

Air-Loc® Pressure Testing Systems



Air-Loc® Low Pressure Air-Testing system has been successfully used for pipeline testing for over thirty-five years. This method of testing pipelines has proven to be the **fastest, most economical and accurate method for testing pipe.**

Historically, sewer pipe was tested using water through either an infiltration or exfiltration test. In an infiltration test, groundwater entering into the pipe is monitored through the use of a weir. Conversely in an exfiltration test, water is introduced into the pipeline and the water level is monitored over a specified period of time, usually twenty-four hours.

Water testing of pipelines for infiltration presents problems. For instance, a faulty segment of pipe could pass the test due to no groundwater being present. Also it is difficult to use the metering equipment to measure water flow. Water exfiltration tests also present certain problems. First, if ground water is present, water will not escape from pipe, resulting in inaccurate test results. Secondly, this method of testing pipe is very expensive and time consuming. In either case, once it is determined that there is a leak, there is no method of determining where the leak is.

As a result, **Cherne Industries developed a method for testing leaks using air pressure** which has become the industry standard. Air-Loc Testing Systems from Cherne are available in three different packages:

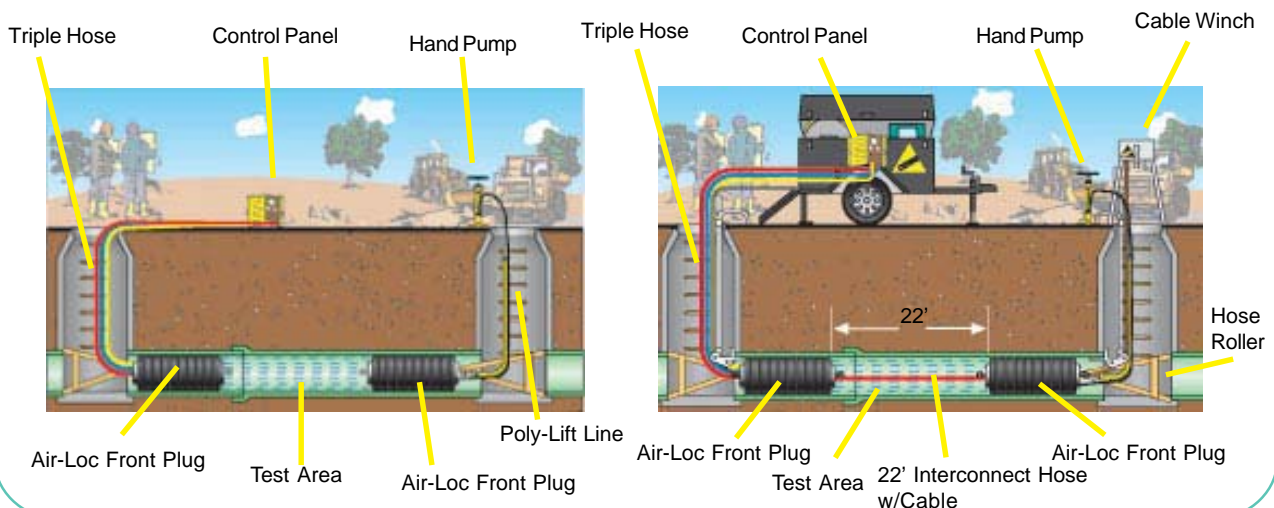
1. Air-Loc® Line Acceptance Kit. Used to perform a low-pressure air test from manhole to manhole. This is done by installing two Cherne Air-Loc plugs and using Cherne's Air-Loc Panel to inflate the plugs and pressurize the pipeline. The test pressure is monitored for a predetermined amount of time for any decrease in pressure. If pressure drops less than 1 psi, the test passes. If a leak is detected, additional equipment is required to isolate the leak.



2. Air-Loc® Leak Location Kit. If the line acceptance test indicates a leak in the sewer line, it becomes necessary to locate the leak(s) so that proper repairs can be made. The Leak Location Kit provides everything needed to perform a leak location (segment) test except for plugs and an air source.



A leak location (segment) test is accomplished by first stringing the sewer line using a Cherne Air-Loc Line Stringer or float line. Once strung, a winch cable is used to pull two Air-Loc Leak Locator plugs, which are attached together with an interconnect hose, through the pipeline in 22' intervals. Air is introduced between the plugs at each 22' increment until the test fails. Then, by moving the plugs back and forth, the leak can be isolated within two feet.



