

# Technical Specifications

## Model: Etos-300 Multi-channel Auto Hot Mounting Press

### Notice

<b>Space</b>	1.2m x 1.0m x 2.0m (W, D, H) or more
<b>Electric</b>	3 phases, 220V, 60Hz, 60A within 3m
<b>Coolant</b>	Water supply and drainage facilities essential within 3m
<b>Remark</b>	- Space of movement

## Etos-300 Multi-channel Auto Hot Mounting Press

Etos-300 is max six specimens molding machine at the same time for tiny and unwieldy specimens to make a fixed size for easy handling. Etos-300 can be mold various material such metal, plastic, ceramic, etc. Etos-300 consists of a hydraulic device, 10" touch screen, and soft touch button for easy command input mode and progress checking. And also, this has all-in-one device (heaters and cylinders) for efficiency.

### Features

- **Rapid molding within 12minutes using all-in-one type heater & cylinder**
- **All start function or individual molding control**
- **High efficiency using one power-pack for two molds (Molds: Power Packs = 6 : 3)**
- **Noise prevention and high molding ability using**



### **accumulator**

- **High usability using 10" TFT Touch LCD screen**
- **Fast control using touch button**
- **Falling damage prevention using mold cap cradle**
- **Improved convenience using specimen storage**
- **Emergency measures using emergency stop button**
- **Limit set-up for temperature and pressure**

## **Specification**

### **1. Main frame**

- Size: 1,410mmW X 800Dmm X 1,550mmH
- Electric: 220V, 60Hz, 3 phases, 60A
- Mold number seal on the top of 6 molds
- Air cooling system to prevent internal temperature rise
- Transparent tempered window, wheels for movement, and Maintenance door
- LED installation for internal observation and maintenance
- Upper cap material: Bakelite, Mold number intaglio seal
- Mold cap storage: 3 pieces of each of both sides
- Molded specimen storage
- Automatic pressure removal after molding completion
- Push buttons: START, STOP, RAM UP/DOWN
- Emergency stop: All operation initialization
- 2-color light bar

### **2. Heating part**

- Maximum heat temperature: 250°C
- Maximum temperature/pressure limit alarm/cancel release
- All-in-one heater for heating and cooling to detect temperature
- Cooling method: Water cooling by solenoid valve
- Mold pre-heating after molding completion
- Thermocouple: K type
- Mold heater : 1.6kw , 220 V
- Automatic cooling after occurrence of malfunction

### 3. Cylinder & Cap

- Ram material: SKD 11 Vacuum heat treatment/Grinding/Wrapping
- Mold material: SKD11 Vacuum heat treatment/Grinding/Wrapping
- Mold type: Cylindrical type - 6 hole/set
- Mold size: 25mm ~ 38mm diameter selection (Option 40mm, 50mm)
- Mold cap material: Stainless steel
- Mold cover : Engineering plastic
- Cap open/close type : One touch
- Mold open/close direction sticker for caps

### 4. Pressure part

- Pressure method: Automatic hydraulic
- Hydraulic power-pack unit specification: 220V, 1.5kw~2.2kW, 4Poles, Insulation grade E, 10cc/rev. 7L/min(1,700 RPM)
- Hydraulic power-pack units amount: 3 set
- Hydraulic cylinders specification and amount: Ø80-150st, 6 set
- 3-zone position checking hydraulic cylinder: Ram position adjustment sensor
- Usage pressure: 14MPa (140Bar)-Maximum 210bar
- Analogue display of pressure sensor and current output type pressure sensor
- Accumulator: 14MPa (140bar)-Maximum 250bar
- Manual pressure control valve: Maximum 250bar
- Redirection solenoid valve

### 5. Controller & Software

- 6 channels individual control and maintenance using dual CPU
- Lower device individual electric supply of CPU each
- Set-up and checking using touch screen
  - RS 232 422/485
  - 64M bulk storage memory
  - Built-in 32M Flash memory
  - Resolution: 800 x 600 or more
  - 10" TFT LCD touch screen
- Molding condition input and manual control
- Molding condition change by manual control

- Analogue display of pressure sensor and current output type pressure sensor
- Maximum temperature/pressure limit alarm/cancel release
- Heating/cooling temperature time set-up: Touch screen
- Protection film 6EA for LCD touch screen (Grade 3G or more)
- Limit check and solution display for all sensor
- Unit conversion (PSI/Kg/N) (Option)
- Individual control panel and power pack system of 6 cylinder each
- Final set-up memory for all channel or 2 memory storage of each channel
- Constant temperature maintenance time set-up (Unit: Minute)
- Heating: PID close loop control
- Automatic set-up function
- Control panel: 10" Touch screen type
  - Molding condition set-up and checking (Cooling, Pre-heating, Load, Maintenance)
  - Molding progress status
  - Languages (Korean, English, Chinese)
  - Cylinder manual Up/Down
  - Manual coolant and cooling fan On/Off
  - Pressure and temperature limit
  - Saving memory: 30 channels
- Button : Start/ Stop / Ram up/ Ram down/ Emergency stop button/ Power switch
  - Ram cleaning: Lower ram move up to the top position
  - Ram down: 1<sup>st</sup> touch – Ram move down to the bottom position / 2<sup>nd</sup> touch – Ram Stop
  - Ram up: Lower ram move up to the insertion position
  - Continuous touch: Automatic lower ram move down after molding completion
  - 32bit high performance MPU (ASIC) for high speed processing: 13,333time/sec
- Photo coupler or relay insulation Input/output
- Digital check using LED
- Individual module of each control function
- Temperature data conversion: 16bit
- Measureable range excess detection and alarm/stop for all input/output sensor
- Controller malfunction occurrence by 2 channels each
- Audio guidance for experiment and progressing status
- Audio guidance after molding completion

## 6. Service and Remark

- 1 year warranty
- Operation manual (1copy)
- Basic consumables (2kg acrylic resin, Spoon, Funnel)
- Installation and education at the shipping place

## 7. Package contents:

- Etos-300
- 40φ mold
- 50φ mold

### Option Part

#### 1. Mold size 40mm option

- Mold size 40mm
- Mold cap, Ram 40mm
- Open/Close direction stickers
- 40mm mold cap cover

#### 2. Mold size 50mm option

- Mold size 50mm
- Mold cap, Ram 50mm
- Open/Close direction stickers
- 50mm mold cap cover

