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The Spectra-Tech general-purpose accessories are the cornerstone on which our accessory business is built. Sampling options for most commercial FT-IR spectrometers are available. Our general accessory collection includes research-grade multi-bounce ATR, diffuse reflectance, and specular reflectance accessories. In addition, a wide range of transmission cells and cards are available to meet the needs of almost any transmission measurement whether your sample is solid, liquid, gas, powder, film, etc. A variety of pellet presses and sample mixers are also available.

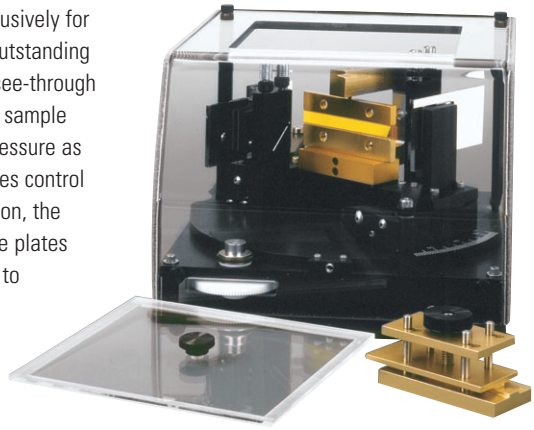
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Thermo SCIENTIFIC

Research-Grade Vertical Variable Angle ATR

The Research-Grade Vertical Variable Angle ATR accessory is designed exclusively for use with Thermo's Scientific FT-IR spectrometers. This accessory provides outstanding throughput for ATR analyses that require very high sensitivity. The unique, see-through purge cover permits easy and consistent placement and replacement of the sample holder. The removable sample holder is simple to operate providing even pressure as it securely presses the sample to the crystal. A thumb-operated gear provides control of the 25° to 75° range of angle of incidence. Once aligned during installation, the accessory needs very little adjustment between angles of incidence. Sample plates are interchangeable, and several crystal materials and angles are available to accommodate specific applications.



Applications

- Malleable polymers
- Depth profiling
- Surface studies
- Packaging

Features

- High energy throughput for superior sensitivity
- Removable sample holder for easy sample preparation
- Durable Plexiglas cover for purge and convenient sample placement
- Accessory includes solid sample holder with ZnSe 45° crystal in mount
- Optional crystal material and angles available

Product Configuration	Part Number
Research-Grade Vertical Variable Angle ATR	869-051800

Options/Replacements	Part Number
ZnSe 45° crystal in mount	869-052100
ZnSe 60° crystal in mount	869-052200
KRS-5 45° crystal in mount	869-052300

Spectra-Tech ARK Attenuated Total Reflectance Kits

Research-grade accessory provides high sensitivity

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The Spectra-Tech ARK research-grade accessory is one of the most stable, durable, and sensitive horizontal ATR accessories available. The accessory uses a patented ATR crystal that provides high energy throughput. It is ideally suited for qualitative and quantitative analyses ranging from neat samples to trace concentrations of less than 1%. Trough sample plates for liquids, pastes and soft powders and flat sample plates for films and semisolids are available with a variety of crystal materials and crystal angles. Samples ranging from low to high pH or samples requiring a necessary pathlength from 0.6 to 45 micrometers can be analyzed. An optional Spectra-Tech IR Polarizer (see page 44 for details) is available to enhance the sensitivity of the Spectra-Tech ARK accessory. For those who already own a polarizer, an optional holder is available to mate the polarizer to the accessory.



Applications

- Rubbers
- Polymer films, packaging
- Soft, compressible powders
- Highly infrared absorbing liquids such as aqueous solutions, solvents, and hydrocarbons in solution

Features

- Tool-free installation and alignment
- High throughput optics
- Cast aluminum sealed body to protect optics
- Integral purge and low volume body for quick and optimal purge
- Easy-to-use and easy-to-clean Teflon - coated sample plates
- For soft solids and films, the Flat Plate Kit includes a 45° ZnSe sample plate, Gripper pressure device and powder press
- For liquids, pastes and powders*, the Trough Plate Kit includes a 45° ZnSe sample plate and volatile liquid cover
- Combination Plate Kit consists of Flat Plate and Trough Plate Kits with 45° ZnSe crystal
- Extensive selection of other crystal materials and angles available

** For analyzing powders with a trough plate, an optional Gripper is required.*

Product Configuration	Part Number
Spectra-Tech ARK with Trough Plate Kit	0055-3XXT
Spectra-Tech ARK with Flat Plate Kit (shown above)	0055-3XX
Spectra-Tech ARK with Combination Plate Kit	0055-2XX

Options/Replacements	Part Number
Gripper pressure device for ARK Kits configured for PerkinElmer 1600, 2000 and Paragon	0055-106
Gripper pressure device for all other spectrometers	0055-105
Powder press	2005-098
Volatile liquid cover	0050-901
Spectra-Tech IR Polarizer and holder for Spectra-Tech ARK** for Thermo Scientific spectrometers (for use with other spectrometers, please call)	0056-9XX
Holder for mating an existing polarizer to Spectra-Tech ARK**	0056-4XX

*** Spectra-Tech ARK must be returned for upgrade when purchasing Spectra-Tech IR Polarizer or holder.*
For Flow cell options, see page 32. For thermal cell and sample plate options, see page 33.



High-energy throughput and reproducibility without optical alignment

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Trough Plates and Flat Plates for Spectra-Tech ARK

A patented crystal design ensures high-energy throughput and reproducibility without the need for optical alignment when changing samples and sample plates. This design also guarantees that the cell will not leak and minimizes crystal damage. The ATR crystals have the ideal pathlength for the analysis of strongly absorbing materials, such as aqueous solutions, polymer films, and carbon filled elastomers. The different available crystal materials and incident angles allow the user to tailor the optimal pathlength for strongly absorbing samples.



Applications

- Highly infrared absorbing liquids, such as aqueous solutions, solvents, and hydrocarbons in solution
- Soft, compressible powders

Features

- Trough plate crystal is permanently bonded to plate for leak-proof sampling
- Flat plate's proprietary clip mounting minimizes crystal damage
- Extensive selection of crystal materials and angles
- Precision pin alignment eliminates need for additional optical alignment
- Teflon-coated sample plates
- Quick turn-around time for crystal replacements

Product Configuration	Part Number
Trough Plate for Spectra-Tech ARK (shown above)	0055-###

Angle	ZnSe ###	Ge ###	ZnS ###	AMTIR ###	Si ###
30°	N/A	614	N/A	N/A	N/A
40°	602	612	N/A	N/A	N/A
45°	603	613	633	643	653
50°	606	N/A	N/A	N/A	N/A
55°	607	N/A	N/A	N/A	N/A
60°	605	615	N/A	645	N/A
70°	608	N/A	N/A	N/A	N/A

Note: Please call for other crystal configurations.

Flat Plate for Spectra-Tech ARK — 0055-###

Angle	ZnSe ###	Ge ###	Si ###
30°	N/A	714	N/A
40°	702	712	N/A
45°	703	713	753
60°	705	715	N/A
65°	N/A	716	N/A
70°	708	N/A	N/A

Dynamic quantitative and qualitative liquid studies

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HATR Flow Cell for Spectra-Tech ARK

The HATR Flow Cell extends the versatility of the Spectra-Tech ARK accessory by allowing dynamic studies of aqueous and nonaqueous liquids. The volume of the cell is 65 µl. The HATR Flow Cell has the unique capability to allow samples to be analyzed at elevated pressures from ambient to 500 psi. An extensive selection of crystal materials and angles are available for optimization of specific applications. The cell is constructed with a mechanically installed o-ring seal making it leakproof, durable, and demountable for easy crystal removal and replacement.



Applications

- Dynamic quantitative and qualitative liquid studies
- Strongly absorbing liquids
- Flow studies
- Quality control for repetitive sample analysis
- Viscous liquids
- Oil analysis

Features

- Available with a choice of crystal materials
- Pressure range: ambient to 500 psi
- Easy to flush and clean
- Includes Teflon tubing
- Demountable for easy crystal removal and replacement

HATR Flow Cell for Spectra-Tech ARK	Part Number
ZnSe 40°	0056-302
ZnSe 45°	0056-303
ZnSe 60°	0056-305
AMTIR 45°	0056-343
Ge 45°	0056-313

Heated HATR Flow Cells for Spectra-Tech ARK

Allows thermal dynamic studies of aqueous and nonaqueous liquids

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The Heated HATR Flow Cell greatly extends the versatility of the Spectra-Tech ARK accessory by allowing thermal dynamic studies of aqueous and nonaqueous liquids. The Heated HATR Flow Cell has the unique capability to allow samples to be analyzed at elevated temperature and pressure. The standard Heated HATR Flow Cell comes with a ZnSe 45° crystal that is ideal for a broad range of liquid samples, or a ZnSe 40° crystal, ideal for engine oil analyses. Other crystal materials and angles are available for optimization of specific applications and can be ordered in place of the standard crystals; however, not all materials are suitable for this cell. For example, Ge becomes infrared opaque and can be permanently damaged when heated above 50°C; therefore, call to determine the appropriate crystal material for the application.



Applications

- Aqueous and nonaqueous liquids
- Viscous samples
- Accurate quantitative measurements
- Oil analysis

Features

- Includes Temperature Controller, heating cartridges, safety cage and Teflon tubing
- Temperature range: ambient to 200°C
- Pressure range: ambient to 500 psi
- Cell volume: 65 µl
- Zero dead volume
- Easy to flush and clean
- O-ring seal makes cell leak-proof, durable and demountable for easy crystal removal and replacement

Temperature Controller Specifications

- 110/220V, switchable
- Heater wattage: 300 watts
- Accuracy: ± 0.1°C @ temperature
- Probe type: RTD temperature sensor

Product Configuration	Part Number
Heated HATR Flow Cell for Spectra-Tech ARK with ZnSe 45° crystal	0056-303H
Heated HATR Flow Cell for Spectra-Tech ARK with ZnSe 40° crystal	0056-302H

Note: Alternative crystal materials and angles may be substituted for the standard crystals. Please call for more information.



Accurate real-time sample temperature monitoring

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Thermal HATR Cells and Thermal Upgrade Packages for Spectra-Tech ARK



The Spectra-Tech ARK accessory is available with a thermal configuration. For those who already own a Spectra-Tech ARK Kit, a Thermal Upgrade Package is available. Thermal HATR Cells and Upgrade Packages include a thermal trough plate with a standard ZnSe 45° crystal. Other crystal materials and angles are available, however, not all materials are suitable for heated applications. For example, germanium becomes infrared opaque and can be permanently damaged when heated above 50°C. The sample temperature is precisely measured by placing a probe in close proximity to the sample/crystal interface.

Applications

- Thermal stabilization
- Determining thermal stability of materials
- Temperature degradation studies
- Shelf-life studies for perishable products
- Melting-point studies
- Biological samples
- Simulating process conditions

Features

- Heats samples to 100°C
- Thermocouple facilitates accurate real-time sample temperature monitoring
- Trough plate safety features include Teflon or Delrin® handles and insulation to minimize heat transfer
- Teflon gasket seal makes trough plate leak-proof, durable, and demountable for easy crystal removal and replacement

Temperature Controller Specifications

- 110/220V: switchable heater wattage for single-readout temperature controller: ~60W
- Single-readout temperature controller indicates trough plate temperature
- Accuracy: ± 0.1°C @ temperature
- Probe type: RTD temperature sensor

Product Configuration	Part Number
Spectra-Tech Thermal ARK with single-readout temperature controller	0056-0XX
Thermal upgrade package for Spectra-Tech ARK with single-readout temperature controller	0056-100

Note: Alternative crystal materials and angles may be substituted for the standard crystals. Please call for more information.

Options/Replacements*	Part Number
Vertical Gripper pressure device**	0055-108
Gripper pressure device for all other spectrometers	0055-105
Powder press	2005-098
Volatile liquid cover for ARK	0050-901

** Caution: For safety reasons, the options should not be used for applications exceeding 50°C. Standard Spectra-Tech ARK trough and flat plates (nonthermal) are compatible with the Thermal HATR Cells but must be used only for ambient applications that do not exceed 50°C.*

*** Vertical Gripper Pressure Device is made for ARK Kits configured to Thermo Scientific FT-IR Spectrometer.*

Designed for safe handling and easy cleaning

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Thermal Trough Plates for Spectra-Tech ARK



Thermal trough plates are available for the Spectra-Tech ARK and Spectra-Tech Thermal ARK™ accessories. Heat-resistant handles and a Teflon-coated aluminum plate enable safe handling of the heated plate. The crystal/plate interface is mechanically sealed with a Teflon gasket for easy crystal removal and replacement. In addition, other crystal materials* and angles are available for optimization of specific applications. The thermal trough plate is rated to 100°C.

** Germanium becomes infrared opaque and can be permanently damaged when heated above 50°C. Call to determine if the crystal material is appropriate for the application.*

Applications

- Thermal stabilization
- Determining thermal stability of materials
- Temperature degradation studies
- Shelf-life studies for perishable products
- Melting-point studies
- Biological samples
- Simulating process conditions

Features

- Teflon handles for safe handling
- Teflon-coated plate for easy cleaning
- Mechanically-sealed Teflon gasket for easy crystal removal and replacement
- Chemically resistant

Product Configuration	Part Number
Thermal Trough Plate for Spectra-Tech ARK with ZnSe 45° crystal (shown above)	0056-653
Thermal Trough Plate for Spectra-Tech ARK with ZnSe 60° crystal	0056-655

** Note: Alternative crystal materials and angles might be available. Please call for more information.*

Spectra-Tech Model 300 Series Continuously Variable Angle ATR



The Spectra-Tech Model 300 Series is a continuously variable angle vertical ATR accessory that is cost effective while still delivering high performance. It is ideal for academic research, depth profiling, surface studies and qualitative analyses of pliable solid samples. The angle can easily be adjusted between 30° and 60° while samples may be placed on each side of the crystal to maximize the number of reflections for increased pathlength. The crystal is held in a uniquely designed holder to ensure repeatable sample-to-crystal contact pressure from one experiment to another. An optional torque wrench, available separately, is recommended to optimize contact pressure.

