InnovaMass iSeries 240i/241i
INLINE
INSERTION with Probe Retractor (easily adjusts up and down with standard drill)

In 1997, Sierra was the first to introduce a combination volumetric vortex and multi-variable mass flow meter. Today, Sierra’s completely redesigned InnovaMass ® iSeries ™ builds on two decades of success measuring five process variables for gas, liquid and steam with one connection.

Now, with the latest hyper-fast microprocessors, robust software applications, field diagnostic and adjustment capability, and a new state-of-the-art flow calibration facility, Sierra’s vortex iSeries delivers precision, performance, and application flexibility never before possible.

It has Apps!
Experience innovative flow energy management tools driven by our new Raptor II OS that will empower your process and save you time and money

- FloPro™ vastly improves low flow measurement calculation
- Dial-A-Pipe™ allows you to quickly change pipe sizes in the field
- Dial-A-Fluid™ measures a variety of fluids whenever you choose
- qMix™ makes/measures custom gas mixtures
- Many more apps to come

Field Independence
With Sierra’s advanced Smart Interface Portal (SIP), tap into your InnovaMass and bring up a variety of powerful software interfaces to enhance your meter’s performance.

- Meter Tuning™ cancels environmental noise, greatly improving accuracy
- ValidCal™ Diagnostics closely monitors meter performance and validates output
- Make fast firmware upgrades in the field
- Expect a mobile app for your cell phone in 2016

World-Class Flow Calibration Facility
Every flow meter is only as good as its calibration. Each InnovaMass is calibrated by Sierra’s new calibration facility in Monterey, California, to assure the best possible performance. Flow standards with accuracies better than 0.2% of reading are used to assure the highest accuracy possible.

Next Day Shipping
Go to Sierra’s online store to custom configure and buy InnovaMass. We stock select models for next day shipment. Sierra is the only company in the industry where you can buy vortex meters factory direct. Visit sierrainstruments.com/shop

Learn More
See the back of this data sheet for technical details or visit sierrainstruments.com for more information on the InnovaMass iSeries.

(EpA’s Boiler MACT Compliance)

Tuning Your Boiler for EPA Boiler MACT Compliance
What is Boiler MACT?
Boiler MACT (Maximum Achievable Control Technology) is an EPA rule to limit hazardous air pollutants (HAP) from commercial and industrial boilers and process heaters. Originally published in 2011 as a mandate driven by the Clean Air Act, the rules are Area Source Boiler MACT 40 CFR 63, subpart JJJJJJ for smaller boilers (stores, hotels, apartments, small manufacturers, etc.) and Major Source Boiler MACT subpart DDDDD for large boilers (refineries, chemical and large manufacturing plants, large facilities).

Final compliance for the Major Source Boiler MACT is January 31, 2016 – which ends the three-year grace period from the date final rules were published.

Boiler MACT Requirements
The Boiler MACT standards require end users to report boiler emissions, a rule which has been adopted in most states (See Figure 1). The addition to the mandate requires end-users to “tune” new boilers when they first start up and then perform periodic tuning to measure boiler efficiency.

Figure 1: Typical Boiler Application

Boiler Tuning Applications for Boiler MACT Compliance
To efficiently tune a boiler, three key measurements must be taken: air and fuel inlet flow, feed water flow, and steam output (See Figure 1).

- Optimized natural and propane measurement for 1, 2, 3, 4 inch sch. 40 pipe sizes
- Wide flow ranges from 0 to 42,000 scfh
- Easily install in the field or retrofit
- Certified for Boiler MACT
- Buy online — ships next day

Figure 2: BoilerTrak™ 620S-BT Thermal Mass Flow Meter For Inlet Fuel Flow Measurement

5 Harris Court, Building L, Monterey, CA 93940, USA / 800.866.0200 / 831.373.0200 / fax 831.373.4402 / sierrainstruments.com
1. Inlet Fuel Flow
Sierra’s economical BoilerTrak® thermal mass flow meter, specifically designed to provide precise natural gas measurement for heaters and boilers, is an ideal product to help with monthly fuel reporting and boiler tuning to increase efficiency (see Figure 2).

For more complex gas mixtures being burned, use QuadraTherm® 640i/780i thermal mass flow meters.

2. Inlet Feed Water Flow
In boiler tuning, the feed water flow to the boiler is an important measurement, since you need to measure the efficiency at which the boiler turns this feed water into steam (See Figure 1).

Our InnovaMass® 240i vortex volumetric flow meters are an economical solution for water measurement applications in new boilers (See Figure 3), while the InnovaSonic® 205i ultrasonic flow meter can be retrofitted easily into existing boilers due to its clamp-on nature. The 210i portable ultrasonic flow meter is a good analysis tool as well for periodic boiler tuning where fixed measurement devices are not already installed.

3. Inlet Steam Output
To determine the efficiency of a boiler, accurate steam measurements are critical (See Figure 1). For measuring steam output, the InnovaMass iSeries vortex flow meter in insertion (See Figure 4) and inline versions are leading vortex flow meters for steam measurement.

With its ability to measure five process variables simultaneously, and correct for density changes in steam, the InnovaMass vortex flow meter can give an accurate assessment of the efficiency of the boiler to maximize steam productivity.

The Big Picture:
Since the intention of these Boiler MACT standards are driven by the EPA’s mandate in the Clean Air Act to develop national emission standards, the hope would be that through Boiler MACT compliance, facilities tune their boilers to ensure the maximum boiler efficiency which in turn minimizes the source of air pollution.

Learn more at sierrainstruments.com/boilermact