Xplore IM 12 Pro Injection Moulder

Reliable, reproducible and fast results

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Compact design for efficient material testing

The IM 12 Pro has a shot volume up to 12 ml and fits conveniently on a laboratory bench or inside a fume hood. It is designed for use with the Xplore micro-compounders but can also operate as a standalone unit. The system enables reliable, fast, and cost-efficient testing and evaluation of new or high-value materials and formulations, using only small amounts of test material.

The core of the IM 12 Pro consists of a temperature-controlled mould holder for a conically shaped mould, combined with a heated, removable transfer unit. The divisible conical moulds are designed to prevent opening during injection, eliminating material flashing. Compounded material is injected into the temperature-controlled mould (heated or cooled) using a plunger powered by compressed air. Clear volume markings on the piston make it easy to determine the amount of material remaining in the transfer unit. Holding pressure and injection time are fully controllable, providing advanced process control and ensuring precise test samples without shrinkage. After injection, the mould can be removed from the machine and opened manually. The injection unit itself is removable and can be refilled directly with compounded material from an Xplore micro-compounder or manually with powder or granules. Depending on the mould volume, multiple injection cycles can be performed from a single batch. In addition, moulds can be (custom) designed with various cavities, allowing multiple test samples to be produced in one cycle. Standard mould geometries include certified dog bone-shaped tensile bars, Izod bars and more. Custom geometries can also be manufactured on request.

Built with Xplore's focus on durability and reliability, the IM 12 Pro delivers an injection force of up to 18 kN. This ensures that polymeric and elastomeric materials with high viscosity can be effectively injected into the mould. Advanced temperature control, including the option to liquid cooled the mould below room temperature, enables quick release of even sticky materials. The optimized design also simplifies service and maintenance. With these specifications, the IM 12 Pro supports faster operation, precise control of injection parameters and higher cycle speeds. It provides reproducible results and enhances efficiency, making it a powerful tool for accelerating research and development.

The IM 12 Pro is an essential instrument for R&D organizations and quality control laboratories working with plastics, rubbers, compounds and elastomers. It provides reliable performance and reproducible results, supporting advanced material development and testing.

Technical Specifications:

- Maximum shot volume: 12 ml
- Cavities: up to 12 ml
- Moulds: heated at standard and liquid-cooled
  - Heating: from room temperature to 150 °C <10 mins
  - Cooling: from 150 °C to room temperature <10 mins (water-cooled)
- Programmable pressure profile: Between 1-16 bar versus time
- Maximum injector (transfer unit) temperature: 450 °C
- Maximum mould temperature: 300 °C
- Heating time of transfer unit to 150 °C <5 mins
- Cooling: liquid-cooling plates optionally (lab-chiller compatible)
- Maximum injection force: 12 kN at 10 bar; 18 kN at 16 bar
- Data acquisition: USB port
- Dimensions (L × W × H): 84 × 33 × 35 cm
- Weight: 50 kg
- Power supply: 208–240 V AC (other voltages on request)

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