

IsoAsh: Isokinetic Flyash Sampling



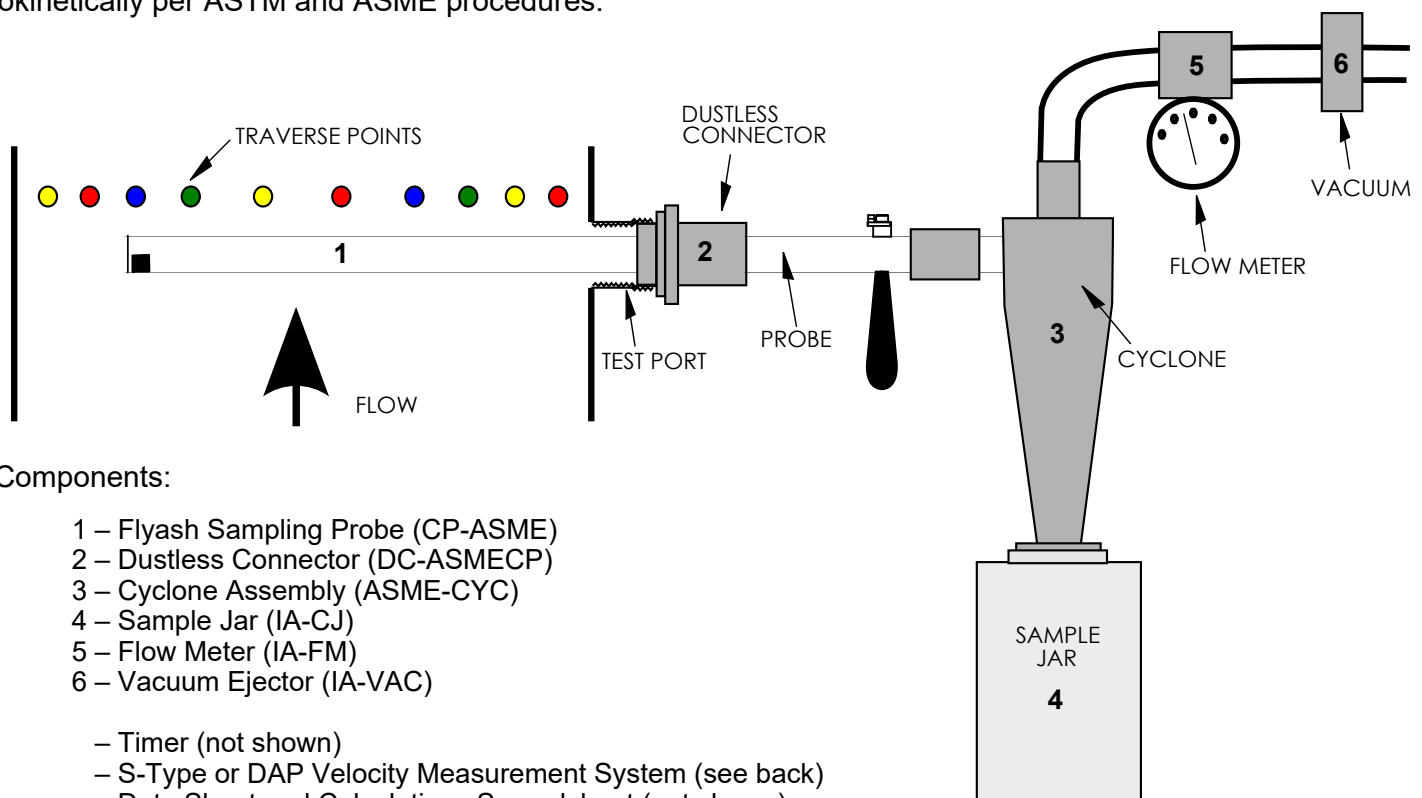
The Isokinetic Flyash Sampling System (IsoAsh) by Airflow Sciences Equipment, LLC (ASE) allows for quick and accurate flyash sampling from ducts and pipes. The IsoAsh is based on two industry test protocols: ASTM D3154 (velocity measurement) and ASME PTC 4.2 (isokinetic sampling). The primary use of the equipment is on small ducts and pipes where EPA Method 5 or 17 is impractical or not required.



