



Cooling Water Measurement

Cooling Water is used in a wide number of industries and applications. From power generation stations, to refineries, and all types of manufacturing operations around the world to cool equipment because it is inexpensive and non-toxic. Cooling water can be recirculated allowing for repeated use and can be sourced from rivers, seas, municipal, or well-drawn sources making it an economical cooling solution.

Thermal Instrument manufactures a mass flow meter in both an insertion probe (Model # 62-9) and an in-line unobstructed flow meter (Model # 600-9) that can measure cooling water accurately and efficiently no matter the source. The Mass Flow Meter technology can even measure DI water because thermal mass does not measure the electrical conductivity of a fluid. Additionally, with the versatility of our insertion probe model, cooling water traveling through large pipe sizes can be measured very economically. Thermal Instrument has been measuring liquids with mass flow meter technology for more than 50 years.

Due to our experience in measuring water flow, we were contacted by a large aerospace and defense contractor. This contractor has been selected to build the ground structure for the next generation "Space Fence" for the U.S. Air Force, based in the Marshall Islands in the Pacific. The Space Fence will monitor debris and space junk orbiting the earth's atmosphere utilizing the latest S-Band Radar Systems. The Structure is currently under construction and will be operational in 2019.

The structure will house the cooling system needed for all of the radar equipment that will be based at this location and will feature a variety of line sizes and varying water flows. They needed a meter that

could work across a variety of line sizes with the ability to select the line size as they go.

Thermal instrument is providing the customer with



Model # 62-9 insertion probe with integral electronics (Model # 9500PI) with on-board menu system to allow for user initiated line size changes. The customer has cooling water line sizes ranging from 2" up to 24" and flow ranges up to 9000 GPM.

The flow meters will display Flow and Totalized Flow information, a 4-20mA output for both Flow and Temperature information, and an integral menu system to select appropriate line size. The meters are constructed from a 3/4" OD 316SS tubing with a MNPT process connection and a Wire Rope Restraint system for added security. Probe lengths vary from as small as 9" in length up to 25" in length.

Key Features include:

- **Rugged Construction of 316SS**
- **Easy Installation – 3/4" MNPT Packing Gland**
- **On Board Menu Selectable Line Sizing**
- **Installed Back up Sensors**
- **Sensors are internal and never come into direct contact with passing fluid**
- **Flow and Total Flow monitored**
- **High Turndown Accuracy – 100:1**

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



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