

Small Diameter PCB Pipe Sampler

Description: A device designed to perform PCB swab samples from the interior of gas mains and services sized 4" and smaller.

Status: A revised version of the prototype has been designed and constructed. Shop testing is underway for the new prototype.

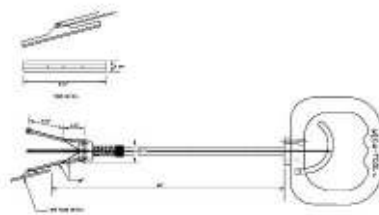
BENEFITS

The Small Diameter PCB Pipe Sampler is the solution to sampling pipes that are a challenge for an operator to attain manually. The device can sample pipe sizes ranging from one to four inches.

BACKGROUND

Many gas mains and services in use today may have been installed more than fifty years ago. Over their lifetime, these pipes might have undergone PCB deposition. The PCB Mega Rule, issued by the US Environmental Protection Agency (USEPA) in 1998, details a process by which gas utilities must characterize pipe prior to their abandonment or disposal. At the core of the process is the acquisition of wipe samples which are then analyzed for the presence of PCBs.

While there are several options for taking samples from large diameter pipe, sampling of pipe four inches and less is a challenge. The Small Diameter PCB Pipe Sampler addresses this issue.



Second Prototype Design

TECHNICAL APPROACH

NYSEARCH has retained New York State Electric & Gas Corporation (NYSEG) to construct the Small Diameter PCB Pipe Sampler, and Weston Solutions, Inc. to conduct laboratory testing of the unit. The first prototype required redesign due to material and dimensional issues. The new design uses all stainless steel parts to prevent cross contamination, and incorporates fundamental mechanical design changes. The new design employs the use of spring-actuated expanding arms in its design. A preset spring tension enables the arms to apply a repeatable force to the inner walls of the pipe. A retainer on one of the expanding arms houses the hexane soaked gauze.

PROJECT STATUS

The USEPA has approved the prototype test plan. The second prototype design has been further detailed and constructed by Allen Tool Phoenix, Inc. (East Syracuse, NY) The design incorporates interchangeable sample retainers custom fitted for popular pipe sizes between 1" and 4". Once shop testing is completed, the prototype will be tested at the independent laboratory. Upon successful completion of the lab testing, the units will undergo field-testing, market reviews, final regulatory approvals, and commercialization.



Completed Prototype



Great Degree of Flexibility



Close-up of Sample Retainer & Spring Loaded Arms

HIGHLIGHTS

- Provides PCB Mega Rule compliance testing while servicing small diameter pipes.
- Facilitates convenient PCB sampling of pipes inaccessible by hand.
- Protects technicians from cuts and scrapes by keeping technicians' hands away from sharp pipe

FOR ADDITIONAL INFORMATION

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