttling.



Magnetic Plug Fitting Spindle



Tee Insertion Assembly

- The Canopy permits a universal method of insertion and removal of fittings and plugs, while maintaining strict control of the gas at all times.
- Threaded fittings are placed directly into the main and do not require a full encirclement fitting or any form of saddle.
- Special PE Tapfree™ fittings are available to close openings in thin wall steel and cast iron mains without cutting threads.
- Up to 2½" diameter fittings can be inserted using the System-One. This provides virtually the equivalent to a 3" branch main connection.
- No pressure reduction is required for any insertion application.
- Connections can be made to any diameter cast iron and steel mains.



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ALH System-One Tee Insertion

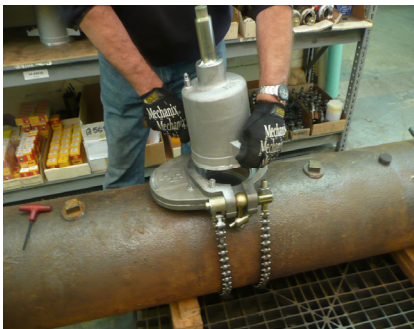
The ALH System-One allows the insertion or removal of up to 2" diameter Street Tees on mains up to 60 psig under Gas-Free* conditions.



Tee Insertion and Completion Plug
Removal tooling shown

- A full range of tees from $\frac{3}{4}$ " to 2" can be inserted or removed.
- Strict tolerances in the manufacture of the machine and a special flexible connector system allow one shot alignment on existing tees for easy removal.
- US manufacturers now make a range of street tees in brass and cast steel that can be fitted using the System-One.
- System-One Tee insertion tooling is in use in a number of major US gas distribution companies.

Simple Operation



* In a controlled gas environment

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Bonded Technology: 3/4" - 2 1/2" tap holes

Save on excavation cost by not digging around the pipe when performing maintenance.



Save Time and Money

- Less labor
- Less excavation

More Safety

- Less chance of 3rd party damage
- Less impact on main support

Enhance Public Relations

- Less CO emission
- Less noise pollution
- Less traffic disruptions

Use on iron and steel mains up to 30psi.

Saddles for 24" - 48" diameter mains.

Works with System-One Machine

Only excavate the crown of the main. A special entry saddle is bonded to a clean square section using a super strong adhesive. Now the main can be drilled and tapped, ready for maintenance operations.



1. Clean work area and apply adhesive.



2. Attach saddle.



3. Begin Maintenance.

Do all this gas-free without chains:

- Drill and Tap
- Insert Plugs and Tees
- Deploy Bags
- Camera entry
- Commission By-Pass

Center access hole uses a standard plug.



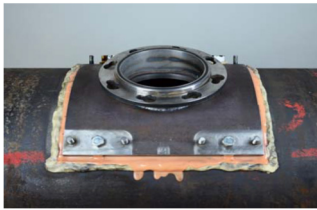
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Bonded Technology: 3" and greater tap holes

Save thousands on excavation cost by securing a special fitting on top of the pipe.



The system works by excavating the top of the main. A special entry saddle is bonded to a clean square section using a super strong adhesive. The saddle is further secured with four bolts. Now the main can be drilled and tapped, ready for maintenance operations.

Key Benefits

- Tremendous excavation and labor savings.
- Only requires the crown of the main to be exposed.
- No chains needed.
- No impact on main support.
- Use on iron and steel mains up to 30psi.
- Saddles for 24" - 48" diameter mains.
- Make 3" and larger tap holes.
- Center access hole uses a standard or PLCS Canopy plug.



Designed to work with the System-Three Tapping Machine and Bag Off equipment.

Easy Installation



1. Clean work area and apply adhesive.



2. Attach saddle.



3. Bolt flange to the pipe and install valve.

The Bond & Bolt mini drill and tap machine uses a 1 1/2" ball valve that features a gas free operation to enhance saddle attachment to the main.



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ALH System-Three Machine (3"- 5" NPT Taps)



ALH System-Three Machine

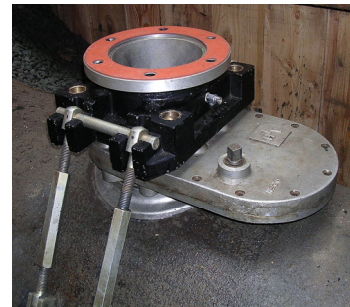
The ALH System-Three machine drills and taps 3", 4" or 5" NPT threads in steel or cast iron gas mains from 12" – 48" diameters at pressures up to 60 psig under Gas-Free* conditions in under 20 minutes, including set up time.

The System-Three platform is also capable of inserting or extracting plugs and deploying gas bags and launching cameras.

The lightweight machine is mostly constructed of modular aluminum components making it easily handled by one person with no lifting equipment, even in the deepest of excavations.



Push Button Operation



Valve Platform



Shell Cutter & Tap



Compact Design



Drill Head Attached to Valve
(Air Motor slides down the guide bars)



Saddle (12"- 48" Main)

**In a controlled gas environment*

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ALH System-Three Machine (3"- 5" NPT Taps)



The System-Three platform attaches directly onto the main using a cast aluminum saddle to match each pipe size. A thick rubber gasket is vulcanized to the saddle. Vulcanization produces an extraordinary bond with a very long service life.

The platform is secured to the main by turnbuckle nuts on the double chain assembly, resulting in a rock steady base. The robust drill head is bolted to the valve platform. The air motor/torque multiplier slides up and down on guide bars that counter the torque from the motor.

The high speed steel shell cutter and NPT tap are mounted together on the keyed drill shaft so cutting and tapping is done consecutively without removing the shaft. The equipment's design ensures perfect drill shaft alignment and a pilot drill is not needed.

The shell cutter removes a coupon from the pipe so it cuts around 70% less metal than a twist drill. This decreases cutting times dramatically. The coupon is held inside the shell cutter and is removed from it prior to its next use. The cutter also has exceptional wear resistance and can be re-sharpened multiple times at low cost. Shavings from the cut are collected by rare-earth magnets inside the shell cutter and do not drop into the pipe.

Air Motor Operation

The air motor/torque multiplier has two speeds and is reversible.

High Speed is used for Cutting and Low Speed for Tapping.

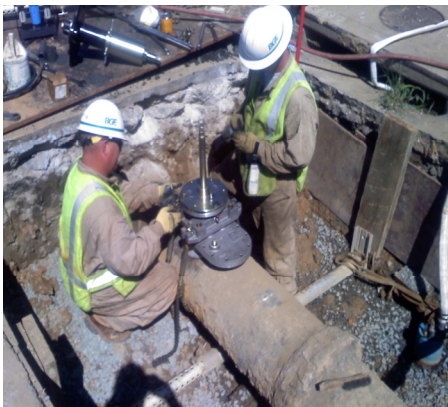
The whole operation is push button and very easy for the operator.

This lightweight, 21st century design produces fast, easy cuts with superior threads over and over again.

A minimum air supply of 40 cfm @ 90 psi is required. (regulated down to 76 psi prior to entering the motor)



Capabilities



Plug Insertion and Extraction



Bagging Off



Camera Launch

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ALH System-Four: Keyhole Tapping



18" Diameter Core Hole



Cut and Tap an 1 1/2" Hole
(Note large obstruction)



Installing a 1 1/2" Low-Profile Plug



Low-Profile Plug Installed

- Quick, Simple & Safe Gas-Free* Operation.
- Lightweight
- Designed for installation and operation from above ground through an 18" diameter hole
- Cuts and taps up to 2" NPT holes
- Above ground installation of low pressure gas bags
- Above ground installation of camera
- Interchangeable saddles and "G" frames available for 4", 6", 8", 10" and 12" mains
- Low profiled completion plugs available
- Entry systems for polyethylene mains are available

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Low-Profile Canopy Plugs

For Everyday use, High Risk Areas, & Replacing Stubborn Leaking Malleable Plugs



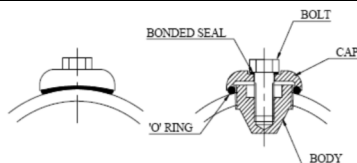
Low-Profile Canopy Plugs are made in response to industry concerns with potential third party damage caused by a mechanical excavator (backhoe).

This plug has a low-profile body, a fitted cap contoured to fit a range of pipes and Gas-Free* installation when used with an ALH Tapping Machine.

There are three sealing mechanisms:

1. Machined NPT threads to ANSI standards.
2. An "O" ring between the cap and the pipe.
3. A rubber seal bonded to zinc plated steel is positioned under the head of the bolt.

Available Sizes			
46-A0163	1 ¼" Plug/Cap to fit 4" Cast Pipe Profile	46-A0110	2" Plug/Cap to fit 8"-12" Cast Pipe Profile
46-A0164	1 ¼" Plug/Cap to fit 6" Cast Pipe Profile	46-A0157	2 ½" Plug/Cap to fit 10"-16" Cast Pipe Profile
46-A0165	1 ¼" Plug/Cap to fit 8"-12" Cast Pipe Profile	46-A0113	3" Plug/Cap to fit 16"-20" Cast Pipe Profile
46-A0158	1 ½" Plug/Cap to fit 4" Cast Pipe Profile	46-A0116	4" Plug/Cap to fit 20"-24" Cast Pipe Profile
46-A0159	1 ½" Plug/Cap to fit 6" Cast Pipe Profile	46-A0120	4" Plug/Cap to fit 30"-42" Cast Pipe Profile
46-A0160	1 ½" Plug/Cap to fit 8"-12" Cast Pipe Profile	46-A0122	5" Plug/Cap to fit 20"-24" Cast Pipe Profile
		46-A0124	5" Plug/Cap to fit 30"-48" Cast Pipe Profile



- **Bolt:** Custom machined from hex-steel bar to BS970-08M40 specification. The shank is machined to close tolerance maximizing the effectiveness of the bonded seal.
- **Bonded Seal:** Rubber seal bonded to zinc plated steel outer ring. Non-crushable,
- **O-ring Sealing:** BS2751-BA60 certified Nitrile O-ring. Plating Std. Zinc plated to BS1706 Zn3 standards
- **Plug Body:** Machined from BS940-230M07 specification steel. Provides an exceptional surface finish to produce a clean thread cut.
- **Plug Body Threads:** NPT tapered threads to American National Standards Institute (ANSI) standardization.
- **Plug Cap:** Contoured cap machined from BS940-230M07 specification steel.

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Thread-Seal

Seals any leaking thread.

When pipe dope or PTFE doesn't stop the leak, use ThreadSeal.

Today, fittings are purchased all over the world, some with imprecise thread quality.

Don't let spiral leaks ruin your projects. Have ThreadSeal in your toolbox to stop leaks on stubborn threaded connections. Supplied with handy telescopic plastic container.

- Better than pipe dope or PTFE tape
- Works every time
- Great for high risk areas
- Stops leaks on stubborn malleable plugs
- Non-Hazardous
- Simple to use
- Non-setting



Use: Roll a small length of ThreadSeal into a worm and push it uniformly into the threads. Make sure the crest of the thread is visible.



#10-A1910-1 - Telescopic Storage Tube | Stick: 1.75"L x 1.75"W x 4"H | Net Wt. 0.75 lbs.



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PLCS Drilling and Cutting Compound

High tech environmentally friendly formula makes drilling and cutting easy.

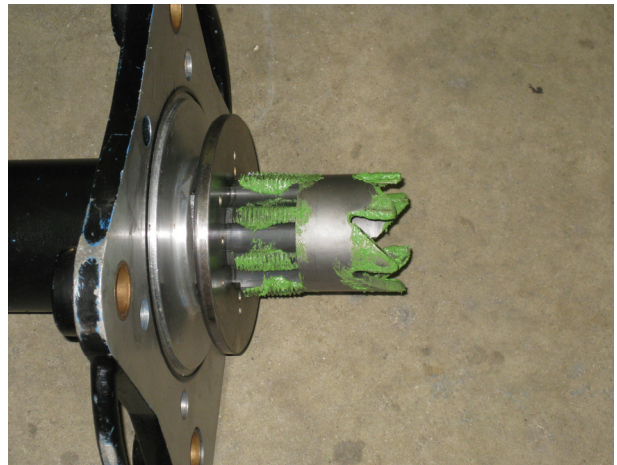


Green colored cutting compound containing a colloid, melts slowly as frictional heat is generated to maintain efficient lubrication when tapping and cutting.

- Other compounds melt too fast, providing little or no lubrication.
- Prolongs tool life.
- Does not corrode steel or affect aluminum.
- Easy to apply.
- Store in toolbox with no mess.



Apply to drill bits for faster and cleaner cuts.



Apply to tap and shell cutter for perfect threads.

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Kool Mist

Environment friendly cooling solution for drilling and tapping steel mains.



All metal cutting and drilling applications generate heat due to metal deformation and chip friction.

Kool Mist's cooling action removes the destructive heat, extending tool life.

Drills and saws hold their cutting edges as chips move freely out of the way allowing for better tapped holes and cuts on steel mains.

Safe for People, Machines and Parts

- Contains no halogens or sulfides.
- Does not cause rust or stains even when diluted 32:1 with water.
- Biodegradeable

A little does a lot.

- Supplied in 1 Gallon Concentrate
- Makes up to 33 Gallons
- Mix Ratio 32:1 with water

Excellent for every pipeline operation:

- Drilling
- Tapping
- Cutting

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Flowstop Bags

PLCS Flowstop Bags are designed with the bladder held inside a thin yet strong synthetic fabric. This thin wall construction permits mains entry through a smaller tap hole than competitive brands.



- **PLCS Flowstop Bags** are barrel shaped to increase load on the pipe wall to retain position and increase the surface seal area to minimize gas bypass.
- Bags are clamped to a semi-rigid inflation core to control entry direction and prevent reversal in the main.
- Double end retention prevents bag loss during a sudden deflation.
- Standard sizes are available for all cast iron and steel mains from 2"- 48".
- Special sizes are available for PE plastic pipe.
- Bags are rated at 1¼ psi for mains up to 12".





In an "open-hole" Double Block and Bleed shutdown, PLCS Flowstop Bags are recommended for use in pairs at each end of the shutdown. It is also possible to substitute one PLCS Flowstop Bag with a PLCS Sensor Bag (see separate literature) at each end and be able to continuously record the upstream and downstream pressure during the shutdown.

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Flowstop Bag Parts List

PLCS Flowstop Gas Bag Parts List					
Gas Main Shut Down					
Main Size	Flowstop Bag Part #	Flowstop Bag Only			
2"	47-A0120 (C) or (F)				
3"	47-A0121 (C) or (F)				
4"	47-A0122 (C) or (F)				
*5"	47-A0123 (C) or (F)				
6"	47-A0124 (C) or (F)				
*7"	47-A0125 (C) or (F)				
8"	47-A0126 (C) or (F)				
*9"	47-A0127 (C) or (F)				
10"	47-A0128 (C) or (F)				
*11"	47-A0128A (C) or (F)				
12"	47-A0129 (C) or (F)				
*15"	47-B0129 (C) or (F)				
16"	47-B0130 (C) or (F)				
*18"	47-A0184(C) or (F)				
20"	47-B0131 (C) or (F)				
*24"	47-B0132 (C) or (F)				
*26"	47-B0135 (C) or (F)				
*30"	47-B0133 (C) or (F)				
*36"	47-B0134 (C) or (F)				
<ul style="list-style-type: none">To order replacement Bag Only request part number only without the letter (C), or (F).To order complete bag assembly with brass stem include (C) to the part number.To order complete bag assembly with a flexible hose instead of the brass stem add (F) to the part number.NOTE – the flexible hose option is not available with a rubber bung.Complete includes brass insertion tube, inflation & deflation valve, bag inflation gauge with protective cover and rubber bung ("C" option ONLY).*Special order only, non-stock item.					

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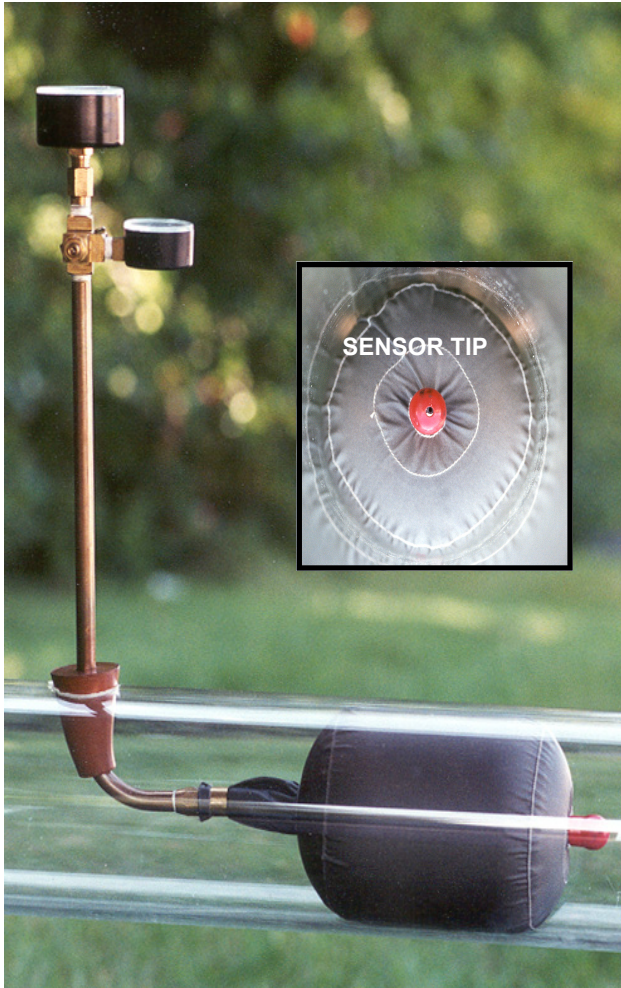
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Sensor Bags

PLCS Sensor Bags continuously monitor pressure in the main during shutdown, without the need for an additional tap.

