Capillary rheometer (Göttfert Rheograph 2002)

Capillary rheometry is typically used to obtain viscosity data at high shear rates. This is especially interesting from a processing point of view since this machine allows to monitor the flow behaviour of a polymer melt at typical processing speeds. Moreover, this machine has the possibility to measure viscosities at elevated pressures.

Geometries

A broad variety of measurement geometries is available in the laboratory: various capillaries with different L/D ratios to obtain Bagley corrections and to investigate possible slip phenomena. Moreover, in order to evaluate the pressure dependent viscosity, two special measurement geometries are available: a slit die and a counterpressure chamber. The latter has already proven to be extremely adequate in the investigation of pressure effects on the viscosity.

In addition, different pressure transducers (70-2000 bar) are available to accomodate the measurement of a broad range of viscosities.

A special pressure transducer calibrator is available in order to make the pressure measurements reliable.

Die swell measurements as well as PVT-measurements of polymers are in principle possible with this device.