

## AT A GLANCE

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



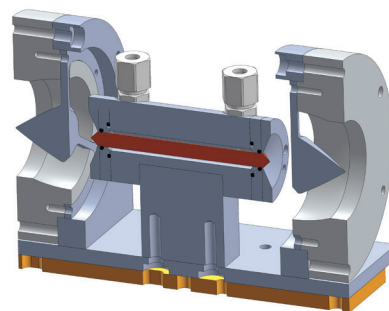
TEMPERATURE CONTROL  
OPTIONS AVAILABLE

A multiple reflection ATR for high pressure measurements where measurement sensitivity is required.

## PERFORMANCE AND DESIGN

The JetStream design revolves around a cylindrical ATR crystal that is encased in a heavy-duty stainless steel body. The maximum pressure rating is 1500 psi and the volume of the sample chamber is 1.3 mL. Samples, introduced through a compression fitting, completely surround the multiple reflection ATR crystal. This provides efficient sampling for excellent reproducibility and sufficient throughput for high sensitivity measurements.

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.



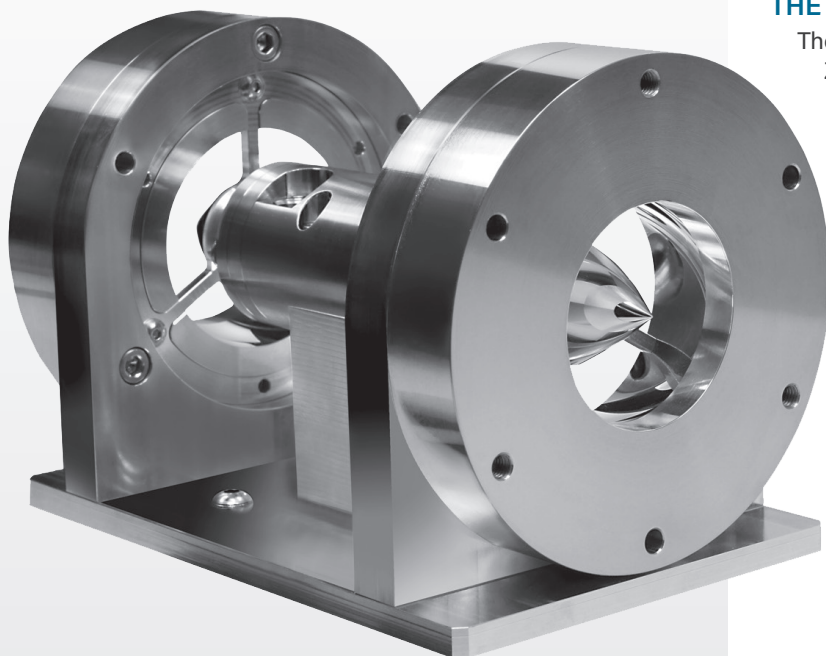
Optical diagram of the JetStream ATR.

## THE ATR ELEMENT

The ATR crystal for the JetStream accessory is a Ge or ZnSe cylinder, 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 provides 12 reflections of the IR beam along the crystal surface.

## HEATING OPTIONS

Heating up to 200 °C may be realized with the heated JetStream base. The Digital Temperature Controller offers touch-screen operation, and may be used with TempPRO software. Ramps and hold times are easily programmed through TempPRO software. Data collection may be initiated as a function of time or temperature with most FTIR spectrometers.



## SPECIFICATIONS

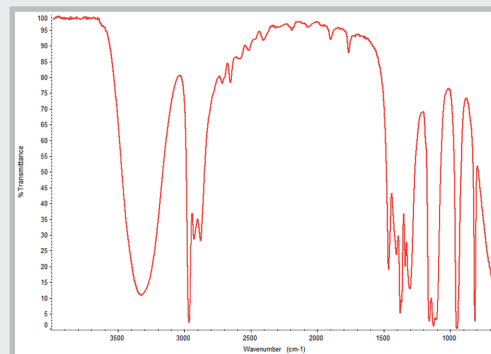
|                                            |                                                                                                                                                                                                                                                       |
|--------------------------------------------|-----------------------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



Heated JetStream accessory.

## APPLICATION

The JetStream is ideal for applications requiring additional sensitivity offered by a multiple reflection ATR and requires high pressure operation. Temperature control is available.



Isopropanol spectrum collected using the JetStream with ZnSe crystal.

| PART NUMBER                                                                                                                                                                                                                                        | DESCRIPTION                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Base Optics ( <i>must select one</i> )                                                                                                                                                                                                             |                                            |
| 020-19XX                                                                                                                                                                                                                                           | JetStream ATR Base Optics Assembly         |
| 020-18XX                                                                                                                                                                                                                                           | Heated JetStream ATR Base Optics Assembly  |
| <b>Notes:</b> Replace XX with your spectrometer's Instrument Code listed in the back of the catalog. Choose a temperature controller below for the Heated JetStream. ¼ inch compression fittings are supplied. Contact us for other fitting sizes. |                                            |
| ATR Crystals for JetStream ( <i>must select one or more</i> )                                                                                                                                                                                      |                                            |
| 160-5578                                                                                                                                                                                                                                           | ZnSe Rod                                   |
| 160-5579                                                                                                                                                                                                                                           | Ge Rod                                     |
| <b>Note:</b> Ge becomes opaque near 100 °C.                                                                                                                                                                                                        |                                            |
| Temperature Controller for JetStream                                                                                                                                                                                                               |                                            |
| 076-1610                                                                                                                                                                                                                                           | Digital Temperature Control Module         |
| 007-0207                                                                                                                                                                                                                                           | PIKE TempPRO Software                      |
| <b>Notes:</b> 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                                                                                                                                                                                                                                  |                                            |
| 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.) |