

Icon Scientific FreezePoint Analyser



WHAT DOES IT DO?

The icon scientific FreezePoint Analyser provides an indicator of the lowest ambient temperature at which an aviation jet fuel can be used. Using advanced cryo-cooling, it can measure freeze points down to -80°C .

Like the CloudPoint Analyser, it features the icon scientific low mass measuring cell and a vacuum insulated cell housing. This patented system helps improve cooling performance and eliminate condensation, ice formation and the effect of stray light. The vessel features detection systems to monitor the vacuum and alert you to any sample leakage. The results are compatible with those of any standard freeze-point test methods such as ASTM D2386, D5972 and ASTM D7153. Additionally, the analyser can perform very low cloud point measurements without the external chiller units required by Peltier-based CloudPoint analysers for these applications.

HOW DOES IT WORK?

The low-mass measuring cell traps a small amount of the sample. This is then cooled at a controlled rate by the cryo-cooler using a phase angle control signal.

The cooling process continues until the optical detector picks up sufficient light-scatter from precipitating wax crystals, indicating that a cloud is forming. At this point, the cell is allowed to warm up; the temperature at which the cloud disappears is taken as the freeze point. The sample cell is then flushed with a new sample and the cycle is repeated.

WHY CHOOSE THE ICON SCIENTIFIC FREEZEPOINT ANALYSER?

Excellent repeatability: with advanced detection algorithms and phase angle cryo-cooler control it generally achieves better repeatability than the standard test methods.

Reduced thermal losses: the cell is equipped with LED light source and photodiode detector; air-gapped light guides eliminate physical and thermal contact between the light source, detector and the cell, reducing thermal losses.

Best-in-class cooling performance: reduced thermal losses, coupled with the low-mass measuring cell and vacuum insulation, enable the maintenance-free cryo-cooler to cool down to -100°C within 10 minutes using normal plant-cooling water.



FreezePoint last cycle screen

