

16 12 10 2250 100 17.3 6.9 200 100 N/A 300 297 Diagonal 335 x 335 N/A 19 17 15 1595 47 42 2603 25 28 61 76 55 69 8 2016 1607 N/A 800 67.3 31 31 525 250 N/A 775 420 x 420 665 x 665 150 33.6 35 192 173 2571 116 1100 81.5 39.7 625 250 N/A 875 470 x 470 720 x 720 1500 97 49.8 675 300 N/A 975 500 × 500 780 × 780

SPECIFICATIONS

. "A/EE

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A/EA SERIES" INJECTION MOULDING MACHINES

uld open traverse force

250 33 15.7 300 150 N/A 450

1800 113.8 61.3 725 725 300 N/A

2300 132 76.8 825 300 N/A

2800 151.6 88.2 925 300 N/A 1225 635 x 635

NOTE - Due to our continuous development programme reserve the right to amend any of the above data without prior notice

Local agent

Topfine Precision Machinery Co. Ltd.

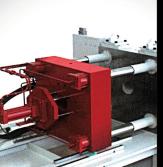
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Note – The 'A/EE' and 'A/EA' versions are basically the same with the exception that the 'A/EE' version complies with 'CE' requirements for the European Community.



LOCKING UNIT

Two platen design with direct hydraulic clamping on each tie bar giving guaranteed even locking force distribution and resulting in a very compact machine, yet with very generous open stroke and daylight. The open area below the mould space enables moulded products to be transported away from the machine in any direction and also provides a useful area for placing ancillary equipment.



EJECTOR SYSTEM

The two platen design gives completely free access to the ejection system and enable a large area ejector plate to be incorporated for use with moulds requiring multiple ejection points. If required a quick connect/disconnect coupling can be provided for the central ejection point. For clean room operations the hydraulic ejector can be replaced by an servo motor driven system.



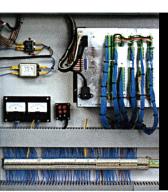
INJECTION UNIT

The injection unit is provided with a high L:D screw together with generous screw torque and speed to ensure a high plasticising capacity. The balance double carriage cylinders guarantee a deflection free connection between the locking and injection units. The standard machine is designed for processing normal thermoplastic materials, but also can supplied for processing UPVC, thermosets, LSR, or elastomers.



CONTROL SYSTEM

The powerful, PC based control system insures all parameters are closely nonitored and, if necessary corrected, within close limits to give a very high order of cycle to cycle repeat accuracy, stablished process data can easily se stored/retrieved either internally, or externally and if necessary transferred from one machine to another. A printer port or provided as standard and if required the system can be set up for networking as an potional feature.



ELECTRICAL EQUIPMENT

All electrical systems are mounted in a substantial sheet metal enclosure with full area opening doors for ease of service access. All electrical components have been selected from only internationally known suppliers of good repute. Space is provided within the cabinet for retro fitting of all possible optional features.



HYDRAULIC SYSTEM

The total hydraulic system is contained within the closed footprint of the machine of eliminating externally mounted flogging loses. The hydraulic components are of curopean/Japanese origin and the system imploys a regulated variable displacement output for maximum energy conservation. The use of an electrically monitored fine liter minimises service attention.



AFETY

To ensure the maximum degree of safety when the machine is in use both the locking and injection unit are fully guarded at the front, rear and ends. Sliding guards protecting the mould space are furnished with electrical interlocks and an electrically operated isolating valve fror the hydraulic system. Sliding guards protecting the nozzle area electrically interlocked to prevent any movement of the injection unit.



OPTIONAL EQUIPMENT

he machines are fully prepared for retro tting of all optional equipment and control ystem is loaded with the support software or all optional features as standard.

MACHINE FEATURES

LOCKING UNIT

- Two platen design with direct hydraulic clamping on each tie bar giving guaranteed even locking force distribution, plus small foot print.
- Platens & ejection system prepared to EUROMAP 2, JIS & SPI available as alternatives
- Moving platen supported & guided by precision profile rail guides.
- Open base below mould space enabling product removal from three directions and providing space for ancillary equipment.
- Hydraulic ejector, all models, but with multi-point ejector plate for A50 and above.
- · Lubrication free operation.
- Mechanical mounting interface for robot in upper edge of fixed platen as per FUROMAP 18
- Freely programmable three stage mould open & close movements.
- Low pressure mould protection system with alarm.
- Freely programmable single, multiple & pulsed ejection strokes, plus ejector inter cycle park position.
- Programme for low pressure, low speed, open/close for mould loading & unloading.
- Indicating mould cooling manifold with flow meters and thermometers in each channel, 4 channels A10 & A25, others 6 channels.
- Platen and ejector stroke monitored by LVDT's, 0.01 mm resolution.
- Single, or double core puling systems with hydraulic & electrical connections on fixed &/or moving platen, 4 cores maximum. Electrical interface as per EUROMAP 13.
- 'In mould' ejector retracted interlock. Interface as per EUROMAP 13.
- Single, or double, air blast systems, freely programmable.
- Electrical interface for robot as per EUROMAP 12.
- Power operated operator's front sliding locking unit guard with safety edge. A180 & above.
- Additional channels in indicating mould cooling manifold, maximum number of channels, 12.
- Temperature control system for mould/hot runner, 8 or 16 zones, PID, 16A, EUROMAP 14 interface, incorporated in control upgrade.
- Quick connect/disconnect coupling for central ejection point in lieu of standard EUROMAP coupling.
- · Ejector operated by servo motor in lieu of standard hydraulic type.