The bladder like the Flowstop Bag is held inside a synthetic fabric permitting mains entry through a significantly smaller tap hole than any competitive product.



- Gauges record the internal bag pressure and continuously record the upstream pressure in the main throughout a shutdown operation
- The bags are barrel shaped to increase load on the pipe wall to retain position and at the same time increase the surface seal area to minimize gas bypass
- Sensor Bags are clamped to a semi-rigid inflation core to control entry direction and prevent reversal in the main or bag loss during sudden deflation
- Standard sizes are available for all cast iron and steel mains from 2"-48"
- Special sizes for PE plastic pipe
- Rated at 1¼ psi for mains up to 12"
- Available with rigid inflation control tee and rubber entry stopper

In an "open-hole" Double Block and Bleed shutdown, Sensor Bags are recommended for use in pairs at each end of the shutdown. By using 2 Sensor Bags not only is the internal bag pressure recorded, but it is possible to confirm a zero pressure zone between the bags as well as separately monitor the upstream and downstream mains pressures.




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Sensor Bag Parts List

PLCS Sensor Gas Bag Parts List			
Gas Main Pressure Reading and Shutdown from One Hole.			
Main Size	Sensor Bag PLCS Part #	Sensor Bag Only	
			<div>Complete Assembly with Rigid Tube (C)</div> <div>Includes Brass Sweep, 0-15 psi Inflation Gauge, Mini Ball Valve, Bung, Sniffer Connector, Schrader Valve</div> <div>Does not come with LP Gauge. Must order separately (Part # 10-715).</div>
2"	47-A0682 (C) or (F)		<div>Complete Assembly with Flexible Tube (F)</div> <div>Includes Flexible Hose, 0-15 psi Inflation Gauge, Mini Ball Valve, Sniffer Connection, Schrader Valve</div> <div>Does not come with LP Gauge. Must order separately (Part # 10-715).</div>
3"	47-A0683 (C) or (F)		
4"	47-A0684 (C) or (F)		
6"	47-A0685 (C) or (F)		
8"	47-A0686 (C) or (F)		
10"	47-A0687 (C) or (F)		
12"	47-A0688 (C) or (F)		
16"	47-A0689 (C) or (F)		
20"	47-A0691 (C) or (F)		
24"	47-A0693 (C) or (F)		
30"	47-A0696 (C) or (F)		
*36"	47-A0698 (C) or (F)		
<div>WIKA Low-Pressure Main Monitoring Gauge</div> <div>0"-30"</div> <div>1/4" MNPT</div> <div>Center Backed</div>		<div>Part#: 10-715</div> <div></div>	
<div><ul style="list-style-type: none">• <i>A suitable low-pressure gauge or manometer must be installed for the bag system to operate as designed.</i>• To order replacement Bag Only request part number only without the letter (C) or (F).• To order complete bag assembly with brass stem include (C) to the part number.• To order complete bag assembly with a flexible hose instead of the brass stem add (F) to the part number.• NOTE – the flexible hose option is not available with a rubber bung.• Complete includes brass insertion tube, inflation & deflation valve, bag inflation gauge with protective cover and rubber bung ("C" option ONLY).• Special order only, non -stock item.</div>			

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Gas-Free* ALH System-One PSI Bagging Off



*Inflated Bag
(Front View)*



*Bag Delivery /Support Tube
(Rear View)*

**By-Pass Assembly and
Bagging Off System for Gas Flow Stopping Shown**

- Bagging off safely and simply in a Gas-Free* atmosphere.
- Lightweight cast aluminum/zinc plated construction.
- Sectional Vent/Purge Pipe complete with Flame Arrestor
- Continuous monitoring of mains pressure during stop off procedure.
- Cylindrical bags provide improved stop offs.
- Positive placement bag insertion tubes.
- Regulated bag inflation.
- Simple, effective bag deflation tooling.
- Quick connects for easier operation.



Simple Double Block and Bleed
Operation



Two-Position Assembly

PLCS, LLC

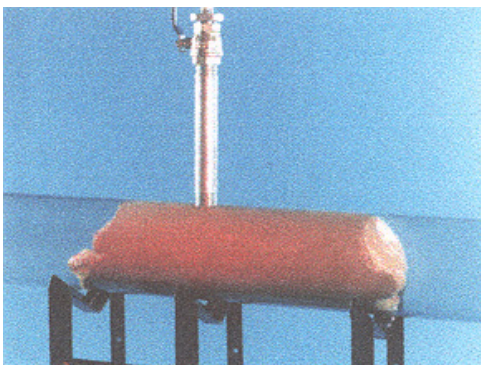
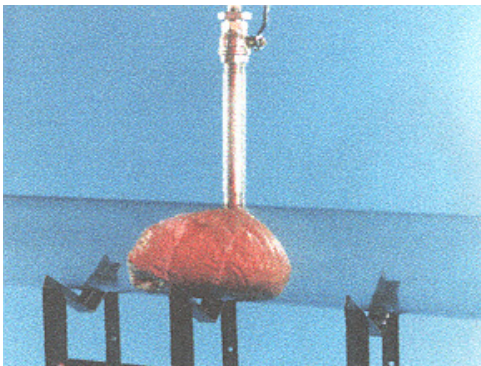
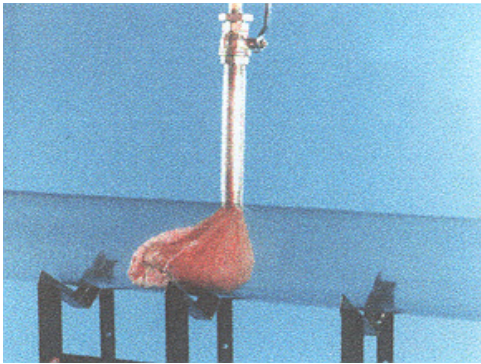
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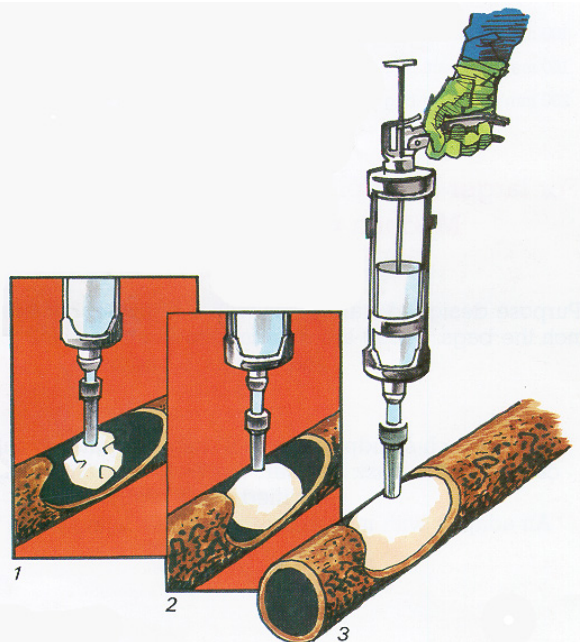
Low Pressure (LP) Foambag Stop-Off

Foambag offers a fast, efficient method of shutting down distribution mains for a wide range of maintenance applications and mains abandonment projects. Foambag is more than a foam, it is a shutdown system that is purpose built for natural gas industry

In its standard form, Foambag shutdowns are achieved by introducing a special fabric bag into a main, either using a standard open-hole technique, or using an ALH Gas-Free* tapping system. Foam is mixed in a plastic container, poured into a special timed release cartridge gun and pumped into the Foambag. The foam swells to fill the bag and then oozes out through the special semi-porous surfaces of the bag to roll any fluids, including water, out of the way. It then combines with any loose debris and bonds to the pipe walls. This produces a 100% shutdown in a predetermined short length of main in less than 30 minutes.



- Foambag uses dramatically different foam from any previously supplied to the gas industry.
- The system facilitates mains shutdowns when used in combination with PLCS Stop-Off Bags.
- Foambag provides sectioning for dead insertion during upgrade projects.
- Foams offer control of PCBs in abandoned mains.
- Close tolerance branch main abandonment shutdowns.



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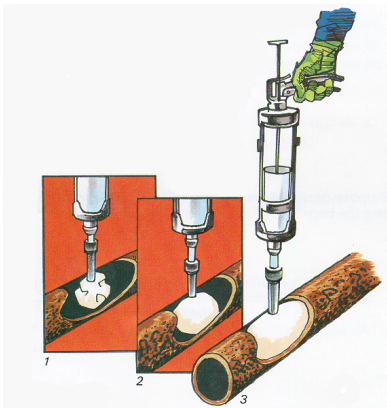
Dead Main Foambag Stop-Off

The Dead Main Foambag Stop-Off System offers a fast, efficient method of sealing off areas of dead mains to prevent dangerous gas tracking.

The Foambag seals the empty space inside the main by introducing a special fabric bag into a main. Foam is mixed in a plastic container, poured into a cartridge gun and pumped into the Foambag. The foam swells to fill the bag and then oozes out through the semi-porous surfaces of the bag to roll any fluids, including water, out of the way. It then combines with any loose debris and bonds to the pipe walls. This produces a 100% seal in a predetermined short length of main in less than 30-60 minutes.



- Foams offer control of PCBs and gas tracking in abandoned mains.
- Low cost, safe and easy to use.
- Kits available for diameters 2"-12" (Larger kits are special order)
- Ideal where space is limited– needs less pipe length exposed than conventional methods.
- Suitable for nonstandard sizes, tapers, bends and vertical pipe work.



Simple
Operation



Cross Section of
Cured Foam Bag



Complete Kit
Shown

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PLCS Mains Water Remover

The Mains Water Remover system enables mains (and drip pots) that have been contaminated by water to be quickly cleared by the use of a simple lightweight hand held venturi 'gun', powered by an on-site compressor, or bottled nitrogen.



- Simple proven technique
- Lightweight and easily mobilized
- Fast and efficient with a flow rate of up to 9 gallons per minute
- Lifts water from depths up to 10 ft.
- In-line check valve prevents inadvertent passing of air into main
- Safe venting to air via vent stack and flame trap
- No-blow connection to mains and drip pots

The Gas-Vac Water Remover Gun, is supplied with an in-line one way valve and a vent stack (which vents to the atmosphere via a flame trap) It is connected to the outlet of the 25 gallon water collection container. The inlet of the water container is connected to the main or drip pot to be dewatered using a clear flexible hose which terminates in an adapter.

When the trigger on the Gas-Vac gun is activated, a vacuum is created within the plastic container, and the water from the main, or drip pot, is drawn into the container. The container, which is negative pressure resistant, is constructed from opaque white plastic, which enables the operator to see the amount of water extracted.

For direct connection to a drip pot, the Gas-Vac attaches to an in-line ball valve, which ensures the flow of gas can be controlled after the drip pot is emptied. In the case of drip pots with corroded dip-pipes, a length of nylon tube is supplied with fittings that enable a no-blow insertion into the existing dip pipe. This nylon tube enables the operator to reach water at the bottom of corroded dip pipes, which would otherwise remain in place.

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PLCS Service Water Remover

The Service Water Remover System easily removes trapped water from a gas service line in seconds.



1. Connect to the meter valve, via an in-line check valve and sight glass.
2. Connect the venture gun to the on-site compressor.
3. Pull the trigger and in a few seconds all the water is pulled from the service line into the collection container.
4. The container is placed outside and vents to atmosphere during the operation via flame traps.

- **Simple, effective, lightweight and robust**
- **Works on services up to 1½” diameter**
- **Safe collection/transportation of contaminants**
- **Quick release fittings ease assembly and storage**

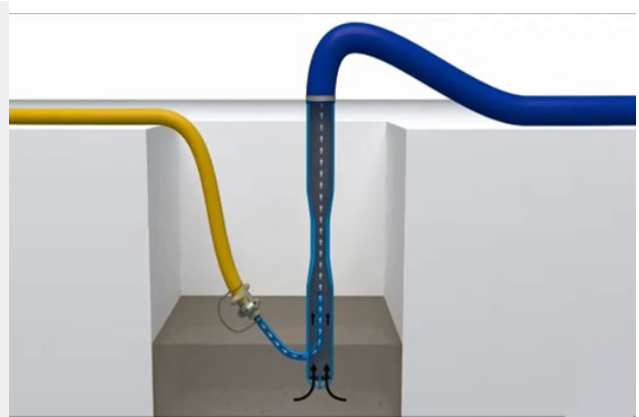
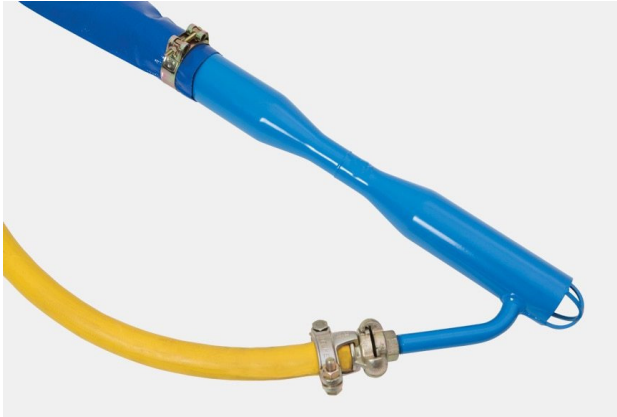
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Venturi Water Pump

A rugged, simple and lightweight air operated pump that requires no priming and is capable of moving close to 1,300 gallons of water per hour. The straight through design eliminates clogging and the unit cannot seize.



- Extremely compact, low cost, lightweight downhole pump
- Pumps slurry, mud and small stones without effort
- Allows every crew and supervisor to have a pump in the truck
- Venturi type pump with no moving parts
- Supplied with 20 ft. of lay flat discharge hose
- Sufficient power to pump water 15 ft.



Pump Specifications:

Diameter	2-1/2"
Length	24" Long
Weight	3.8 lbs

Lay-Flat Discharge Hose:

Diameter	2-1/2"
Length	20' Long
Weight	5.8 lbs

Requires 80 cfm at 100 psi compressed air at the nozzle

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Safe-T-Stopper

Advanced Control-Gas tooling technology for service-tee renewal and abandonment.



10 to 15 minute operation without the release of gas

The **Safe-T-Stopper** is specifically designed to allow for open gut, pipe tees, street tees and No Blow service tee stopping or tee removal without hazardous release of natural gas.

Simply mount the tool over the tee, remove the cap or plug and set the expandable plug below the branch. Gas to the service line is now stopped and renewal connections can be made. Use the same procedure to perform service cutoffs.

The Safe-T-Stopper attaches to:

- All Style Tees (pictured)
- 3/4" to 2" homemade open gut service tee connections
- 3/4", 1" & 1 1/4" Mueller No Blow service tee connections with or without brass completion plug
- 3/4" to 2" street tees threaded into a welded coupling.

Save Money

- No *Personal Protective Equipment (PPE)* needed
- Reduced excavation
- Reduced labor cost
- Reduced permitting
- Minimal training

Worker Safety

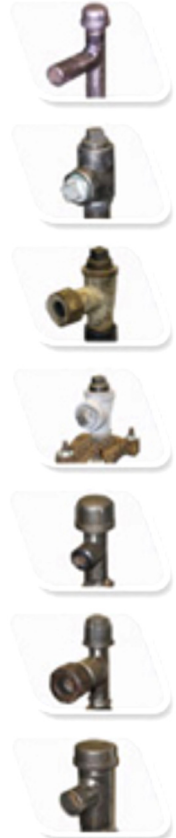
- Closed tooling system eliminates exposure to gas
- Lightweight, durable and safe

Ease of Use

- One worker operation
- Remove or replace service tees in minutes
- Only one 9/16" wrench required



Tool Box
(3000BV shown)



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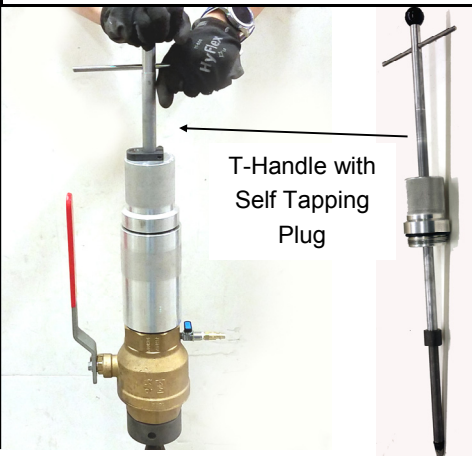

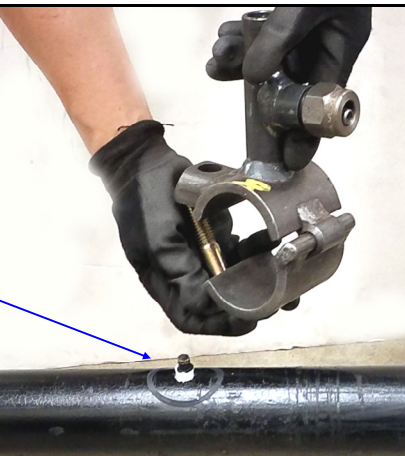
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1/2"-1" Clamp-On Saddle Punch Tee Abandonment

Gas-Free removal of old leaking clamp on saddle punch tee services, up to 80 psig.