Air-Loc® Fan Assemblies



Line Stringer

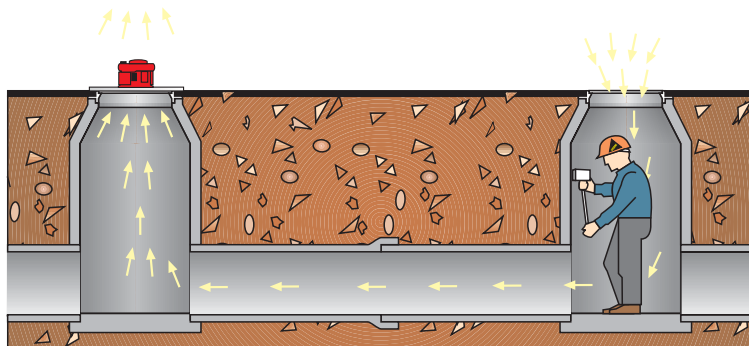
The versatile Air-Loc® Fan Assembly can be used as a line stringer, smoke blower and ventilator. Made from **lightweight cast aluminium**, this assembly includes a 5HP Honda or Briggs & Stratton engine and top mounted handles for easy manoeuvrability.

Line Stringer - will string a 300 foot section of sewer line in less than one minute without plugging the line. The vacuum created by the line stringer pulls a lightweight nylon parachute through a wet or dry line.

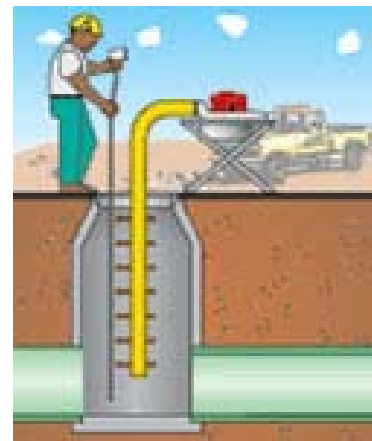
Ventilator - supports OSHA guidelines for confined space entry. Cherne Ventilators provide up to 2,350 CFM as a blow-in ventilator and up to 3470 CFM1 as a suction ventilator. Cherne's suction ventilator **outperformed similar competitive models by 40%2 at 3" of static pressure.**

1 - CFM performance based on independent laboratory tests. When tested side-by-side at an independent air flow laboratory, the Cherne Line Stinger, Ventilator, and Smoke Blower beat the competition at every flow condition.

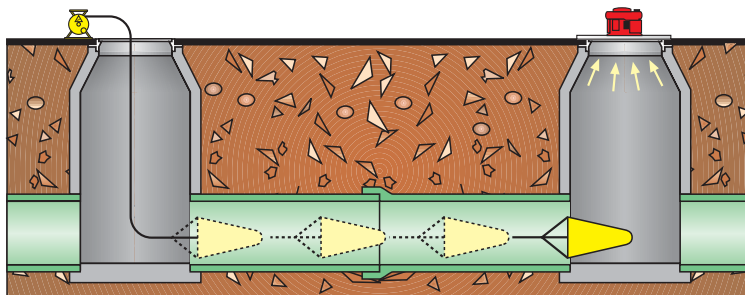
2 - A copy of the independent lab results available upon request.



Suction Ventilator



Blow in Ventilator



Line Stringer

Air-Loc® Smoke Testing Products



Smoke Testing

Smoke testing sewer systems was introduced in the early 1960's as a method of identifying areas where extraneous water was entering sanitary sewer systems. Today, smoke testing is known to be a proven method of effectively identifying inflow (storm/ground water entry into sanitary sewer), connected roof and basement drains, yard drains, illegal taps, and storm sewer cross connections.

Reducing inflow and infiltration saves costs from treating groundwater at wastewater treatment plants. The Environmental Protection Agency has instructed municipalities to eliminate inflow and infiltration into sewer systems. Smoke testing sewer systems is an effective way to accomplish this goal.

Smoke testing is accomplished by isolating a section of sewer line and introducing smoke into the line utilizing a smoke blower and smoke-generating device. (Important: Notify all local authorities and citizens before conducting smoke tests! Cherne provides guidelines for properly preparing and announcing to the community that a smoke test will be conducted.) Lines are first isolated using pipe plugs. Then smoke is introduced into the sewer system. The test crew then checks buildings, roof vents, the street, and other areas that potentially could be a source of extraneous water and records those locations for corrective follow-up.

