

Equipment Name: 35T HYDRAULIC HORIZONTAL WAX INJECTION MACHINE

Model No : WIM – P35 A

Application: This is a Hydraulic, 4-pillar, down-stroking, vertical clamping, horizontal injection wax injection machine, with an automated operational cycle. The machine is used for large production runs, to produce quality wax patterns.

The machine is complete with a Digital temperature controlled wax reservoir with stirring facility, hydraulic system for clamping, nozzle travel & injection, with appropriate pipes & cables. The injection & clamping pressures, injection flow rate are settable within a range. The temperatures can be accurately & independently controlled and are dynamically displayed. The entire automated injection cycle is Logic / PLC controlled.

Specifications and Salient Features:

- **Type** : Hydraulic, 4-pillar, vertical clamping, horizontal injection, Semi automatic operation.

- **Press** :
 - Press Design : Four pillar, down-stroking hydraulic press
 - Clamp Force : 0-35 tons max.
 - Clamp Speed : 20mm/sec closing & 30mm/sec. opening (approx)
 - Daylight max : 450 mm
 - Daylight min : 100 mm.
 - Platen working area : 550mm X 550mm.
 - Die mounting holes : M 8 - 75mm X 75mm grid.
 - Work table : 350 mm deep X 1200 L mm in the front, 500 mm deep X 750 on the side.
 - Work table height : 980 mm from floor

▪ **Hydraulic Systems :**

- Hydraulic Pumps : Polyhydron / Yuken make. 210 bar max.
- Hydraulic Reservoir : 125 Lts. Max. for
- Hydraulic controls : Polyhydron / Yuken make solenoid operated hydraulic control valves, with international standard, Cetop 03 sub-plate mounted, stackable modular controls.
- Motor : 7.5 Hp, 1440 rpm, Crompton Greaves / Siemens
- Oil Filter & breather : Hydroline / Hydex make.
- Pressure Gauges : Glycerin filled – MASS / equivalent make.
- Cylinder seals : Polyurethane seals with pressure ring and bronze filled teflon wipers.
- Hoses : flame resistant hoses, of reputed make

▪ **Injection System :**

- Nozzle Tip : Spherical radius R-10mm.
- Nozzle Height : Adjustable on the Z-axis. Stroke 175mm
- Nozzle movement : The Nozzle movement on the X – axis. pneumatically operated.
- Injection Pressure : Settable, range 0-40 Kg/ sq.cm
- Injection Rate : 0-10 lpm.
- Injection Dwell Time : Settable, range 0- 999 seconds.
- Wax Reservoir : Capacity 35 Lts. The tank is heated with band heaters of reputed make and has an Aluminium heat dissipating sheath for uniform heating. The tank is insulated on all sides with ceramic fibre and clad with powder coated steel sheet for protection. The temperature is PID controlled.
- Stirrer : Provided with an SS304 stirrer that ensures thorough turnover of the wax. Stirrer – 40rpm.
- Stirrer drive : 1/4th hp. REMI / Bonfiglioli make geared motor.
- Single shot size : 5000 cc.

- **Instrumentation & Controls:** The operation control switches and temperature controllers are housed in separate panels. Both the control panels are located in front of the machine and are easy to reach and operate.
 - Control Panel : Provided with 3 phase mains indicators, Power On/Off switch, Fuses, Neutral link, Motor starter's with over current protection & digital temperature controllers. All components of reputed make such as L&T or equivalent are used. The panel is designed with separate power & control circuits.
 - Temperature : Temperature control is fully automated. Temperature of tank, hose, injector and nozzle are controlled by separate Digital controllers with separate temperature sensors. The Digital temperature controllers are of the reputed SELECTRON make.
 - Operation : Dual modes of control are provided. A selector switch allows auto / manual operation modes.
 - Auto-cycle : Push to start press down – Suction of wax - Nozzle forward – Injection – Nozzle Return – press open – Surplus wax to tank. The entire injection cycle is automated with the use of appropriate timers. Process sensors like Photocells, Pressure switches and Proximity sensors are used appropriately at all points to smoothly regulate the injection cycle.
 - Manual mode : The cycle can be run manually by working the ergonomically positioned selector switches on the control panel.
 - Emergency : An emergency switch is provided to completely shut-off the machine.
 - Total Power : 8.5 Kw.

