

Measuring the Thermal Conductivity of Heat Transfer Fluids

Temperature management and heat transfer are essential components of industrial processes and systems. Heat transfer fluids (HTFs) are often used in cases where materials or devices need to be heated, cooled or maintained at stable operating temperatures. Such fluids serve to absorb, transports and dissipate heat in a variety of industries such as electronic transformers and polymer production.

Improving thermophysical parameters of a HTF is an important part of making an industrial process more efficient. With a wide range of available fluids specific to various applications, reliable and accurate thermal conductivity characterization is critical.

C-Therm's Transient Hot Wire (THW) is the preferred method for testing the thermal conductivity of heat transfer fluids due to its short testing times, minimizing the effect of convection on the fluids. C-Therm's Modified Transient Plane Source is also capable of measuring the thermal conductivity of heat transfer fluids with the MTPS Liquid and Powder Cell. This is another great option as MTPS is the easiest sensor to use with its plug-and-play design.



Trident Instrument with THW and MTPS



C-Therm's patented MTPS offers a more robust, accurate, and user-friendly solution, especially for materials with low thermal conductivity or where ASTM compliance is required



C-Therm's Trident delivers rapid, accurate thermal conductivity testing to optimize engine coolant performance and heat transfer efficiency.

Trident Instrument with THW and MTPS



C-Therm's Trident delivers fast, precise thermal conductivity testing to optimize e-liquid formulations and ensure consistent vaping performance.



C-Therm's Transient Hot Wire sensor delivers fast, accurate thermal conductivity measurements across liquids, solids, and pastes.