Smoke Blowers

Cherne offers the broadest line of smoke testing equipment available today. Our smoke blowers are available for either traditional "smoke bombs" or liquid smoke fluid. Available with Honda or Briggs & Stratton engines, our units generate up to 37691 cubic feet per minute of airflow to quickly introduce smoke into the sewer system. Cherne's blowers are made of lightweight cast aluminium and feature a 1/2" foam cell gasket to insure a leak-free seal on manholes and minimize vibration. The traditional smoke blower has a smoke bomb box holder, whereas the liquid smoke blower is supplied with a pressurized tank, hose and all components necessary to conduct the smoke test.

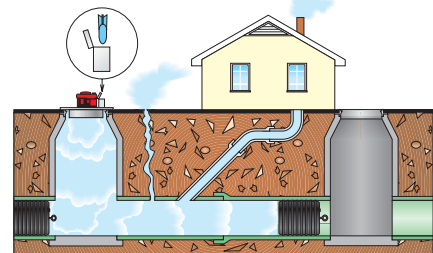


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Smoke Products

Smoke Generating Devices

Cherne Smoke Generating Devices (SGD), or "smoke bombs", produce a thick, dense smoke that is highly effective for performing smoke tests. Smoke generating devices are time-proven, simple to use, and can be used by them selves or with most smoke blowers on the market today.



Traditional "Smoke Bomb" Blower

Smoke Fluid

Cherne's Smoke Fluid also produces thick, dense smoke to effectively perform smoke tests. While Smoke Fluid requires some additional equipment to perform a smoke test, municipalities have found smoke fluid to be easy-to-regulate and has virtually an indefinite storage life.



New "Liquid Bomb" Blower

Air-Loc® Manhole Testers

Air-Loc® Manhole Testers provide the most **efficient, accurate, and cost effective method of testing** new, existing, and rehabilitated manholes. Vacuum testing identifies infiltration and exfiltration problems. The Air-Loc manhole testing system allows you to test manholes within minutes. It provides immediate leak detection, before or after ring installation and backfilling, while also eliminating expensive/time-consuming water tests. Manhole testing is performed by creating a vacuum in the manhole and monitoring a gauge for vacuum loss. The head assemblies are made of lightweight aluminium, making them the **lightest units available**.



The Cherne vacuum pump draws 10" hg at a rate of **15 CFM** and features an **oil-free** graphite vane pump - **no cumbersome lubrication system**. Cherne's pump also offers **aluminium filter jars** - will not break like competitor's glass jars. The vacuum pump draws 10" hg vacuum in approximately 2 minutes for a 15' deep manhole.

The head assembly is available in both **bladder** and **plate styles**. The **bladder style** seals the inside diameter of the manhole and is supported by a durable, aluminium brace. An aluminium pushpin rod connection allows for easy depth adjustment. The **plate style** tester seals the surface of the manhole frame or cone. It has a 1" neoprene gasket to ensure a leak-free seal. Sealing a wide range of manhole diameters makes this a very versatile product.



Vacuum Generator



Vacuum Generator shown with Plate style Manhole Tester

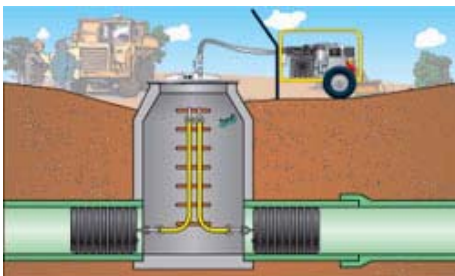
The Air-Loc Vacuum Generator allows vacuum testing of a manhole without the use of a separate vacuum pump. This device turns your standard air compressor into a vacuum source for testing manholes. Simply attach the unit to a head assembly and an air compressor to draw a vacuum in minutes. The vacuum generator 450 produces 14 CFM at 10" HG and the NEW Vacuum Generator 600 produces 42 CFM at 10" HG.

Air-Loc Manhole Testers conform to ASTM Specification C1244 Standard Test for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test and ASTM C1227 Standard Test for Pre-cast Concrete Septic Tanks.

How to Locate a Leak

Manhole testing is performed by creating a vacuum in the manhole and monitoring a gauge for vacuum loss. If a loss does occur, there is a simple way to locate the leak. You simply pour soapy water on the inside walls of the manhole, draw another vacuum and then look for the bubbles and you have identified the location of your leak.

**Always block plugs when conducting air tests!*



Soapy Bubble Leak Detection Test

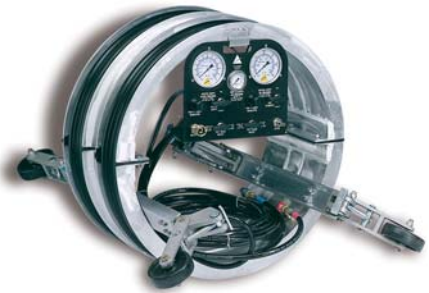


Plate Style - Seals frame or top of cone. Works great if manhole is exposed or before backfilled.