Applications

- Polymer films
- Rigid, flat samples
- Depth profiling
- Coated materials
- Surface studies

Features

- Variable depth of penetration
- Fits standard slide mount of all spectrometers
- Includes a standard KRS-5 45° crystal, 50 mm x 10 mm x 3 mm or 50 mm x 20 mm x 3 mm, other materials available
- Dial adjustment for crystal angle of incidence from 30° to 60°
- Includes solid sample holder and two C-clamp pressure plates
- Wide selection of crystal materials and lengths extends applications

Product Configuration	Part Number
Spectra-Tech Model 300 Continuously Variable Angle ATR for Bruker, Mattson Genesis and Galaxy, Nicolet (except 205 and Impact™), and Philips (shown above) FT-IR spectrometers	0012-010
Model 301 Continuously Variable Angle ATR for Bomem MB; Digilab FTS 10, 11, 14, 15, 20, 80	0012-014
Spectra-Tech Model 302 Continuously Variable Angle ATR for PerkinElmer 1700 and 2000 FT-IR spectrometers	0012-015
Spectra-Tech Model 303 Continuously Variable Angle ATR for Digilab 40, 50, 60; Digilab FTS models 155, 165, 75, 185 FT-IR spectrometers	0012-016
Spectra-Tech Model 304 Continuously Variable Angle ATR for PerkinElmer 1600 and Paragon 1000 FT-IR spectrometers	0012-017
Spectra-Tech Model 305 Continuously Variable Angle ATR for Nicolet 205 and Impact FT-IR spectrometers	0012-018

Options/Replacements	Part Number
Torque wrench	0012-524

Dimensions	50 mm	25 mm
Solid Sample Holder for Spectra-Tech Model 300, 305	0012-526	0012-525
Solid Sample Holder for Spectra-Tech Model 301, 303, 304	0012-546	0012-549
Solid Sample Holder for Spectra-Tech Model 302	0012-557	0012-558

Replacement Crystals				Part Number
Dimensions	**KRS-5**	**Ge**	**ZnSe**	**Si**
50 mm x 10 mm x 3 mm crystal for Spectra-Tech Models 300, 302, 304, 305	7002-032	7002-035	7002-038	7002-041
50 mm x 20 mm x 3 mm crystal for Spectra-Tech Models 301, 303	7002-077	7002-080	7002-083	7002-086
25 mm x 10 mm x 3 mm for Spectra-Tech Models 300, 302, 304, 305	7002-182	7002-185	7002-188	7002-191
25 mm x 20 mm x 3 mm for Spectra-Tech Models 301, 303	7002-122	7002-125	7002-128	7002-131



Spectra-Tech Baseline, Gemini, Single-Bounce HATR and Multi-Bounce HATR Replacements and Options

The base optical units for the Spectra-Tech Baseline Series™, the Gemini™ Dual HATR/Diffuse Reflectance, Single-Bounce and Multi-Bounce HATR accessories are no longer offered but replacement crystals, supplies and some options are available.

Spectra-Tech Baseline and Gemini Options/Replacements	Part Number
Trough Plate with ZnSe 45° crystal	0001-603
Flat Plate with ZnSe 45° crystal	0001-703
Trough Plate with Ge 45° crystal	0001-613
Flat Plate with Ge 45° crystal	0001-713
Trough Plate with Si 45° crystal	0001-653
Flat Plate with Si 45° crystal	0001-753
MiniGrip™ Pressure Device for slide-mount Spectra-Tech Baseline on Nicolet, Bomem, and Bruker spectrometers serial number 3705 and up	0028-160
MiniGrip Pressure Device for slide-mount Spectra-Tech Baseline on PerkinElmer, Digilab, and Jasco spectrometers	*0071-150
MiniGrip Pressure Device for baseplate-mounted Spectra-Tech Baseline on Shimadzu spectrometers	*0071-150
* Adapter plate required for 0071-150	2005-295

Spectra-Tech Single-Bounce HATR Options/Replacements	Part Number
Sample Plate with ZnSe Crystal	0006-703
Sample Plate with Ge Crystal	0006-713
ZnSe Replacement Crystal	**7002-900
Ge Replacement Crystal	**7002-901
MiniGrip Pressure Device for Spectra-Tech Single-Bounce HATR	0006-751

*** Sample Plate must be returned to Thermo Scientific for crystal replacement.*

Spectra-Tech Multi-Bounce HATR Options/Replacements	Part Number
Sample Plate with ZnSe Crystal	0006-763
Sample Plate with Ge Crystal	0006-773

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Spectra-Tech Contact Sampler and Skin Analyzer Replacements and Options

The base optical units for the Spectra-Tech In-Compartment and Out-of-Compartment Contact Samplers™ and Spectra-Tech Skin Analyzer are no longer offered. However, some replacement items and options are available.

Product Configuration	Part Number
Trough Plate for Spectra-Tech Contact Samplers and Skin Analyzer	0050-6##
Flat Plate for Spectra-Tech Contact Samplers and Skin Analyzer	0050-7##
HATR Flow Cell for Spectra-Tech Contact Samplers and Skin Analyzer	0051-3##

Angle	ZnSe	Ge ##	ZnS ##	AMTIR* ##	Si + ##
30°	N/A	14+	N/A	N/A	N/A
40°	02	12+	32**	N/A	N/A
45°	03	13	33	43*+	53 +
50°	06**+	N/A	N/A	N/A	N/A
55°	07**+	N/A	N/A	N/A	N/A
60°	05	15+	35+	45*+	N/A
65°	N/A	16**+	N/A	N/A	N/A
70°	08 +	N/A	N/A	N/A	N/A

Heated HATR Flow Cell for Spectra-Tech Contact Samplers with ZnSe 45° crystal	0051-303H
Heated HATR Flow Cell for Spectra-Tech Contact Samplers with ZnSe 40° crystal	0051-302H
Thermal Upgrade Package for Spectra-Tech Contact Samplers with single-readout temperature controller	0051-100
Thermal Trough Plate for Spectra-Tech Contact Samplers with ZnSe 45° crystal	0051-653
Thermal Trough Plate for Spectra-Tech Contact Samplers with ZnSe 60° crystal	0051-655

** Not available for Flat Plate.*
*** Not available for Trough Plate.*
+ Not available for HATR Flow Cell.

Spectra-Tech Collector II Diffuse Reflectance Accessory

Analyze powders with little or no sample preparation

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The Spectra-Tech Collector II™ is a flexible DRIFTS (Diffuse Reflectance Infrared Fourier Transform Spectroscopy) accessory. Diffuse reflectance analysis eliminates the need for tedious and time-consuming preparation of KBr pellets. The accessory's rugged design makes it an ideal choice for high-sample throughput situations, such as in a QC/QA laboratory. A wide variety of controlled environmental chambers are offered as options to permit the analysis of powders (e.g. catalysts) under a range of vacuum, pressure and temperature conditions. The Spectra-Tech Si-Carb Sample Prep Kit is included to abrade intractable samples (such as paint on an automobile panel) and obtain diffuse reflection spectra with the Spectra-Tech Collector II accessory.

The Spectra-Tech Collector II with the ambient chamber (see page 41) is a valuable accessory to measure hazardous and toxic compounds, such as anti-cancer drugs. The sample can be prepared in a glove box, sealed, and then measured with higher protection to the operator than when using other sampling methods.



Applications

- Powders
- Organics
- Inorganics
- Intractable solids
- Reaction monitoring

Features

- Requires little or no sample preparation
- Samples can be run neat or easily mixed into a sampling matrix (e.g. KBr)
- Patented on-axis design provides high throughput with sensitivity to nanogram quantities
- Easy sample cup height adjustment optimizes sample (beam) focus
- Patented Blocker™ device removes specular component, providing more transmission-like results
- Includes two macro (0.25 gram volume) and two micro (0.01 gram volume) sampling cups, alignment mirror, funnel, and mirror adjustment tool
- Optional dual sample cup holder allows loading of a sample and a blank, or two samples at the same time
- Optional chambers allow samples to be run at ambient or at elevated temperatures and pressures
- Includes Spectra-Tech Si-Carb Sample Prep Kit (see page 44 for details)

Product Configuration	Part Number
Spectra-Tech Collector II Diffuse Reflectance Accessory	0030-0XX

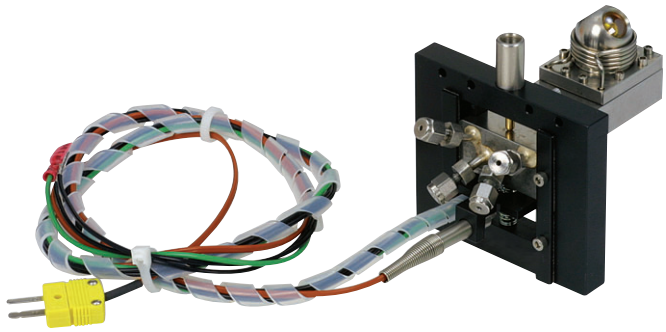
Options/Replacements	Part Number
Macro sampling cup, 0.25 g volume	3000-316
Micro sampling cup, 0.01 g volume	3000-319
Micro sampling funnel	3000-320
Alignment mirror	7004-015
Dual sample cup holder	0030-150
Mirror adjustment tool	2001-106



High Temperature/High Pressure Chamber for Spectra-Tech Collector and Collector II

The High Temperature/High Pressure Chamber allows the exposure of the sample to extreme reaction conditions. For use with the Spectra-Tech Collector and Collector II accessories, this chamber is used for experiments at temperatures up to 900°C at ambient pressure or at lower temperatures up to 400°C at up to 1500 psi. This chamber features a unique ZnSe dome that is ideally suited to these conditions. A specific temperature controller is necessary (purchased separately) to ensure reliable, long-life operation of the heating elements in the chambers. This chamber can be converted to a High Temperature/Vacuum Chamber (see page 39 for specifications) with the purchase of a Dome assembly, expanding its capabilities to include reduced pressure analyses.

Note: Coolant requirements H_2O flow rate of 30 cc/min.



Applications

- Control of sampling environment of solid samples
- In-situ measurements
- Adsorbate characterization
- Catalysis studies
- Dehydration kinetics
- Solid-solid phase transitions

Features

- Sample can be analyzed in an inert gaseous environment
- Heats to 900°C and pressurizes from ambient to 1500 psi
- Thermocouple for direct sample temperature measurement

Temperature Controller Specifications

- Time-proportional temperature controller
- LCD display
- Cycle time 0.5 seconds
- 6 volts maximum voltage
- Stability ± 1°C

Product Configuration	Part Number
High Temperature/High Pressure Chamber for Spectra-Tech Collector and Collector II (shown above)	0030-102
Temperature Controller, 110V	0019-022
Temperature Controller, 220V	0019-022E

Options/Replacements	Part Number
Alignment mirror	7004-014
O-rings, 1 large and 4 small for cooling	0030-142
Dome assembly to convert 0030-102 to High Temperature/Vacuum Chamber	0030-129
Replacement dome assembly includes hood with ZnSe dome and cooling coil	0030-126

High Temperature/Vacuum Chamber for Spectra-Tech Collector and Collector II

Allows the study of samples in heated gaseous environments

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The High Temperature/Vacuum Chamber allows the study of samples in heated gaseous environments. For use with the Spectra-Tech Collector and Collector II accessories, it is ideal for experiments requiring very high temperatures and vacuum conditions. A temperature controller is necessary and must be purchased separately to ensure reliable operation of the heating elements. This chamber can be converted to a High Temperature/High Pressure Chamber (see page 38 for details) with the purchase of a Dome assembly, enabling pressurized analyses.

Note: Coolant requirements: H_2O flow rate of 30 cc/min.



Applications

- Control of sampling environment of solid samples
- Analysis of samples under inert gaseous conditions
- In-situ measurements
- High temperature, catalytic reactions
- Thermal degradation measurement
- Simulation of process conditions

Features

- Heats samples to 900°C at ambient pressure or under vacuum
- Ability to reduce pressure to 10^{-5} Torr
- Samples can be analyzed in an inert gaseous environment
- Demountable KBr windows for easy cleaning and sampling versatility
- Optional window materials available
- Dome uses 13 x 2 mm KBr windows as standard, other materials available (see page 90)

Temperature Controller Specifications

- Time-proportional temperature controller
- LCD display
- Cycle time 0.5 seconds
- 6 volts maximum voltage
- Stability ± 1°C

Product Configuration	Part Number
High Temperature/Vacuum Chamber for Spectra-Tech Collector and Collector II (shown above)	0030-103
Temperature Controller, 110V	0019-022
Temperature Controller, 220V	0019-022E

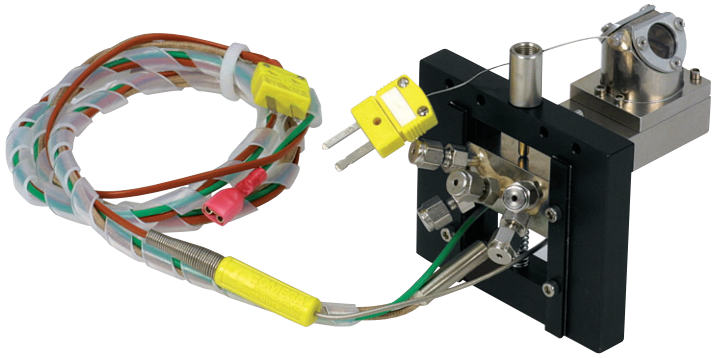
Options/Replacements	Part Number
Alignment mirror	7004-014
O-rings, 1 large, 4 for windows, 4 for cooling	0030-143
Dome assembly to convert 0030-103 to High Temperature/High Pressure Chamber	0030-126
Replacement dome assembly, includes hood with KBr windows and cooling coil	0030-129



Temperature/Vacuum Chamber for Spectra-Tech Collector and Collector II

The Temperature/Vacuum Chamber is ideal for experiments with the Spectra-Tech Collector or Collector II accessories requiring high temperatures and vacuum conditions. A temperature controller is necessary and must be purchased separately to ensure reliable operation of the heating elements. This chamber comes standard with 13 mm x 2 mm KBr windows – other materials are available. The currently available version of this chamber has two temperature probes – one for the heater and one for the sample. For those who already own a previously available chamber (0030-100), which monitors heater temperature only, a dome upgrade is available to enable monitoring of sample temperature.

