LABORATORY MIXING MOLDER LMM

Series LMM

The versatile Laboratory Mixing Molder is designed to mold miniature specimens for dynamic, tensile and impact testing. This benchtop mixer, extruder and molding machine will produce cost effective moldings using less than one gram of material.

This compact R & D tool allows production of cost effective moldings for testing standard or newly developed thermoplastic material.

The LMM prepares a polymer melt for injection using two types of mixing: extensive and intensive. This combination ensures material homogeneity for the feed process.

Intensive mixing produces high shear rates to break up clumps of material. Extensive mixing causes a folding type of material action to uniformly distribute the various ingredients of the melt.

Mixing begins when the sample materials are heated through the conduction and mechanical shearing of the rotor. From mixing to a finished mold, the LMM is capable of cycle times less than 30 seconds.

Procedure

Once the processing temperature is stabilized, the sample materials are loaded into the stator cup area. The rotor is then lowered into the cup and mixing begins. Once the material is melted, the radial mixing step begins as the rotor is cycled up and down. The pressure from both the rotor and the elastic melt extruder passes the fully melted and mixed polymer into the specimen mold. The process is completed with the removal of the specimen from the mold.

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Technical Features

- Molds miniature specimen for dynamic, tensile and impact
- Effective moldings from less than one gram of material
- Interchangeable cup capacities
- Sample cycles in less than 30 seconds
- Digital display PID temperature controller
- Operating temperature from ambient to 400°C
- Standard C-clamp to secure molds
- Accommodates mold lengths of 2.54 cm to 10 cm (1 to 4 in)
- Variable speed rotor control
- Heated C-clamp and specimen molds to process a wide variety of geometrical shapes

Specifications

Dimensions:

68 cm W x 30 cm D x 61 cm H
(27 in x 12 in x 24 in)

Standard Specimen Size:

Cylindrical dumbbell
Length: 22.2 mm (.875 in)
Diameter: 1.6 mm (.06 in)
Weight: .02 g

Cup Capacities:

2.0 cc or 4.0 cc

Injection Force:

0.5 kg force applied to injection
Lever exerts a downward force
of 5.3 kg or 4.2 kg/cm2

Specimen Types:

- Bar
- Coil
- Cylindrical dumbbell
- Tensile and impact
- Surgical implants
- User specified

Operating temperature range:

Ambient to 450°C

Weight:

30 kg (65 lbs)

Electrical:

120/240V, 50/60 Hz, 4A

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