

JetStream ATR Accessory – Measurements of Liquids under Varying Conditions

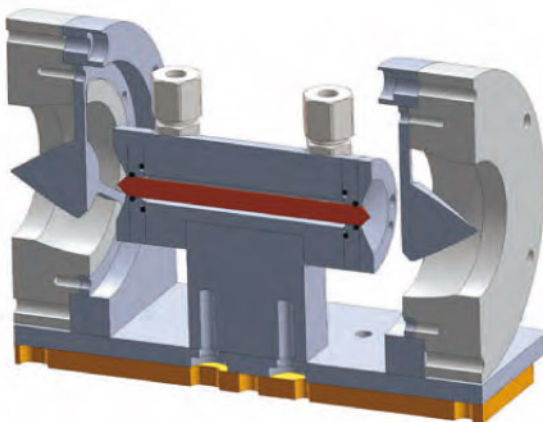


FEATURES

- Efficient ATR design for static and flowing liquid measurements
- Small sample chamber provides efficient sampling
- ZnSe and Ge crystal options to match sample requirements
- Qualitative and quantitative applications
- Temperature control option up to 200 °C
- Pressures up to 1500 psi

The PIKE Technologies JetStream is a unique ATR accessory optimized for analysis of liquids in static or flow modes at varying pressure. The accessory design revolves around a cylindrical ATR crystal that is encased in a heavy-duty stainless steel body. The sample is introduced via a compression fitting from 1/16" up to 1/4" tube OD and completely surrounds the ATR crystal providing efficient sampling for excellent reproducibility and sufficient throughput for high sensitivity measurements. The maximum pressure rating is 1500 psi.

The compact cell design employs a pair of transfer optics to direct the infrared beam to one end of an IR transmitting ATR crystal. A similar pair of optics directs the beam emitted from the other end of the ATR crystal to the spectrometer detector.



Optical diagram of the JetStream ATR

The ATR crystal for the JetStream ATR accessory is of a cylindrical shape and is 82 mm in length and 6.4 mm in diameter. To optimize accessory performance, crystal geometry has been carefully chosen. The design of the JetStream ATR accessory provides 12 reflections of the IR beam along the crystal surface. The volume of the sample chamber is 1.3 mL.

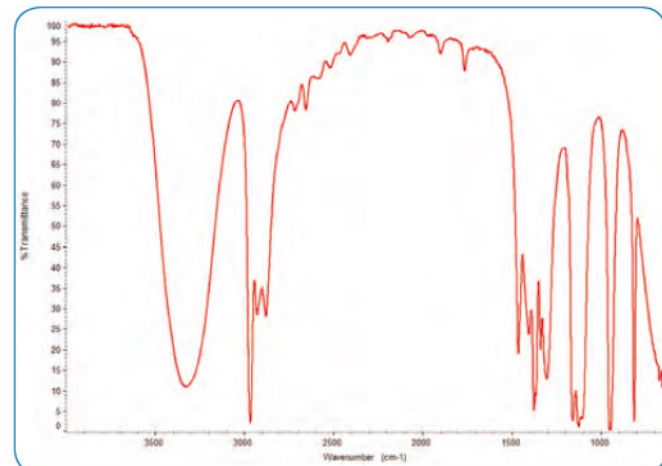
Heating up to 200 °C may be realized with the heated JetStream base. PIKE Technologies offers digital and PC programmable temperature controllers. Ramps and hold times are easily programmed through TempPRO software when using the PC module. Data collection may be initiated as a function of time or temperature with most FTIR spectrometers.



Heated JetStream accessory



PIKE TempPRO™ software for graphical setup and automated data collection for thermal experiments.



Isopropanol spectrum collected using the JetStream with ZnSe crystal.

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
020-19XX	JetStream ATR Base Optics Assembly
020-18XX	Heated JetStream ATR Base Optics Assembly

Notes: Replace XX with your spectrometer's Instrument Code listed on page 164. Choose a temperature controller below for the Heated JetStream. Ge becomes opaque near 100 °C. 1/4 inch compression fittings are supplied. Contact us for other fitting sizes.

ATR CRYSTALS FOR JETSTREAM

(must select one)

PART NUMBER	DESCRIPTION
160-5578	ZnSe Rod
160-5579	Ge Rod

TEMPERATURE CONTROLLER FOR JETSTREAM

PART NUMBER	DESCRIPTION
076-1610	Digital Temperature Control Module
007-0207	PIKE TempPRO Software

Note: If PC control is desired, PIKE TempPRO software (sold separately) can be used for graphical setup and automated data collection for thermal experiments. TempPRO is compatible with most FTIR spectrometers.

REPLACEMENT PARTS

PART NUMBER	DESCRIPTION
020-3040	EPDM Crystal O-Rings, 120 °C max (2 ea.)
020-3041	EPDM Housing O-Rings, 120 °C max (2 ea.)
020-3045	Perfluoroelastomer Crystal O-Rings (2 ea.)
020-3046	Perfluoroelastomer Housing O-Rings (2 ea.)

SPECIFICATIONS

Cell Body	316 Stainless Steel
ATR Crystals	ZnSe or Ge
Crystal Size	82 mm x 6.4 mm
Crystal Face Angle	45°
Number of Reflections	12
Cell Volume	1.3 mL
Liquid Connectors	316 Stainless Steel Swagelok®
Maximum Pressure	1500 psi
Heating Options	Ambient to 200 °C maximum
Accuracy	+/- 0.5% of set point
Sensor Type	3 wire Pt RTD (low drift, high stability)
Temperature Control	Touch-panel display with USB interface. PIKE TempPRO software (sold separately) for PC control with unlimited ramps and automated data collection.
Input	100–240 VAC, auto setting, external power supply
Output	3 A/24 VDC/75 W maximum
Accessory Dimensions (W x D x H)	153 x 100 x 108 mm (excludes FTIR baseplate and mount)
FTIR Compatibility	Most, specify model and type



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