- Simple
- Safe
- Fast
- Use on tees with caps or internal hex plugs.
- No blowing Gas
- Lightweight
- Compact
- Customize kit to the requirements.

Operation		
		
1. Remove Cap.	2. Fit Adapter.	3. Remove Punch
	<p><u>Self Tapping Plugs</u></p> 	
4. Insert Self Tapping Plug	Gas Flow is Stopped	5. Remove Tee

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Safe-T-L-Stopper - Service Elbow Removal Tool

Gas-free removal of 3/4"-1 1/4" elbow services operating up to 60 psi



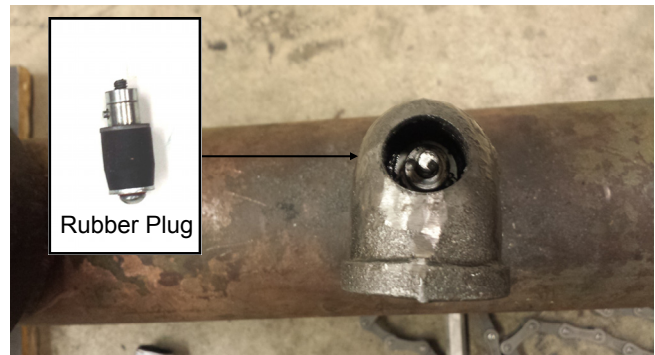
- Removes troublesome elbow swing services within 30 minutes.
- Simple clamp-on assembly.
- No blowing gas, keeping workers safe.
- No need for expensive by-pass operations.
- Compact, only need a standard excavation.

Simple Operation

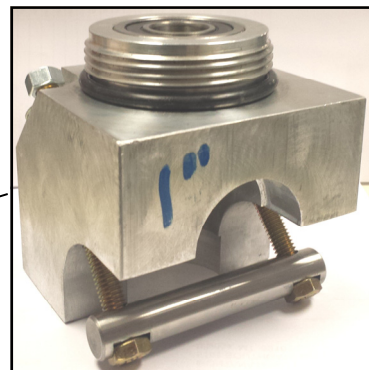
1. Drill through the backside of the elbow.
2. Insert rubber stopper into nipple or elbow to stop the flow of gas.
3. Abandon service.



Tool Assembled on Elbow



Top view: Hole drilled and rubber plug inserted to stop the flow of gas. Fittings can be removed to complete abandonment.



Clamp-on housing provides seal & rock steady base.

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Gas-Free Basement Tee Replacement Tool

Replace or abandon inside 3/4"-1 1/2" low pressure service tees and fittings without blowing gas or outside excavations.



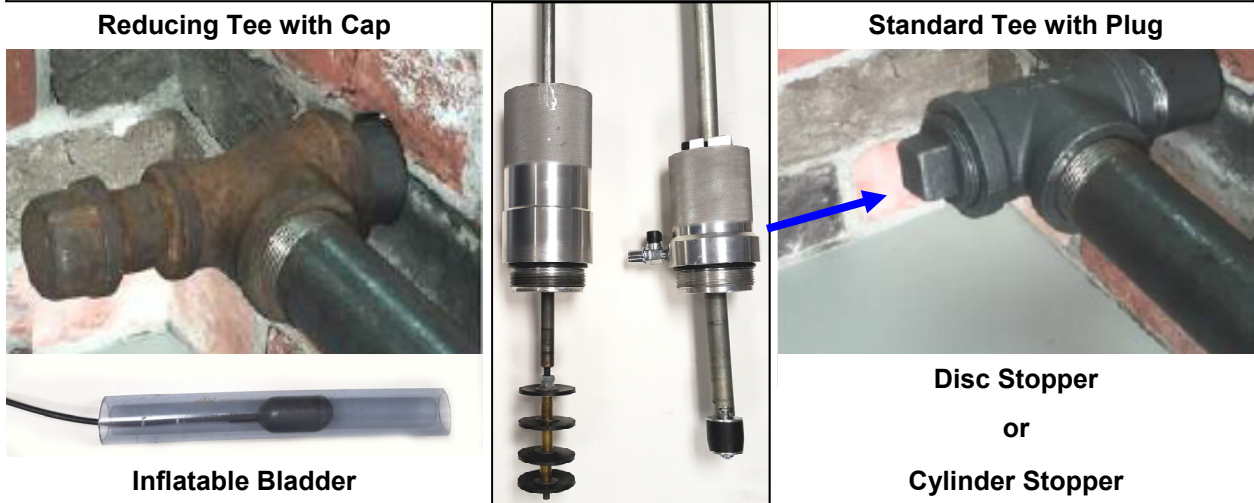
- *Safe and Gas-Free*
- *Use on equal or reducing tees*
- *Sturdy lightweight construction*
- *Fast and easy to install in tight places*
- *Simple clamp -on assembly*
- *Only one 9/16" wrench needed*
- *Minimal training*

The tool seals on the tee. The cap or plug is removed. A stopper is inserted into the service pipe, stopping the flow of gas. Fittings are renewed, stopper is retrieved and the service is back online.

Gas-Free Modular System



Versatile: Choice of 3 Stopper Types Depending on Fitting



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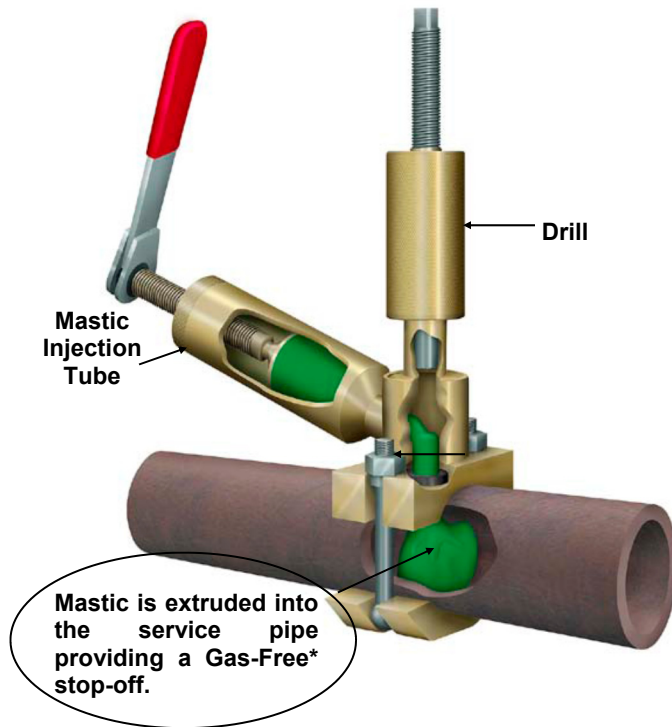
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PLCS Service Terminator

The new, safe and effective method of terminating metal services without requiring a personal air supply.

A small hole is drilled Gas-Free* into the service. A special one part non-hazardous mastic is then injected into the service providing a temporary stopper. The pipe can now be cut and capped without the release of gas.



- *For open gut 3/4"- 2" services at up to 10 psi*
- *Cut off services in minutes*
- *Simple to install clamp-on assembly*
- *One worker operation*
- *Lightweight and durable*
- *Reduced labor cost*
- *Fast, Safe, Simple and Inexpensive*

Operation Shown on a 1" Service



- Clean a small section of pipe
- Clamp the Service Terminator onto the pipe



- Drill into the service
- Inject mastic slug to stop-off service



- Remove Service Terminator
- Cut service through center of injection hole with a hacksaw
- Install a mechanical cap on the service

**In a controlled gas environment*

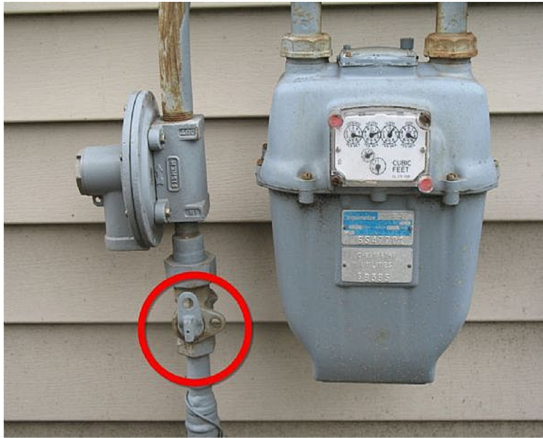
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Meter Valve Changer

Gas-Free* removal and replacement of most 1/2", 3/4", 1" and 1 1/4" rectangular port or ball meter valves threaded onto a steel riser operating up to 100 psig.



- Enhances public and worker safety. No blowing gas.
- Fast and easy valve change out. Customers can be back online in little time!
- Saves the cost of entire service renewal. No need to excavate for a simple leaking meter valve.

Standard Operation

1.

Remove piping and check valve passage with sight glass.

2.

Attach Valve Changer and insert stopper below valve.

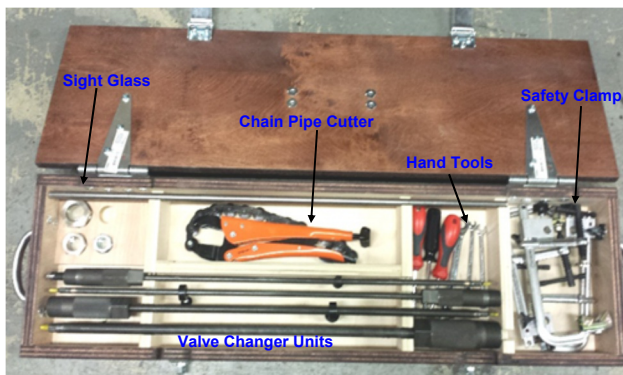
3.

Remove old valve.

4.

Fit new valve.

Optional Operation: Rotten threads are no problem. Cut off old threads and re-thread riser without blowing gas (shown below).



Enhanced Tool Kit Shown

Chain Pipe Cutter for tight spaces.

Cut off old threads.

Re-thread riser.

**In a controlled gas environment*

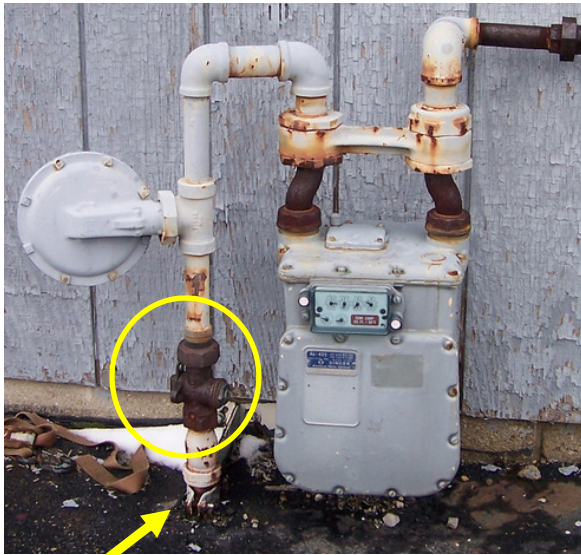
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Valve Changer for PE Inserted Riser

Gas-Free replacement of leaking 1/2" and 3/4" meter valves on inserted 1/2" PE transition risers operating at a maximum of 100 psi.



Attach tool and stopper
gas below valve.



Remove old valve and
replace with new.



The miniature stopper fits into the small port opening within the service head adapter or riser pipe to create the seal.

Multiple sizes available to handle different manufacturers



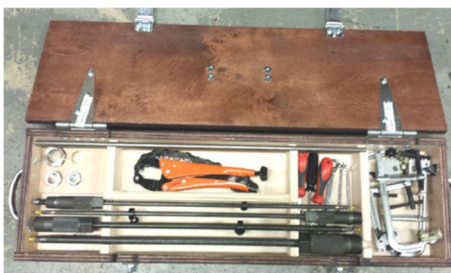
0.335" Rubber Expansion Stopper



0.250" Stepped O-Ring Stopper



0.300" Straight O-Ring Stopper



Add these to any Valve Changer tool kit.

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Gas Meter Bypass Kit (Hot Tanking)



A compact, lightweight system designed for short duration meter maintenance and repair.

Provides a non-interrupted supply of natural gas to the building during fitting renewal or meter change out procedures.



- Customer stays on while work is complete.
- Easy to use, little training needed.
- Compatible with Grunsky Bag by-pass system or as a direct replacement.
- Works on bypass meter bars and other bypass methods.
- Advanced regulator in system incorporates integral pressure relief valve for added safety.
- Carrying box designed for use with accessory folding cart for easy transport to and from meter.
- Tubular steel construction for light weight and strength.
- System protects gauges and components from damage while remaining visible to operator.
- Powder coated OSHA Safety Orange for high visibility.

3 Bypass Kit Models



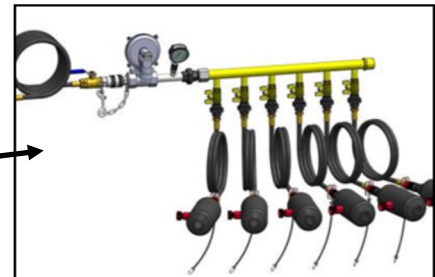
3/4\"-2\" meter bypass bags for serviceable tees.

Adapter kit for meter bar (i.e Mueller, AY McDonald, Jomar).

Adaptable up to 2 psi systems.



Handles multiple meter sets using optional manifold attachment.



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Gas-Free System-One Street Tee Removal

Designed for use with the ALH System-One equipment platform to safely replace or remove 3/4"-1 1/2" open gut street tees threaded directly into 3"-48" mains up to 30 psi without blowing gas.



- Keep workers safe.
- No Personal Protective Equipment (PPE) needed.
- Shut down street tee services without expensive line stop fittings and large excavations.
- Minimal training.
- Closed tooling system eliminates exposure to gas.
- Lightweight and durable.

Easy to Use



Loosen plug.



Equipment creates a seal on top of the tee.



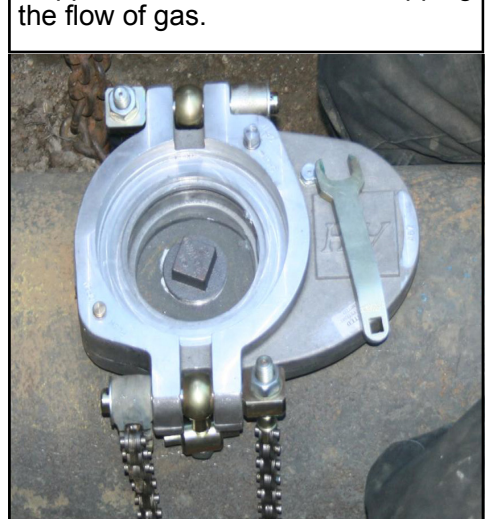
Plug removed. A special rubber stopper inserts into the tee stopping the flow of gas.



Seal is locked into place. Branch is cut.



Tee removed from the main.



Install new tee or plug.

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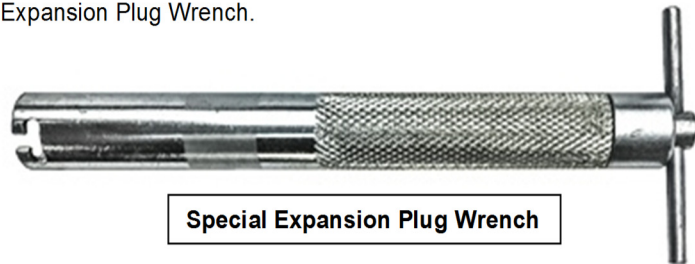
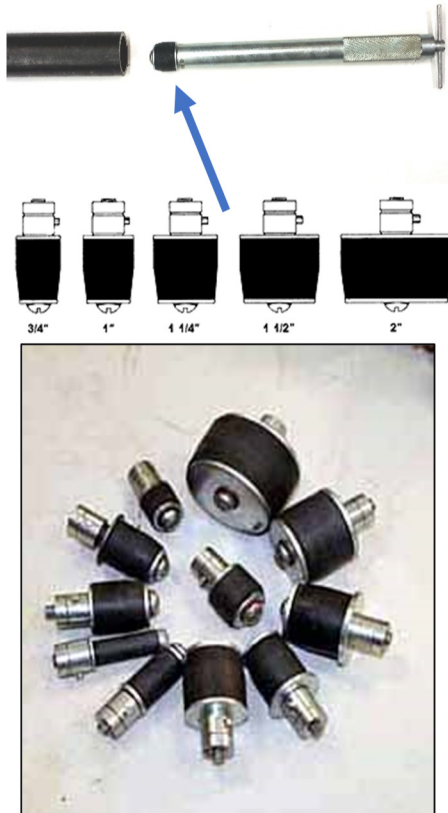
Rubber Detachable Expansion Plugs

Specially designed to temporarily seal and stop off metallic or PE pipe remotely for fitting renewal or service line maintenance.

