



Rheology Solutions

Rheology Solutions is the sole Australian distributor of this product range and we welcome the opportunity of discussing your application requirements.

*We hope the information you are seeking is contained within this file.
If you have any questions, or require further information please contact us.
We look forward to being of further service.*

Regards from the Team at Rheology Solutions.

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CR-Mode Low shear rates

Applying (very) low shear rates

Most (very) low shear rate measurements are performed in CS-Mode, because most real live applications in which (very) low shear rates are important are driven by a constant stress.

Examples are sagging, sedimentation, shelf life, phase separation, all phenomena that are driven by a constant force i.e gravitation. These processes are simulated in a rheometer by applying a constant stress.

However, under certain circumstances applying a (very) low shear-rate might be required, for example when the flow of material which is slowly stirred in a large container needs to be simulated (measured).

The measurement data below shows that the HAAKE MARS is very capable of applying very low rotational speed, i.e very low shear rates.



Key-words

- Viscosity measurement
- CR-Mode
- Low shear rates
- CR control loop
- HAAKE MARS
- Performance

Instrument

- HAAKE MARS
- UTC Peltier
- PP35, gap = 0.5 mm

Sample

- Newtonian oil, $\eta = 175$ Pas

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Reliable data down to $n = 10^{-5}$ rpm

The graphs below show the result of an experiment in which the rotational speed was stepwise increased from 10^{-5} rpm to 10^{-2} rpm. Even at a very low rotational speed (and a very low torque) the measured viscosity is within 5% from the specified value.

