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New series of sample hoods with integrated solvent trap for plates / cones and cylinders

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Key-words

- Thermo Scientific HAAKE MARS
- Thermo Scientific HAAKE RheoStress
- Sample hood
- Solvent trap
- Inert gas atmosphere

A new series of universal sample hoods were designed for the HAAKE rheometers for use in combination with parallel plate, cone & plate and coaxial cylinder geometries.

The use of a hood is recommended for measurements at temperatures beyond ambient conditions, when an inert gas atmosphere is required or in order to prevent solvent loss. Sample hoods are available in three different versions:

1. The POM (Polyoxymethylene) hood can be used for temperatures up to 120 °C. This two part sample hood is equipped with handles for an easy handling (Fig. 1).
2. The isolated sample hood TM-IN-H (Temperature Module Insulated Hood) is characterized by a fast heat transfer from the lower plate or outer cylinder to the rotor and an optimized insulation to the environment thanks to the used construction materials: an Ampcoloy inlet and Teflon insulation. The TM-IN-H is mounted to the measuring head of the rheometer (HAAKE MARS or RheoStress 6000) and can be moved upwards for a comfortable access to the sample. On the HAAKE MARS the TM-IN-H moves up and down with the measuring head and is automatically centered on the lower plate or cylinder for even more ease of use. The TM-IN-H covers a temperature range from -40 °C up to 200 °C.
3. An unique transparent version made of glass can be used up to 400 °C (Fig. 3). It allows visual control of the sample during the measurement and provides insulation of the sample against ambient conditions at the same time. Optionally the glass cover can be equipped with a holder so that it can be mounted to the measuring head of the rheometer just like with the TM-IN-H.

On the HAAKE RheoStress 6000 as well as the MARS II and MARS III both the TM-IN-H and the glass hood (with the optional holder) are mounted to the same adapter as the TM-EL-H (hood with electrical temperature

control) and can be quickly exchanged.

The temperature gradient within the sample can be further minimized by using a hood in combination with a special high-temperature rotor. These rotors are equipped with a ceramic shaft to minimize the heat flow towards the shaft of the measuring head.

For measurements of samples that dry out or evaporate solvent, the use of the integrated solvent traps is recommended. All new hoods are equipped with an inner and outer solvent trap. The inner solvent trap consists of a small ring-like solvent reservoir which is placed on the rotor shaft and filled with a suitable solvent. This ring belongs to the standard content of delivery of each new hood. The outer solvent trap consists of a ring channel in the lower measuring plate and a corresponding ring tongue in the hood, the ring channel can be filled with the same solvent. The solvent evaporating from the solvent traps generates a saturated atmosphere under the hood which prevents solvent loss or drying.

All hoods are automatically centered by the lower measuring plate, which ensures a correct positioning. In addition all covers are equipped with an inlet for a purge gas, in order to be able to perform measurements on sensitive samples under an inert gas atmosphere.

Order information

- 222-1903 Sample hood made of POM
- 222-1900 Sample hood made of glass
- 222-1997 Sample hood made of glass with holder for HAAKE RheoStress 6000
- 222-1996 Sample hood made of glass with guide bar for HAAKE MARS
(Necessary acc.: holder for guide bar 222-1902, in addition for HAAKE MARS II adapter plate 006-1216)
- 222-1964 Insulated sample hood TM-IN-H with holder for HAAKE RheoStress 6000



Fig. 1: Sample hood made of POM (222-1903): showing one half only



Fig. 2: Insulated sample hood TM-IN-H mounted on a HAAKE RheoStress 6000 (222-1964)



Fig. 3: Sample hood made of glass (222-1900)

222-1904 Insulated sample hood TM-IN-H with guide bar for HAAKE MARS
(Necessary acc.: holder for guide bar 222-1902, in addition for HAAKE MARS II adapter plate 006-1216)

Necessary accessory:

Measuring geometry: e.g. plate or cone with diameter up to 60 mm and compatible lower measuring plate (TMP) 222-1892 Lower measuring plate TMP35 (D=35 mm) 222-1886 Plate P35 CS L (D=35 mm) with ceramic shaft

Material Characterization

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