



Thermal Instrument White Paper

Large Pipe / Duct Gas Measurement

Multi-Point Insertion Probe Model # 62-9MP

Let's face it, a perfect flow profile is not always available or sometimes the line size is so large it requires multiple measurement points to get the job done. Our Model # 62-9MP Multi-Point Insertion Probe is the perfect solution for large ducts, pipes, or stacks where air or gas measurement is required. Our Multi-Point Insertion Probe provides the ease of an insertion probe for installation, with multiple measurement points across a large flow profile.

When the application calls for measuring flow in large ducts, pipes, or stacks, an instrument with multiple measuring points can help provide a solution. Our Model # 62-9MP can measure at different locations across a flow profile simultaneously, and then transmit that data so our customers can effectively manage their processes.

The Thermal Instrument (Model # 62-9MP) Multi-Point Probe allows for up to (6) flow measurement locations per probe and can be inserted across a pipe, duct, or stack. The flow rate is measured at different points across the insertion probe and the flow rate information is averaged. The averaged flow rate information is then sent to the electronics. Our electronic transmitter receives that data and transmits it across a 4 – 20mA signal to a PLC, DCS, etc.

In addition, the electronic transmitter can receive average flow rates that are being sent from more than one probe inserted into a duct, pipe, or stack. In some instances, the use of multiple insertion probes will provide a more accurate measurement of the process fluid allowing the end user increased confidence in the data they are receiving from the

various flow measurement points along the process line.

Recently, a large television company with manufacturing operations in South Korea was in need of measuring the VOC gases being generated during their manufacturing process. They were flowing the VOC gases through a 70" x 70" square duct at a rate up to 4000 NM³/Min. In addition, the instrument was going to be placed up to 200' away from the control center so a remote electronic transmitter was specified.

Thermal Instrument went to work with our local representatives to engineer and manufacture a multi-point probe 72" in length and 2" in diameter with (3) separate measurement points to capture the entire flow profile across such a large duct. We then married this with our Remote Model 926A Electronics that would accurately capture the (3) different flow rates, average those rates, and then transmit the final rate to the customer's PLC in their control room.

Benefits of using a Thermal Instrument Multi-Point Flow Meter:

- ***Measuring Flow in large ducts, pipes, and stacks***
- ***Does not need a Flow Conditioner***
- ***Provides High Turndown to capture low and high ends of the flow range***
- ***Up to 6 measuring ports per probe are available***
- ***Can utilize more than 1 insertion probe to gain best flow rate average***

Contact us or one of our sales partners for more information.



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