IsoAsh sampling in a piping system

The IsoAsh System probes are inserted into the flow stream and positioned at specific locations over the cross section. First, the flow velocity is measured using either an S-Type Pitot or a Dirty Air Pitot (DAP) probe. Then, the flyash sampling is performed via a vacuum system with the extraction rate controlled by the operator. The flyash is captured in a cyclone separator and weighed after each test to calculate the flyash flow rate. The samples can be used for fineness or chemical composition testing.

The complete IsoAsh Sampling System by ASE provides all the basic equipment needed to sample flyash isokinetically per ASTM and ASME procedures.



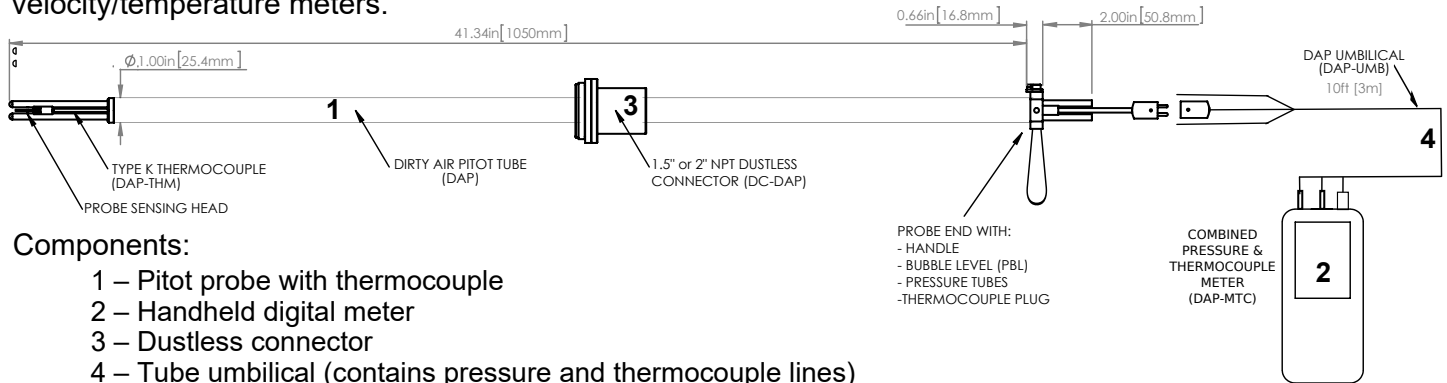
Components:

- 1 – Flyash Sampling Probe (CP-ASME)
- 2 – Dustless Connector (DC-ASMECP)
- 3 – Cyclone Assembly (ASME-CYC)
- 4 – Sample Jar (IA-CJ)
- 5 – Flow Meter (IA-FM)
- 6 – Vacuum Ejector (IA-VAC)

- Timer (not shown)
- S-Type or DAP Velocity Measurement System (see back)
- Data Sheet and Calculations Spreadsheet (not shown)
- Users manual, Certificates of Calibration (not shown)
- Carrying Case (Optional, not shown)

Velocity Measurement Options

The IsoAsh system includes a pitot probe and instrumentation to measure the flow velocity prior to flyash sampling. There are two probe options based on the operator preference and/or flyash loading. The S-type Pitot Probe is a standard design and is suitable for most applications. The Dirty Air Pitot (DAP) is also available and is less prone to pluggage if flyash loading is high. Both probes come with a thermocouple and velocity/temperature meters.



Components:

- 1 – Pitot probe with thermocouple
- 2 – Handheld digital meter
- 3 – Dustless connector
- 4 – Tube umbilical (contains pressure and thermocouple lines)
 - Users manual (not shown)
 - Certificates of Calibration, Calculations Spreadsheet (not shown)

IsoAsh: Details and Specifications

The IsoAsh sampling probes can be manufactured to a variety of specifications. Typical features are listed below, though custom orders are available:

- Pipe diameter – 8" to 32" [203 to 812 mm]
- Probe body diameter – 3/8" to 1" [9.5 to 25.4 mm]
- Material – 304 stainless steel
- Dustless connector – 1.5" [38.1 mm] or 2" [50.8 mm] NPT thread



Isokinetic flyash sample system



S-Type Pitot Probe



DAP velocity probe



S-Type or DAP Velocity Measurement System



Dustless connector