Note: Coolant requirements: H_2O flow rate of 30 cc/min.



Applications

- Control of sampling environment of solid samples
- Sample analysis under heated conditions
- In-situ measurements

Features

- Removable sample cups for quick turnaround
- Heats sample up to 500°C and ambient pressure to 10^{-5} Torr
- Sample can be analyzed in a nonambient gaseous environment
- Temperature probe hood for direct temperature measurement of the sample
- Dome uses 13 x 2 mm, KBr windows as standard, other materials available (see page 90)

Temperature Controller Specifications

- Digital PID temperature controller and power box
- Temperature-setpoint dial potentiometer
- LCD display
- 0.5 second cycle time
- Stability ± 1°C (above 100°C)

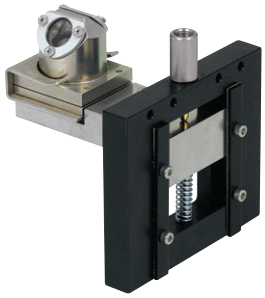
Product Configuration	Part Number
Temperature/Vacuum Chamber for Spectra-Tech Collector and Collector II (shown above)	0030-101
Temperature Controller, 110V	0019-021
Temperature Controller, 220V	0019-021E

Options/Replacements	Part Number
Alignment mirror	3000-368
Sample cup	3000-352
Sample cup with frit assembly	0030-109
O-rings, one large, four small	0030-141
Replacement dome assembly, includes hood with KBr windows and temperature probe	0030-115

Options/Replacements for 0030-100 Obsolete Temperature/Vacuum Chamber	
Dome upgrade to convert 0030-100 to 0030-101	0030-115
Replacement dome assembly for 0030-100, includes hood with KBr windows	0030-125

Ambient Chamber for Spectra-Tech Collector and Collector II

The Ambient Chamber has a unique design that permits a dome/sample cup assembly to be removed from the Spectra-Tech Collector or Collector II accessories and loaded in a glove box with a prepared sample. The removable dome/sample cup assembly is securely fastened with a unique clip design. This chamber comes standard with 13 mm x 2 mm KBr windows. The removable sample cups provide quick sample turnaround.



Applications

- Analysis of air-sensitive materials
- Toxic/hazardous powders

Features

- Removable dome/sample cup (0.11 grams KBr capacity)
- Easily attached to the Spectra-Tech Collector or Collector II
- Expands the applications of diffuse reflectance
- Dome uses 13 x 2 mm, KBr windows as standard, other materials available (see page 90)

Product Configuration	Part Number
Ambient Chamber for Spectra-Tech Collector and Collector II	0030-104

Options/Replacements	Part Number
Alignment mirror	3000-368
Replacement dome/sample cup assembly, includes hood, KBr windows, sample cup and clip	0030-128
Sample cup	3000-352
O-rings, one large, four small	0030-144



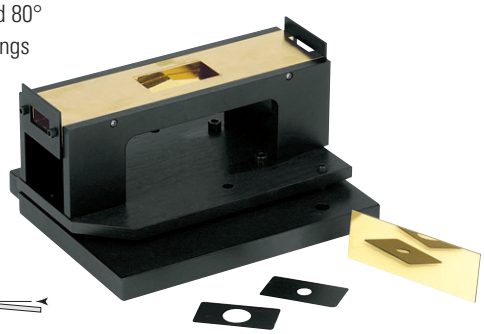
Unique optical design simplifies surface analysis

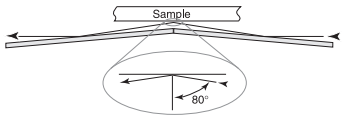
SOLIDS

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Spectra-Tech FT-80 Fixed 80° Grazing Angle Accessory

The Spectra-Tech FT-80 is a horizontal grazing angle accessory, using an all-reflective optical design, that simplifies surface analysis. Gold-coated optics provide a fixed 80° angle of incidence, making this technique ideal for the analysis of very thin coatings and adsorbed species on metal substrates. The horizontal operating position ensures convenient sampling without special clamps or holders.





Applications

- Grazing angle analysis of submicron films and coatings on metallic surfaces
- Molecular orientation studies

Features

- Fixed angle of incidence requires minimal alignment
- 80° angle of incidence gives good sensitivity
- Horizontal sample positioning for easy, nondestructive analysis
- Optional Spectra-Tech IR Polarizer mounts to Spectra-Tech FT-80 for increased sensitivity and molecular orientation studies
- Two masks supplied (7 mm and 13 mm diameter) for small sample discrimination
- All optics are gold coated for maximum reflectivity

Product Configuration	Part Number
Spectra-Tech FT-80 Grazing Angle Accessory	0014-3XX

Options/Replacements	Part Number
Spectra-Tech IR Polarizer	0014-053
7 mm mask	2002-363
13 mm mask	2002-364
Gold alignment mirror	4004-452

Easily analyzes coatings on reflective surfaces

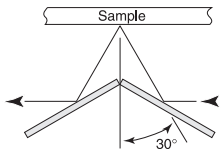
SOLIDS

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Spectra-Tech FT-30 Fixed 30° Specular Reflectance Accessory

The Spectra-Tech FT-30 is an easy-to-use specular reflectance accessory for the analysis of coatings on reflective surfaces. The horizontal sampling surface not only makes sample loading and removal easy, but it also allows larger samples to be analyzed. Masks are included to allow analyses of small samples and isolation of areas of interest on large samples. An optional Spectra-Tech IR Polarizer is available to enhance the accessory's sensitivity (see page 44 for polarizer details).





Applications

- Routine analysis of coatings (> 1 µm thickness) on reflective surfaces

Features

- Fixed 30° angle of incidence ensures repeatability
- Slide mounted – fits all spectrometers
- 7 mm and 13 mm masks provided for sample discrimination
- Optional IR Polarizer enhances sensitivity and enables molecular orientation studies

Product Configuration	Part Number
Spectra-Tech FT-30 Specular Reflectance Accessory	0014-003

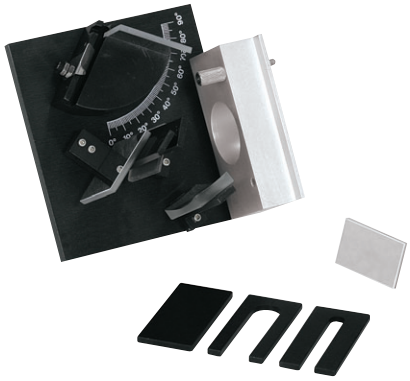
Options/Replacements	Part Number
Spectra-Tech IR Polarizer for Spectra-Tech FT-30	0014-051
7 mm mask	3000-217
13 mm mask	3000-219
Aluminum alignment mirror	7004-003

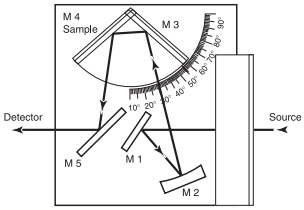
Spectra-Tech Model 500 Series Variable Angle Specular Reflectance Accessory

Versatile accessory for highly reflective surfaces and very thin films

Solids L G M

The Spectra-Tech Model 500 Series is a vertical variable angle accessory, versatile for most reflectance measurements as its angle can be varied from near normal incidence to near grazing angle incidence. The variation in angle is accomplished with a simple rotation of the sample. An optional Spectra-Tech IR Polarizer is available (see page 44 for details) to increase the sensitivity of the accessory.





Applications

- Specular reflection measurements of films and coatings on metallic surfaces

Features

- Fully compatible with most FT-IR instruments
- Variable angle of incidence from 20° to 85° – works with highly reflective surfaces and very thin films
- 6 mm and 13 mm masks included
- Optional Spectra-Tech IR Polarizer enhances sensitivity and enables molecular orientation studies

Product Configuration	Part Number
Spectra-Tech Model 500 Variable Angle Specular Reflectance for right to left beam direction: Bomem DA 8, Mattson Galaxy, Philips, Bruker, Philips, Bruker, Digilab FTS-4000 (shown above)	0014-010
Spectra-Tech Model 501 Variable Angle Specular Reflectance for left to right beam direction: Nicolet Impact; Bomem MB series; Digilab FTS 14, 15, 20, 80; Mattson Genesis; PerkinElmer	0014-011
Spectra-Tech Model 502 Variable Angle Specular Reflectance for right to left beam direction: Digilab 10, 11, 40, 50, 60; Excalibur	0014-012

Options/Replacements	Part Number
13 mm slot mask	3000-230
6 mm slot mask	3000-231
Alignment mirror	7004-001
Spectra-Tech IR Polarizer for Spectra-Tech Model 500	0014-051

Spectra-Tech FT-60, FT-45 and Model 134 Replacements and Options

Sampling accessory replacements and options

Solids L G M

The Spectra-Tech FT-60, FT-45 and Model 134 Fixed Angle Specular Reflectance Accessories are no longer offered. However, some replacement parts and options are available.

Spectra-Tech FT-60 Options/Replacements	Part Number
Spectra-Tech IR Polarizer for Spectra-Tech FT-60	0014-053
7 mm mask	2002-363
13 mm mask	2002-364
Gold alignment mirror	4004-452

Spectra-Tech FT-45 Options/Replacements	Part Number
Spectra-Tech IR Polarizer for Spectra-Tech FT-45	0014-053
7 mm mask	3000-217
13 mm mask	3000-219
Aluminum alignment mirror	7004-003

Spectra-Tech Model 134 Options/Replacements	Part Number
Alignment mirror	7004-001
Mirror adjustment tool	2001-106
25 mm diameter mask	2000-170
6.5 mm x 18 mm oblong mask	2000-171
3 mm x 13 mm rectangular mask	2000-172
13 mm diameter mask	2000-173



Enhances sensitivity of many FT-IR accessories

SOLIDS

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Spectra-Tech IR Polarizer



The Spectra-Tech IR Polarizer is useful in the study of metal surfaces and molecular symmetry in single crystals. It is manufactured using a holographic/photolithographic technique, which deposits an array of parallel aluminum conductors at a spacing of 4000 lines/inch. The polarizer includes a 360° rotary holder calibrated with 5° scale divisions. The Spectra-Tech IR Polarizer can be used in any universal slide mount. An IR Polarizer is also available for use in microscopy studies. Refer to page 80 for more information.

Applications

- Molecular orientation studies

Features

- Enhances the sensitivity of many FT-IR accessories
- ZnSe standard substrate, other substrates available
- Differentiates between s-polarized light and p-polarized light
- Enhanced sensitivity for grazing angle measurements
- Operating range of 5000 cm^{-1} to 500 cm^{-1}
- 0° = horizontal polarization
- 90° = vertical polarization

Product Configuration	Part Number
Spectra-Tech IR Polarizer for slide mount for Spectra-Tech FT-30, FT-45, Model 134 and Model 500 (shown above)	0014-051
Spectra-Tech IR Polarizer for Spectra-Tech FT-60, FT-80, and FT-85	0014-053
Spectra-Tech IR Polarizer and holder for ARK for Thermo Scientific spectrometers, must be returned for upgrade	0056-9XX
Holder for mounting an existing polarizer to Spectra-Tech ARK, must be returned for upgrade	0056-4XX

Spectra-Tech IR Polarizers for Spectra-Tech ARK for use with other spectrometers are also available. Please call for information.

Easily prepare difficult samples for diffuse reflectance analysis

SOLIDS

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Spectra-Tech Si-Carb Sample Prep Kit



The Spectra-Tech Si-Carb Sample Prep Kit is a useful tool for preparing intractable samples such as coatings, paints, and hard polymers for diffuse reflectance analysis. The kit is included with several Thermo Scientific accessories, including the Spectra-Tech Collector II, Smart Collector, Smart Diffuse Reflectance, and Spectra-Tech Foundation CPC Diffuse. The Si-Carb involves minimal sample preparation – a small disk of silicon-carbide paper with adhesive backing is attached to a platen and then to a handle. Diamond paper disks are also available for extremely hard samples. The paper is used to abrade the surface of the sample, transferring a small amount of sample to the disk. The platen is then removed from the handle, placed in the appropriate receptacle in the diffuse reflectance accessory and a spectrum is obtained.

Applications

- Hard polymers
- Paints
- Coatings
- Wall paints, frescos

Features

- Easy and inexpensive method of acquiring intractable samples
- Silicon carbide disks in two grit sizes to abrade most surfaces
- Optional diamond paper disks for extremely hard samples
- Handle for holding platen gives access to hard-to-reach spots
- Adhesive backing secures disks to sampling platen

Product Configuration	Part Number
Spectra-Tech Si-Carb Sample Prep Kit Includes two sampling platens, one handle,100 pieces of 400 grit silicon carbide paper (13 mm diameter), 100 pieces of 320 grit silicon carbide paper (13 mm diameter)	0030-130

Options/Replacements	Part Number
320 grit silicon carbide paper, 13 mm diameter, 100	3000-562
400 grit silicon carbide paper, 13 mm diameter, 100	3000-561
10 µm grit diamond paper, 13 mm diameter, 5	0030-131
Spectra-Tech Si-Carb platen	3000-560
Spectra-Tech Si-Carb handle	3000-563

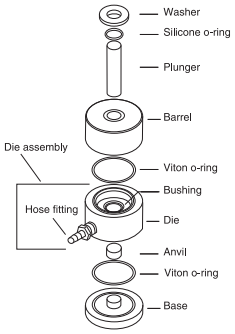
Spectra-Tech Macro-Micro KBr Die Kits

Produces uniform and highly reproducible pellets

Solids

L G M

The Spectra-Tech Macro-Micro KBr Die is a versatile sample preparation accessory for laboratories that routinely make KBr pellets. This die is recommended where price, consistency, and quality are important. The die is constructed of stainless steel/aluminum and is evacuable. A hydraulic laboratory press is required to provide constant pressure. Two kits are available: one for standard transmission analysis and another which includes a GC Fraction Collector that allows the die to be used with a gas chromatograph.





