

Mid-IR Falcon

AT A GLANCE

- ▶ Peltier temperature control from 5 to 130 °C
- ▶ Wide selection of windows for optimizing spectral range and sample compatibility
- ▶ Flexible pathlength to control sample absorbance
- ▶ Demountable cell design for easy cleaning of difficult samples
- ▶ Available for most FTIR spectrometers



TEMPERATURE CONTROL
OPTIONS AVAILABLE

The Mid-IR Falcon Transmission Accessory is recommended for qualitative and quantitative analysis of liquids and protein solutions where it is necessary to control the temperature of the sample.

Temperature range of the accessory is 5 to 130 °C. Heating and cooling is controlled by a built-in Peltier device providing for reproducible ramping and for reaching target temperatures quickly and reliably. The system is driven by a digital temperature controller – directly or via PC.

A wide variety of window types and spacer pathlengths are available for this product. Window options cover NIR, mid-IR and far-IR spectral regions and sample compositions from organic to aqueous. A complete transmission cell for use with the Falcon Mid-IR Accessory consists of two 32 x 3-mm windows (drilled and undrilled), an assorted spacer set, the needle plate with Luer-Lok fittings, two gaskets and a proprietary cell mount.

PIKE Technologies offers temperature controllers with optional TempPRO software. TempPRO allows for easily programmed temperature profiles and unattended data collection with most FTIR software platforms.



Mid-IR Falcon with temperature controller.

SPECIFICATIONS

Temperature Control	Peltier (cooling and heating)
Temperature Range	5 to 130 °C
Accuracy	+/- 0.5° up to 100 °C +/- 0.5% of set point > 100 °C
Sensor Type	3 wire Pt RTD (low drift, high stability)
Dimensions (W X D X H)	89 x 121 x 83 mm (without FTIR baseplate and mount)
Temperature Controller	Touch-panel display with USB interface. PIKE TempPRO software for PC with unlimited ramps and automated data collection.
  	
Input	100–240 VAC, auto setting, external power supply
Output	16 VDC/150 W maximum Notes: Peltier device must be water cooled for proper operation – this is achieved by running cold tap water through the water jacket integrated into the accessory shell, or by the use of an external liquid circulator.

LIQUID RECIRCULATOR

The Peltier element of the Falcon requires flowing water to act as a heat sink. The liquid circulator is a small footprint (10 x 7 x 6 inch) recirculator option. It includes a pump, quick disconnect water line fittings and a viewable water-level guide.



Liquid Recirculator.

PART NUMBER	DESCRIPTION
111-40XX	Mid-IR Falcon Base with Cell Holder Includes temperature-controlled base, demountable cell, gaskets and one complete set of spacers. Select digital temperature controller (below) and windows

Notes: Replace **XX** with your spectrometer's Instrument Code listed in the back of the catalog. Please select 2 syringes (next page) for filling the demountable liquid cell.

32 x 3 mm Windows for Falcon Demountable Liquid Cells (must select minimum of 1 Plain and 1 Drilled)

Plain	Drilled	Description
160-1147	160-1146	BaF ₂
160-1143	160-1142	CaF ₂
160-1137	160-1136	Ge
160-1132	160-1131	KBr
160-1126	160-1125	KRS-5
160-1122	160-1121	NaCl
160-1159	160-1158	Si
160-1113	160-1112	ZnSe

Notes: For window compatibility please consult the Materials Properties table, available under Transmission Theory and Application. For additional window selections, see Disks, Windows, Powders.

Temperature Controllers (must select one)

076-1510	Digital Temperature Control Module for Falcon Accessory
007-0207	PIKE TempPRO Software

Notes: Digital Temperature Control Module is required to control temperature. PIKE TempPRO software is sold separately.

Liquid Recirculator

170-1100	Liquid Recirculator
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Spacers for Demountable Liquid Cell (optional)

Part Number	Pathlength (mm)	Part Number	Pathlength (mm)
162-1210	0.015	162-1250	0.2
162-1220	0.025	162-1260	0.5
162-1230	0.05	162-1270	1.0
162-1240	0.1	162-1290	Assortment

Notes: Spacer pathlength packages above include 12 each of the spacers. The assortment package includes 2 each of the different pathlengths.

Demountable Liquid Cell Replacement Parts

162-1600	Demountable Liquid Cell for the Mid-IR Falcon Accessory
162-1300	Teflon Stoppers (12 ea.)
162-1311	Viton Gasket, 32 mm (12 ea.)
162-1310	Teflon Gasket, 32 mm (12 ea.)
161-0520	Glass Syringe, 1 mL
161-0521	Glass Syringe, 2 mL

Note: For other options for the Falcon Demountable Liquid Cell, please contact PIKE Technologies.