Petersen Quality Products for Professionals Since 1916

Petersen® 145-Series Mechanical O-Ring Test Plugs

INSTALLATION INSTRUCTIONS

Caution: To insure proper performance follow the below installation procedures.

Rated test and head pressures assume plug is inserted in a steel pipe with a wall strong enough to allow the setscrews to achieve the required torque. Customer assumes full responsibility for assuring the ability of this plug to hold itself in other types of pipe against pressure using the setscrews provided on the plug. Setscrews can be used to center the plug in the pipe and hold it in place while the compression nuts are tightened to expand the "O-Ring" seal into the pipe wall to make the seal. Tightening of the setscrews may crack the pipe of materials such as tile, plastic, or concrete. This plug must be blocked or braced by other means when not used in pipelines capable of securing the plug with setscrews. An optional internal anchoring ring is available to help secure the plug when setscrews are not adequate.

Hydrostatic (water) Test method should always be used to insure maximum safety.

Read and Understand All Instructions Before Use

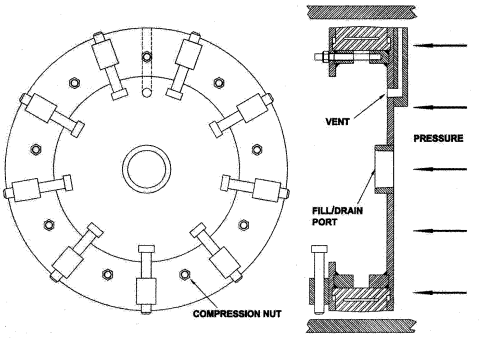
1. **IMPORTANT!** Read information on plug data tag. Plug is to be installed with solid back plate side against pressure, unless specifically quoted as a reverse pressure plug.
2. Inspect setscrews before each use and replace if necessary. **Dull, damaged, or clogged points will not hold rated pressure.** Remove all debris from pipe I.D. and wipe clean.
3. Install plug at location to be sealed. **Position the vent at the highest point in the pipe** and slightly expand the o-ring seal until light seal contact is holding the plug in place.
4. **Square the plug** with the bore of the pipe by lightly tapping the plug face.
5. **Center the plug** in the pipe by using the setscrews to jack the pipe in the required direction. After the plug is centered, lightly extend all setscrews to the pipe wall.
6. Torque all mechanical compression nuts to the torque indicated on the plug tag using a criss-cross pattern, maintaining an even gap between the plates. Repeat until the required torque is maintained on each nut.
7. Tighten setscrews (if so equipped) to required torque, using a criss-cross pattern. Use two or three stages to achieve required torque in order to keep plug square with pipe. **IMPORTANT:** Use a torque wrench to tighten the set screws. Do not expect the plug to hold the rated pressure if proper set screw torque cannot be assured.
8. Retorque all setscrews until all "take-up" due to stress relaxation is eliminated, and torque requirement is met.
9. **NOTE: Thin wall pipes must be supported by a pipe clamp on the O.D. of the pipe; the plug WILL NOT hold without adequate setscrew bite.** Contact Petersen if this is the case.
10. Petersen® Mechanical O-Ring test plug installation is now complete.

NOTE: When installing in lined steel pipe (concrete, plastic, or other lining), the plug should be installed as above and then removed. The cup-point setscrews must then have the cup cleaned of the pipe lining material. Inspect the pipe to see that all of the setscrews have punched out a small piece of the lining material. The plug can then be re-installed in the same position, allowing the setscrews to register into the pipe wall. Inspect setscrew cup points after each use to insure that all debris is removed and that the edges are still sharp. Replace any dull or damaged setscrews.

Petersen Product Co. is not liable for damages resulting from improper use or application of this device. Read and understand all instructions before using this device. This product has been factory tested and guaranteed to the pressure stated on plug tag plate when installed and used correctly. Always consult the factory if there is any uncertainty.

Petersen Products • P.O. Box 340 • 421 Wheeler Avenue • Fredonia, Wisconsin 53021-0340
Tel: 800-926-1926 / (262)-692-2416 • Fax: 800-669-1434 / (262)-692-2418
Email: sales@petersenproducts.com • www.petersenproducts.com

Removal Instructions



1. Insure that all pressure is released from both sides of plug.
2. Drain as much water as practical from pipe.
3. Remove all fittings, hoses, and pipes from the plug.
4. Relax the O-ring compression nuts.
5. Progressively loosen the setscrews (if so equipped) in a criss-cross pattern until the plug is free, and remove it from the pipe.

Storage and Maintenance Instructions

1. Completely relax all compression nuts.
2. Remove mud and debris from plug (disassemble and rinse plug if necessary).
3. After the plug is clean and dry, remove all fasteners one at a time, lightly grease, and reinstall.
4. Store plug away from direct sunlight, as ultraviolet ray exposure will deteriorate the rubber seal. Store plug off the ground on wood blocking.

Optional Internal Anchoring Ring

The optional internal ring is to be used in conjunction with a Mechanical pipe plug when the subject pipe is too thin or brittle to allow the proper torque for the retaining setscrews. When this ring is used, the plug no longer relies on the setscrews upsetting the surrounding pipe to hold itself in place, but relies instead in the axial force produced by the torque on the screws and the coefficient of friction between the ring and the pipe. Since the coefficient of friction can vary greatly, the pipe and ring should be as clean as practical; grease, oil, or algae growth will cause a loss of holding force.

1. Place the plug in the pipe with the setscrews retracted so that the tips are not protruding from the threaded blocks.
2. Hold the bend tabs at the ends of the ring together, and slide the ring into the pipe and over the setscrew blocks, with the tabs in the space between two adjacent blocks.
3. Use the setscrews on the plug as jackscrews to center the plug in the pipe; then extend all setscrews until they lightly contact the ring and push it against the pipe wall.
4. Torque the setscrews in a criss-cross pattern, tightening them in stages until the required torque is sustained by each screw. Note that as each screw is torqued, it will tend to relieve the load on those screws previously torqued. It may take several iterations until screws hold the required torque.
5. Revert to the plug installation instructions to complete the plugging process.

Petersen Products Co. cannot be responsible for the material, condition, and strength of the pipe into which this device is installed. It is designed for the rated pressure only if the pipe wall is strong enough to allow the setscrews to achieve the required torque. Contact the factory with any questions on the application of this device.

Petersen Products • P.O. Box 340 • 421 Wheeler Avenue • Fredonia, Wisconsin 53021-0340
Tel: 800-926-1926 / (262)-692-2416 • Fax: 800-669-1434 / (262)-692-2418
Email: sales@petersenproducts.com • www.petersenproducts.com