Applications

- Macro and micro pellets for transmission analyses
- Repetitive solid transmission sampling
- Trace analyses

Features

- Meets ASTM and EPA standards
- Produces uniform and highly reproducible pellets
- Easy to clean and maintain
- Includes paper inserts to make 1.5 mm, 3.0 mm, 5.0 mm, 11.0 mm and 13 mm diameter pellets
- Includes paper inserts to make 1.5 mm x 9.0 mm rectangular pellets

Product Configuration	Part Number
Spectra-Tech Macro-Micro KBr Die Kit includes 12 of each size paper insert (shown above)	0016-009
Spectra-Tech Macro-Micro KBr Die Kit with GC Fraction Collector includes 12 of each size paper insert	0016-001

Options/Replacements	Part Number
GC Fraction Collector	0016-500
Filling funnel with tamper for 1.5 mm pellets	0016-002
Die assembly (die, bushing and hose fitting)	0016-502
Stainless steel base	2000-188
Stainless steel anvil	2000-190
Stainless steel plunger	2000-191
Pellet extractor ring	2000-197
O-ring kit	0016-003
1.5 mm diameter paper inserts, 200	0016-004
3.0 mm diameter paper inserts, 200	0016-025
5.0 mm diameter paper inserts, 200	0016-026
11.0 mm diameter paper inserts, 200	0016-006
1.5 x 9.0 mm rectangular paper inserts, 200	0016-005

Carver 4350 Manual Pellet Press

Ensures centered, even pressure

Solids

L G M

This compact 12 ton manual pellet press with 4" diameter platen is perfectly suited for KBr pellet pressing. The ergonomic design of the machine allows the operator to stand in front of the press and comfortably pump the handle to develop the compaction pressure. The oversized gauge allows the operator to accurately view the compaction force on the pellet. It can also be used for glove box applications, compound and formula testing, compression strength test, fluid extractions, and on-site field testing.



Applications

- Producing KBr pellets
- Producing thin films
- Glove box applications
- Compound and formula testing
- Compression strength tests
- Fluid extractions
- On-site field testing

Features

- Includes a buffer plate, which acts as an integral safety shield
- CE approved
- Pressure display readout in metric pounds and tons
- Ensures centered, even pressure

Product Configuration	Part Number
Carver 4350 Manual Pellet Press, English	869-091600
Carver 4350 Manual Pellet Press, German	869-107900
Carver 4350 Manual Pellet Press, French	869-108000
Carver 4350 Manual Pellet Press, Spanish	869-108100



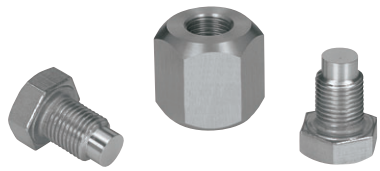
Low-cost, simple tool to make KBr pellets

SOLIDS

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Spectra-Tech Econo-Press Kit

The Spectra-Tech Econo-Press™ is an economical die used to form 10 mm KBr pellets. It is recommended when simplicity and low cost are the primary considerations. Spectra can be obtained with the pellet in the press, or the pellet can be ejected and placed in an Spectra-Tech Econo-Card™ for analysis and storage. The Spectra-Tech Econo-Press Kit includes the Spectra-Tech Econo-Press (which consists of one barrel and two bolts), and a Spectra-Tech Econo-Mount™ and ten Spectra-Tech Econo-Cards that fit into a standard slide mount and enable analysis of the pellet. A 3/4" wrench, required to use the Spectra-Tech Econo-Press, must be purchased separately.



Applications

- Forming KBr pellets
- Qualitative analysis

Features

- Economically priced
- Compact, simple design
- Prevents breakage and contamination
- Includes Spectra-Tech Econo-Press, Spectra-Tech Econo-Mount (see page 50) and 10 Spectra-Tech Econo-Cards (see page 86)

Product Configuration	Part Number
Econo-Press Kit, requires 3/4" wrench	0026-001
3/4" wrench	870-4021

Options/Replacements	Part Number
Spectra-Tech Econo-Press only (one barrel, two bolts)	0026-500
Barrel	2000-584
Bolt	2000-585
Spectra-Tech Econo-Mount	0026-504
Spectra-Tech Econo-Cards, 100	0026-017

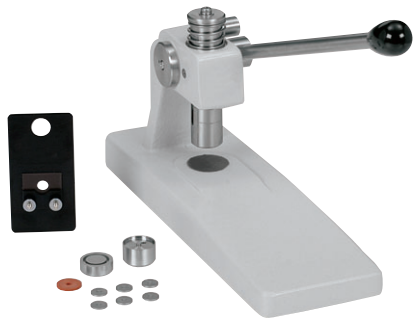
Produces pellets for transmission analysis

SOLIDS

L G M

Spectra-Tech Table Press Kit

The Spectra-Tech Table Press fits on any laboratory counter top and a standard kit includes a 3 mm Die Set, which consists of an upper and lower anvil, six sample collars that have a 3 mm aperture, a silicone ejector collar and a pellet holder. The pellets are pressed using light operator pressure and are placed in a collar that can be transferred onto the provided pellet holder for analysis. A generous supply of collars (six) is included for preparing multiple samples.



Applications

- Producing pellets for transmission analyses
- Trace analyses and bulk analyses

Features

- Compact and easy to use
- Includes Spectra-Tech Table Press, 3 mm Die Set, and KBr Pellet Holder
- Optional dies available
- Uses same dies as Spectra-Tech Qwik Handi-Press

Product Configuration	Part Number
Spectra-Tech Table Press Kit	0016-130

Options/Replacements for Table Press Only	Part Number
Spectra-Tech Table Press only	0016-131

Options/Replacements for Table Press and Qwik Handi-Press	Part Number
3 mm Die Set with KBr Pellet Holder	0016-133
1 mm, 3 mm, and 7 mm Die Set includes universal anvil, rubber collar, 1 mm die collar and anvil, 3 mm die collar and anvil, and 7 mm die collar and anvil	0016-117
7 mm Die Set	0016-113
3 mm Die Set	0016-115
1 mm Die Set	0016-116
KBr Pellet Holder	0016-121
7 mm die collar	3000-034
3 mm die collar	3000-040
1 mm die collar	3000-037
Silicone collars for 1 and 3 mm dies, 6	0016-118
Silicone collar for 7 mm die	0016-119
Universal bottom anvil for 1 mm, 3 mm and 7 mm pellets	3000-033
7 mm anvil	3000-032
3 mm anvil	3000-039
1 mm anvil	3000-036
7 mm pellet ejector	3000-035

Spectra-Tech Qwik Handi-Press Kit

Handheld device for production of multiple sizes of KBr pellets

Solids

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The Spectra-Tech Qwik Handi-Press is an economical, hand-held device available in a kit to produce 1 mm, 3 mm, and 7 mm KBr pellets. The pellets are pressed using light operator pressure and are placed in a collar that can be transferred onto the provided pellet holder for analysis. Additional collars can be purchased for preparing multiple samples. The Spectra-Tech Qwik Handi-Press can be made evacuable with an optional vacuum head attachment.



Applications

- Producing pellets for transmission analyses
- Trace analyses and bulk analyses

Features

- Easy to use
- Includes Spectra-Tech Qwik Handi-Press, KBr Pellet Holder, and 1 mm, 3 mm and 7 mm Die Set
- Optional dies available
- Uses same dies as Spectra-Tech Table Press
- Can be made evacuable with optional vacuum head attachment

Product Configuration	Part Number
Spectra-Tech Qwik Handi-Press Kit	0016-125

Options/Replacements for Qwik Handi-Press Only*	Part Number
Vacuum head attachment	0016-120
Spectra-Tech Qwik Handi-Press only	0016-112
Spectra-Tech Qwik Handi-Press with 7 mm Die	0016-111

** For additional options and replacements, refer to ordering information on page 46 for Spectra-Tech Table Press Kits.*

Spectra-Tech Universal Film Maker Kit

Reproducible production of thin films

Solids

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The Spectra-Tech Universal Film Maker™ (UFM™) provides an easy-to-use and highly reproducible method of pressing polymers into thin films. The simplified construction of the Spectra-Tech UFM, comprised of only four major parts, makes sample preparation quick, convenient, and economical. The uniquely designed platens provide films with a matte finish, eliminating the interference fringes associated with smooth-finish films. In addition, accurate and reliable temperature control is achieved through the integral heaters and thermocouples contained in the platens coupled with the digital controller. When used with any hydraulic press, the kit provides everything needed to make films from 15 µm to 500 µm thick. A temperature controller and Spectra-Tech Film Sample Cards are also included.



Applications

- Reproducible production of thin films
- Transmission analysis of thermoplastic resins
- Quantitative analysis of copolymers and additives at low concentration

Features

- Temperature range from ambient to 300°C
- 20 mm film diameter
- Includes spacer rings to produce films 15 µm, 25 µm, 50 µm, 100 µm, 250 µm, and 500 µm thick
- Comes with 110V or 220V temperature controller
- Aluminum foil disks included

Product Configuration	Part Number
Spectra-Tech Universal Film Maker Kit with 110V temperature controller (shown above)	0016-010
Spectra-Tech Universal Film Maker Kit with 220V temperature controller	0016-010E
Spectra-Tech Universal Film Maker Kit for Specac press with 220V temperature controller	0016-210E

Options/Replacements	Part Number
Aluminum foil disks, 100	0016-012
Spectra-Tech Film Sample Cards, 100	0026-021
Insulation plates, 2	0016-007
Adapter for Specac 220V press	0016-560
15 µm spacer ring	009-743600
25 µm spacer ring	009-743700
50 µm spacer ring	009-743800
100 µm spacer ring	009-743900
250 µm spacer ring	009-744000
500 µm spacer ring	009-744100



Spectra-Tech WIG-L-BUG Grinding Mills



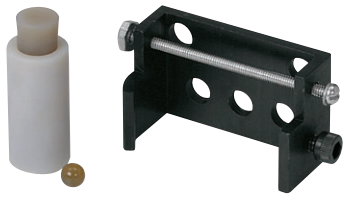
Spectra-Tech WIG-L-BUG™ mills are compact laboratory grinder/mixers designed to help obtain superior spectra when making pellets, mulls, or when preparing samples for diffuse reflectance analysis. Compared to hand grinding, the Spectra-Tech WIG-L-BUG mills help save sample preparation time because thorough mixing is accomplished in as little as two minutes. The Heavy Duty Spectra-Tech WIG-L-BUG mill is designed for frequent use or procedures requiring up to one-half hour of grinding or mixing. It is equipped with a 30-minute timer and a fan-cooled motor. The General Purpose Spectra-Tech WIG-L-BUG mill is designed for routine laboratory use and comes equipped with a 60-second timer. Both mills have a standard vial holder for 1/2" diameter x 1" long sample vials (vials must be ordered separately). Optional vial adapters are available.

Applications

- Fine grinding and blending of solid samples
- Standardized sample preparation

Features

- Alternative to the traditional mortar and pestle method
- Minimizes adsorbed water contamination
- Thorough mixing and grinding produces uniform sample size
- Stainless steel vial and balls are recommended for grinding and mixing
- Plexiglass vial and polystyrene balls are recommended when mulling with mineral oil, or when avoiding trace metallic contaminants (special vial adapter required)
- Agate vial and ball are also available for specialized applications (special vial adapter required)



Product Configuration	Part Number
General Purpose Spectra-Tech WIG-L-BUG (110V only)	WIG-3110-B
Heavy Duty Spectra-Tech WIG-L-BUG (shown above), 110V only	WIG-3110-3A

Vials, Balls and Vial Adapters	Part Number
Stainless steel vial, 1/2" dia. x 1" long, with stainless steel ball, 1/4" diameter	WIG-3114
Stainless steel ball, 1/4" diameter	WIG-6117
Polystyrene vials, 1", 100	WIG-3111
Polystyrene vials, 2", 100	WIG-3116
Adapter for 1" long polystyrene vial	WIG-3113
Adapter for 2" long polystyrene vial	WIG-3125
Plexiglass balls, 3/8" diameter, 100	WIG-3112
Plexiglass balls, 1/8" diameter, 100	WIG-3119
Agate vial, 2 ml capacity, with agate ball (shown above)	WIG-3118
Adapter to accommodate agate vial (shown above)	WIG-3120

Options/Replacements	Part Number
Vial holder long arm (2 on unit)	WIG-1200
Vial holder short arm (4 on unit)	WIG-1205

Spectra-Tech Magnetic KBr Pellet Holder

Slide-mounted holder fits all spectrometers

Solids

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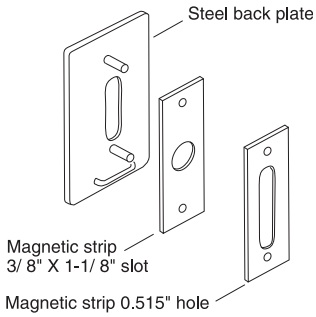
The Spectra-Tech Magnetic KBr Pellet Holder is used to hold pellets in place. It handles 13 mm pellets or paper inserts for smaller samples. The holder uses magnetic rubber strips to secure the sample to the back plate.

Applications

- Holds KBr pellets for transmission analysis
- Holds 13 mm transmission windows

Features

- Easy and versatile sampling
- Slide mounted holder that fits all spectrometers





Product Configuration	Part Number
Spectra-Tech Magnetic KBr Pellet Holder	0016-008

Options/Replacements	Part Number
Magnetic strip with 3/8" x 1-1/8" slot and dowel pin holes	2000-352
Magnetic strip with 13 mm diameter hole and dowel pin holes	2000-353

Spectra-Tech Magnetic Film Holder

Holds thin films for transmission analysis

Solids

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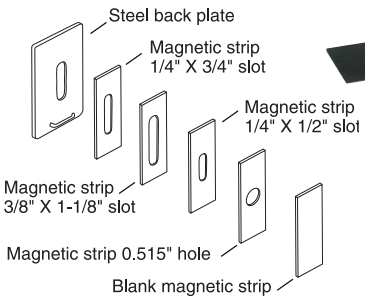
The Spectra-Tech Magnetic Film Holder is used to hold thin film strips in position for spectral analysis. The holder uses magnetic rubber strips to secure the sample to the back plate. Blank magnetic strips are available for cutting custom size or shape apertures.

