

ASME PTC 4.2 Pulverized Coal Flow Measurement System

The ASME PTC 4.2 Measurement System is utilized to sample particulate flow carried within an air stream. By isokinetically extracting the sample, the particulate flow rate can be determined. The sampling probe features a single, slotted nozzle meeting the geometry specifications of the ASME method. The probe is inserted into a pipe and positioned at different radial positions over the duration of the test.

The particulate extraction is via a vacuum system with the extraction rate set by the operator based on the known average air velocity within the pipe. The probe insertion depth at each of the test ports is performed manually with a uniform sample time at each point. A particulate collection system separates the sample, which is weighed after each test to calculate the total pipe particulate flow.



Particulate sampling in a coal piping system



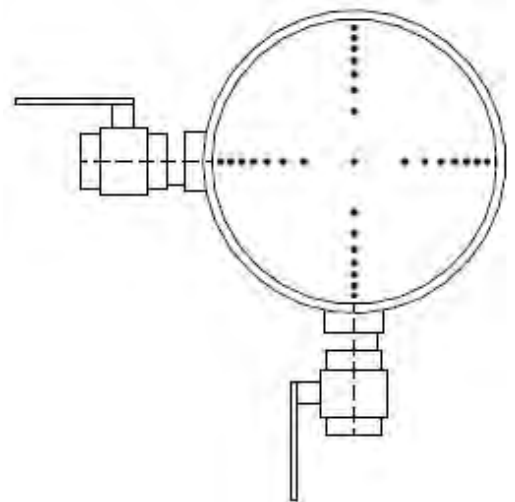
ASME probe head with single nozzle

The sampling probe requires a minimum of a 1.0" inner diameter test port. A dustless connector is used during probe insertion to ensure that particulate does not escape when the pressure in the pipe is positive.

Typically, the coal pipes have a minimum of two test ports, as shown at right. The probe is inserted such that each sample point represents an equal cross sectional area.

The ASME sampling probe can be manu-factured to a variety of specifications. Typical features are listed below, though custom orders are available:

- Pipe diameter – 12" to 32"
- Probe body diameter – 1"
- Level indicator (to ensure proper alignment)
- Material – 304 stainless steel
- Dustless connector – 2" threaded NPT pipe thread



*Test point distribution, round pipe, 2 test ports
(13 insertion depths, 25 sample locations)*

ASME PTC 4.2 Test System

The complete ASME PTC 4.2 Testing System includes the following items:

- Sample probe with single, slotted nozzle
- Level / alignment indicator
- Probe support bushing and seal air fitting
- Sample tube bundle (up to 25' length, grounded)
- Extraction rate control system: vacuum, valve, calibrated flow orifice (requires compressed air at 80 psi and AC power source)
- Particle collection system (cyclone or filter bag)
- Users manual
- Shipping case
- 1 year limited warranty
- Email or telephone technical support (US Eastern time zone business hours)

