



DEW POINT FOR GASEOUS FUELS

Dew Point for Gaseous Fuels TT-1142

Dew Point for Gaseous Fuels TT-1142 adheres to the ASTM D1142 Standard Test Method for Water Vapor Content of Gaseous Fuels by Measurement of Dew-Point Temperature.

Generally, contracts governing the pipeline transmission of natural gas include specifications limiting the maximum concentration of water vapor permitted. Excessive water vapor can lead to corrosive conditions, resulting in the degradation of pipelines and equipment. Additionally, it can condense, freeze, or form methane hydrates, leading to blockages. The water-vapor content also impacts the heating value of natural gas, thereby influencing the quality of the gas.

APPLICATIONS

The primary application of this apparatus is to measure the water vapor content of gaseous fuels by determining the dew-point temperature, in compliance with the ASTM D1142 standard.

It is specifically used for:

- Detecting both the hydrocarbon dew point and water dew point in natural gas.
- Ensuring natural gas meets contractual specifications for pipeline transmission by limiting water vapor content.
- Preventing pipeline and equipment degradation caused by corrosion from excessive water vapor.
- Avoiding blockages in pipelines that can be caused by condensation, freezing, or the formation of methane hydrates.
- Maintaining the quality and heating value of the natural gas.

FEATURES

- It is primarily utilized for detecting hydrocarbon dew point and water dew point in natural gas.
- This apparatus uses the cold mirror detection principle, ensuring high detection accuracy and stability. It is well-suited for commercial inspection and measurement or on-site examination.
- The cold mirror refrigeration system utilizes a CO2 refrigerator with a cold energy recovery system.
- Compared to traditional systems, the cooling efficiency of the refrigerator equipped with a CO2 cooler has increased by more than 50%. This improvement enhances work efficiency while reducing the loss of cooling media.
- The apparatus is compatible with various refrigeration media, including dry ice and liquid nitrogen, offering a wide detection range and strong environmental adaptability.

TECHNICAL SPECIFICATIONS

1. Temperature Range:
 - Ambient to -40°C (CO2 cooler)
 - Ambient to -62°C (dry ice)
 - Ambient to -129°C (liquid nitrogen)
2. Accuracy: $\pm 0.5^{\circ}\text{C}$
3. Ambient Temperature: -20 to 50°C
4. Protection Grade: Ex iA IIC T4
5. Anti-pressure Grade: $\leq 25\text{Mpa}$
6. Power Supply: 3.6V lithium battery
7. Dimensions: 420*180*160mm
8. Weight: $\leq 5\text{kg}$



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