Applications

- Holds thin films for transmission analysis

Features

- Easy and versatile sampling
- Slide mounted holder that fits all spectrometers





Product Configuration	Part Number
Spectra-Tech Magnetic Film Holder	0022-002

Options/Replacements	Part Number
Magnetic strip 1/4" x 3/4" slot	2000-448
Magnetic strip 3/8" x 1-1/8" slot	2000-449
Magnetic strip 1/4" x 1/2" slot	2000-450
Magnetic strip 13 mm (0.515") diameter hole	2000-353-1
Blank magnetic strips, 12	2000-351



Cells up to 100 mm long can be positioned on mount

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Spectra-Tech Econo-Mount

The Spectra-Tech Econo-Mount is a versatile holder designed to reproducibly position the Spectra-Tech Econo-Press (see page 46), Spectra-Tech Econo-Cell™ (see page 56), Spectra-Tech Econo-Gas Cell (see page 63), infrared quartz cylindrical cuvettes or various sized windows in the sample beam of an infrared spectrometer. With the two extension posts, a cell up to 100 mm long can be positioned on the mount.



Applications

- Reproducible positioning of transmission, liquid, and gas cells

Features

- Teflon sleeved mounting posts that prevent scratching of cells and windows
- Slide mounted to fit all spectrometers

Product Configuration	Part Number
Spectra-Tech Econo-Mount	0026-504

Conveniently holds samples with spring-loaded lever

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Spectra-Tech Universal Sample Holders

The Spectra-Tech Universal Sample Holders are economical and simple-to-use accessories for transmission analysis of samples with infrared spectrometers. Each holder has a mount that conveniently holds IR windows, pellets, or films firmly in place. Samples are held by a spring-loaded lever – no additional screws, fasteners, or magnetic plates are necessary to hold the sample. Spectra-Tech Universal Sample Holders are available with two aperture sizes: 13 mm and 25 mm diameters.



Applications

- Positioning of KBr pellets, thin films, or IR windows for transmission analyses

Features

- 13 mm size ideal for KBr pellets, or films made with the Spectra-Tech Universal Film Maker
- 25 mm size holds films and transmission windows
- Viton® o-ring cushions sample
- Both sizes hold standard window sizes

Product Configuration	Part Number
Spectra-Tech Universal Sample Holder, 13 mm	0016-213
Spectra-Tech Universal Sample Holder, 25 mm (shown above)	0016-225

See page 89 for information on IR transmission windows.

Spectra-Tech Presslok Demountable Holders

Easy-to-use transmission cell for mulls and smears

Solids

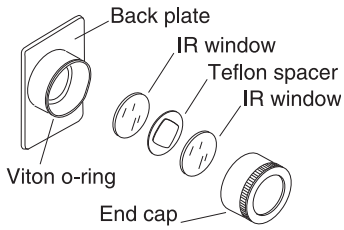
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The Spectra-Tech Presslok Demountable Holder, when used with infrared windows, creates an easy-to-use transmission cell for analyses of mulls and smears. Holders are available for two window sizes: 25 mm and 32 mm. When inserting windows to create a cell, the pathlength can be varied through the use of spacers. The holder plus windows and spacers (which must be ordered separately) create a highly efficient friction lock that makes the cell leak resistant. For information on mull technique supplies, see page 87.



Applications

- Holds mulls and smears
- Holds thin capillary films
- Holds thin cast films



Features

- Two-piece construction
- Friction-fit, self-locking cover with external Viton o-ring
- Available for both 25 mm and 32 mm windows
- Slide mounted holder fits all spectrometers
- Creates a complete transmission cell when used with windows and spacers

Product Configuration		Part Number
Spectra-Tech Presslok Demountable Holder for 25 mm windows		0018-012
Spectra-Tech Presslok Demountable Holder for 32 mm windows (shown above)		0018-014
Transmission Windows, 2 required		7000-###
Material	25 mm x 4 mm ###	32 mm x 3 mm ###
NaCl	316	451
KBr	317	452
CaF_2	318	453
BaF_2	319	454
ZnS (2 mm thick)	321	456
KRS-5	322	457
CsI	323	458
AgCl	324	459
AgBr	325	460
Ge	326	461
Quartz	327	462
ZnSe (2 mm thick)	328	463
CdTe (2 mm thick)	329	464
Si	330	465
Spectra-Tech Presslok Teflon Spacers, 12	0018-###	0004-###
Pathlength	25 mm diameter ###	32 mm diameter ###
0.015 mm	017	038
0.025 mm	018	039
0.050 mm	019	040
0.100 mm	020	041
0.200 mm	021	042
0.500 mm	022	043
Assorted, 2 of each size	023	050

Options/Replacements	Part Number
Viton o-ring for exterior 25 mm diameter window, 12	0018-015
Viton o-ring for exterior 32 mm diameter window, 12	0018-045



Disposable cards useful for analyzing organic liquids & semisolids

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Spectra-Tech Infrared (ST-IR) Cards

Spectra-Tech's disposable ST-IR Cards™ are useful for qualitative IR transmission analysis of organic liquids, materials soluble in organic solvents, semisolids, and pastes. In addition, the microporous substrate permits rapid solvent evaporation, even with samples that contain water. Most samples can be prepared for these cards just as they would for use with traditional salt plates. When performing an analysis, samples can be ratioed against an empty sample card. Two substrates are available: polyethylene (PE) and polytetrafluoroethlyene (PTFE), and each card contains two sample sites. Samples can be dropped or smeared onto the card substrate, allowed to evaporate and then analyzed. The cards have areas for writing reference numbers, dates, and notes for record-keeping purposes.



Applications

- Organic liquids
- Solvents
- Pastes
- Oils
- Semisolids

Features

- Microporous sample substrate is chemically resistant and is nonhygroscopic
- Requires no desiccated storage
- Cards fit easily into most FT-IR spectrometers
- Spectra-Tech ST-IR Card 0020-300 is composed of a microporous polyethylene (PE) substrate
- Useful in the 4000 – 400 cm^{-1} range, except for the 3000 – 2800 cm^{-1} aliphatic region
- Can be used at temperatures up to 90°C for short durations
- Spectra-Tech ST-IR Card 0020-031 is composed of a polytetrafluoroethlyene (PTFE) substrate
- Provides a clean background from 4000 – 1400 cm^{-1}, making it useful for spectral interpretation within the aliphatic C-H stretching region
- Can be used at temperatures up to 200°C for short durations

Product Configuration	Part Number
Spectra-Tech ST-IR Cards, PE substrates, 25	0020-300
Spectra-Tech ST-IR Cards, PTFE substrates, 25	0020-301

Spectra-Tech EZ-Fill and EZ-Flow Demountable Cell Kits with Bolt-Down Holder



The reliable Spectra-Tech EZ-Fill™ and EZ-Flow design is available in a demountable configuration for easy analysis of viscous liquids. Pathlengths are changed by changing spacers. Kits include an Spectra-Tech EZ-Fill or EZ-Flow Demountable Cell body and Bolt-Down Holder™ (BDH™) with optional heated capabilities (temperature controller must be ordered separately). Two 32 mm windows, ordered separately and available in a variety of materials, are used with the kit to complete the cell. The Spectra-Tech BDH is also compatible with Spectra-Tech EZ-Flow and EZ-Fill Sealed Cells. An optional torque wrench is recommended to ensure proper installation.

Applications

- Studies temperature dependent phenomena
- Viscous liquids

Features

- Spectra-Tech Bolt Down Holder and cell body design ensure leakproof sampling
- Optional heated versions permit transmission analysis of liquids from ambient to 100°C
- With heated versions, digital readout temperature controller maintains the cell temperature to ± 0.1°C
- Demountable configuration means windows can easily be changed and polished
- Kit includes Spectra-Tech EZ-Fill or EZ-Flow cell body, BDH, compensation ring, assorted Teflon spacers, Teflon and Viton gaskets, alignment tubing, appropriate ports
- Heated kit also includes heated Spectra-Tech BDH and RTD (Resistive Thermocouple Device) temperature sensor

Product Configuration	Part Number
Spectra-Tech EZ-Fill BDH Demountable Cell Kit without windows (shown above with windows, available separately)	FT54-019
Spectra-Tech EZ-Flow BDH Demountable Cell Kit without windows	FT64-029
Spectra-Tech EZ-Fill Heated BDH Demountable Cell Kit without windows or temperature controller	FT54-039
Spectra-Tech EZ-Flow Heated BDH Demountable Cell Kit without windows or temperature controller	FT64-049
Torque wrench	0012-524
Digital temperature controller for Heated Spectra-Tech BDH Demountable Kit, 110V	0019-031
Digital temperature controller for Heated Spectra-Tech BDH Demountable Kit, 220V	0019-031E

These cells require 2 IR transmission windows. See page 51 to order 32 mm diameter windows.

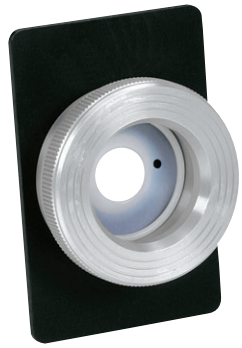
Options/Replacements	Part Number
Spectra-Tech Bolt Down Holder only, includes cell holder body and compensation ring	FT04-060
Spectra-Tech Heated Bolt Down Holder, includes BDH and RTD temperature sensor	FT04-061
Spectra-Tech Heated BDH and temperature controller, 110V	0016-310
Spectra-Tech Heated BDH and temperature controller, 220V	0016-310E
Viton gaskets, 12	0004-237
Kalrez gasket	2000-433
Teflon stoppers, 12	0004-003
Teflon gaskets, 12	FT04-037
Teflon spacers, 12	0004-###

Pathlength (mm)	Volume (ml)	###
0.015	0.002	238
0.025	0.004	239
0.05	0.008	240
0.1	0.015	241
0.2	0.031	242
0.5	0.077	243
1.0	0.154	244



Spectra-Tech Demountable Pathlength Cell Kit

The Spectra-Tech Demountable Pathlength Cell Kit plus windows creates a cell that is ideal for easy analysis of liquids, mulls, and films. The Spectra-Tech Demountable Pathlength Cells use Teflon spacers and gaskets, are leakproof, and provide even pressure and an even seal around the perimeter of the cell. Two Luer-Lok™ Teflon stoppered ports make filling and cleaning the cell simple and fast. To change the pathlength, simply substitute a spacer of the desired thickness – various thickness spacers are included. The windows are 32 mm in diameter, demountable and can easily be changed and polished.

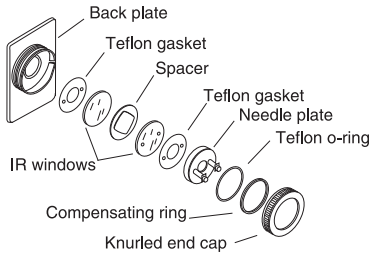


Applications

- Routine transmission analysis of liquids and mulls
- Qualitative analysis of liquids

Features

- Circular design with even pressure and even seal
- Leak-proof
- Quick change holder for 32 mm windows
- Positioning pin
- Luer-Lok fittings
- Largest assortment of window materials available



Product Configuration	Part Number
Spectra-Tech Demountable Pathlength Cell Kit for FT-IR spectrometers, windows not included (shown above)	FT04-036
Spectra-Tech Demountable Pathlength Cell Kit for dispersive instruments, windows not included	0004-036
Windows for Spectra-Tech Demountable Pathlength Cells, 1 drilled and 1 undrilled required	7000-###

32 mm x 3 mm	NaCl ###	KBr ###	CaF_2 ###	BaF_2 ###	ZnS* ###	KRS-5 ###	CsI ###	AgCl ###	AgBr ###	Ge ###	Quartz ###	ZnSe* ###	Si ###
Drilled (front)	466	467	468	469	471	472	473	474	475	476	477	478	480
Undrilled (back)	451	452	453	454	456	457	458	459	460	461	462	463	465

** ZnS and ZnSe windows are 2 mm thick.*

Options/Replacements	for FT04-036	for 0004-036
Aluminum needle plate	3000-010	2000-414
Stainless steel needle plate	3000-014	N/A
Teflon gaskets, 12	FT04-037	0004-037
Teflon o-rings, 12	0004-034	0004-034
Teflon stoppers, 12	0004-003	0004-003
Compensating ring	2000-413	2000-413
Spacers, 12	0004-###	0004-###

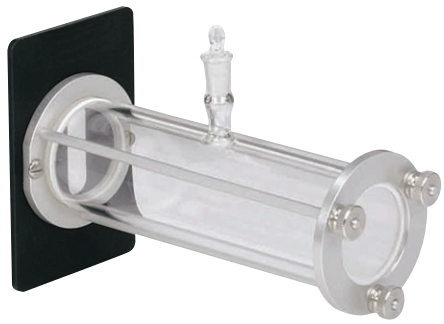
Pathlength (mm)	Volume (ml)	Teflon ###	Copper ###	Lead ###
0.015	0.006	038	144	N/A
0.025	0.010	039	145	N/A
0.05	0.020	040	146	N/A
0.1	0.040	041	N/A	047
0.2	0.080	042	N/A	048
0.5	0.200	043	N/A	049
Assorted	N/A	050	N/A	N/A

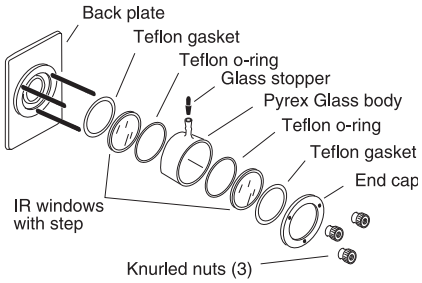
Spectra-Tech Long Pathlength Liquid Demountable Cell Kit

Obtain spectra of low-concentration solutions

S Liquids G M

The Spectra-Tech Long Pathlength Liquid Demountable Cell is often specified in EPA and ASTM methods for the analysis of hydrocarbons in water after a Freon® extraction. These cells are ideal for obtaining spectra of very dilute solutions. The cell body is made of Pyrex® for inertness and strength, while Teflon gaskets provide a protective layer between the cell body and window. The 32 mm stepped windows are held in place by retaining rings and thumbnuts. The cell is filled through the single 5/12 ground glass port on top of the cell. The kit comes complete with windows and is preassembled.