INJECTION UNIT

- · Customer's choice of any one of three screw diameters.
- · Open nozzle, spherical seating.
- Nitrided barrel & screw assembly.
- Balanced double carriage cylinders for deflection free connection between the injection and locking units.
- Screw drive by low speed, high torque hydraulic motor.
- Screw & carriage strokes monitored by LVDT's, 0.01 mm resolution. A10
 & A25 uses time based carriage retract stroke.
- Screw speed monitor.
- PID temperature control for plasticising unit with over/under temperature alarms and graphical display.
- Cold start prevention for the plasticising screw.
- Sprue break facility with programmable fast/slow carriage movements.
 A10 & A25 single speed carriage movements only.
- Programme for cold slug removal.
- Programme for intrusion before injection.
- Programme for injection/stamping.
- \bullet Freely programmable injection fill, 6 stages, position dependent.
- Freely programmable injection hold, 4 stages, time dependent.
- Change over from injection fill to hold by time &/or position.
- Change over from injection fill to hold by time, position &/or hydraulic injection pressure, incorporated in control upgrade.
- Change over from injection fill to hold by barrel melt pressure transducer, incorporated in control upgrade.
- Change over from injection fill to hold by mould cavity pressure transducer' incorporated in control upgrade.
- Automatic melt cushion control with selectable alarms for 'out of cushion' signals.
- Melt decompression selectable before &/or after plasticising.

- Freely programmable plasticising, 3 stages, screw speed and screw back pressure, position dependent.
- Automatic barrel purge programme.
- Pre-heating calendar for plasticising unit, Sunday Saturday, 24 hour.
- Lubrication free operation
- Closed loop control of injection fill, injection hold & screw back pressure by servo valve.
- Accumulator assisted injection.
- Extended open nozzle with heater band and discrete zone of temperature control.
- · Spring loaded, needle type, shut-off nozzle.
- Hydraulically operated needle type shut-off nozzle.
- · Barrier screws for intensive mixing and increased plasticising capacity.
- Bi-metallic plasticising unit in lieu of standard nitrided type.
- Ceramic heater bands in lieu of standard type.
- Temperature controlled hopper feed throat incorporated in machine control.
- Screw dive motor of increased torque & reduced speed for 'engineering thermoplastics' or UPVC in lieu of standard motor.
- Machine prepared for processing UPVC, with special screw and barrel heat/cool system on front two heating zones.
- Machine prepared for processing thermosets with special plasticising unit & provision for mould heating.
- Machine prepared for processing LSR with special plasticising unit, 2 component feed unit & mixer & provision for mould heating.
- Machine prepared for processing elastomers with special plasticising unit & provision for mould heating.

HYDRAULIC SYSTEM

- Regulated variable displacement, energy saving, pump(s), open loop.
- Regulated variable displacement, energy saving pump(s), closed loop in lieu of standard open loop version.
- Hydraulic components of European and Japanese manufacture.
- Sealed hydraulic reservoir with air breather, level gauge and 'Oil level low' alarm.
- On line micronic filtration with 'Filter blocked' alarm.
- Hydraulic oil temperature monitor and alarm.
- Pre-heating of hydraulic oil.
- Temperature control system for hydraulic oil.
- Off line, 3 micron filtration system, continuous operation.

CONTROL SYSTEM & ELECTRICAL EQUIPMENT

- All electrical equipment mounted in a sheet metal cabinet integrated into the machine base.
- One machine mounted circuit breaker for isolation of all electrical systems within the machine.
- · Heating circuits with MCB protection and SSR switching.
- PC based control system.
- Coloured TFT monitor, 10.4 inch.
- Membrane keyboard with LED acknowledgement of selection/function.
- Internal mould data storage & retrieval facility, 200 sets of mould data.
- External mould data storage & retrieval facility by 3.5 inch floppy disc,
 FDD included.
- Real time clock incorporated.
- All machine setting parameters optimised by software.
- All proportional valves linearised by software.
- Continuous on line display of all speeds, pressures, positions, time & temperatures.
- Alarm messages, plus acoustic & visual general alarm signals.
- Mimic diagram.
- · Programme for quantity control.
- Display of I/O status.
- Interface for host computer.
- Interface for printer.
- Two resident languages for screen text, instantly selectable.
- Single & three phase IEC socket outlets mounted in customer specified positions, on/off with main machine circuit breaker.