

170 GPM

Glass Press Molding Technology

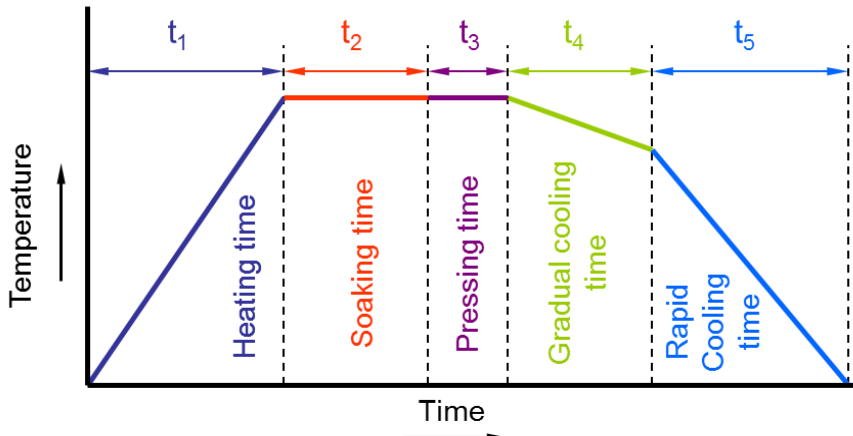
Machine Features

- Single chamber precision glass molding machine with 170mm diameter capacity
- Capable of utilizing multi-cavity mold inserts
- Compatible with both fixed and floating mold sets
- Industrial machine automation controller operates in either position of force control mode with integrated heating and cooling loops
- Windows based front end with user friendly touch screen to program the machine
- Capable of molding at temperatures up to 800 °C
- Molding chamber capable of operating under vacuum or an inert gas environment
- Maximum pressing force of 40 kN



Courtesy of Fraunhofer-IPT





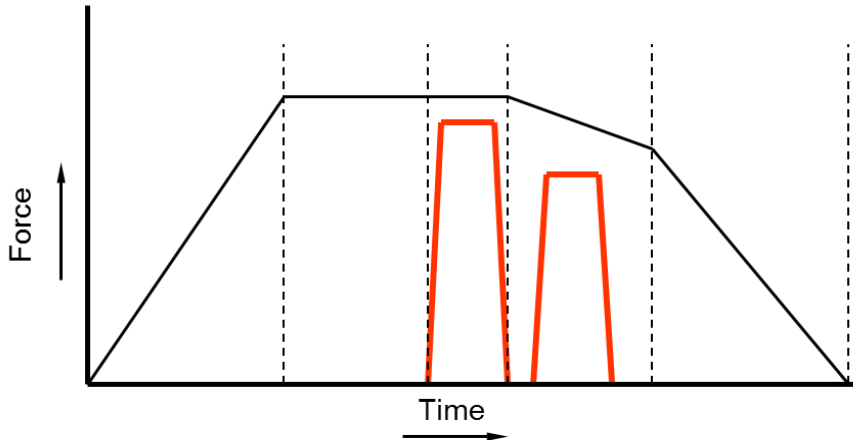
t₁ Heating time:
Mold and glass are heated to > T_g. Chamber purged with N₂ to prevent oxidation of mold

t₂ Soaking time:
Maintain temperature → steady state

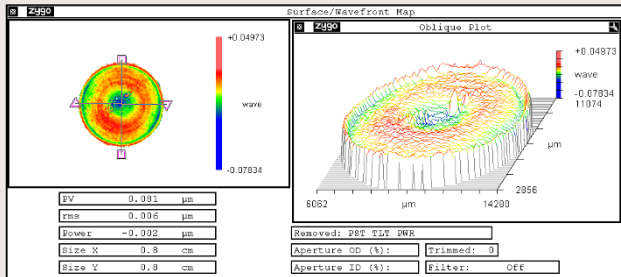
t₃ Pressing time:
Pressing force is applied until the commanded value is reached

t₄ Gradual cooling time:
Gradual cooling to specified temp. (Strain Temperature). Use of N₂ gas to control the cooling process

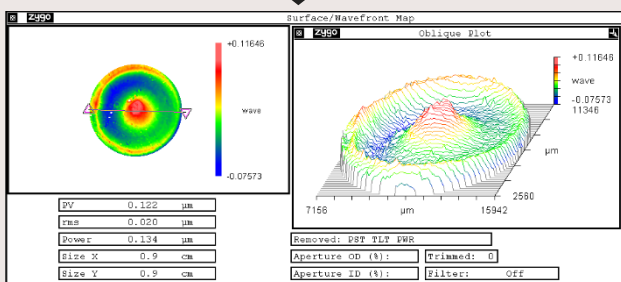
t₅ Rapid cooling time:
Rapid cooling to room temperature via increased flow of N₂ gas



Form Accuracy

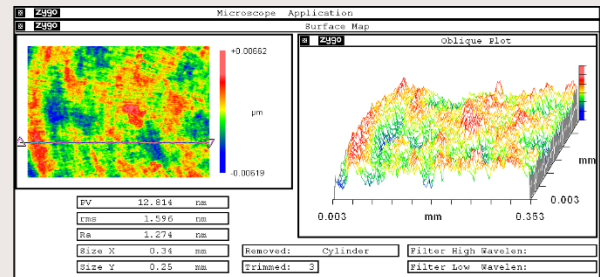


WC Mold 0.081 μm PV

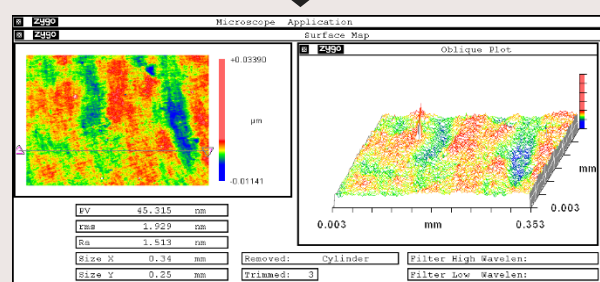


Molded Glass Lens 0.122 μm PV

Surface Finish



WC Mold 1.27nm Ra



Molded Glass Lens 1.51nm Ra

Utility Requirements

Electrical

Machine: 230 VAC (+/- 10%); 3 Phase; 50/60Hz; 18kVA(45 amp.)
Chiller: 60Hz: 208-230 VAC; 3 Phase; 8kVA (20 amp.)
50Hz: 400-460 VAC; 3 Phase; 11kVA (16 amp.)

Machine Air

- 5.5-7.0 bar (80-100 psi)
- 142 SLPM (5 SCFM)
- Dry and pre-filtered to 10μm

Nitrogen

- 6.9-10.3 bar (100 - 150 psi)
- 283 SLPM (10 SCFM)
- 99.998% Pure Nitrogen containing less than 0.001% (10 parts per million) Oxygen

Note: In an effort to continually improve our product performance, specifications are subject to change without notice.
(Please consult your Sales Representative for our latest specifications)