Reusable, rugged, and lightweight made from Nitrile rubber and plated steel available in 1/2"-2" sizes.

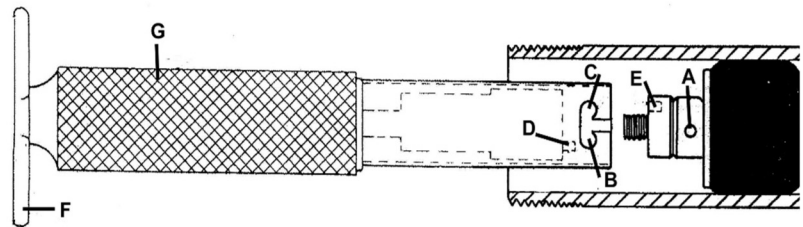
Also used as a tamper resistant night cap to prevent unwanted material such as dirt, water, debris, animals, etc. from entering open ended pipes. This is critically important when protecting your expensive pipeline projects.

These pipe plugs are composed of two steel washers, which are compressed together by tightening the central bolt using the Special Expansion Plug Wrench.



Special Expansion Plug Wrench

As the washers are compressed together, the rubber expands, ensuring a tight fit inside the diameter of the pipe. These detachable plugs offer a gas tight seal making it easy to change out a valve or fitting.



Bayonet Mount
Pin must engage the off-set slot.



Plug Installation

1. Fit the plug into the end of the wrench and turn pin "A" into slot "B".
2. Turn the wrench handle "F" clockwise with one hand while holding the wrench at "G" with the other until pin "D" on the wrench drops into hole "E".
3. Insert the plug into the fitting or pipe.
4. Hold the wrench at "G" and turn handle "F" clockwise to expand the plug.
5. To remove the wrench push in slightly and turn clockwise to remove pin "A" out of slot "B" to disengage the plug.

Plug Removal

1. Fit slot over pin "A" and turn wrench clockwise to engage pin "A" into slot at "C".
2. Hold the wrench at "G" with one hand and turn the wrench handle "F" counter clockwise to release the plug.
3. Remove the plug with the wrench.

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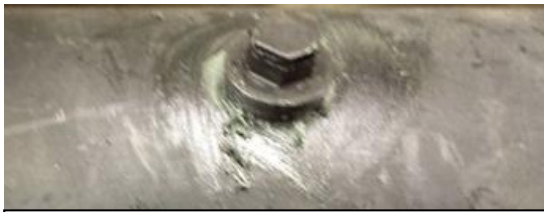
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Self Tapping Plugs

Tighten into a drilled hole in steel pipe to create a seal without shut down.

- No tapping required. Plugs cut their own threads.
- Gas-Free service renewals or abandonments used with the Safe-T-Stopper equipment.
- Hex head for easy tightening.
- Available in many sizes and lengths.



Tightened into pipe, stopping the flow of gas



Can be made with low profile in the pipe.



Viewing the main hole with the Safe T Stopper prior to inserting the correct size Self Tapping Plug.

Self Tapping Plugs - 24TPI, hardened 4140 steel (usable thread range noted)

Description	Part#
0.250"-0.350" Hex 5/16" (plug length 0.540")	54-MTP 375
0.375"-0.450" Hex 5/16" (plug length 0.540")	54-MTP 500
0.125"-0.450" Hex 5/16" (plug length 1.00", pointed)	54-MTP 500375
0.500"-0.580" Hex 1/2" (plug length 0.540")	54-MTP 625
0.625"-0.710" Hex 1/2" (plug length 0.540")	54-MTP 750
0.750"-0.830" Hex 1/2" (plug length 0.540")	54-MTP 875
0.850"-1.225 Hex 1/2" (plug length 1.25") Use with 7/8"-1 1/8" Drill Bits	54-MTP12501000
0.500"-0.710" Double Length Hex 1/2" (plug length 1.00")	54-MTP 625750
0.125"-0.580" Hex 1/2" Triple Length (plug length 1.36", pointed)	54-MTP 625375
0.625"-0.830" Double Length Hex 1/2" (plug length 1.00")	54-MTP 750875
0.694"-0.816" Hex 1/2" (plug length 0.540") Modified Self Tapping Plug to fit through 3/4" tee Typically used with Over-Drilling Assembly to handle 3/4"-1 1/4" Tees	54-MTP 875MOD

Custom sizes available

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Tapered Weld Plugs



Steel weld plugs to permanently seal off gas services or pipe ends.

- *Quickly abandon pipe ends*
- *Weld into place in minutes*
- *Perfect for service cut offs*



Fit into pipe opening



Knock into place



Weld around edges to complete

Sizes
Custom plugs available



Description	Part#
3/4" Tapered Weld plug for Mueller No Blow 3/4"	54-MSTS 1023A
3/4" Tapered Weld plug for 3/4" SCH 40 Pipe	54-MSTS 1012A
3/4" Tapered Weld plug for 3/4" SCH 80 Pipe	54-MSTS 1013A
1" Tapered Weld plug for Mueller No Blow 1"	54-MSTS 1023B
1" Tapered Weld plug for 1" SCH 40 Pipe	54-MSTS 1012B
1" Tapered Weld plug for 1" SCH 80 Pipe	54-MSTS 1013B
1 1/4" Tapered Weld plug for 1 1/4" SCH 40 Pipe	54-MSTS 1012C
1 1/4" Tapered Weld plug for 1 1/4" SCH 80 Pipe	54-MSTS 1013C
1 1/4" Tapered Weld plug for Mueller No Blow 1 1/4"	54-MSTS 1023C
1 1/2" Tapered Weld plug for 1 1/2" SCH 40 Pipe	54-MSTS 1013D
1 1/2" Tapered Weld plug for 1 1/2" SCH 80 Pipe	54-MSTS 1012D
2" Tapered Weld plug for 2" SCH 40 Pipe	54-MSTS 1012E
2" Tapered Weld plug for 2" SCH 80 Pipe	54-MSTS 1013E

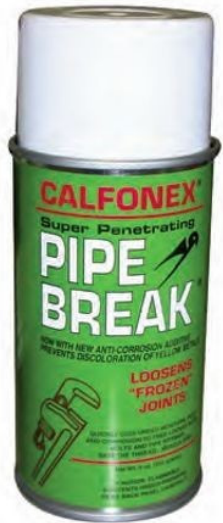
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Pipe Break

Super penetrating formula specifically designed to free seized pipe fittings.



- Concentrated spray digs under moisture, rust and corrosion to free locked nuts, bolts and pipe fittings.
- Save time and muscle.
- Convenient 9 oz aerosol spray
- Ozone safe. No CRC's, HCFC's or Chlorinated Solvents
- Part# 54-PPBRK



Spray liberally to frozen pipe fitting.



Safely loosen without breakage.

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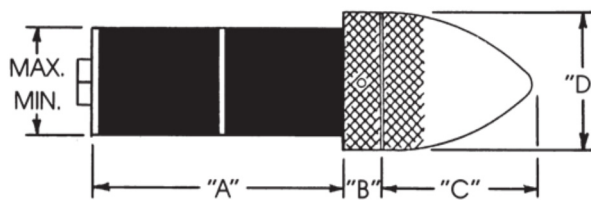
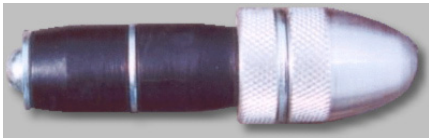
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Nose Cones (Expander Style)

Nose Cones are inserted into the leading end of a new PE pipe prior to be inserted into a bored hole or existing pipe or duct.



- Prevents pipe end damage and internal contamination of the PE pipe during insertion.
- Fully reusable product avoids the need to use fused fittings or cutting the pipe end to shape, saving valuable time.
- Provides a smooth leading end for easy penetration
- Allows pipe to negotiate bends without hang up.
- Simple & quick to fit and remove
- Fully reusable
- Expander style handle a wide range of pipe I.D's



OPERATING INSTRUCTIONS:

Insert rubber plug "A" into plastic pipe, hold collar "B" clockwise to tighten. Reverse to loosen. Unit needs to be only hand tight to hold. Collar "B" and cone "C" made of hard aluminum. Cone "C" has steel helicoil thread insert.

Expander Style Nose Cones							
Part #	IPS	A	B	C	D	Expansion Range	
						Max.	Min.
71-100193-10	1/2"	1"	3/8"	1-1/4"	7/8"	3/4"	19/32"
71-100195-10	3/4"	2-1/8"	3/8"	1-5/16"	1-1/8"	15/16"	25/32"
71-100196-10	1"	2-1/8"	3/8"	1-1/2"	1-5/16"	1-5/32"	1"
71-100198-10	1-1/4"	2-1/8"	1/2"	2"	1-11/16"	1-7/16"	1-1/4"
71-100199-10	1-1/2"	2 3/16"	5/8"	2-1/4"	1-29/32"	1-3/4"	1-7/16"
71-100200-10	2"	2-3/16"	3/4"	2-1/2"	2-3/8"	2-1/8"	1-13/16"
	CTS						
71-100194-10	1/2"	1"	3/8"	1-1/4"	5/8"	1/2"	12/32"
71-100193-10-1	3/4"	1"	3/8"	1-1/4"	7/8"	3/4"	19/32"
71-100197-10	1"	2-1/8"	3/8"	1-5/16"	1-1/8"	1"	29/32"

PLCS, LLC

102 Gaither Drive, Unit 1, Mount Laurel, NJ 08054

phone: (856) 722-1333 • fax: (856) 273-9723 • e-mail: info@plcsusa.com • web: www.plcsusa.com

Adjustable Pipe Insertion Trumpets for Inserting PE Services

Protects the pipe or wire from damage caused by the sharp edge of a steel conduit host pipe when inserting.



The inserted pipe easily slides into the host since they are made from a high-performance nylon.

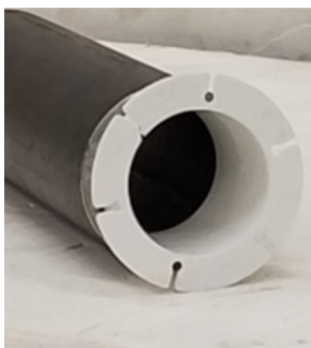
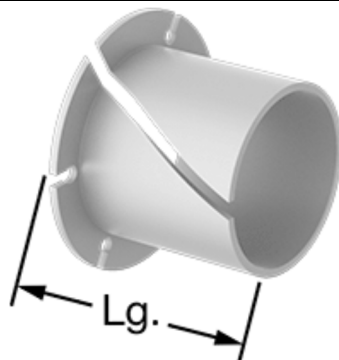

A slit running along the length of these allows you to quickly squeeze and slip them into the opening of the host pipe, no tools required. Spring tension keeps the trumpet in place during pipe insertion.

One size fit variations of inside diameters, such as Schedule 40 or 80, CTS or IPS, thin wall or thick wall pipe/conduit.

No need to keep extra sizes on the truck or cut them to fit, risking injury.



PLCS Adjustable Pipe Insertion Trumpets Specifications

					
Sch. 40/80 Host Pipe Size	Part#	Material	Length (in)	Flange OD (in)	Flange Thickness (in)
3/4" Adjustable Pipe Insertion Trumpet	71-396019A	High-performance nylon	0.91	1.313	0.0313
1" Adjustable Pipe Insertion Trumpet	71-396025A	High-performance nylon	1.047	1.50	0.047
1 1/4" Adjustable Pipe Insertion Trumpet	71-396032A	High-performance nylon	1.300	1.875	0.047
1 1/2" Adjustable Pipe Insertion Trumpet	71-396038A	High-performance nylon	1.563	2.25	0.0625

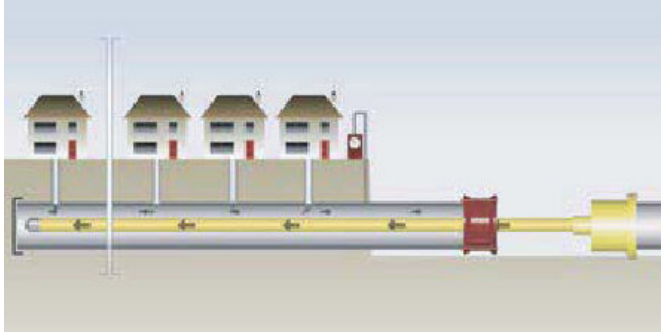
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Live Mains Insertion (LMI) Plus a Pressure Upgrade

Live Mains replacement and pressure upgrade in one step.



Customers remain on the existing low pressure supply throughout the entire upgrade except for a short interruption when the service is transferred to the medium pressure PE main. The crew can be pulled off the job at any time and the completion of an insertion project can be delayed, for weeks if necessary.

There are just three disposable components:

1. An **Entry Gland** allows the PE pipe to enter the cast iron without leakage.
2. An **Insertion Seal foam kit** fills the annular gap between the new PE and the original main to provide a barrier between the inserted section of the main and the rest of the network. They are also used to section the main into those service groups that are to be transferred to the PE in a given day.
3. An **End Seal foam kit** is used to close off the exposed end of the cast iron pipe wherever the new PE main exits.



An excavator attachment is used to push the PE the required distance.

Service transfers are made when it is convenient for both the customers and the utility without the urgency to complete a project in a single day.

Mains upgraded with LMI are usually in the 4"-8" range although mains as large as 16" have been successfully inserted with 12" PE.

The one-time license fee includes initial on-site training. There are no footage charges and the license covers the utility and their contractor.

Entry pit pushing 4" PE into 6" cast iron

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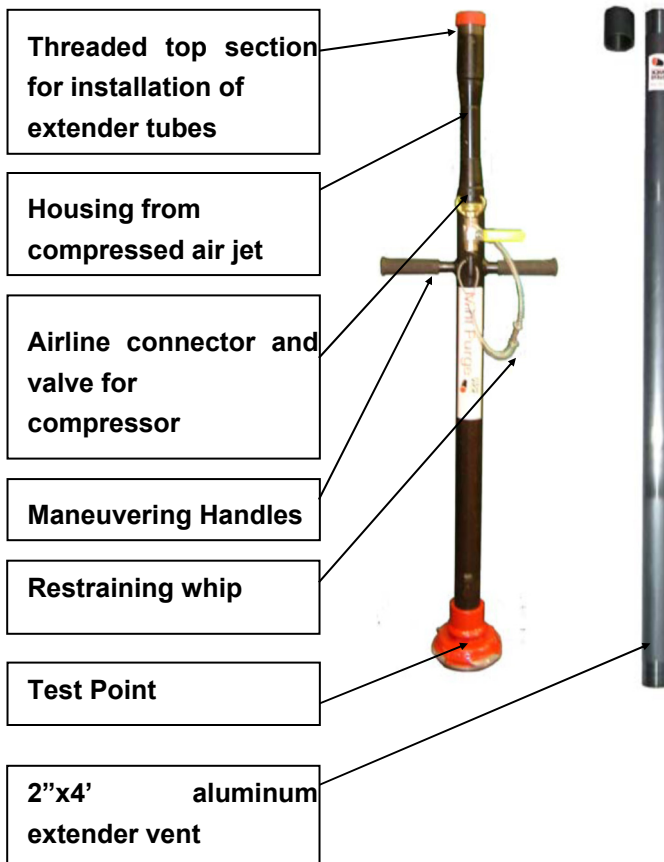
Mini-Purge Ejector



Rapid, simple, and safe purge operation for decommissioned mains.

The unit uses the air supply from a compressor to create a powerful venturi effect to evacuate any gas from a main. Capable of purging very long grid sections of mains with multiple combinations of pipe diameters in a very short time without creating turbulence or without the need of introducing an inert gas.

- ***Typical ability to purge over 4000' of 8" diameter main in about 11 minutes.***
- ***No need for expensive & slow moving inert gas.***
- ***Use with existing air compressor.***



Summary Procedure:

- Isolate and vent section of main to be abandoned in line with operational procedures
- Fit Mini-Purge to main using ALH System-1 machine or other method.
- Provide adequate air inlet vent to other end of main
- Attach compressor to airline connector – valve closed
- Start compressor
- Open air inlet vent/s and open valve on compressor
- Open compressed air inlet valve on Mini Purge to introduce compressed air
- Purge until acceptable LEL level is reached at test point on ejector
- Stop operation and remove Mini Purge from main.

Size	Height	Width	Weight	Power	Used on:
2" NPT	4.0'	15"	17.85lbs	100 psi	3-12" mains

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Electronic PE Damage Indicator

Ensure the PE pipe wall damage is 10% or less

Save the budget by leaving good pipe in the ground and removing the bad!



- Simple to use by all field personnel
- Digital readout accurate to 0.0008" or less
- Instant zeroing provides a direct readout of the depth of the surface damage
- Ensures PE meets safe pipe laying standards prior to burial
- Especially valuable in lengthy Coil Pipe applications
- Operates without adjustment on a full range of PE pipe from 2" to 20"
- Instant conversion from Imperial to Metric readout
- Effective in many other depth or height measurement situations, including work on flat surfaces and for steel weld measurement

The PLCS PE Electronic Damage Indicator is the only self contained electronic damage indicator that is fully portable and works on any surface.