Applications

- Allows analysis of low concentration components in IR-transmissive solvents
- For EPA methods 418.1 and 413.2 and ASTM method D3921

Features

- One piece assembly with integral slide mount
- Cell is ready to use when received
- Ultrasonically stepped windows for leakproof sampling
- Windows are demountable and easy to remove for repolishing or changing
- Pyrex body with tight fitting glass stopper prevents spills and solvent evaporation
- Integral holder and other metal parts are made of both stainless steel and anodized aluminum
- Kit includes cell holder, Pyrex cell body, two Teflon gaskets, two Teflon o-rings and choice of windows

Product Configuration	Part Number
Spectra-Tech Long Pathlength Liquid Demountable Cell Kit with windows	0004-###

Pathlength (mm)	Volume (ml)	NaCl ###	KBr ###	CaF_2 ###	ZnS ###	Quartz ###
10	7.5	007	008	009	012	013
25	19.0	016	017	018	021	022
50	38.0	025	026	027	N/A	031
100	76.0	125	126	127	N/A	131

Options/Replacements	Part Number
NaCl window, 32 mm with step	7001-542
KBr window, 32 mm with step	7001-543
CaF_2 window, 32 mm with step	7001-544
ZnS window, 32 mm with step	7001-547
Quartz window, 32 mm with step	7001-553
Glass stopper	860-0000
Teflon o-rings, 12	0004-034
Teflon gaskets, 12	0004-068
10 mm Pyrex body	2000-404
25 mm Pyrex body	2000-406
50 mm Pyrex body	2000-408
100 mm Pyrex body	2002-000



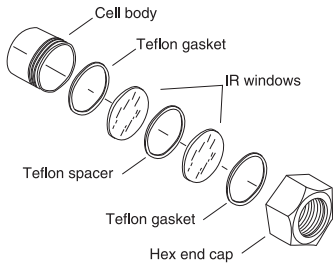
Cost-effective, simple tool for routine analyses

S LIQUIDS G M

Spectra-Tech Econo-Cell Kit

The Spectra-Tech Econo-Cell is simple in design and versatile in use – with windows inserted, it is an inexpensive device for analyzing mulls and smears. Available with a variety of windows and pathlength spacers, the Spectra-Tech Econo-Cell Kit comes with the Spectra-Tech Econo-Cell body assembly, two 20 mm x 2 mm NaCl windows and the Econo-Mount to position the sample properly. The Spectra-Tech Econo-Cell Kit is a practical choice for routine qualitative analyses. Other window materials are available and can be purchased separately.





Applications

- Mulls and smears
- Thin capillary films
- Thin cast films

Features

- Easy to use and simple in design
- Econo-Cell body assembly includes two NaCl windows, two Teflon gaskets, six assorted Teflon spacers, hex end cap
- Cost effective for low volume usage
- Three sizes of spacers available for various pathlengths

Product Configuration	Part Number
Spectra-Tech Econo-Cell Kit, with NaCl windows and Spectra-Tech Econo-Mount	0026-003

Options/Replacements	Part Number
Spectra-Tech Econo-Cell body assembly only (shown above)	0026-501
Spectra-Tech Econo-Mount (shown above)	0026-504
Teflon gaskets, 12	0026-010
Teflon spacers, 12	N/A
0.025 mm	0026-014
0.05 mm	0026-015
0.1 mm	0026-016
NaCl windows, 2, 20 mm x 2 mm	0026-011
KBr windows, 2, 20 mm x 2 mm	0026-012
AgCl windows, 2, 20 mm x 2 mm	0026-013
Replacement window, stepped, 20 mm x 2 mm	7000-###

NaCl ###	KBr ###	CaF_2 ###	BaF_2 ###	KRS-5 ###	AgCl ###	AgBr ###	ZnSe ###
361	362	363	364	367	369	370	373

Low-cost means of analyzing liquids and mulls

S LIQUIDS G M

Spectra-Tech Qwik-Cell Kit

The Spectra-Tech Qwik-Cell™ is an inexpensive way to obtain qualitative spectra on liquids and mulls. The cell kit consists of a Spectra-Tech Qwik-Cell body assembly (Delrin body and screw top, six 15.8 mm x 0.5 mm AgCl windows, assorted Teflon spacers), and a Spectra-Tech Econo-Mount cell holder, which fits the slide mount of most standard spectrometers.



Applications

- Mulls
- Liquids
- Applications requiring extended spectral range

Features

- Uses AgCl (15.8 mm x 0.5 mm) windows for extended spectral range (to approximately 360 cm^{-1})
- Delrin body with screw top is rugged and chemically resistant
- Assorted spacers included: 0.025 mm, 0.05 mm, 0.1 mm
- Kit comes with the Spectra-Tech Econo-Mount to fit all spectrometers

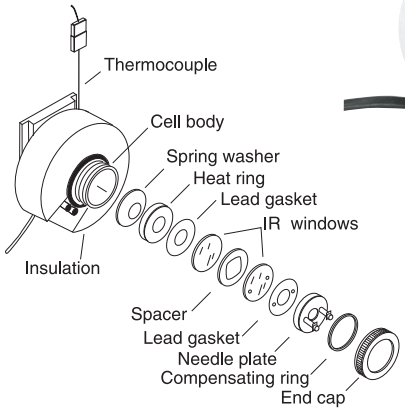
Product Configuration	Part Number
Spectra-Tech Qwik-Cell Kit with windows and Econo-Mount	0026-070

Options/Replacements	Part Number
AgCl windows, 15.8 mm x .05 mm, 6, and assorted Teflon spacers, 6	0026-071
Spectra-Tech Qwik-Cell body assembly	0026-072
Spectra-Tech Econo-Mount	0026-504

Spectra-Tech Model HT-32 Heated Demountable Cell Kit

The Spectra-Tech Model HT-32™ Heated Demountable Cell is a high temperature transmission cell that permits the analysis of liquids, films, and mulls. The Spectra-Tech HT-32 Kit uses 32 mm diameter windows and cell parts similar to those in the Spectra-Tech Standard Demountable Cell for high temperature applications. The Spectra-Tech Standard Demountable Cell or Spectra-Tech Standard Sealed Precision Cell (for moderate temperature applications) can be used with the Spectra-Tech HT-32 cell. Heat is applied through a heater band and regulated by a temperature controller, which must be purchased separately. A Chromel-Alumel K-type thermocouple is provided for continuous monitoring of the temperature (up to 400°C) on the inside of the sample chamber.





Applications

- Curing adhesives and epoxies
- Kinetics
- Liquids, films and mulls
- Traditional standard heated, high temperature cell analyses

Features

- Slide mounted – fits all spectrometers
- Demountable heated cell kit is easy to assemble, disassemble and clean
- Well-insulated body with heating band is safe to use and maintains constant temperature
- Includes assorted pathlength copper spacers (0.015 mm, 0.025 mm, 0.05 mm), lead spacers (0.1 mm, 0.2 mm, 0.5 mm) and two standard 32 mm NaCl windows
- Windows can be replaced with a wide variety of materials
- Choice of temperature controllers (must be purchased separately)

Product Configuration	Part Number
Spectra-Tech Model HT-32 Heated Demountable Cell Kit, without temperature controller (shown above)	0019-200

Temperature Controllers for Spectra-Tech Model HT-32	Part Number
• Up to eight segments can be programmed as multi set point or automatic times set point • Membrane keyboard with highly visible display • Accuracy: ± 1°C • K-type thermocouple input	
MicroProcessor Programmable Temperature Controller, 110V	0019-019
MicroProcessor Programmable Temperature Controller, 220V	0019-019E

Time-Proportional Temperature Controller	Part Number
• 0.5-second cycle time for quick heating response • Accuracy: ± 1°C • K-type thermocouple input	
Time-Proportional Temperature Controller, 110V	0019-024
Time-Proportional Temperature Controller, 240V	0019-024E

Options/Replacements	Part Number
Spacers, 12	0004-###

Pathlength (mm)	Copper ###	Lead ###
0.015	144	N/A
0.025	145	N/A
0.05	146	N/A
0.1	N/A	147
0.2	N/A	148
0.5	N/A	149



Heats or cools samples to change sample conditions

SOLIDS

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Spectra-Tech Model HC-32 Heated/Cooled Demountable Cell Kit

The Spectra-Tech HC-32™ Heated/Cooled Demountable Cell Kit is used in conjunction with a recirculating bath (user supplied) for heating and cooling applications. The temperature range is determined by the recirculating bath, and a separate temperature controller is not required for operation of this cell.



Applications

- Heating and cooling of liquids, films, and mulls

Features

- Can heat or cool samples for flexibility in changing sample conditions
- Kit includes cell body, end cap, circulating coils (1/8" OD), K-type thermocouple, needle plate, two NaCl windows, assorted pathlength copper spacers (0.015 mm, 0.025 mm, 0.05 mm) and lead spacers (0.1 mm, 0.2 mm, 0.5 mm).

Product Configuration	Part Number
Spectra-Tech Model HC-32 Heated/Cooled Demountable Cell Kit (requires recirculating bath, not included)	0019-202

Small volume liquid analyses

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Spectra-Tech Micro Demountable Flow-Thru Cell

For minimum sample volume and easy cell cleaning, choose the Spectra-Tech Micro Demountable Flow-Thru Cell. Assorted silver spacers are included to vary the path-length. Windows are easy to change (ordered separately). The split spacer minimizes sample volumes. Any 1/16" OD tubing can be used to connect the cell. When using BaF_2 windows, the cell can withstand 1000 psi.

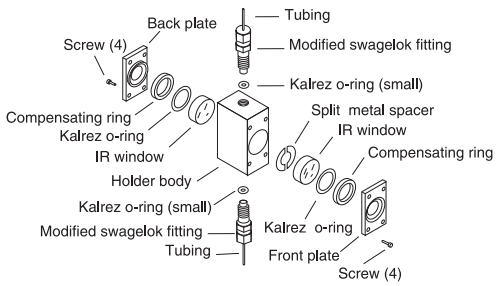


Applications

- Small volume liquid analyses
- HPLC/LC

Features

- Cell can be used with or without a beam condenser
- Includes cell mount, flow-thru fittings, o-rings, assorted spacers
- Requires two 9 mm x 5 mm windows
- Includes compensating ring for 2 mm windows



Product Configuration	Part Number
Spectra-Tech Micro Demountable Flow-Thru Cell, without windows (shown above)	0010-508
NaCl window, 9 mm x 5 mm (2 required)	7000-586
KBr window, 9mm x 5 mm (2 required)	7000-587
CaF_2 window, 9mm x 5 mm (2 required)	7000-588
BaF_2 window, 9mm x 5 mm (2 required)	7000-589
ZnSe window, 9mm x 2 mm (2 required)	7000-598

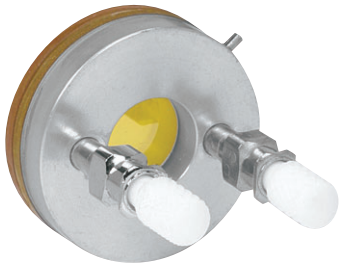
Options/Replacements	Part Number
Kalrez o-ring, small	849-0060
Kalrez o-ring, large	849-0054

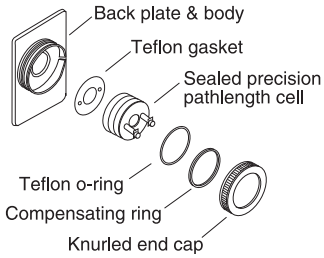
Spectra-Tech Sealed Precision Pathlength Cells

Workhorse accessory for liquid sampling

S Liquids G M

Designed for reliable, top quality performance, Spectra-Tech Sealed Precision Pathlength Cells are the "workhorses" of liquid sampling for FT-IR or dispersive infrared spectrometers. These cells are ideal for quantitative sampling needs in any laboratory, providing maximum pathlength accuracy due to precise calibration and careful labeling. The cell holder features an even seal for leakproof operation. An amalgam seal guarantees excellent performance, even with highly volatile samples. Two Teflon stoppered ports facilitate filling and cleaning of the cell. One holder works with all cells, regardless of pathlength or window material.





Applications

- Transmission liquid sampling
- Quantitative analysis
- Quality control analysis

Features

- Even seal design provides even pressure, leakproof sampling, and minimized cell breakage
- Quick-change holder for 32 mm windows
- Luer-Lok fittings for convenient filling
- Large assortment of window materials and pathlengths to accommodate a wide variety of samples (windows are included)
- Manufacturing date is listed on each cell, allows full use of the cell throughout its 1-year shelf-life
- Both cell holders include back plate, Teflon gasket, Teflon o-ring and knurled end cap

Product Configuration	Part Number
Spectra-Tech Sealed Precision Pathlength Cell for FT-IR cells, without cell holder (shown above)	FT04-###
Cell holder for Spectra-Tech Sealed Precision Pathlength Cell, FT-IR	FT04-035
Spectra-Tech Sealed Precision Pathlength Cell for dispersive cells, without cell holder	0004-###
Cell holder for Spectra-Tech Sealed Precision Pathlength Cell, dispersive	0004-035

32 mm x 3 mm Pathlength (mm)	Vol. (ml)	NaCl ###	KBr ###	CaF_2 ###	BaF_2 ###	ZnS* ###	KRS-5 ###	ZnSe* ###	Quartz ###
0.015	0.006	725	726	727**	728**	730**	731**	734**	N/A
0.025	0.010	735	736	737	738**	740**	741**	744**	808**
0.05	0.020	745	746	747	748**	750**	751**	754**	809**
0.1	0.040	755	756	757	758	760	761**	764**	810**
0.2	0.080	765	766	767	768**	770**	771**	774**	811**
0.5	0.200	775	776	777	778**	780	781	784**	812**
1.0	0.400	785	786	787	788**	N/A	791**	794**	813**

** ZnS and ZnSe are 2 mm thick and include a compensating ring.*

*** Not available for dispersive sealed precision cell.*

Precisely matched pairs (± 2%) of cells in pathlengths of 0.5 mm and below are available upon request.

