AUTOMATIC LOADER FOR LABORATORY PRESS - DRIVE

AUTOMATIC DEVICE FOR LOADING AND UNLOADING PRODUCTS TO BE MOULDED USING GIBITRE MODEL DRIVE PRESS.

gibitre® INSTRUMENTS

Overview

The device makes it possible to automate plate and specimen preparation operations by placing the products to be moulded, and their identification labels, on the loading belt.
The device can be used for both rubber and thermoplastic product specimen preparation.
Specimens are handled by means of a Polyester film that wraps around the molded product, preventing mold contamination and mutual contact between the molded products.
The press control PLC automatically manages the specimen loading and unloading cycle and allows the definition of the molding cycle to be adopted ensuring uniformity in the control of the molding time.
The specimen unloading device includes an air cooling device to cool the molded products as they exit the press.
The cutting device allows the molded products to be separated and stacked in the unloading container.

Automatic Molding: Quality and Homogeneity of Specimens

Specimens prepared by compression molding form the basis for testing activities for rubber and plastic product testing laboratories.

The results obtained in testing are strongly affected by the quality and homogeneity of the specimens used.
The automatic repetition of the operations of:
- inserting the specimen into the mold
- execution of the molding cycle
- removal and cooling of the specimen at the end of the molding time
guarantee a repeatability in the production process of the specimen that could not be achieved by performing the operations manually.
In addition, the use of film eliminates the problems associated with mold contamination and mutual contamination between different products.

Automatic Molding: Time Saving and Safety

The activity of molding specimens can require a significant time commitment for the laboratory.
This is due to both the large number of molding cycles to be performed and the short time between two successive molds that require continuous interruption of other activities.
Manual execution of the molding cycle requires the presence of the operator for each individual operation of specimen insertion, activation of the molding wire, removal of the specimen, and eventual cleaning of the mold.
Automatic execution of the molding operations requires operator intervention only for the operation of placing the next 5 products to be molded on the loader.

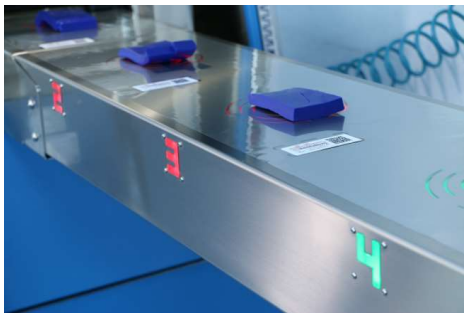
In terms of safety and comfort, the use of the loader eliminates the residual risk associated with contact with hot surfaces and the need to wear heat-resistant gloves for specimen insertion and removal operations.

Gibitre_Press_Control Software

The press and loader can work in Stand Alone mode or can be interfaced with control software that allows you to:
- Identify the sequence of products to be printed by indicating the position of the loading table on which to place each specimen
- Produce identification labels related to the individual specimen that allow its unique identification
- Define the molding cycle to use for each specimen, adjust the press, and activate specimen insertion when test conditions are reached.
- Record the actual molding conditions of each specimen ensuring traceability of preparation methods.

Loading products for moulding

The 5-position loading table allows for the positioning of products to be printed within the positioning pads highlighted by green-colored LED lights.
The position sensor identifies the presence of the specimen and confirms the engagement of the positioning pad by changing color.
The specimen identification label, to be placed within the designated area, is moved along with the product to be printed to ensure correct product identification at the end of the cycle.
The interlocked protection door of the press protects the product insertion areas and the molding area to ensure total sucurity of the entire process.
In case the press is used with Gibitre Press-Check Software, the identification of the specimen, the printing of the identification labels, the choice of the pad where to place the specimen and the choice of the molding cycle according to the product are done by the software.

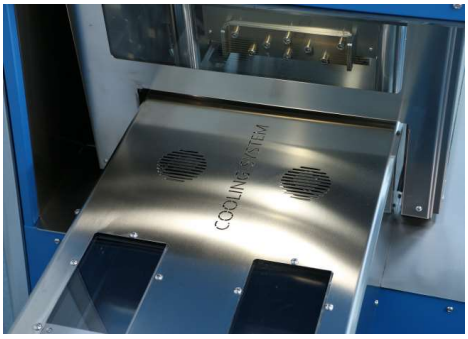


The Moulding Cycle

The PLC controller for the press is provided with a user-friendly Touch Screen Display and permits the free definition of the moulding cycles by setting:
• The displacements of the moving platen of the press,
• The thermal cycle (different temperatures of the platens and thermal gradients can be set within a moulding cycle)
• The pressure cycle (with the force control option installed).
40 Moulding cycles can be stored. Each cycle includes 30 moulding steps.
In case the press is used without software, you can manually select the moulding cycle to be used and start the automatic sample feeding system.
In case the press is used with the Gibitre Press-Control Software, you can select the moulding cycle for each individual sample. In this case, the press will automatically set the moulding conditions before starting the moulding of each sample.

Cooling of the samples

At the end of the molding cycle, the molded product is automatically taken out of the mold and placed in the cooling chamber, and subjected to a flow of cold air for a settable time.
This interrupts the curing process of the specimen to ensure homogeneity in heat input to the different molds, and accelerates the cooling process of the specimens to make them available for use in the shortest possible time.



Number of Loading Positions	5
Presence Sensors of the Specimen	Capacitive sensor for automatic recognition of specimen presence at loading stations
Compressed air line pressure	6 bar (min.)
Compressed air consumption	Approx. 25 NL/cycle
Operational safety Conditions	The specimen moving and molding cycle is done with safety guards always closed to avoid any risk of crushing and contact with hot surfaces of the operator
Dimension of Press with Loading system	(Width x Depth x Height) 3500 x 1123 x 1943 mm

GIBITRE INSTRUMENTS
VIA DELL'INDUSTRIA, 18
BERGAMO (ITALY)
TE. +39 035 461146
WWW.GIBITRE.IT
INFO@GIBITRE.IT

Demo Room for Training & pre-sell testing

CSA Labelling for MooneyCheck

ISO 17025 Accredited Calibration of Tensile Tester