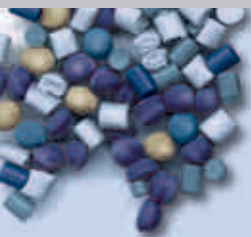


In the development of new materials, a reduction in 'time-to-market' can present a distinct competitive advantage. Quick, simplistic, and early assessment of a material's characteristics for the determination of mechanical and rheological properties can provide essential information to accelerate the conception of a final product.

HAAKE MiniJet

Efficient sample preparation



Quick and easy sample specimen preparation with minimal time, effort, and sample consumption.

A variety of different sample specimen forms is commonly required to perform thorough mechanical testing. These specimens can be produced via an injection molding machine, cut manually from pressed sample plates, or created manually using some type of specific sample test device. The need to produce various sample forms coupled with the common reality of limited material quantities can often create great difficulty in a product's development.

These challenges have been addressed with the HAAKE MiniJet system. The HAAKE MiniJet system allows you to optimize your

development process and realize cost reduction opportunities:

- The production of test specimens from as little as 5 g of material
- Test specimens can be produced from various material forms – powders, pellets, or melts
- A control and design concept that provides simplistic handling with consistent, reproducible results
- Specimen geometries offered from standard to unique, customized forms

Thermo Electron Corporation's HAAKE MiniJet system offers a complementary solution to product development investigations when coupled with HAAKE MiniLab, HAAKE MARS, and HAAKE RheoStress 600 rheometers.

Technical Specifications

Driven by state-of-the-art technology and customer needs

The HAAKE MiniJet system is designed as a piston injection molding system. Material consumption can be reduced dramatically in comparison with conventional injection molding units due to:

- reduced cylinder volume, resulting in a smaller quantity of required material
- almost complete transportation of material into the mold, promoting minimal loss and waste

In addition, an injection pressure of up to 1200 bar can be realized, thus enabling the processing of highly viscous materials.

When used in conjunction with micro compounding systems, the HAAKE MiniJet is an ideal tool for compounding and sample preparation. Featuring a unique slit backflow channel, the HAAKE MiniLab not only can process small quantities of material but also perform viscosity measurements. Specimens can then be created and utilized for mechanical and rheological evaluation. Thus, with very limited samples quantities – around 5 g – and at an extremely early stage in the product's development cycle, materials can be thoroughly characterized and evaluated.

Vertical machine design features

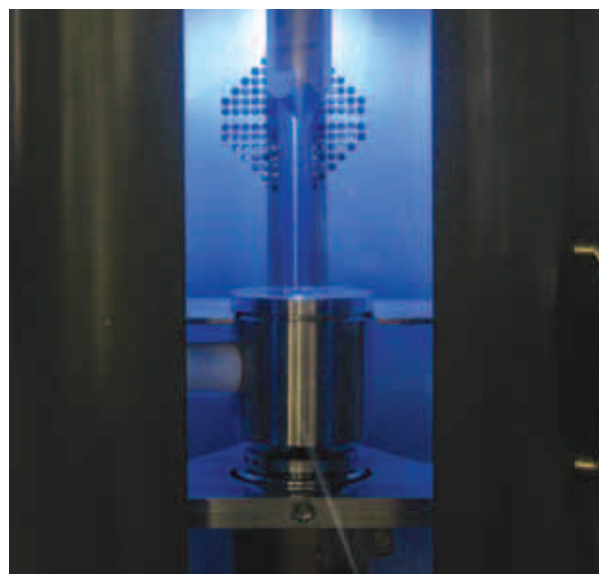
- simple loading of powders and pellets within the system cylinder
- quick and easy removal of the heated cylinder for melt applications when connecting to the HAAKE MiniLab or other extrusion systems
- simple design for the exchange of molds with no tools required

A host of mold designs is available, allowing for the production of many different types of sample specimens. Standardized molds for common mechanical testing are offered (see table), as well as customized solutions that can be produced upon request.

Technical specifications	
HAAKE MiniJet	557-2270
Injection pressure	max. 1,200 bar
Dimensions	300 mm x 460 mm x 710 mm
Power	230 V \pm 10 %, 3.15 A, 50...60 Hz 110 V \pm 10 %, 3.15 A, 60 Hz
Air pressure	max. 10 bar
Mold temperature	max. 250°C
Cylinder temperature	max. 400°C

Available molds	
Tensile test	ISO 527-2-A5
	ASTM D1708
	ASTM D 638 V
Charpy test	ISO 179
Izod impact test	ASTM 4508
Rheology probe preparation	ISO 6721-10
	ASTM D4440-01
Customized tools upon request	

To ensure a consistent and reproducible sample specimen, the HAAKE MiniJet system is equipped with precise microprocessor controls. All processing parameters such as temperature (separate for cylinder and mold), injection pressure and duration, and post-pressure can be controlled and closely monitored. Strict management of the post-pressure during sample creation enables optimum compensation for material shrinkage due to the cooling of the sample, thus negating detrimental warpage effects. Possible user influences on sample quality also have been all but eliminated through simplistic menu structure and control, parameter storage that can be recalled at the touch of a button, and a straightforward, ergonomic design for system operation.



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