The unit allows an immediate, accurate decision to be made about specific pipe damage and eliminates unnecessary cutouts.

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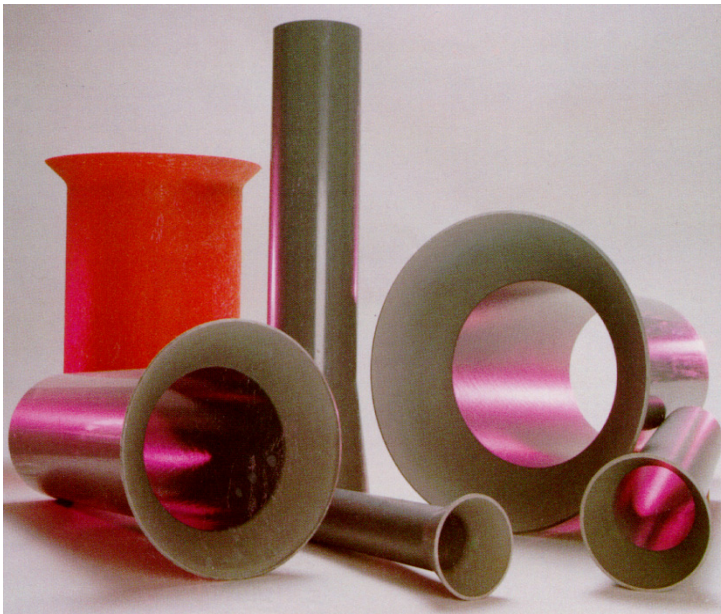
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Insertion Trumpets for Mains

Insertion Trumpets are specially designed to protect plastic pipe from damage caused by the cut edge of the existing metal pipe insertion.

- Designed for permanent protection from future damage or re-usable use
- Designed with the length to protect plastic pipe from “smashed out” cast iron
- Suitable for close fit insertion including Swagelining and Roll Down
- Manufactured in lightweight LDPE according to size



Sizes Available

3"
4"
8"
10"
12"
16"
20"

Protection of the plastic is critical with the current levels of investment in a new PE mains and services. Insertion Trumpets offer protection at a fraction of the cost of a single incident of failure. They are available in a wide range of sizes to fit all styles of metal mains.

Select the correct size and insert into the existing main up to the trumpet shaped flare.

Once the PE main has been installed, the Insertion Trumpet may be removed or preferably left in position to permanently protect the PE from future damage.

** 3" - 20" Sizes and Quantities are limited, please call for availability*

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End of the Line Flame Arrestors



One of the greatest dangers involved with the transportation or storage of flammable liquids or gases is ignition, resulting in fire or explosion.

Flame arresters are used to protect people, plant and equipment by preventing a flame from entering or leaving any equipment. These flame arresters contain a permeable matrix that quenches the flame, but allows gas to flow.

Available Pipe Sizes: $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1" and 2"

Flame Arrestor Type: End of Line
Body Material: Mazak (LM6 aluminum alloy)
Element Core Material: 316L Stainless steel
End Connection: NPT
Weatherhood: Available Option

Typical Applications:

Flare stacks
Flammable liquid storage tank vents
Gas pressure regulators
Flammable liquid filling and discharging systems

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PLCS Coil Pipe Trailer for 2"- 6" PE coils



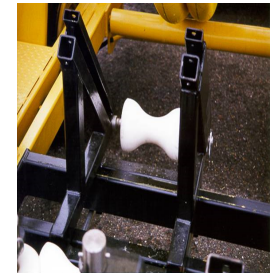
PLCS trailers are only as long as a pick-up truck (less than 17' x 8'). They are invaluable in tight city streets yet can also lay high volumes of pipe, at high speed, across country. The coil bay can handle PE and HDPE coils up to 54" wide x 128" OD x minimum 42" ID.



PLCS Re-rounder-Straightener corrects the ovality of large diameter coiled PE pipe. The straightening action eliminates the high level of stored energy from the coil, making the pipe much safer to handle and easier to fuse, even at cold temperatures.

- Mechanical "set and forget" operation with no gas engine or hydraulic system to maintain. Requires no power source or special operator and virtually zero maintenance.

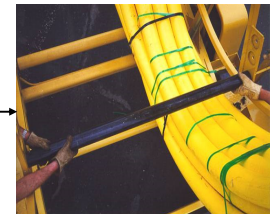
Delrin Rollers: Durable and eliminates pipe damage unlike aluminum or steel rollers that can gouge the pipe during dispensing.



Coil Control System: Coil is loaded in the rear of the trailer bay. Eight aluminum cross-bars are slid across the trailer bay to connect the two spider wheels together.

Green: A solar powered hydraulic lift system dispenses any size coil.

Coil Support: Crossbars twist & lock into position to make a reel that supports the coil.



Two support legs are mounted on rear of frame. These are used to prevent trailer rear from squatting during directional boring operations.

Large Coil Handling: The coil bay can handle coils up to 54" wide x max. 128" OD x min. 42" ID. This covers all current PE pipe coils for a variety of applications such as Conduit, Gas, Water, Electric, & Telecom.



3" I.D. Lunette Eye with bracket (12,000 lb. Rating) for use with Pintle Hook, c/w 3/8" safety chains and 1 ton hooks.

Safety: Coil end clamp to connect the pipe inner end to the Spider reel and hold the coil upright at all times.



Quick Release Rear Gate with easy to reach extension handle for easy coil loading.

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Coil Pipe Trailer Specifications

PE Pipe Capacity

The PLCS Coil Pipe Trailer accepts all current coil sizes of 2", 3", 4" & 6" PE from all major manufacturers.

Maximum Coil O.D.	128"
Minimum Coil I.D.	42"
Coil Bay Width	55"
Maximum Coil Width	54"
Overall Length	16' 10"
Overall Width	8'
Height with spider wheels at lowest position	9' 3"
GVWR	8,600 lbs
Empty trailer weight	3950 lbs
Tongue Weight w/o straightener	380 lbs

Construction

A Frame: welded standard duty 6" C-Channel. Main Frame/Space Frame: welded mainly 2" x 4" x 3/16" Steel Tube Twin central uprights and sliding block assemblies allow the coil support spider wheels to be easily moved into the desired position.

- 3" I.D. Lunette Eye with bracket (12,000 lb. Rating) for use with Pintle Hook, c/w 3/8" safety chains and 1 ton hooks. Hitch height is adjustable for level towing. Trailer breakaway unit automatically applies brakes when activated.
- Crank type jack with flat foot pad mounted on trailer tongue.
- Two support legs are mounted on rear of frame. These are used to prevent the trailer rear from squatting during directional boring operations.
- The re-rounder system sits on the trailer rear platform rails during use.
- A fully opening rear gate allows the coil to be kept low to the ground during loading.
- 12 Ga. diamond pattern slip-resistant steel decking.
- An access ladder with non-skid taped steps is mounted on driver's side of the trailer.
- A steel equipment box on the front trailer deck holds the safety trailer breakaway unit, the hydraulic power lift system and the 12V battery. A separate 24" x 12" x 12" Toolbox is provided to hold the operating wrench, cargo straps, support roller bolts, instructions manuals and various other tools etc.

Electrical

- TruckLite brand lights, reflectors and junction box. DOT certified system. All lights are LED or sealed beam. Wiring is heat shrunk and sealed into frame.
- Solar powered trickle charger automatically maintains charge on the 12volt battery. Direct sunlight is not required to produce sufficient power to run the trailer.

Suspension, Brakes and Tires

- Tandem Dexter torsion axles with E-Z lube hubs, electric brakes and free backing arrangement for good maneuverability.
- Four trailer duty ST255-75R15C or D 15" radials, 15 x 6J rims.

Paint

- Sandblasted, acid-etched and sealed. Finish coats are Imron 96 Cat Yellow.

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Pipe Handlers by Steve Vick International

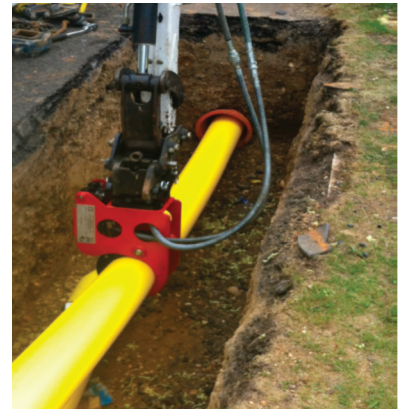


The Pipe Handlers are excavator attachments for inserting PE pipe into live or dead mains as a safe and cost effective alternative to manual labor, winches or slings.

Efficient: Easily grips and maneuvers the PE into the host pipe seamlessly without damage.

Fast: Capable of pushing pipe up to 33 feet per minute to lengths 1,600 feet or more.

Safe: The entire operation is controlled from the cab. Never requires workers to handle the pipe or enter the trench.



- *Multi pin locations to easily adapt to fit most excavators with single or dual flow hydraulics.*
- *J-shaped jaw design offers superior control. Pushing action can be reversed.*
- *Inner clamping shells prevents pipe damage and slipping in wet weather.*

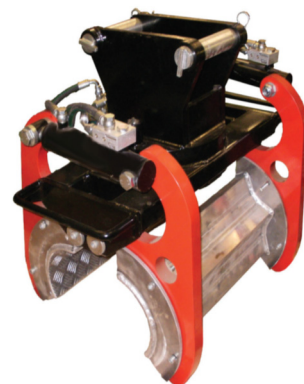
5 Models are Available for 2" through 24" PE Pipe.



Mini Pipe Handler
2"-4"



Midi Pipe Handler
6" Pipe Only



Pipe Handler
3 Different Models
6"-12", 16"-20" & 24"

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Mini PE Pipe Reeler for 1/2", 3/4" and 1" Pipe

Designed to easily store, transport and dispense small diameter PE pipe coils.



- Eliminate messy coils.
- Reduce pipe waste.
- Keep workers organized.
- Increase jobsite production.
- Dispense several partial rolls at once.
- Optional reel hitch or truck mount.
- Handle PE coils up to 1000' of 1/2" or 500' of 3/4" and 1" pipe.

Maximum Coil Size: 46" O.D. x 15" Wide

Reel weight: 93 lbs.

Available with or without cart.



Stop the Mess



Save space. Mount reel outside the truck.



Hitch mount with articulated arm.

Call for details

Part#	Description
73-5001000	1/2"-1" Mini PE Pipe Reeler w/ Cart
73-5001001	1/2"-1" Mini PE Pipe Reeler without Cart
73-5001002	1/2"-1" Mini PE Pipe Reeler w/ Hitch Mount

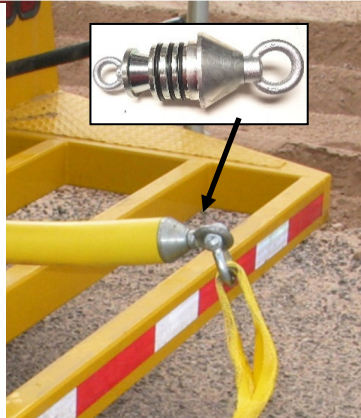
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PE Pipe and Duct Pullers

Provide an instant direct connection between PE pipe to pipe laying equipment. The design is in use on many directional drilling rigs and is recognized as the most reliable connector available in the industry for more than 20 years.



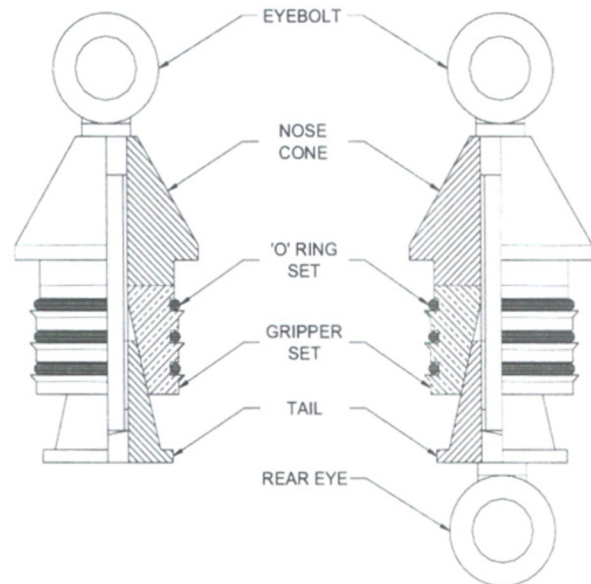
Gripper Rings Maintain Connection



Handle PE Pipe with Ease

Installs in Minutes

- Reusable
- Insert directly into open PE pipe end without special preparation.
- Twist the eye and the grippers lock into position without the use of wrenches. Releases immediately on demand.
- Once set correctly, gripping power increases with pulling load. Pipe yield point is reached before failure can occur.
- Standard equipment for all types of directional drilling rigs and ideal for laying large diameter PE coils
- Heavy duty construction in plated steel for rugged durability.
- Minimal maintenance and replaceable components.
- Standard ½" - 12" size range. Larger sizes available.
- Fits multiple SDRs (11 -17.6).
- The rear eye can be used to pull cables or other conduits at the same time.



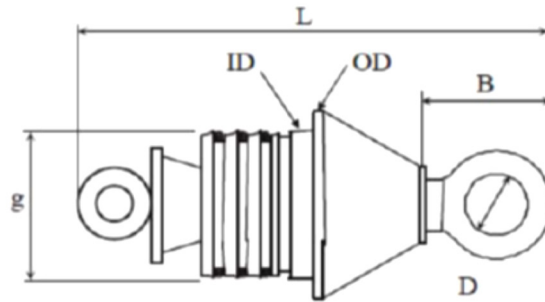
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PE Pipe and Duct Pullers - Specifications

PLCS Expanding Pipe and Duct Puller Specifications



				L	B	D	g	G		OD	ID
Size		Part#	Weight (lbs.)	LG	Eyebolt LG	Eye Dia.	Min Grip	Max Grip	SDR		
1/2" CTS Screw In		71-401015	0.10	2.62	0.50	0.23	0.43	0.58		0.60	0.45
3/4" CTS		71-401022	0.20	4.30	0.69	0.40	0.79	0.89		0.87	0.67
3/4" IPS*		71-401027*	0.20								
1" CTS		71-401029	0.50	4.92	1.22	0.63	0.91	1.06		1.10	0.91
1" IPS*		71-401033*	0.50								
1 1/4" CTS		71-401035	1.10	6.25	1.69	0.73	1.06	1.26		1.38	1.14
1 1/4" IPS		71-401042	1.10	6.25	1.69	0.73	1.24	1.54	9.33	1.65	1.26
1 1/2" IPS		71-401048	2.30	8.75	1.75	0.73	1.42	1.65	11-17	1.80	1.46
2" IPS		71-401061	2.50	8.75	2.36	1.25	1.85	2.24	11-21	2.36	1.80
3" IPS		71-401090	6.30	10.25	2.50	1.34	2.76	3.27	11-21	3.54	2.80
4" IPS		71-401115	15.70	11.50	3.27	1.34	3.54	4.02	11-21	4.49	3.54
5" IPS*		71-401140*	20.00	11.50	3.43	1.34	4.33	5.16	11-21	5.51	4.33
6" IPS		71-401168	24.70	16.00	4.25	2.00	5.28	6.06	11-21	6.50	5.00
8" IPS		71-401219	48.00	18.00	4.02	1.75	6.77	7.68	11-17	8.62	6.81
10" IPS*		71-401273*	71.00	18.50	4.02	1.75	8.43	9.65	11-17	10.71	8.43
12" IPS*		71-401324*	88.00	22.83	6.10	3.00	10.00	11.02	11-17	12.76	10.16

Notes:

- Dimensions in inches and approximate, subject to change.
- Items marked with (*) asterisk are special order. Larger sizes available. Please call PLCS for details.
- 1/2" CTS available in screw-in style only

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Mudtight PE Pipe Puller for HDD

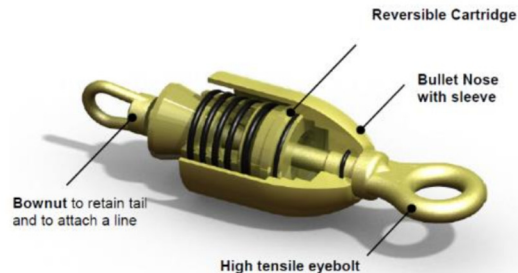
Mudtight PE Pipe Puller for HDD



A PE pipe puller specifically designed for Horizontal Directional Drilling (HDD), Molding and Pipe Bursting offering a direct connection to the leading end of polyethylene, HDPE or MDPE pipe.
Seals the pipe from debris ingress as it travels through the bore hole for water pipe, gas pipe and fiber optic duct installation.

The unique feature is the patented three-part reversible cartridge. This allows one puller to seal both SDR11 and SDR17.6 wall thickness pipe using a reversible sealing cartridge. Larger wall thicknesses can be sealed by using larger O rings.

The HDD Pipe Puller seals the inside of the pipe using a rubber seal, housed in the nose cone/outer sleeve assembly. This bears against the end of the pipe aided by a thrust plate and a strong spring. An O ring at the rear of the high tensile steel eyebolt also prevents fluid ingress. The outer sleeve protects the leading end of the pipe from difficult earth damage as it is being pulled through the bore hole. The eyebolts prevent the HDD Pipe Puller from coming apart during use, installation and removal.