Sample areas: FT-IR instruments – 13 mm diameter, and dispersive instruments – 30 mm x 10 mm

Options/Replacements	Part Number
Teflon stoppers, 12	0004-003
Teflon o-rings, 12	0004-034
Compensating ring for 2 mm windows	2000-413
FT-IR Teflon gaskets, 12	FT04-037
Dispersive Teflon gaskets, 12	0004-037



Spectra-Tech Small Volume Sealed Cells



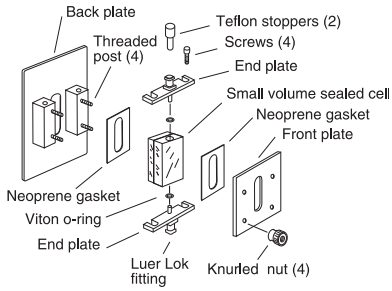
These cells, which are available in either KBr or NaCl, are designed for applications involving small sample volumes (2 µl – 112 µl). An easily measured pathlength makes them useful for either quantitative or qualitative work. The sample area is 20 mm x 6 mm wide, allowing the analysis of small samples without sacrificing energy throughput. Ports are located at each end of the cell for simple filling and cleaning of the cell. The cells also incorporate an amalgam seal for leakproof operation. A cell holder must be ordered separately.

Applications

- Traditional transmission liquid sampling
- Quantitative analysis of small volumes of organic liquids
- Quality control analysis

Features

- No beam condenser is required
- Traditional slide-mounted cell fits all spectrometers
- Manufacturing date is listed on each cell
- Variety of pathlengths available for NaCl or KBr cells provides sampling versatility



Product Configuration	Part Number
Spectra-Tech Small Volume Sealed Cell without cell holder (shown above)	0004-###
Cell holder for Spectra-Tech Small Volume Sealed Cell (shown above)	0004-002

Pathlength (mm)	Volume (µl)	NaCl ###	KBr ###
0.015	2	661	668
0.025	3	662	669
0.05	6	663	670
0.1	11	664	671
0.2	22	665	672
0.5	56	666	673
1.0	112	667	674

Options/Replacements	Part Number
Teflon stoppers, 12	0004-003
Viton o-rings, 12	0004-004
Gasket	2000-371

Spectra-Tech EZ-Fill and EZ-Flow Sealed Cells

A sealed cell is composed of two windows, with a spacer between them, that are amalgamed together. An amalgamated seal guarantees excellent performance and leakproof sampling even with highly volatile samples. Sealed cells are available in two configurations: the EZ-Fill version has Luer-Lok fittings that enable the cell to be easily filled with a syringe and the EZ-Flow version has 1/8" tubing to accommodate flow studies. The Spectra-Tech EZ-Fill Sealed Cell is an innovation in liquid transmission cells. These sealed cells can be used for viscous samples, due to the unique fluid dynamics of the cell. The cells require a Spectra-Tech Bolt Down Holder (cell holder), which must be ordered separately. The standard gasket in these cells is Viton; however, Silicon and Kalrez are also available.



Applications

- Viscous samples
- Traditional transmission liquid sampling
- Quantitative analysis
- Quality control applications

Features

- Easy to fill and easy to clean
- Reduces back pressure associated with traditional sealed cells – can fill smaller pathlength cell with more viscous samples
- Quick change holder for 32 mm windows
- Positioning pin ensures repeatability
- Luer-Lok fittings provide convenient filling with syringes
- Large assortment of window materials and pathlengths accommodates a wide variety of sample types
- Flow cell fittings provide convenient adaptation to pumping systems
- Manufacturing date on each cell, allowing full use of the cell throughout its 1-year shelf life

Product Configuration	Part Number
Spectra-Tech EZ-Fill Sealed Cell with Luer-Lok fittings without cell holder	FT54-###
Spectra-Tech EZ-Flow Sealed Cell with flow cell fittings without cell holder (shown above)	FT64-###
Spectra-Tech Bolt Down Holder for EZ-Fill Sealed and EZ-Flow Sealed Cells	FT04-060
Kalrez gasket	2000-433
Torque wrench	0012-524

32 mm x 3 mm Pathlength (mm)	Volume (ml)	NaCl ###	KBr ###	CaF_2 ###	BaF_2 ###	ZnS* ###	ZnSe* ###
0.015	0.002	725**	726	727	728	730**	734**
0.025	0.004	735	736	737**	738	740**	744
0.05	0.008	745**	746	747	748	750**	754
0.1	0.015	755	756	757	758		764
0.2	0.031	765	766**	767	768**	770**	774+
0.5	0.077	775	776	777	778	780**	784+
1.0	0.154	785	786	787	788**	790**	794

** ZnS and ZnSe windows are 2 mm thick and do not include a compensating ring.*

*** Not available for EZ-Flow Sealed Cells*

+ Not available for EZ-Fill Sealed Cells



Variety of volumes available for sampling versatility

S LIQUIDS G M

IR Quartz Cuvette Cells



These economical cells are constructed entirely of fused, high purity IR quartz with minimal OH content. They are available in both rectangular and cylindrical designs for maximum sampling versatility and come with stoppers. These cells are used for transmission studies from the near infrared to 2500 cm^{-1}. Cell holders must be purchased separately.

Applications

- EPA methods for quantitative analysis of hydrocarbons in water
- ASTM method D3921

Features

- Water insoluble cell
- Variety of volumes available
- Cuvettes are stoppered

Product Configuration	Part Number
10 mm Rectangular IR Quartz Cuvette (shown above)	0006-010
20 mm Rectangular IR Quartz Cuvette (shown above)	0006-020
40 mm Rectangular IR Quartz Cuvette (shown above)	0006-040
Cell holder for Rectangular IR Quartz Cuvette	0006-000
10 mm Cylindrical IR Quartz Cuvette	0006-011
50 mm Cylindrical IR Quartz Cuvette	0006-050
100 mm Cylindrical IR Quartz Cuvette	0006-099
Spectra-Tech Econo-Mount (cell holder) for Cylindrical IR Quartz Cuvette	0026-504

Rugged, corrosion-resistant construction

S LIQUIDS G M

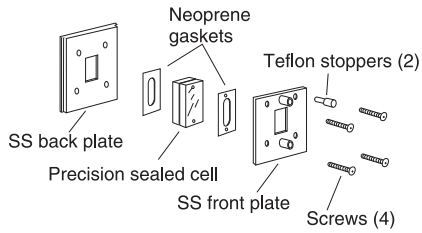
Spectra-Tech Stainless Steel Sealed Precision Pathlength Cells



These stainless steel, permanently sealed precision cells are rugged, corrosion-resistant cells and are precisely calibrated and labeled. Two Teflon stoppered ports make filling and cleaning fast and easy. An amalgam seal guarantees excellent performance, even with highly volatile samples. Each cell is supplied with an integral holder and two windows 50 mm x 25 mm x 6 mm in size, of either NaCl or KBr.

Applications

- Traditional transmission liquid sampling
- Quantitative analysis
- Quality control analysis



Features

- Thick, stainless steel construction is rugged and corrosion resistant
- Large window size makes cells easy to fill and clean
- Available in pathlengths ranging from 0.015 mm to 3.0 mm
- Cells can be reconditioned, which is cost effective in the long term
- Manufacturing date listed on each cell
- Matched pairs available, precisely calibrated within ± 2% ensuring accurate quantitative analysis
- Available on request, precisely matched pairs of cells (± 2%) in pathlengths from 0.015 mm to 0.5 mm

Product Configuration	Part Number
Spectra-Tech Stainless Steel Sealed Precision Pathlength Cell	0003-###

Pathlength (mm)	Volume (ml)	NaCl ###	KBr ###
0.015	0.008	500	510
0.025	0.014	501	511
0.05	0.028	502	512
0.1	0.056	503	513
0.2	0.112	504	514
0.5	0.28	505	515
1.0	0.56	506	516
3.0	1.68	508	518

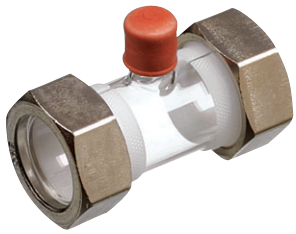
Options/Replacements	Part Number
Teflon stoppers, 12	0004-003

Spectra-Tech Econo-Gas Cells and Kits

Quick, cost-effective analysis of gases

S L **Gases** M

Spectra-Tech Econo-Gas Cells are demountable and offer quick, cost-effective means for analyzing gases by IR transmission. Available in 100 mm and 50 mm pathlengths, Spectra-Tech Econo-Gas Cells are constructed of 10 mm diameter Pyrex and sealed with Viton o-rings, and are easy to assemble. Each cell is available without windows or a cell holder, purchased separately. Complete kits are also available, which include windows, a cell holder and the basic options needed to begin sampling.

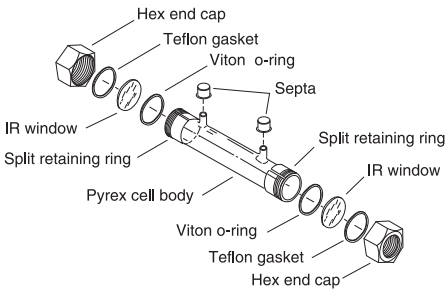


Applications

- High-concentration gas analysis

Features

- Economically priced to be affordable for all laboratories
- Septa enable easy sample loading
- NaCl windows are standard in the Spectra-Tech Econo-Gas Cell Kits, other window materials available
- When used with Econo-Mount cell holder, fits into standard slide mount



Product Configuration	Part Number
Spectra-Tech Econo-Gas Cell, 50 mm pathlength (shown above)	0026-502
Spectra-Tech Econo-Gas Cell, 100 mm pathlength Includes cell body, o-rings, Teflon gaskets, split retaining rings, hex end caps	0026-503
Spectra-Tech Econo-Gas Cell Kit, 50 mm pathlength	0026-005
Spectra-Tech Econo-Gas Cell Kit, 100 mm pathlength Includes Spectra-Tech Econo-Gas Cell, 20 mm x 2 mm NaCl windows (2), septa (1 for 50 mm cell, 2 for 100 mm cell), and Spectra-Tech Econo-Mount cell holder	0026-006

Options/Replacements	Part Number
Spectra-Tech Econo-Gas Cell body, 50 mm pathlength	2000-538
Spectra-Tech Econo-Gas Cell body, 100 mm pathlength	2000-539
Septa, 12	0026-007
Viton o-rings, 12	0026-008
Hex caps, 2, and split retaining rings, 2	0026-009
Teflon gaskets, 12	0026-010
Spectra-Tech Econo-Mount cell holder	0026-504
NaCl windows, 20 mm x 2 mm, 2 (shown above)	0026-011
KBr windows, 20 mm x 2 mm, 2	0026-012
AgCl windows, 20 mm x 2 mm, 2	0026-013
NaCl window, 20 mm x 2 mm, 1	7000-361
KBr window, 20 mm x 2 mm, 1	7000-362
CaF_2 window, 20 mm x 2 mm, 1	7000-363
BaF_2 window, 20 mm x 2 mm, 1	7000-364
ZnS window, 20 mm x 2 mm, 1	7000-366
KRS-5 window, 20 mm x 2 mm, 1	7000-367
CsI window, 20 mm x 2 mm, 1	7000-368
AgCl window, 20 mm x 2 mm, 1	7000-369
AgBr window, 20 mm x 2 mm, 1	7000-370
Ge window, 20 mm x 2 mm, 1	7000-371
ZnSe window, 20 mm x 2 mm, 1	7000-373
Si window, 20 mm x 2 mm, 1	7000-375



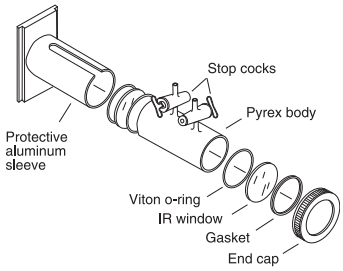
Pyrex construction offers chemical resistivity and strength

S L GASES M

Spectra-Tech Demountable Gas Cells



Spectra-Tech Demountable Gas Cells are the standard gas analysis cells used in industrial and academic laboratories. The cells, available in 50 mm and 100 mm pathlengths, are constructed of Pyrex and use standard 32 mm windows, which must be ordered separately. Each cell slides into a protective aluminum sleeve cell holder, which fits into the standard slide mount in the spectrometer's sample compartment.



