

CALL FOR QUOTATION FOR A RESEARCH GRADE ROTATIONAL RHEOMETER

Inquiry: # CHE/CF/1/2012

Please send a sealed quotation for a rotational stress/strain controlled research grade rheometer to carry out rheological studies on soft materials such as suspensions emulsions, pastes, polymeric solutions and polymeric melts.

The rheometer should have following specifications:

| Description | Specification |
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| Mode: | Controlled Stress/Strain, Oscillation, Elongational (vertical movement of the top plate) |
| Bearing Type | Magnetic Bearings |
| Motor Type | Drag-Cup-Motor/ EC Motor (brushless DC) with high resolution optical encoder |
| Rotational Torque Range | Min: 5 nNm, Max: 200 mNm, resolution 0.05 nNm |
| Angular Velocity | Min: 0 rad/s; Max: 300 rad/s, resolution: 2 nrad/s |
| Frequency | Min: 1 μ Hz; Max: 500Hz |
| Normal Force Range | Min: 0.005 N; Max : 50 N, resolution: 0.5 mN |
| Universal Peltier Temp. Control | For Parallel plate, Cone and plate and Coaxial Cylinders: geometries -30 °C to 150°C |
| High temp. test chamber | High temperature test chamber for studying polymer melt. Temperature range: -100 °C to 500°C. |
| Measuring Geometry with <u>smooth</u> surface (compatible with both peltier as well | <ul style="list-style-type: none"> • Stainless steel, 20 mm plate or equivalent • Stainless Steel, 40 mm Plate or equivalent • Stainless Steel, 60 mm Plate or equivalent • Stainless steel, 20 mm, 3 deg cone or equivalent • Stainless Steel, 40 mm, 1 deg Cone or equivalent • Stainless Steel, 60 mm, 0.5 deg Cone or equivalent • Stainless Steel, 20 mm, 2 deg Cone or equivalent |

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| as high temperature test chamber) | <ul style="list-style-type: none"> • Concentric cylinder setup with outer diameter 30 mm and gap 1 mm or equivalent |
| Measuring Geometry with <u>sandblasted</u> surface (compatible with both peltier as well as high temperature test chamber) | <p>Sandblasted surface</p> <ul style="list-style-type: none"> • Stainless steel, 25 mm plate or equivalent • Stainless Steel, 40 mm Plate or equivalent • Stainless Steel, 60 mm Plate or equivalent • Lower plate • Concentric cylinder setup with outer diameter 30 mm and gap 1 mm or equivalent |
| Sample Hood with Solvent | Suitable types |
| Tool recognition system | Automatic tool recognition system |
| Air dryer/Filter | Suitable capacity |
| Software | Software for both Data Acquisition and complete Rheological Analysis |
| Calibration Standards | Around 3 sets |
| Annual maintenance contract | For at least 4 years beyond warranty period |
| Online UPS | Appropriate UPS that gives around 15 min backup for rheometer and PC (but not the compressor) |
| Computer and Printer | <p>PC with the following specifications:</p> <ul style="list-style-type: none"> • Intel 2nd Generation Core i7 (Intel Core i7-2600) with Intel Q67Express Chipset on Intel make FCC and RoHS compliant Motherboard with support for PCI Express x16 graphics port. (With Intel vPro technology) • 4 GB RAM, Non-ECC dual-channel 1333 MHz DDR3 SDRAM, expandable up to 32GB • 500 GB SATA 3.0 - 6Gb/s Hard Drive (7200 RPM, with NCQ and minimum 16MB cache) • Optical Drive 8X DVDR |

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| | <ul style="list-style-type: none"> • Intel HD Graphics (integrated), with Discrete graphic support • Integrated High Definition audio with Realtek ALC261 codec or equivalent. • Integrated Gigabit 10/100/1000 NIC (Supporting PXE & ASF 2.0) • USB 104 keys non-multimedia (business) keyboard (Same make as PC). The keyboard should be either mechanical type (preferable) or membrane type with performance and ruggedness equivalent to a mechanical keyboard, suitable for lab use. • USB 2 Button Scroll Optical Mouse (Same make as PC) <p>Laser printer: Print speed Up to 15 ppm 266 MHz processor; 2 MB RAM Hi speed USB 2.0 port</p> |
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Hard copies of the sealed quotations must be set to the following address by 16 January, 2012.

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