Advantages

- Fits SDR 11-17.6, HDPE, MDPE.
- Saves time and money, by stopping the ingress of mud or drilling fluids into the pipe.
- Simple to install and remove.
- Proven reliability, tough design exceeds yield strength of pipe.
- No need to use duct tape or foam pig.

Tested to the point of pipe failure without release.



The greater the pull, the greater the grip.



Available Sizes: 1.25"-8"



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Mudtight PE Pipe Puller - Specifications

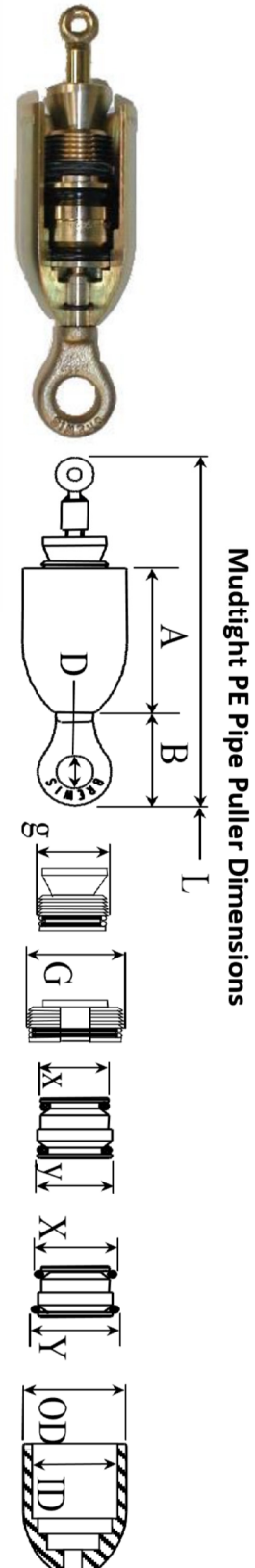









Photo	Part#	Size	L	A	B	D	g	G	x	X	y	Y	OD	ID	WT.
		IPS	Overall Length	Nose Length	Eyebolt Length	Eye Ø	Min. Grip	Max. Grip	Min. Seal Ø	Max. Seal Ø	Min. Seal Ø	Max. Seal Ø	Outside Ø	Inside Ø	LBS
	71-416001	1.25"	mm 200 7.87	84.0 3.31	55.0 2.17	19.5 0.77	30.0 1.18	42.7 1.68	30.9 SDR	35.0 9.33-11.0	34.3 SDR	38.7 13.5	49.7 1.96	42.7 1.68	2.2
	71-416002	1.5"	mm 205 8.07	89.0 3.50	55.0 2.17	19.5 0.77	35.3 1.39	48.8 1.92	37.2 SDR	42.5 11-13.5	40.4 SDR	45.1 17	55.8 2.20	48.8 1.92	2.6
	71-416003	2"	mm 250 9.84	115 4.53	58.0 2.28	29.5 1.16	42.7 1.68	60.9 2.40	44.4 SDR	50.0 9.33-11	51.3 SDR	56.0 17-21	67.9 2.67	60.9 2.40	5.0
	71-416005	3"	mm 354 13.94	163 6.42	106.0 4.17	38.1 1.50	64.8 2.55	89.5 3.52	66.4 SDR	74.9 9.33,11,11.5	73.0 SDR	81.7 13.5-21	98.1 3.86	89.5 3.52	13.22
	71-416006	4"	mm 380 14.96	163 6.42	106.0 4.17	38.1 1.50	84.2 3.31	114.9 4.52	85.6 SDR	96.3 9.33,11,11.5	94.1 SDR	104.8 13.5-21	123.9 4.88	114.9 4.52	20.0
	71-4160018	6"	mm 520 20.47	270 10.63	149.0 5.87	45.0 1.77	132.0 5.20	170.0 6.69	131.7 SDR	144.8 11-13.5	143.8 SDR	156.0 17-21	183.0 7.20	170.0 6.69	48.50
	71-4160019	8"	mm 555 21.85	290 11.42	149.0 5.87	45.0 1.77	170.5 6.71	223.5 8.80	171.0 SDR	187.0 11-13.5	187.0 SDR	204.0 17-21	240.0 9.45	223.5 8.80	77.0

This product is patented.
The sizes stated above are current production specifications.
We reserve the right to alter specifications without notification.

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PE Pressure Tight Pipe Puller

An instant direct connection between PE (polyethylene) pipe and any form of pipe laying equipment, sealing against any ground liquids or solids from entering the pipe.

Inserts directly into the open PE pipe end without special preparation. Twist the eye and the grippers lock into position without the using a wrench. Gripping power increases with pulling load or against pressure. Pipe yield point is reached before failure can occur.

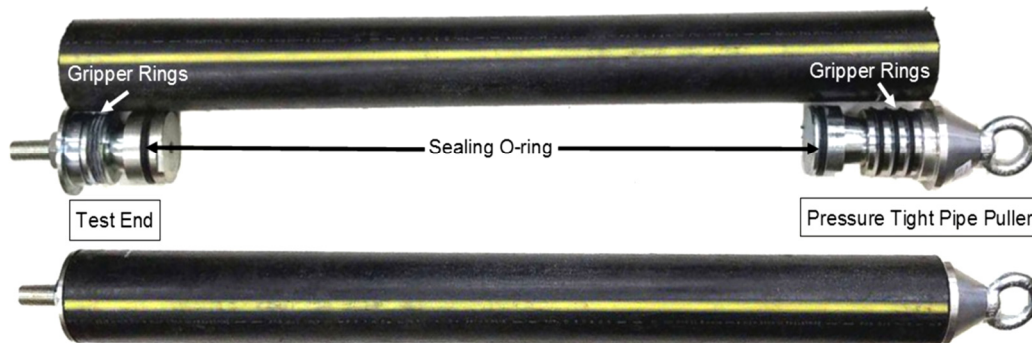


Available Sizes: 3/4"-8"

- Recognized as the most reliable connector available in the industry.
- Rated at 150 psig against air, mud, water or sewer gas
- A must for HDD horizontal directional drilling.
- Easily removed after work is complete
- Heavy duty construction in plated steel for rugged durability.

The design also provides a pressure tight seal to a length of pipe for pressure testing, when used in conjunction with a PLCS Test End.

Seal Both Ends without Fusing

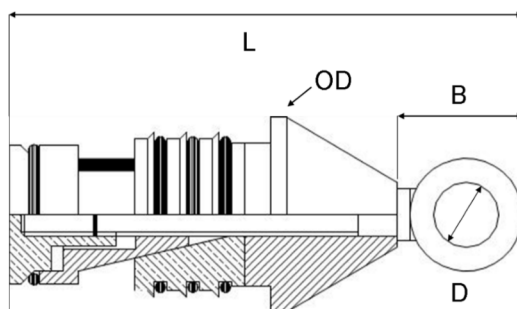













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PE Pressure Tight Pipe Puller - Specifications



				L	B	D		OD
	Size	Part#	Weight (lbs.)	Overall Length	Eyebolt Length	Eye Diameter	SDR	Outside Diameter
	3/4" CTS	71-001022	0.20	4.375	0.70	0.40	11	0.87
	3/4" IPS	71-001027	0.20	4.375	0.70	0.40	11	0.87
	1" CTS	71-001029	0.60	5.25	1.5	0.75	11	1.125
	1 1/4" CTS	71-001035	1.00	6.25	1.69	0.73	11	1.375
	1 1/4" IPS	71-001042	1.00	6.25	1.69	0.73	11	1.650
	1 1/2" IPS	71-001048	2.30	7.25	1.75	0.73	11	1.80
	2" IPS	71-001061	2.90	8.25	2.25	1.25	11	2.50
	3" IPS	71-001089	7.10	9.25	2.50	1.375	11	3.50
	4" IPS	71-001115	11.70	11	3.50	1.875	11	4.50
	6" IPS	71-001168	24.70	12.75	4.25	2.125	11	6.50
	8" IPS	71-001219	48.00	14.25	4.25	1.750	11	8.625
Other sizes and SDR'S available upon request. Please be certain to confirm the pipe SDR at time of order. Dimensions are approximate.								

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PE Test Ends

Decrease pipe pressure test time, reducing downtime and saving project costs. A quick, simple and reliable method of testing PE (polyethylene pipe) without fusing on end caps or installing mechanical fittings.



Available Sizes: ½"-8" PE
Valve sold separately

Simply insert into the open ends of pipe, then tighten and begin testing. Testing can be performed on installed pipe or on the coil. **Pressure test in minutes not hours.**

The Test Ends use the line test pressure to their advantage. The greater the test pressure the greater grip and seal. The gripper rings and sealing O-ring provide a safe, secure, leak-proof seal.

Tested to the point of pipe failure without pressure release.

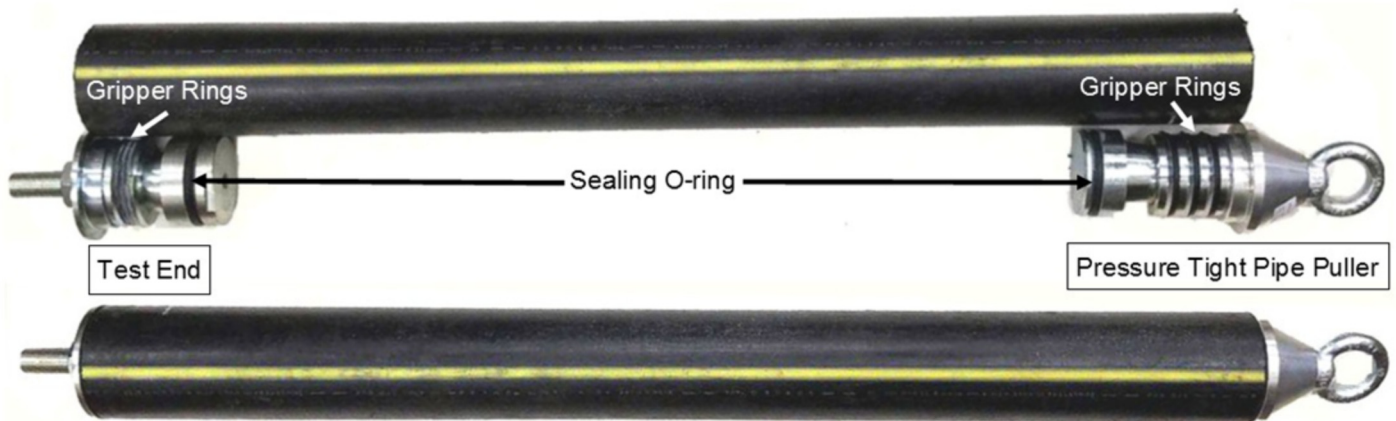


2" SDR 11 gas pipe tested to bursting
(Approx. 500 psi)

Use overnight to keep open pipe ends clean and sealed. Can be used to maintain positive pressure on installed pipe sections. Saves an average of 2 man-hours per test. Compared to fusing end caps and mechanical fittings.

- The design is based on the very successful PLCS Pressure Tight Pipe Pullers in use on many directional drilling rigs for many years.
- Designed to work together with the Pressure Tight Pipe Pullers to seal both ends of a pipe without fusing for fast on-site testing.
- Inserts directly into open PE pipe end without special preparation.
- Tighten the nut and the grippers lock into position and will release immediately on demand.
- Test Ends provide a total barrier to ingress of soil or mud into the PE pipe, under even the worst site conditions.
- Heavy duty construction in plated steel for rugged durability. Minimal maintenance and replaceable components.

Seal Both Ends without Fusing

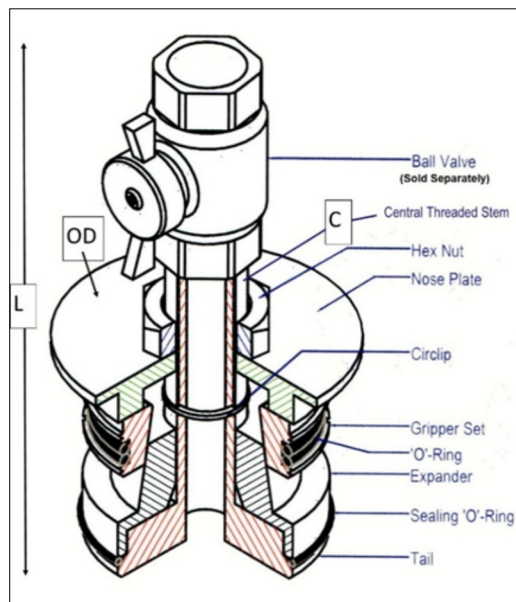


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PE Test Ends - Specifications



			L	C		OD	
Size	Part#	Weight (lbs.)	Overall Length	Central Stem Thread Size	SDR	Outside Diameter	Pressure Rating (PSI)
1/2" CTS	71-415016	0.2	4.75	1/2" NPT	11	0.75	150
3/4" CTS	71-415017	0.5	4.75	1/2" NPT	11	1.0	150
1" CTS	71-415029	0.5	5.0	1/8" NPT	11	1.250	150
1" IPS	71-415033	0.8	5.0	1/8" NPT	11	1.625	150
1-1/4" CTS	71-415035	1.1	5.5	1/8" NPT	11	1.625	150
1-1/4" IPS	71-415042	1.1	5.5	1/4" NPT	11	1.75	150
1-1/2" IPS	71-415048	1.7	5.375	1/4" NPT	11	2.125	150
2" IPS	71-415061	3.0	6.5	1/2" NPT	11	2.75	150
3" IPS	71-415090	5.3	6.5	1/2" NPT	11	3.50	150
4" IPS	71-415115	12.3	8	1/2" NPT	11	3.75	150
6" IPS	71-415168	24.0	12.75	1" NPT	11	4.75	150
8" IPS	71-415219	48.0	14.75	1" NPT	11	6.50	150

Other sizes and SDR'S available upon request.
Please be certain to confirm the pipe SDR at time of order.
Dimensions are approximate.

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Wire Mesh Pulling Grips (Towing Socks)



Also known as Towing Socks, Chinese Fingers or Pulling Grips used to pull pipe above or below ground. The harder the pull, the tighter the grip.

Commonly used to install pipe or conduit using directional drilling rig (HDD) or vibratory plow.



Wire mesh tube with an eye at one end. Manufactured of Hi-Fatigue plastic coated Aircraft Strand steel cable in a crisscross weave design. Plastic coated strands increase the life of the grip, provide a bearing surface on underground pulls to increase the ease and safety of installation and removal. The pulling eye is flexible and stress relieving.



Benefits

- Withstands a breaking load in excess of three times the working load.
- Simple and quick to fit and remove.
- Adds little to the outside diameter of the pipe when pulled.
- Reusable, reliable and lightweight.
- Copper tabs on tail end of grip add reinforcement and ensure quick attachment to the pipe.
- Manufactured in the USA.

To fit, simply compress the grip and slide over the pipe end. Then attach pulling equipment to the eye.



Step 1.

Step 2.

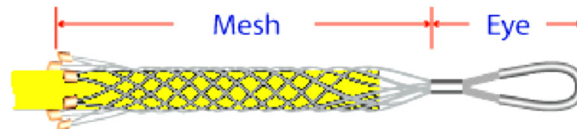









Photo	Description	Model#	Part#	Working Load (lbs.)	Ultimate Tensile Strength (lbs.)	Weave	Mesh	Eye
	1/2" - 3/4" Wire Mesh Pipe Puller	1	71-000099	2,600	5,200	Triple	24"	6"
	3/4" x 1 1/4" Wire Mesh Pipe Puller	1	71-000100	3,500	10,000	Triple	24"	3"
	1 1/4"-2" Wire Mesh Pipe Puller	2	71-000101	2,500	7,500	Triple	26"	3 3/4"
	2"-2 3/4" Wire Mesh Pipe Puller	2	71-000102	3,500	10,500	Triple	32"	3 1/2"
	2 3/4" - 3 1/2" Wire Mesh Pipe Puller	2	71-000103	4,500	13,500	Triple	38"	3 3/4"
	3 1/2" - 4 1/4" Wire Mesh Pipe Puller	2	71-000104	5,500	16,500	Triple	46"	4"
	4 1/4" - 4 7/8" Wire Mesh Pipe Puller	2	71-000105	6,000	18,000	Triple	52"	4"

Model #1 Pulling Grips are manufactured of Hi-Fatigue plastic coated Aircraft Strand Steel cable in various weave designs. Recommended wherever high strength and small size are required. Patented pulling eye is flexible and stress relieving.

Model #2 are heavy duty grips manufactured of Hi-Fatigue plastic coated Aircraft Strand steel cable in a continuous weave. Plastic coated strands increase the life of the grip, provide a bearing surface on underground pulls and increase the ease and safety of installation and removal. Patented pulling eye is flexible and stress relieving.

