

Application Summary

504FT Inline Flow Meter Application Summary

Furnace Testing/Manufacturing Facility Improves Product Testing With Better Flow Measurement

An Engineer at a manufacture’s furnace testing facility was recently assigned a project to update flow meters and controls used at their R&D test furnace facility in Oklahoma. The facility had traditionally used multiple orifice meter runs for various gases and flow ranges required for some 15 test furnaces.

The engineer knew that thermal mass flow meters had the accuracy and turn down he required for the project and set out to determine which manufacturer offered the best combination of accuracy, repeatability, turndown, and service.

He selected three major manufactures, one of the manufacturers uses constant power (CPA) technology and two use constant temperature (CTA) technology. After extensive on-site testing, Kurz Instruments, Inc. (CTA Type) was selected as the inline gas mass flow meter supplier for the project and was able to obtain accurate turndowns of 200 to 1.



Figure 1 - Test Furnace Metering Skid

Application Specifics:

Each Furnace requires measuring the following flows:

Gas	Flow Range	Line SZ.
Butane	0.04 to 20 SCFM	½"
Hydrogen	0.06 to 100 SCFM	2"
CO2	0.04 to 75 SCFM	1"
Nitrogen	0.04 to 75 SCFM	1"
Propane	0.04 to 20 SCFM	½"
Propylene	0.04 to 20 SCFM	½"
Natural Gas	0.2 to 75 SCFM	1"

Customer Benefits:

- Inline Mass flow measurement.
- No need for pressure and temperature compensation.
- High Turndown for burner testing application.
- 1% of Reading accuracy.
- Multiple gasses from the same meter in some lines (This requires multiple curve in an Adam 155 Controller).

Summary:

Kurz Instruments, Inc. inline flow meters are the perfect choice for accurate, high turndown, inline mass flow applications. With Turndowns to 200 to 1 (vs. an orifice run at 3 to 1), 1% of reading accuracy, and short pipe runs, we set the standard for skid mounted applications.