



## Hydrogen Gas Measurement

Hydrogen Gas is used in a number of industries and applications. Power Plants, Oil Refineries, Food & Beverage, Plastic & Polymer Manufacturing all use and have a need to accurately measure hydrogen gas. Our in-line Model # 600-9 mass flow meter has been used in every one of the above industries to measure hydrogen.

Hydrogen gas has very unique characteristics and requires a flow meter that has been calibrated in those same operating conditions. How do we know this? Our calibration stands have been used to validate other flow measurement instruments given to us by our customers where they suspected a Flow (K) factor was substituted in place of an actual hydrogen gas calibration being performed. The flow instruments that were not calibrated under actual flow conditions, were not accurate, and were causing production problems. Our experience with calibrating hydrogen gas applications has led to numerous repeat orders.

Our specialty has been measuring low flow hydrogen



gas with our in-line mass flow meter (Model # 600-9) that is available in sizes as small as 1/4" tubing up to larger line sizes. It has the capability to measure low flow rates down to 0.01

SCFM (application dependent) accurately and efficiently. Our mass flow meter technology provides a high turndown with negligible pressure drop (application dependent).

Our experience in measuring hydrogen gas flow, has led to sales in oil refining, plastics & polymer manufacturing, and power generation to name a few.

Our meters have been used in power production by Duke Energy, Exelon, Entergy, and Energy Northwest to name a few. A common application has been to use our mass flow meter to measure the hydrogen gas being utilized to cool generators at their power plants.

Formosa Plastics, Wolseley Industries, HMC Polymer, and Zeon Chemical have used our meter to measure hydrogen in the production of plastics, HDPE piping, and other polymers.

Other common uses for our hydrogen gas meters in industry are as follows:

- Used to manufacture Ammonia and Methanol in the chemical industry
- Food & Beverage manufacturers hydrogenate unsaturated fatty acids to produce solid fats for butter and margarine
- Manufacturing semi-conductor integrated circuitry
- Used to remove the sulfur in crude oil at oil refineries
- Manufacturing vitamins and other products by pharmaceutical companies

Thermal Instrument has the experience, knowledge, and capabilities to provide you with an accurate hydrogen gas flow measurement instrument for your process applications.

**Contact us or one of our sales partners for more information on how we can help you measure hydrogen.**