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PE Pipe and Duct Pullers (Screw-In Type)



Description
Grip Range 0.72" - 0.93" With Rear Lug
Grip Range 0.94" - 1.15" With Rear Lug
Grip Range 1.26" - 1.44" With Rear Lug
Grip Range 1.48" - 1.66" With Rear Lug
Grip Range 1.65" - 1.85" With Rear Lug
Grip Range 1.91" - 2.08" With Rear Lug

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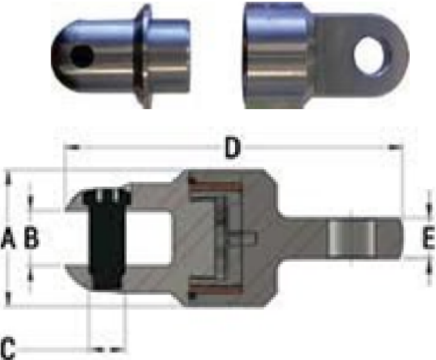
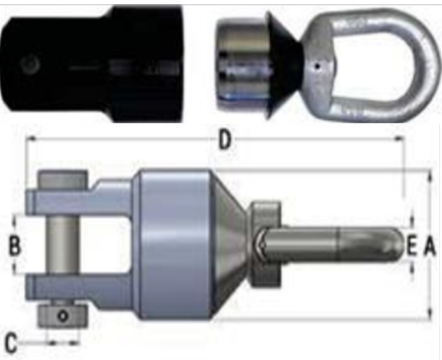
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Heavy Duty Breakaway Connectors for PE Pipe

Designed to protect polyethylene pipe and duct from overload during installation by directional drilling or other methods. Connect between the pullback swivel and the pipe puller. The connectors are a three-part product, held together by a group of pins. The pins are designed to break in tension at a specific load. The assembly of the connector is completed by using one or more of the breakaway pins. The sum of the values of the pins is the value at which the connector will come apart. If a single 1,000 lbs. pin is used, the connector will come apart at 1,000 lbs. If three pins of the same value were used, the connector would come apart at 3,000 lbs. Different pin values can be mixed and matched to create a number of different values, all in the same connector.

Many utilities now require the use of a breakaway connector to ensure the final integrity of the pipe. It can easily be reset from one value to another allowing the same tool to be used for installation of many different duct sizes each requiring different load settings. To reduce fatigue, install the pin to the specified torque. The pin will not experience fatigue when the load is less than the preload value.

The connectors are available in two sizes. The smaller unit #71-00560-10 covers values from 750 lbs. up to 12,500 lbs. and the larger unit #71-00560-20 covers values from 3,000 lbs. up to 45,000 lbs.

71-00560-10				71-00560-20			
							
Connector Part No.	A	B	C	D	E	Weight	Replacement Clevis Pin Kit
71-00560-010	2-1/2"	1"	11/16"	6-1/2"	3/4"	4 lbs.	71-00035-HEX
71-00560-020	3-3/4"	1-1/2"	1"	12"	7/8"	15 lbs.	71-00508-P010



71-00560-010 Breakaway Pin Kits (lbs.)					71-00565-020 Breakaway Pin Kits (lbs.)				
Part No. (5 pins/kit)	Breaking Point (+/- 5%)	Color Code	Maximum Torque	Preload	Part No. (5 pins/kit)	Breaking Point (+/- 5%)	Color Code	Maximum Torque	Preload
71-00565-075	750 lbs.	Yellow	2 ft-lbs.	540 lbs.	71-00565-300	3,000 lbs.	Yellow	12 ft-lbs.	1,853 lbs.
71-00565-100	1,000 lbs.	Orange	3 ft-lbs.	720 lbs.	71-00565-600	6,000 lbs.	Orange	23 ft-lbs.	3,680 lbs.
71-00565-150	1,500 lbs.	Red	4 ft-lbs.	980 lbs.	71-00565-700	7,000 lbs.	Red	26 ft-lbs.	4,160 lbs.
71-00565-200	2,000 lbs.	Blue	6 ft-lbs.	1,360 lbs.	71-00565-800	8,000 lbs.	Blue	30 ft-lbs.	4,800 lbs.
71-00565-250	2,500 lbs.	Green	7 ft-lbs.	1,700 lbs.	71-00565-900	9,000 lbs.	Green	33 ft-lbs.	5,280 lbs.

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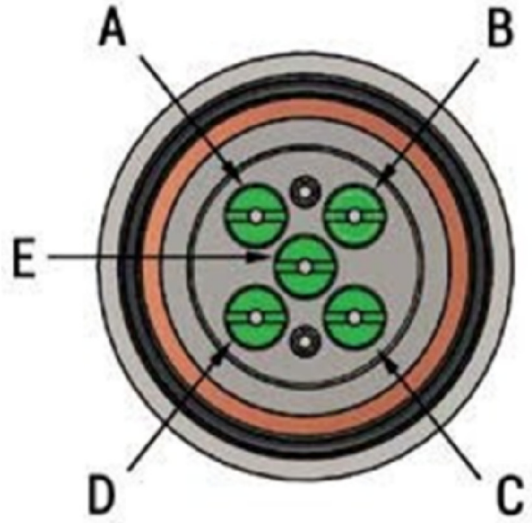
Heavy Duty Breakaway Connectors for PE Pipe

The following tables are suggested ways of arriving at required load values.

There are usually several options other than those shown below.

The five pin locations are designated as A,B, C, D & E (see diagram).

Note: Uneven pin distribution may result in up to 10% lower breaking point.



Suggested Breakload (lbs.) Set-up Values for 71-00560-010 Connector					
Pin Location (See Diagram)					
A	B	C	D	E	Break Value
-	-	-	-	750	750
-	-	-	-	1,000	1,000
-	-	-	-	1,500	1,500
1,000	-	750	-	-	1,750
-	-	-	-	2,000	2,000
750	-	750	-	750	2,250
750	-	750	-	1,000	2,500
1,000	-	1,000	-	750	2,750
750	750	750	750	-	3,000
750	750	750	1,000	-	3,250
750	1,000	750	1,000	-	3,500
1,500	-	1,500	-	750	3,750
1,000	1,000	1,000	1,000	-	4,000
1,000	750	1,000	750	750	4,250
1,500	-	1,500	-	1,500	4,500
2,000	-	2,000	-	750	4,750
-	2,500	-	2,500	-	5,000
1,500	750	1,500	750	750	5,250
2,000	-	2,000	-	1,500	5,500
1,000	1,500	1,000	1,500	750	5,750
1,500	1,500	1,500	1,500	-	6,000
2,000	750	2,000	750	750	6,250
1,500	750	1,500	750	2,000	6,500
1,500	1,500	1,500	1,500	750	6,750
1,500	2,000	1,500	2,000	-	7,000
2,000	1,000	2,000	1,500	750	7,250
-	2,500	-	2,500	2,500	7,500
2,000	1,500	2,000	1,500	750	7,750
2,000	2,000	2,000	2,000	-	8,000
2,000	1,500	2,000	1,500	1,500	8,500
1,500	2,000	1,500	2,000	2,000	9,000
2,000	2,000	2,000	2,000	1,500	9,500
2,500	2,500	2,500	2,500	-	10,000
2,500	2,000	2,500	2,000	1,500	10,500
2,500	2,500	2,500	2,500	1,000	11,000
2,500	2,500	2,500	2,500	1,500	11,500
2,500	2,500	2,500	2,500	2,000	12,000
2,500	2,500	2,500	2,500	2,500	12,500

Suggested Breakload (lbs.) Set-up Values for 71-00560-020 Connector					
Pin Location (See Diagram)					
A	B	C	D	E	Break Value
-	-	-	-	3,000	3,000
3,000	-	3,000	-	-	6,000
3,000	-	3,000	-	3,000	9,000
6,000	-	6,000	-	-	12,000
3,000	-	3,000	-	7,000	13,000
7,000	-	7,000	-	-	14,000
3,000	-	3,000	-	9,000	15,000
8,000	-	8,000	-	-	16,000
7,000	-	7,000	-	3,000	17,000
9,000	-	9,000	-	-	18,000
8,000	-	8,000	-	3,000	19,000
7,000	-	7,000	-	5,000	20,000
7,000	-	7,000	-	7,000	21,000
7,000	-	7,000	-	8,000	22,000
7,000	-	7,000	-	9,000	23,000
8,000	-	8,000	-	8,000	24,000
8,000	-	8,000	-	9,000	25,000
9,000	-	9,000	-	8,000	26,000
9,000	-	9,000	-	9,000	27,000
7,000	7,000	7,000	7,000	-	28,000
3,000	7,000	3,000	7,000	9,000	29,000
6,000	6,000	6,000	6,000	6,000	30,000
6,000	6,000	6,000	6,000	7,000	31,000
6,000	6,000	6,000	6,000	8,000	32,000
6,000	6,000	6,000	6,000	9,000	33,000
7,000	7,000	7,000	7,000	6,000	34,000
7,000	7,000	7,000	7,000	7,000	35,000
7,000	7,000	7,000	7,000	8,000	36,000
7,000	7,000	7,000	7,000	9,000	37,000
8,000	7,000	8,000	7,000	8,000	38,000
8,000	7,000	8,000	7,000	9,000	39,000
8,000	8,000	8,000	8,000	8,000	40,000
8,000	8,000	8,000	8,000	9,000	41,000
9,000	9,000	9,000	9,000	6,000	42,000
9,000	9,000	9,000	9,000	7,000	43,000
9,000	9,000	9,000	9,000	8,000	44,000
9,000	9,000	9,000	9,000	9,000	45,000

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Supraflow PE Tapping Tee a Torre Gas Product



Intrinsically safe and easy solution for main connections, high flow services and large diameter by-pass installations for PE mains operating up to 150 psi.

No other solution offers live gas-free 4"-8" branching on 4"-18" main.

Tapping is simple and quick using Supraflow's ultra light drilling equipment. Its exclusive tubular cutter retains the coupon and shavings.

Advantages

- Branch connections without squeezing off.
- Eliminates stress cracking.
- Significant reduction in time and cost compared to traditional PE hot tapping.
- No bypass needed.
- Minimal training.
- Meets ASTM D2513.



Installation

- Tap a 6" main in 6 minutes.
- Fast connection with existing approved fittings.
- Compact drill assembly.
- One man operation.
- Install in any position.

Safety

- Intrinsically safe.
- Safe drilling and installation.
- Gas-free operation.



PLCS, LLC

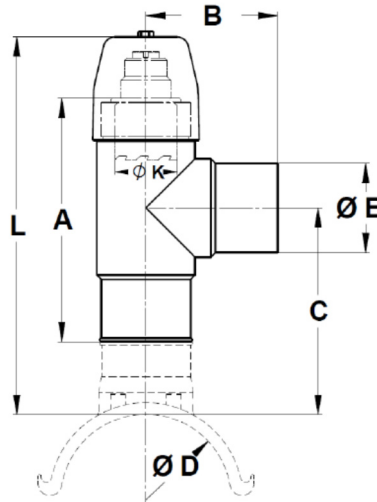
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Supraflow PE Tapping Tee Technical Data



Application	Gas
Maximum Operating Pressure	150 psi
Pipe Material	PE
Pipe Diameter	4" to 18"
Outlet Pipe Material	PE
Outlet Diameter	4", 6" and 8"



SUPRAFLOW TAPPING TEES

SIZES, REFERENCES AND APPLICATION RANGE

REFERENCE	ØD	ØE	A	B	C	L	ØK	UT / BOX
TSP4IPS8	4"IPS	4" IPS	12.32"	6.6"	10"-10.4"	18.6"-19.0"	2.44"	2
TSP4IPS9	6"-12"IPS	4" IPS	12.32"	6.6"	10"-10.4"	18.6"-19.0"	3.11"	2
TSP6IPS2	6"-18"IPS	6" IPS	12.46"	8.2"	9.2"-9.6"	18.7"-19.1"	4.53"	1
TSP8IPS2	8"-18"IPS	8" IPS	21.50"	12"	19.2"-19.6"	31.6"-32.0"	6.30"	1

* Saddle not included.

COMPONENTS

MATERIALS

TEE	PE3408 / PE4710
BODY	SAE4140 + Bichromated
BODY CAP	SAE1024 + Bichromated
PIN	SAE12L13 + Bichromated
SLEEVE	SAE1024 + Bichromated
CUTTER	SAE4140
O-RINGS	NBR, Rubber (ISO 6447 / 6448)

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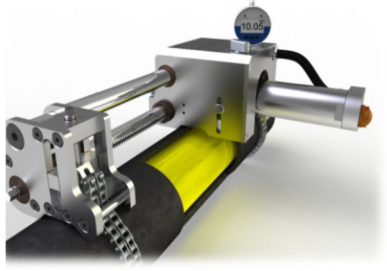
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Precision Modular Window Cutter

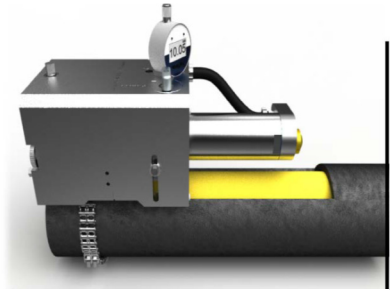
The lightweight pneumatically powered cutter has been specifically designed to quickly and safely make both longitudinal and circumferential cuts in iron and steel pipe, consequently allowing a window to be cut from the pipe wall to gain access to a previously inserted pipe.



Cutter Module



Longitudinal Cutter Module



Circumferential Cutter Module



Cuts pipe sizes from 1 1/4" diameter and larger with a maximum wall thickness up to 0.787 inches.

(Standard unit handles 4"-8" diameters and cuts a 16" long window . Optional components needed for other pipe & window sizes)

Features

- Cuts steel, iron, and plastic.
- Accuracy of cut controlled with a digital depth gauge.
- Makes longitudinal (axial) cuts from 16" to 24" without moving the machine.
- Cutting time: Approximately 30-45 minutes to cut a complete window.
- Proprietary cold-cutting non-sparking HSS blades (average blade life +/- 30 ft).
- Safety: Fully enclosed blade and air supply controlled by "dead-mans" handle.
- Compact design: Only 5 1/2" clearance required around pipe.
- Low air consumption, requiring a minimum of 32 CFM at pressures up to 100psi.
- Unit supplied complete with an air filter/lubricator.
- Optional Ultrasonic Meter: Uses sound waves to measure the pipe wall thickness when unknown. The operator can accurately set the depth gauge avoiding damage to the inserted pipe.



Dimensions and Weight:

Longitudinal Module: 28lbs, 26" long x 12 3/4" wide x 5 1/2" high (without depth gauge)

Circumferential Module: 20lbs, 14" long x 5 1/2" wide x 5 1/2" high.

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Keel Cutter by Steve Vick International

Automatic Pipe Cutting and Beveling



N450 Model

Cuts 8"-30" Pipe

Typical Cutting Speed: 5 1/2" per minute



N600 Model

Cuts and bevels 10"-60" Pipe

Typical Cutting Speed: 4" per minute

- Hydraulic powered machine cuts steel, cast iron, ductile iron, asbestos, cement and plastic pipe.
- Lightweight field durable design for easy set up and operation.
- Self propelled circumferential cutting.
- Cuts 12" cast iron pipe in about 8 minutes.
- Only 10" of clearance around the pipe is needed.



Keel Cutter comes complete with cutting unit, chain, safety handle, water coolant tank, steel wedges and tool box.

Hydraulic power pack and blades sold separately.



Tungsten tipped blade shown

- Diamond tipped blades designed for cutting cast and ductile iron.
- Tungsten carbide tipped blades cut steel.
- PE cutting blades available.

PLCS, LLC

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MACAW Pipe Crackers by Steve Vick International



The MACAW Pipe Crackers are versatile cast iron pipe breakers that can be attached to an excavator's digging arm or used as a standalone tool to easily remove old main. Much safer and faster than using sledge hammers or handheld tools.

Safe: The squeezing action is controlled remotely from the cab or road surface to gently break the pipe, preventing flying debris.

Advanced Design: Highly maneuverable and does not require full circumferential access.

Fast: Cracks pipe in much less time than traditional methods.

Efficient: The operator has precise control over the pressure applied to the cracker jaws to easily break the pipe into pieces, leaving inserted PE pipe undamaged.



Two MACAW Pipe Cracker Models are Available

Mini MACAW: Handles 4"-8" pipe



The Mini MACAW can be attached to an excavator or operated on its own, powered using a hydraulic power pack or a hand pump.

Weighing only 77 lbs, the Mini MACAW Pipe Cracker is light enough for two workers to position onto the main.

MACAW: Handles 8"-24" pipe (larger unit)



Typical excavator size:

8"-12" pipe 3,500 lbs

16"-24" pipe 7,000 lbs

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The Rapid Cracker by Steve Vick International

Hand-held cast iron pipe cracker.



