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Permanently Mounted High Volume Flyash Sampler System Standard

Introduction

The ICT Permanently Mounted High Volume Flyash Sampler is a cost effective method for collecting a fly ash sample for loss on ignition (L.O.I) analysis. The system allows for multi-point samples to be taken with minimal set-up and extraction time. The layout of the sampler is depicted in Figure 1 below.

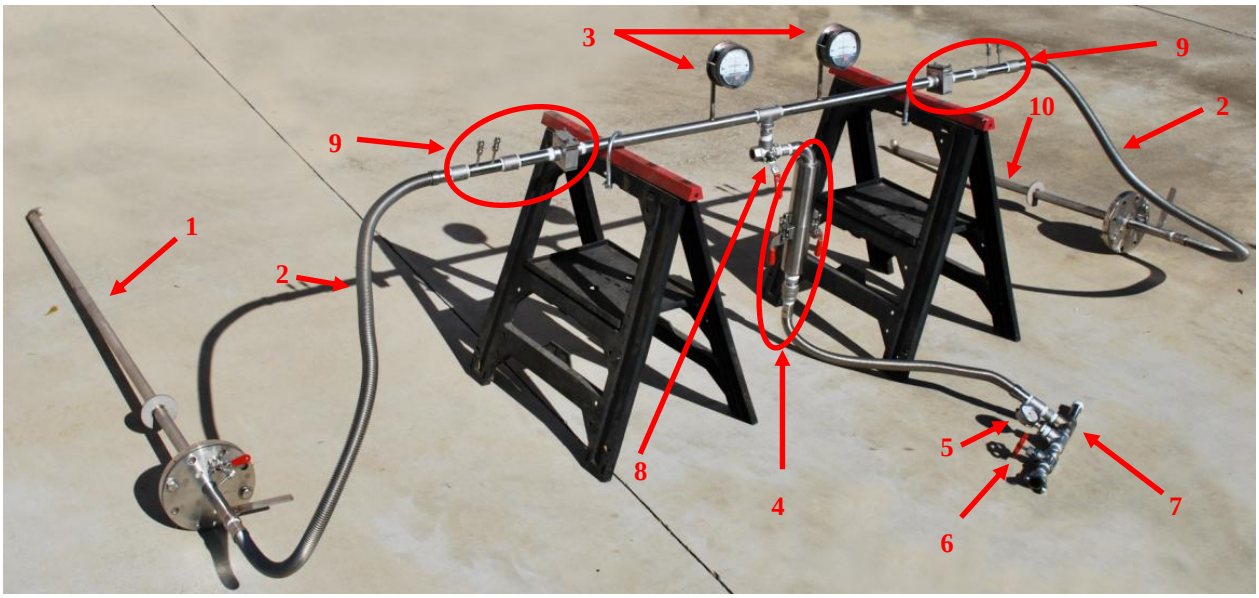

Figure 1: Fully Assembled Permanently Mounted Volumetric Flyash Sampler

Table 1: Permanently Mounted High Volume Flyash Sampler Components

Part No.	Part Description
1	*6' Permanently Mounted Probe*
2	*6' Stainless Steel Flex Hose*
3	*Magnehelic Gauges*
4	*Sampling Canister with 2' Stainless Steel Flex Hose*
5	*Aspirating Air Pressure Gauge*
6	*Aspirating Air Valve*
7	*Jet pump Aspirator*
8	*Three-way Valve*
9	*Flow Balancing Orifice and Orifice Box Assembly*
10	*3' Permanently Mounted Probe*

Collecting a Sample

Caution: The sampler piping and collection assembly may become very hot when in use. Use appropriate PPE and precautions when handling the sampler components.

1. Before each use, the sampler should be back blown to clear any ash from the components.

2. As shown in Figure 2 below, and by using the draw down latches, detach the two parts of the sampling canister from each other.

Figure 2: Easy Access Latches

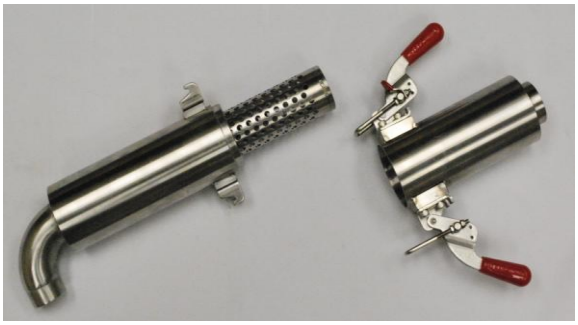

Figure 3: Insert the Filter Paper into the Perforated Cylinder

3. Un-screw the perforated cylinder and make sure that it is free of flyash from previous sampling.

4. Insert the high temperature filter paper (thicker – more friable), which is rolled inside a sheet of standard filter paper (thinner - fiberglass), into the cylinder. Replace the loaded cylinder into the canister and securely close with latches.

5. Rotate both probes so that they are pointing into the flow of the flue gas and lock in place.

6. Start the sampler by opening the aspirating air valve until both Magnehelic Gauges read approximately 3.5" w.c. Maintain aspirating air at this value for approximately 30 minutes to obtain an adequate sample. The required time may vary, depending on boiler efficiency.

7. Once the appropriate time has passed, rotate the probes 180º, so that the nozzle tips of the probes are pointing in the same direction of flue gas flow.

Note: To prevent loss of sample maintain the aspirating air until the three-way ball valve is positioned to isolate the sample canister from the duct.

8. Turn the three-way ball valve so that the collection canister is isolated from the duct. The aspirating air pressure can be lowered to approximately 5 psi once the three-way ball valve has been switched over. Allow the collection canister to cool down until it is able to be handled safely.

9. To remove sample, release the draw down latches and open up the sampling canister. Carefully unscrew the perforated cylinder being careful not to lose any sample. Transfer the flyash into a collection bag and blow out / clean sampler for the next sample. Ensure that the hot canister does not come into contact with the sample bag when transferring the sample.