

# Freezing Point of Aviation Fuels

## test method

The freezing point of an aviation fuel is the lowest temperature at which the fuel remains free of solid hydrocarbon crystals that can restrict the flow of fuel. The temperature of the fuel in the aircraft tank normally falls during flight depending upon aircraft speed, altitude, and flight duration. The freezing point of the fuel must be lower than the minimum operational tank temperature. The test determines the temperature below which solid hydrocarbon crystals form in aviation fuels. The sample is cooled with continuous stirring in a Dewar-type sample tube until crystals appear.

## refrigerated freezing point bath

- Improved design with enhanced performance and safety features
- Operating range to  $-100^{\circ}\text{F}$  ( $-73^{\circ}\text{C}$ )
- Microprocessor PID digital temperature control
- Dual digital displays show setpoint and actual bath temperature
- Selectable temperature scale – Fahrenheit or Celsius
- Conforms to ASTM D2386 and related specifications

Redesigned constant temperature bath for freezing point determinations on fuel samples at temperatures as low as  $-100^{\circ}\text{F}$  ( $-73^{\circ}\text{C}$ ). Accommodates K29700 Freezing Point Apparatus and accessory stirrer. Microprocessor PID circuitry provides precise, reliable temperature control within ASTM specified tolerances. Simple push button controls and dual digital displays permit easy setting and monitoring of bath temperature. Bath medium is contained in a clear, evacuated Dewar flask, and glare-free fluorescent backlighting provides excellent visibility when working with the freezing point samples. Air-cooled hermetic compressors provide efficient operation with the use of CFC-free refrigerants. Temperature control uniformity is assured by means of a motorized stirrer which provides complete circulation without turbulence. Cabinet construction is polyester-epoxy finished steel with a chemical-resistant composite top surface. Working (top) surface includes port and mounting plate for K29700 Freezing Point Apparatus and accessory stirrer. Bath rests on adjustable leveling feet.

## specifications

Conforms to the specifications of:

ASTM D2386; IP 16; ISO 3013; DIN 51421; FTM 791-1411;  
NF M 07-048

Temperature Range: Ambient to  $-100^{\circ}\text{F}$  ( $-73^{\circ}\text{C}$ )

Temperature Control Accuracy and Uniformity: Exceeds ASTM requirements throughout the operating range

Display:  $0.1^{\circ}\text{C}/^{\circ}\text{F}$  resolution

### Electrical Requirements

115V, 60Hz, Single Phase, 18.3A

220-240V, 50Hz, Single Phase, 10.0A

220-240V, 60Hz, Single Phase, 10.0A

### Dimensions l x w x h, in. (cm)

35x26x31 (89x66x78.75)

Net Weight: 259 lbs (117.75kg)

### Shipping Information

Shipping Weight: 373 lbs (169.5kg)

Dimensions: 23.75 Cu.ft.



K29790 Freezing Point Bath with Freezing Point Apparatus and Stirrer

## ordering information

catalog no.	description	
K29790	Refrigerated Freezing Point Bath 115V 60Hz, Single Phase, 18.3A	1
K29795	Refrigerated Freezing Point Bath 220-240V 50Hz, Single Phase, 10.0A	
K29796	Refrigerated Freezing Point Bath 220-240V 60Hz, Single Phase, 10.0A	
K29700	Freezing Point Apparatus, ASTM D2386	1
K29750-1-7	Stirrer Motor, 115V 60Hz	1
K29758-0-7	Stirrer Motor, 220-240V 50Hz	
K29759-1-7	Stirrer Motor, 220-240V 60Hz	

### accessories

250-000-114C	ASTM 114C Thermometer Range: $-80$ to $+20^{\circ}\text{C}$	1
K29720	Moistureproof Collar, Type A Use in place of brass packing gland to prevent condensation of moisture.	
K29721	Moistureproof Collar, Type B Use to prevent condensation.	