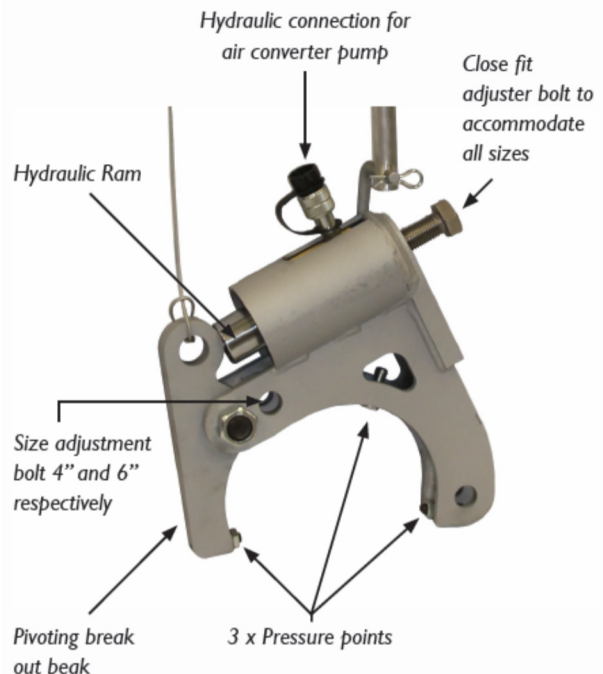
- Break out 3", 4" and 6" cast iron pipe in a couple of minutes.
- Remove the hazards of swinging a sledgehammer.
- Controlled squeezing action operated from the surface keeps worker away from flying debris.
- Lightweight, tough and highly maneuverable. Does not require full circumferential access.
- Foot operated pump connects to a standard on-site air compressor. Converts 100 psi of air into 10,000 psi of hydraulic power delivering 22 tons of break out force, leaving inserted PE pipe undamaged.



Cracking a section of 4" cast iron main.



Overview of Rapid Cracker



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Rapid Window Cutter by Steve Vick International

Compact hand-held window cutter for iron mains.



Precise, fast cutting of windows in abandoned or inserted mains without damage to internal pipe.

⇒ Use on gas, water or conduit pipes.

⇒ Cuts windows on 4" ductile iron in under 15 minutes.

Safe: Cutting blade is mounted away from operator's hand. Trigger handle equipped with automatic release.

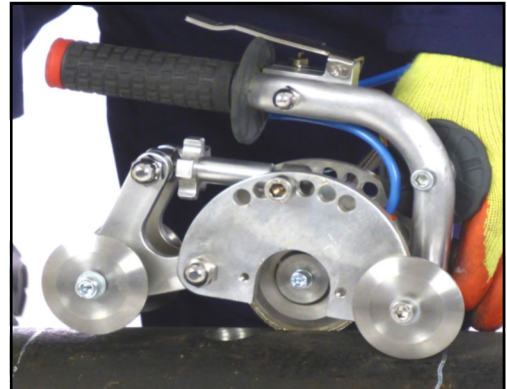
Economical: One-man operation, requires little training.

Precise: Depth control disc prevents blade from cutting too deep, ensuring no damage to internal pipe or wire. Ideal for use in Live Mains Insertion and dead insertion projects.

Lightweight: At just 9lbs, the compact design makes it easy to operate in crowded excavations.

Innovative: Its unique design allows both radial and axial cuts to be performed using the same tool.

Air Powered: Supplied with its own air filter and lubricator maximizing tool service life. Connects to typical onsite air compressor.



1/2" Maximum Cut Depth



Circumferential and Longitudinal Cuts



Window Removed



Service Connections Complete

PLCS, LLC

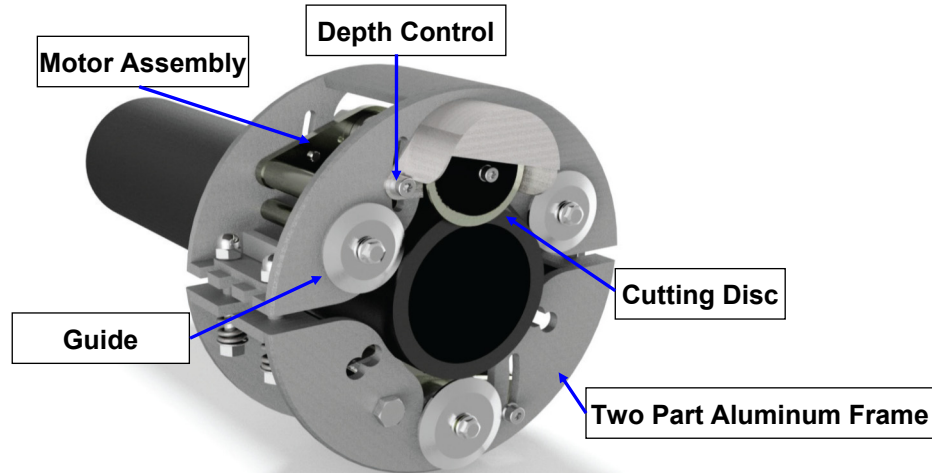
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Rapid Rotary Cutter by Steve Vick International

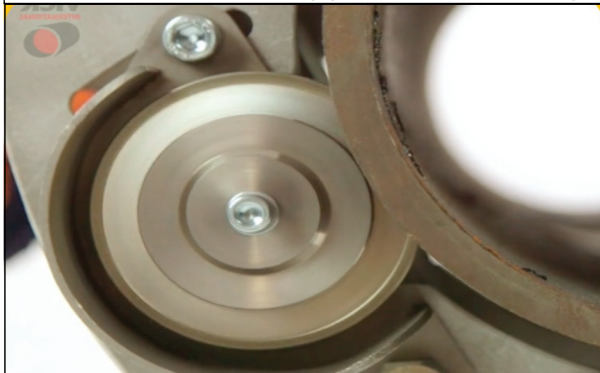
Compact hand-held circumferential cutter for ductile mains.

Cut 4" ductile iron main in about 2 minutes. Use on gas, water or conduit pipes.



Easy Assembly

Two aluminum shells connect in seconds, forming a circular frame around the pipe for accurate cutting.



Precise Depth Control
1/2" maximum cut depth

Safe: Cutting blade is mounted away from operator's hand. Trigger handle equipped with automatic release.

Economical: Easy one-man operation, requires little training.

Innovative: Motor contained in top shell. Uses one cutting disc for all pipe sizes. Includes 3 different frames to handle 3"-4", 6" and 8" pipe diameters.

Air Powered: Connects to a typical air compressor using a special air filter and lubricator unit for smooth operation and long service life.

Requires a minimum of 17 CFM at 100 psi air supply.

Exhaust: Design diverts air exhaust away from operator and prevents debris from blowing around the trench.

Precise: Depth control disc stops the blade from cutting too deep. Prevents damage to internal pipe or wire.

Ideal for use in Live Mains Insertion and dead insertion projects.

Convenient: Needs less than 6" clearance around the pipe to operate.

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Utility Air-Spade 4000—Air Excavation Tool

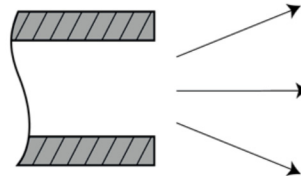
The fastest and safest method of digging without damaging buried pipes, electric or fiber optic cables.



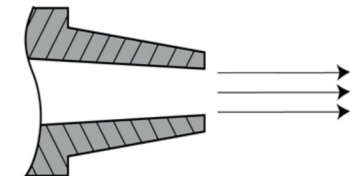
Enhances Worker Safety

The AIR-SPADE uses a patented nozzle that turns air from the compressor into a high-speed, laser-like jet moving at twice the speed of sound—1,200 mph.

UNFOCUSED AIR FLOW FROM IMPROPERLY DESIGNED NOZZLE



FOCUSED AIR FLOW FROM AIR-SPADE SUPERSONIC NOZZLE

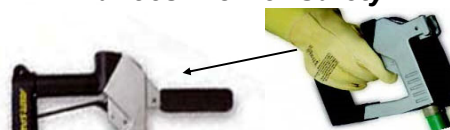


Designed with safety in mind, featuring a high-voltage insulated barrel and non-sparking components. The rugged UTILITY AIR-SPADE provides the highest degree of protection when working around underground electric, gas and other utility lines.

Its light weight minimizes operator fatigue and its air jet replaces the normal manual force needed to excavate in tight spots. It is especially valuable when used with a vacuum excavator.

The Air-Spade is great for...

- Installing Flex-Kit Keyhole Encapsulation.
- Prepping ALH System-Four tapping work.
- Exposing a pipe joint for an Anabond Anaerobic Seal.
- Roadwork utility locating.



Over-sized ergonomic handle with trigger guard and retractable stabilizer bar accommodates work gloves. Made from high strength aluminum coated with insulated rubber grip.



Insulated Fiberglass Barrel
INNER AIR HOSE rated to 75kV per ft. for 5 minutes per SAE 100R7.

OUTER FIBERGLASS TUBE rated to 100kV per ft. for 5 minutes per ASTM F711.



Non-sparking brass nozzle and brass barrel sleeves provide protection when digging in around utilities.



UTILITY AIR-SPADE 4000 KIT includes:

- UTILITY AIR-SPADE 4000 handle
- 4 ft. barrel with dirt shield
- 3 ft. extension
- 45 degree brass angled adapter
- 150 cfm supersonic brass nozzle
- 10 ft x 1" ID lightweight air hose

Rated Pressure:	90 psig (6.2 bar)	Length:	60.5 inches (154 cm)
Rated Flow:	150 scfm (4.2m3/min)	Weight:	10.4 lbs. (4.7 kg)
Barrel:	High Strength Fiberglass with Internal Hose	Nozzle:	Brass
	INNER AIR HOSE rated to 75kV per ft. for 5 minutes per SAE 100R7 OUTER AIR HOSE rated to 100kV per ft. for 5 minutes per ASTM F711	Air Inlet:	3/4" FNPT

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VOGT TurboSpade

Powerful ultra-light weight pneumatic spade for utility excavations

- Breaks concrete, rock, asphalt and frozen ground
- Perfect for keyhole excavations
- High percussion power
- Special plastic frost proof body
- Fatigue-free working
- Low air consumption

Multifunctional use:

- Variety of quick tool change bits.
- Spade, moil point, chisel, tamper, or wedge



Inline Handle Available



Vacuum excavations



Keyhole excavations



Road breaking



Difficult earth



Concrete



Tamper*

Model	Total Length	Weight	Operating Pressure	Air Consumption	Percussion Rate
VTS 50	31.5"	13.22 lbs	72-87 psi	9 CFM @ 87 psi	1960/min

Other tool lengths available

* Sold separately

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VOGT Turbo Spade - VH and VTS Technical Specifications



Type VH (Inline Handle)	50-20	50-40	50-60	50-80	50-100
Total Length:	23"	28"	36"	44"	52"
Weight:	9.48 lbs	10.36 lbs	11 lbs	12 lbs	12.5 lbs



Type VTS (T Handle)	50 (Standard)	50-40	50-65	50-120
Total Length:	31.5"	15.75"	25.6"	47.24"
Weight:	13.22 lbs	12.13 lbs	12.79 lbs	14.77 lbs

Vogt VH and VTS

Operation Pressure: 72-87 psi
Percussion Rate: 1960 / min
Air Consumption: 9 CFM at 87 psi
Sound Rating: 105 dB

Custom lengths available

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Seize-Free Drill Bits

For Drilling Bar Holes for gas leak detection



Our Seize-Free Drill Bit eliminates binding, a major cause of operator fatigue and injury when drilling through pavement.

The spiral flutes create an “auger” type drilling action to resist binding from soft asphalt or frozen ground. The bit is also effective in other types of pavement material including concrete and stone.

The one piece design includes a carbide tip, that can be re-sharpened and blowers holes at the tip for clearing debris from the cutting edges.



Seize-Free Drill Bits are designed for use in Air Powered Rock Drills with 7/8" or 1" chucks.



Seize-Free Drill Bits Specifications

Part #	Bit Diameter	Drill Depth	Shank Size	Length	Weight (lbs.)
10-553	7/8"	19"	7/8" x 3-1/4"	22"	3.25
10-554	7/8"	24"	7/8" x 3-1/4"	27"	3.75
10-555	7/8"	37"	7/8" x 3-1/4"	40"	5.25
10-558	7/8"	19"	7/8" x 4-1/4"	22"	3.50
10-556	7/8"	19"	1" x 4-1/4"	22"	3.75
10-557	7/8"	24"	1" x 4-1/4"	27"	4.25

Seize-Free Drill Bit Compatibility Fitment Table

Manufacturer	7/8" x 3-1/4" Shank	7/8" x 4-1/4" Shank	1" x 4-1/4" Shank
American Pneumatic	115, 137, 155		137, 155
Atlas Copco			
Chicago Pneumatic	CP14RR, CP22, CP-32A-87		CP69
Harper	4108, 4112		4110, 4114, 4115
Ingersoll Rand		4110, 4114	JH30AC, JH40C3
Jet	RD-15, RD-30, RD-60		RD-60
Kent			RD-619
MacDonald			
Ramit			
Sullair	MRD-30, MRD-40, MRD-50		MRD-40, MRD-50, MRD-55
Thor	14D, 15D		40066B, 40067B TS-55
Toku	THD 1100U/N, TJ-15, TJ-20		
Urhu		TJ-15, TJ-20, TS-55	

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BarSeal

Fill the void & save on costly road repairs from bar hole drilling.

Stay in good relations with the township and its residents by stopping potholes.



This new and revolutionary bar and drill hole repair and reinstatement system is a fast and permanent solution to those problematic holes.

With this simple cartridge dispensed two component polymeric material, holes can be filled in seconds even in wet conditions. Due to the materials ingress into the substrate and bond strength it produces a plug of cured material that is flexible, hard and wear resistant (*additional anti skid materials can also be added to the surface if required*).

- Three-year shelf life.
- Permanent road repair.
- Bonds tenaciously to Asphalt, Concrete, Brickwork and Steel.
- Superior sealing compared to conventional Bar-Hole Plugs.
- Provides optimum seal against surface water ingress.
- NO WASTE, Re-sealable cartridge (replace cap after use).
- Does not melt in summer (Like bar hole plugs).

TECHNICAL DATA SHEET		
Typical Characteristics of Product Supplied:		
Form:	2 Liquid Components	
Color:	Base Material:	As requested
	Hardener Material:	Clear & Yellow
	Mixed Material:	Same as based
Viscosity @ 73°F:	Base Material:	1200 mPas
	Hardener Material:	10000 mPas
Specific Gravity @ 73°F:	Base Material:	1.16 +/- 0.02
	Hardener Material:	1.16 +/- 0.02
Mix Ratio (by weight):	1 Base :	1 Hardener
(by volume):	1 Base :	1 Hardener
Gelation @ 73°F: (100 gram sample)	4 minutes	
@ 59°F: (“ “ “)	8 minutes	
Abrasion Test:	Weight Loss 0.26 grams	
Penetration Test:	0.2mm	
Typical Properties of Cured Material:		
Shore 'D' Hardness:	80 (after 72 hours)	
Application Temperature Range:	41-104°F	
Adhesive Properties:	Bonds tenaciously to asphalt, concrete, brickwork, and steel	

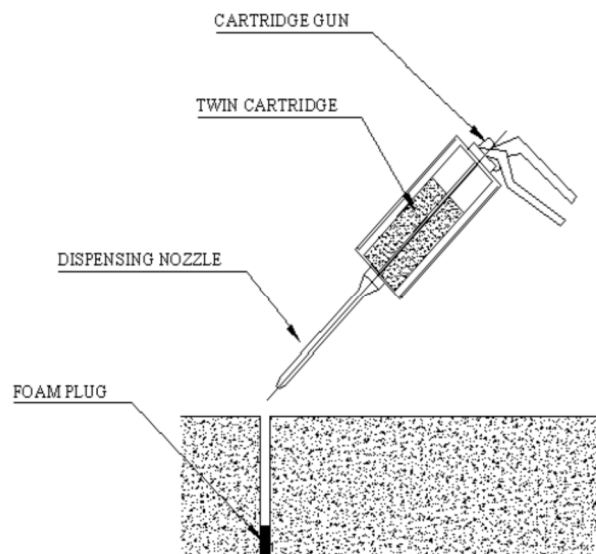
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BarSeal Instructions

- The bar hole should be 2" deep. If deeper, use the foam plug and or sand to leave 2" above it.
- Remove cartridge cap and break end seal by tapping end with hammer or on floor.
- Hold cartridge upright, remove plug and fit nozzle (retain plug).
- Install cartridge in applicator gun.
- Slowly squeeze trigger to fill hole with resin and form a small dome.
- Multiple bar holes can be filled with one cartridge within 15 minutes.
- To keep part used cartridge for future use, replace plug and cap to keep resin fresh.



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Rapid Gas Extractor

Absolutely the fastest tool for extracting gas out of the ground when pinpointing a gas leak.

Drop it in a bar hole near the main and connect it to the compressed air supply. The powerful Venturi effect vacuum quickly pulls gas towards it and vents to atmosphere.

Every first responder should have one!

- Simple
- Fast
- Lightweight
- No moving parts
- Inexpensive
- Compact



Optional vent riser and quick connect cam fitting available.



Specifications	
Part #	69-RGE
Total Length	37 1/2"
Vent Connection	2" MNPT
Suction Pipe	1 5/16" or 1" OD x 9" Long (other sizes available)
Flange Base	5 1/2" Diameter
Air Inlet Connection	1/2" NPT
Minimum Air Supply	80 CFM at 100 PSI
Ground Terminal Connector	Standard: UL 486A / Electrolytic Seamless Copper
Weight	10 lbs.
Construction	Steel

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Unique Products for the Gas Distribution Engineer

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