Applications

- High-concentration gas analysis

Features

- Pyrex construction offers chemical resistivity and strength
- No metal parts come in contact with gas sample
- Demountable construction for easy assembly and cleaning
- Heavy-duty micro stopcocks enable quick purge and sample change
- Choice of windows, ordered separately, provides maximum sampling flexibility
- Cell includes cell body, two stopcocks, o-rings, gaskets, end cap

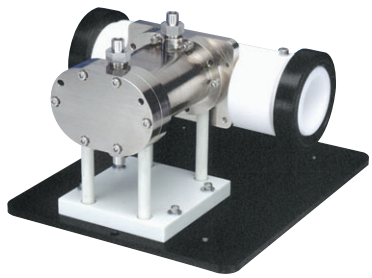
Product Configuration	Part Number
Spectra-Tech Demountable Gas Cell, 50 mm pathlength, without windows, 2 required (shown above)	0024-116
Spectra-Tech Demountable Gas Cell, 100 mm pathlength, without windows, 2 required	0024-117
NaCl window, 32 mm x 3 mm (shown above)	7000-451
KBr window, 32 mm x 3 mm	7000-452
CaF_2 window, 32 mm x 3 mm	7000-453
BaF_2 window, 32 mm x 3 mm	7000-454
ZnS* window, 32 mm x 2 mm	7000-456
KRS-5 window, 32 mm x 3 mm	7000-457
CsI window, 32 mm x 3 mm	7000-458
AgCl window, 32 mm x 3 mm	7000-459
AgBr window, 32 mm x 3 mm	7000-460
Ge window, 32 mm x 3 mm	7000-461
Quartz window, 32 mm x 3 mm	7000-462
ZnSe* window, 32 mm x 2 mm	7000-463
Si window, 32 mm x 3 mm	7000-465

** ZnS and ZnSe windows are 2 mm thick.*

Good chemical resistivity to a wide range of gases

S L GASES M

2 Meter Gas Cell



The 2 Meter Gas Cell is ideal for gas analyses, particularly in industrial settings. The cell, available for use with all major spectrometers, can be heated up to 185°C and can withstand pressure of up to 50 psi. The heated version requires an optional heating accessory and temperature controller. The cell is constructed of nickel-coated aluminum, employs gold-coated aluminum mirrors, and is available with KBr, BaF_2, and coated ZnSe windows, offering good chemical resistivity to a wide range of gases.

Applications

- Gas analysis studies

Features

- "White" multi-pass optical configuration achieves 2 m pathlength with 200 ml volume
- Permanent alignment for calibration stability
- Easy assembly and disassembly for cleaning and routine maintenance
- Chemically resistive to a wide variety of gases

Product Configuration	Part Number
2 Meter Gas Cell with KBr windows*	840-056100
2 Meter Gas Cell with ZnSe windows*	840-058800
2 Meter Gas Cell with BaF_2 windows*	840-056500
2 Meter Gas Cell for use with other spectrometers	Call for details

** For use with THermo Scientific FT-IR Spectrometers (shown above).*

Options/Replacements	Part Number
Heating accessory, 110V	840-138200
Heating accessory, 220V	840-138500
Temperature controller, 110V	268-759400
Temperature controller, 220V	268-760200
Transfer optics purge kit for Thermo Scientific FT-IR spectrometers	840-138300

10 Meter Gas Cell



Rugged, easy-to-use accessory for gas analysis studies

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Gases
M

The 10 Meter Gas Cell is the accessory of choice in industrial settings where ease of use and ruggedness are critical. A unique design allows the user to easily disassemble the cell for cleaning while maintaining optical alignment. The cell can be heated up to 185°C, which requires the purchase of a separate heating accessory and temperature controller. A choice of three window materials, KBr, BaF_2, and coated ZnSe, is available, as well as configurations for all major spectrometers. A nickel-coated aluminum body and aluminum mirrors with gold coating are suitable for harsh analyses.

Applications

- Gas analysis studies

Features

- VCR connections for leak-proof operation
- 10 m pathlength, 2 liter volume for sub-ppm detection capabilities
- Rugged construction for chemical resistivity

Product Configuration	Part Number
10 Meter Gas Cell for Thermo Scientific FT-IR spectrometers with KBr window	840-137800
10 Meter Gas Cell for Thermo Scientific FT-IR spectrometers with ZnSe window	840-058500
10 Meter Gas Cell for Thermo Scientific FT-IR spectrometers with BaF_2 window	840-058600
10 Meter Gas Cell for other spectrometers	Call for details

Options/Replacements	Part Number
Heating accessory, 110V	840-138200
Heating accessory, 220V	840-138500
Temperature controller, 110V	268-759400
Temperature controller, 220V	268-760200
Transfer optics purge kit for Thermo Scientific FT-IR spectrometers	840-138300

Low-Pressure Diamond Anvil Cell



Simplifies the study of hard or soft compressible materials

Solids
L
G
Microsampling

The Low-Pressure Diamond Anvil Cell is useful for a variety of routine samples. This cell simplifies the study of hard or soft compressible materials. It operates using three thumb screws to compress samples. This Low-Pressure Diamond Anvil Cell uses two Type IIA faceted diamonds with a 0.6 mm free working area. Analysis of samples requires the use of the previously available 4X Beam Condenser or IR-Plan Microscope. An optional adapter plate must be ordered to use the cell with microscopes.

Applications

- Polymers
- Crystalline studies
- Fiber identification

Product Configuration	Part Number
Low-Pressure Diamond Anvil Cell (shown above)	0039-501
Microscope adapter plate, 2" x 3"	4004-415

Features

- Easy to assemble and clean
- Uses thumb screws, no tools required
- Ideal thickness for transmission analyses
- Transparent in the near-IR region
- Provides pressure to approximately 20 kilobars
- Can be used with the previously available 4X Beam Condenser or any IR-Plan Microscope



Convenient, cost-effective kits for immediate sampling

SOLIDS
LIQUIDS
GASES
M

Spectra-Tech Starter Kits for Transmission Analyses

Spectra-Tech Starter Kits provide new FT-IR users with an assortment of accessories, sample preparation tools, and supplies to prepare and run solid, liquid, or gas transmission analyses. The kits are customized in four configurations and offer substantial savings over individually purchased accessories and supplies. Each kit is packaged in a protective carrying case for convenient storage.

Applications

- Liquid, solid, and gas transmission sampling

Features

- Each kit contains the basic lab essentials to begin sampling immediately
- Available in four configurations to make ordering easy



Product Configuration			Part Number
Deluxe Spectra-Tech Starter Kit for Liquid, Solid, and Gas Sampling (shown above)			0022-010
Includes:	Spectra-Tech Demountable Pathlength Cell Kit, 2	(FT04-036)	
	KBr drilled windows, 32 mm x 3 mm, 6	(7000-467)	
	KBr windows, 32 mm x 3 mm, 6	(7000-452)	
	100 mm Gas Cell	(0024-117)	
	Spectra-Tech Qwik Handi-Press	(0016-112)	
	1 mm, 3 mm, 7 mm die set for Spectra-Tech Qwik Handi-Press	(0016-117)	
	Spectra-Tech KBr Pellet Holder for Spectra-Tech Qwik Handi-Press	(0016-121)	
	Nujol, 4 oz	(0026-110)	
	Fluorolube®, 1 oz	(0026-111)	
	Agate mortar and pestle, 35 mm	(0026-105)	
	Spectra-Tech Magnetic KBr Pellet Holder	(0016-008)	
Advanced Spectra-Tech Starter Kit for Liquid and Solid Sampling			0022-500
Includes:	KBr windows, 25 mm x 4 mm, 4	(7000-317)	
	BaF_2 windows, 25 mm x 4 mm, 2	(7000-319)	
	Spectra-Tech Presslok Demountable Holder for 25 mm windows	(0018-012)	
	KBr drilled windows, 32 mm x 3 mm, 2	(7000-467)	
	KBr windows, 32 mm x 3 mm, 2	(7000-452)	
	Spectra-Tech Demountable Pathlength Cell Kit	(FT04-036)	
	KBr powder, 100 g bottle	(0016-015)	
	Nujol, 4 oz	(0026-110)	
	Fluorolube, 1 oz	(0026-111)	
	Agate mortar and pestle, 35 mm	(0026-105)	
	Spectra-Tech Magnetic Film Holder	(0022-002)	
	Spectra-Tech Qwik Handi-Press	(0016-112)	
	1 mm, 3 mm, 7 mm die set for Qwik Spectra-Tech Handi-Press	(0016-117)	
	Spectra-Tech KBr Pellet Holder for Spectra-Tech Qwik Handi-Press	(0016-121)	
Economy Spectra-Tech Starter Kit for Liquid and Solid Sampling			0022-501
Includes:	Spectra-Tech Econo-Press	(0026-001)	
	3/4" combination wrench, 2	(870-4021)	
	KBr powder, 100 g bottle	(0016-015)	
	Nujol, 4 oz	(0026-110)	
	Fluorolube, 1 oz	(0026-111)	
	Agate mortar and pestle, 35 mm	(0026-105)	
	Spatula, 8"	(861-0003)	
	Spectra-Tech Demountable Presslok Holder for 25 mm windows	(0018-012)	
	KBr windows, 25 mm x 4 mm, 4	(7000-317)	
	KBr window, 32 mm x 3 mm drilled	(7000-467)	
	KBr windows, 32 mm x 3 mm, 3	(7000-452)	
	Spectra-Tech Demountable Pathlength Cell Kit	(FT04-036)	
	Rectangular IR Quartz Cuvette, 10 mm	(0006-010)	
	Cell Holder for Rectangular IR Quartz Cuvette	(0006-000)	
	Spectra-Tech Magnetic Film Holder	(0022-002)	
Economy Spectra-Tech Starter Kit with Gas Cell for Liquid, Solid, and Gas Sampling			0022-502
Includes:	Economy Spectra-Tech Starter Kit	(0022-501)	
	100 mm Gas Cell	(0024-117)	

Product Information

Call us toll-free or send an e-mail to receive complete product support. Visit our Web site for round-the-clock product information, including product specifications. Additionally, when you visit us on the Web, you will have access to information on the full range of products and services provided by Thermo Scientific.

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Price lists and quotations are available upon request. All prices are in US dollars. There is no minimum order charge. Orders are accepted via phone, fax, mail and e-mail. Include part number, description and quantity for each item ordered and indicate the instrument the product will be used with (if necessary).

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Warranty

For accessories and supplies manufactured by Thermo Scientific, we warranty them to be free from defects in materials and workmanship for a period of twelve (12) months from date of receipt. Software and spectral libraries have a ninety (90) day warranty to be free from material defects. Call for limited warranties on items such as crystals, windows and fiber optics. Accessories offered by other manufacturers carry those manufacturers' standard warranties.

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Call to learn about our repair, exchange, and return policies and fees (if applicable). Before returning an item for any reason, please call for a Return Materials Authorization Number (RMA#). All returned items are subject to inspection before credit or replacement is issued.

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Web: *www.thermo.com*
Mail: Thermo Scientific
5225 Verona Road
Madison, WI 53711-4495

Spectrometer "XX" Codes

Locate your spectrometer in this list and use the corresponding "XX" code to complete any part number that ends in '"XX". Not all accessories are available for all spectrometers. If your spectrometer is not in this list, please call us at 800-532-4752.

Manufacturer/Model — **"XX" Code**

ABB Bomem
- Arid Zone 85
- DA8 84
- MB Series 83

Bruker
- IFS, 48, 85, 98, 113 11
- Vector 22, IFS 28, Equinox 55, 66V, 66, 88 16

Digilab/Bio-Rad
- Excalibur FTS 3000, 4000 27
- FTS 40, 60 25
- FTS 155, 165, 175, 185, 6000, 7000 26

Horiba
- 700 Series 54

JASCO
- 400 Series 58
- 600 Series 59

Jeol
- JIR Series 61
- WINSPEC 62

Mattson (see Thermo Scientific)

Nicolet (see Thermo Scientific)

PerkinElmer
- 1600 34
- 1700 33
- 2000, Spectrum GX 36
- Paragon 500/1000, Spectrum 1000, BX, RX 37

Shimadzu
- 8100, 8200, 8300, 8400, 8600, 8700, 8900 67

Thermo Scientific
- Nicolet Avatar 97
- Genesis & Genesis II, Satellite, IR300 76
- Infinity, RS Series, and Galaxy 74
- Magna-IR, Protege, Impact 90
- Nicolet Nexus 99
- Nicolet X700 Series 98

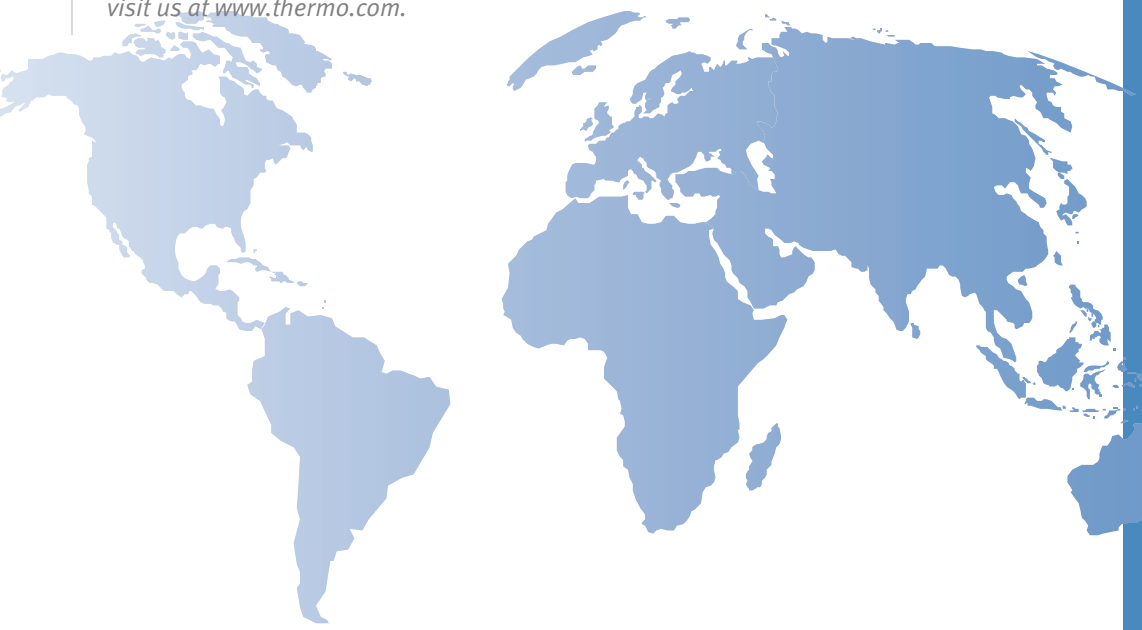
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Grazing Angle Objective is covered under US Patent 4,810,077.
MIRacle is covered under US Patent 5,965,889

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