



## PRAYING MANTIS CATALYSIS RESEARCH DIFFUSE REFLECTION PACKAGE

This Catalysis Research Package is a special offer, packaging our premier Praying Mantis with its High Temperature Reaction Chamber, Temperature Controller and all the sampling tools required. The Praying Mantis was the first generally available diffuse reflection attachment and remains the forerunner in the field. Its unique and highly efficient optical system deflects specular reflectance away from the collecting ellipsoid, minimizing spectral distortions. With its Reaction Chamber and Temperature Controller, the Praying Mantis is ideal for examining samples in low to ambient pressures and at high temperatures. Upgradeable for high pressure operation.

### APPLICATIONS

- ▶ Straightforward and reliable diffuse reflection analysis of solids and powders.
- ▶ Analysis of catalysts and other powders in a temperature and/or pressure controlled environments.

### FEATURES

- ▶ Praying Mantis Diffuse Reflectance Accessory
  - ▶ Highly efficient collection system.
  - ▶ Minimal collection of the specular component.
  - ▶ Easy access to the sampling area.
  - ▶ Straightforward attachment of reaction chambers.
  - ▶ Includes PermaPurge™ for rapid exchange with minimal interruption of the purge.
- ▶ High Temperature, Low Pressure Reaction Chamber
  - ▶ Designed for operation from high vacuum (133 μPa or 10<sup>-6</sup> torr) to 133 kPa (1 ktorr) with KBr windows or 1.5 MPa (11.2 ktorr) with ZnSe or SiO<sub>2</sub> windows.
  - ▶ Achieves temperatures up to 910°C (under vacuum).
  - ▶ Readily adapted with a High Pressure Dome for operation up to 3.44MPa (25.8 ktorr).
  - ▶ Three inlet/outlet ports provided for evacuating the cell and introducing gases.
  - ▶ Made from chemically resistant 316 stainless steel.
  - ▶ Optional cooling cartridge for moderate cooling or heating with a recirculator.
- ▶ Temperature Controller
  - ▶ Accurate temperature regulation from -200 to 1250°C for K-type thermocouples.
  - ▶ Cascade or regular operation.
  - ▶ Digital temperature readout in degrees Fahrenheit or Celsius.
  - ▶ Programmable through the keypad or the supplied RS485 port.
  - ▶ USB to RS-485 adapter for computer control.



### INCLUDES

- ▶ Diffuse Reflectance accessory with alignment fixture, alignment post, 10mm and 3mm sampling cups, funnel and mating hardware for the specified spectrometer.
- ▶ Reaction Chamber with K-type thermocouple, two ZnSe or UV quartz windows, a glass observation window and a screen set.
- ▶ Temperature Controller.

### ORDERING INFORMATION

Praying Mantis Catalysis Research Package, 110V.....

Praying Mantis Catalysis Research Package, 220/240V.....

\*XXX indicates spectrometer make and model; compatible with a wide range of IR-UV-VIS spectrometers.

### CATALOG NO.

DRK-3-XXX\*

DRK-4-XXX\*

### OPTIONS

Cooling Cartridge.....HVC-COL

Purge Shield.....DRP-PDR

|                             |                    |                                     |
|-----------------------------|--------------------|-------------------------------------|
|                             | <i>FT-IR</i>       | <i>UV-VIS</i>                       |
| Ambient Sample Chamber..... | DRP-ASC (KBr)..... | DRP-ASC-VUV(SiO <sub>2</sub> )..... |

|  |                      |                                    |
|--|----------------------|------------------------------------|
| High Pressure Dome for the HVC Reaction Chambers (Max. Pressure: 500 psi)..... | HVC-DWI-3 (ZnS)..... | HVC-DWA-3 (SiO <sub>2</sub> )..... |
|--|----------------------|------------------------------------|

|   |                      |                                    |
|---|----------------------|------------------------------------|
| Low Temperature, Low Pressure Reaction Chamber, 24 V..... | CHC-CHA-3 (KBr)..... | CHC-VUV-3 (SiO <sub>2</sub> )..... |
|---|----------------------|------------------------------------|

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