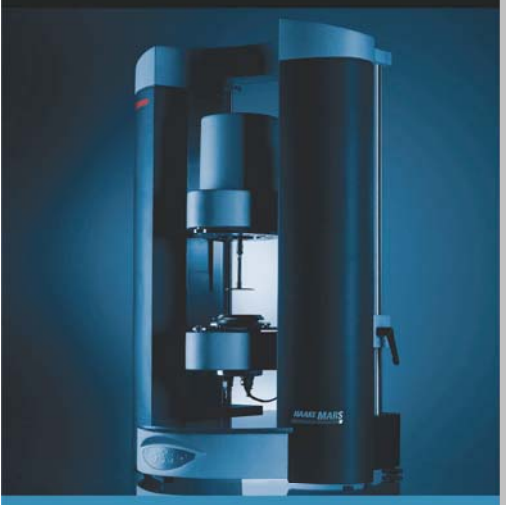
Accessories for Thermo Scientific Rheometers



SER – Extensional Rheology System for Thermo Scientific HAAKE MARS

The SER system is a new accessory for the HAAKE MARS with CTC oven which transforms a (rotational) shear rheometer in an extensional rheometer for melts and semi-solids.

The measuring principle of the SER system, which was developed and improved in 2nd generation by Dr. Martin Sentmanat (Xpansion Instruments), is based on clamping the sample on two counter rotating wind-up drums. With the SER system a truly uniform extensional deformation in the sample is achieved. In additional to the uniaxial extension, the SER tool can be used for solid tensile testing, pear and peel testing, as well as friction testing.

The drums can be submerged into liquid for selected measurements (e.g. to prevent sagging or drying-out). The drums are removable for a simple cleaning and/or an exchange (different drums are available on request). The operating temperature range of the SER tool covers 0 °C to 250 °C. The combination of convection and radiant heating in the CTC guarantees fast temperature changes and an even temperature distribution within the sample.

The SER system is fully integrated in the HAAKE RheoWin measuring and evaluation software. Measurements can be made in both controlled extensional rate and controlled tensile stress mode. The extensional properties of the sample are calculated automatically and presented directly in the software.

Key-words

- Thermo Scientific HAAKE MARS
- Controlled Test Chamber
- Extensional Rheology
- Solid Tensile Testing

Order Information:

222-1803 SER 2 Extensional Rheology System for the HAAKE MARS III consisting of the SER system from Xpansion Instruments with an adapter for the HAAKE MARS with CTC (for the HAAKE MARS II order no. 222-1935)

Additional accessory (need for measurements on melts):
222-1729 Controlled Test Chamber for HAAKE MARS

Fig. 1

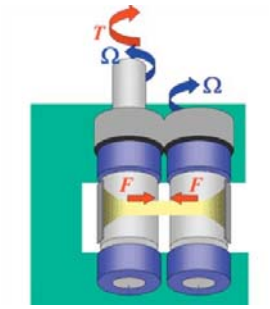


Fig. 2

Fig. 1: SER tool integrated in Controlled Test Chamber
Fig. 2: Schematic setup of the SER tool

Tab. 1: Specification SER – Extensional Rheology System

Max. recommended Hencky strain rate	20 s^{-1}
Max. Hencky strain per drum revolution	4
Operating temperature	0 °C - 250 °C
Wind-up drum diameter	10.31 mm
Stretch zone gage length	12.72 mm

Tab. 2: Specification sample

Min. shear viscosity in extension mode	10000 Pas
Sample mass	5 mg – 200 mg
Recommended sample width	1 mm – 12.7 mm
Recommended sample Thickness	0.05 mm – 1 mm

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