Bladder Style - Seals inside the frame and above or below grading rings. Works well on both existing and newly installed manholes.

Air-Loc® Joint Testers

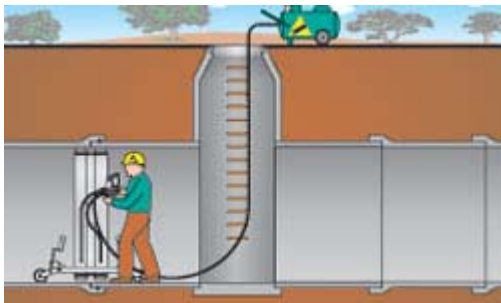
Cherne's Air-Loc® Joint Tester is designed to test large diameter, installed pre-cast concrete pipe as described in ASTM Specification C1103, Standard Practice for Joint Acceptance Testing of Installed Pre-cast Concrete Pipe Sewer Lines.



Sleeveless and lightweight aluminium design allows for assembly in manholes, wet wells or other confined spaces.

Independent adjustable wheels make aligning and moving the tester easy. The control panel uses quick disconnect fittings for ease of installation and removal. The panel's top mounting **will not interfere with laser usage** and safeguards against potential damage from water in the pipe. Use with packer sleeve to repair leaking joints.

Ready to test with water or air straight from factory, no need for modification. Tests pipe per ASTM spec. C1103-94. Capable of testing to 15 psi air or 50 psi water.



- Available plain w/out panel & wheel kit.
- Replacement end elements.

Metric sizes or custom designs are also available.

Air-Loc® Joint Tester Accessories

The Sealing Sleeve Conversion Kit is used to convert an Air-Loc® Joint Tester into a urethane grout or acrylamide (custom - upon request), joint tester/packer. Sealing Sleeve Conversion Kits are available for all standard Joint Tester sizes. Metric and custom sizes are available upon request.



Packer Sleeve Conversion Kit

Cherne Can Solve Your Custom Needs!



Aqua-Loc® Hydrostatic Test Pumps

The Aqua-Loc® Hydrostatic Test Pumps are designed for pressure testing water lines and sewer force mains. All Cherne Hydrostatic Test pumps are designed to be the **most user friendly pumps in the industry.**



Part #	Description	Weight
Aqua-Loc® Hydrostatic Test Pump - Diaphragm Style		
278 058	Diaphragm-style test pump: Briggs & Stratton engine* (includes 12' output and 10' intake hoses)	154 lbs (70 kg)
278 068	Diaphragm-style test pump: Honda engine (includes 12' output and 10' intake hoses)	154 lbs (70 kg)
039 168	Optional 16 gallon-capacity water tank	15 lbs (7 kg)
045 918	Optional wheel kit	22 lbs (10 kg)
Aqua-Loc® Hydrostatic Test Pump - Piston Style		
278 148	Piston-style test pump: Briggs & Stratton engine* (includes 12' output hose)	154 lbs (70 kg)
278 138	Piston-style test pump: Honda engine (includes 12' output hose)	154 lbs (70 kg)
045 918	Optional wheel kit	22 lbs (10 kg)
Aqua-Loc® Hydrostatic Test Pump - High-Volume 35 GPM Diaphragm Style		
278 178	High-volume diaphragm-style test pump: Honda engine (includes 12' output and 10' intake hoses)	200 lbs (91 kg)
045 918	Optional wheel kit	22 lbs (10 kg)

EHLE SMOKE UNIT

'Fog-smoker' is a compact but powerful unit with integrated fan. This unit is especially suited for professional inspection of tubes, sewers, and tanks to locate leaks and wrong connections. 10 different air and fog volumes can be selected at the control panel (soft keyboard). The fog fluid creates a dense white fog, but no health hazard.



Accessories Available:

- Plastics hose DN 50mm with "Storz C" coupling and guiding tube.
- Telescope guiding rod with quick couplings.
- 5 litres fogging fluid in 1 container
- Remote control panel
- Rubber mat 120 x 120cm
- Additional fogging fluid
- Rugged transport case max. length 19.5

Technical data:

Dimensions (L x W x H) : 560 x 295 x 350mm
 Weight (incl. 5 l fluid) : 21.5kg
 Max. power consumption : 2,400 Watt (230 or 110V)
 Fluid consumption : with max. output : 120 ml/min
 With permanent operation : 35 ml /min
 Air output: about - 3,000 lpm

Accessories



Control Panel

