Freezing Point of Aviation Turbine Fuels & Gasolines (semi-automatic)

ASTM D 2386, ISO 3013, DIN 51421 (obs.), IP 16, JIS K2276

Product group(s): Cold Behaviour, Fuel

User group(s): Airports & Aviation, Aviation Fuel, Fuel, Jet Fuel, Petroleum, Turbine Fuel

Scope: This test method covers the determination of the temperature below which solid hydrocarbon crystals may form in aviation turbine fuels and aviation gasoline.

The freezing point according to these standards above is typical of the cold temperature and allows conclusions for appearance of separated hydrocarbon crystals in the fuels above.

With aviation turbine fuels and aviation gasolines the freezing point is that temperature at which crystals of hydro-carbons formed on cooling disappear when the temperature of the fuel is allowed to rise.

Instead of a bath which has permanently to be filled with carbon dioxide here a compressor cooled cryostat is used. The wearisome manual stirring of the sample is done by a motor. The cryostat is designed for the input of two sample vessels.

Features:

Powerful: Two compressors connected in cascade are cooling the sample quickly and safely to the required temperature.

Quick: The time-consuming tempering as well as the circumstantial handling of carbon dioxide are no longer necessary.

Effortless: The long-winded manual moving of the stirrer in always the same beat is no longer necessary, it is done by a motor now. The testing personnel is set free to devote to other occupations.

Easy to Handle: For the observation of the freezing point the sample and the stirring device can be taken out of the bath together without having to interrupt the stirring operation.

Freezing Point Test Equipment

to be composed of:

- **Freezing Point Apparatus**, motor-operated (2-place)

Technical Data

Temperature Range:	-65 to +20 °C
Settings:	0.1°C
Stability:	0.05°C
Heat removal:	-70°C = 200 W
	-80°C = 50 W
Power consumption:	max. 3.6 kVA
Bath volume:	14 - 15 l
Dimensions (WxDxH):	46 x 81 x 77 cm
Weight:	approx. 80 kg

Main Unit

13-1470 **Freezing Point Apparatus, 2-place (motor-operated)**

Consisting of:
cryostat on castors with a two stage compressor, digital controller, digital temperature indication, insulating bath cover and two reciprocating stirrer assemblies.

Supplied with:
2 spiral-shaped stirrers
2 jacketed sample tubes
2 stoppers
2 packing glands
2 thermometers ASTM 114C (- 80 ... +20:0.5 °C)

Power supply: 230 V, 50 Hz, 2800 W

13-1471 **Freezing Point Apparatus, 2-place (motor-operated)**

Like 13-1470 but:
Power supply: 230 V, 60 Hz

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Options & Accessories

13-0473	**Thermometer ASTM 114C / IP 14C** Range: -80 to +20 : 0.5 °C (officially certified)
16-0315 	**Thermometer DIN 12 785** Range: -70 to +50 : 1 °C
16-0316	**Thermometer DIN 12 785** Range: -70 to +50 : 1 °C (officially certified)

Spare Parts

13-0460	**Stirrer-Gland, moisture-proof, made of glass** packing not included
13-0462	**Sample Tube, jacketed**
13-0463	**Stopper, NBR-rubber (22/25 mm / bored twice)** to support thermometer and packing gland
13-0470	**Thermometer ASTM 114C / IP 14C** Range: -80 to +20 : 0.5 °C Length: 300 mm, Immersion: total, Ø 7 mm
13-1465	**Hand stirrer, brass, spiral shape, ASTM D 2386**

Order Guideline

Minimum equipment:	1x 13-1470
Spares (approx. 1 year):	13-0460, 13-0470, 13-0462
Additional requirements:	

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