

TECHNICAL SPECIFICATION

SA SERIES OF - SEMI AUTOMATIC VACUUM FORMING MACHINES

Ridat SA series of machines are fully automatic apart from manual loading and unloading of the forming material. Cycle start is operator (pushbutton) controlled and ends with the Unclamp button being lit.

Each process stage has individual time and duration controls. Heaters are zoned.

The machine is PLC controlled and accommodates simple pre-set programming and recall for different products for precise and repeatable formings.

MACHINE CONSISTING OF:

The machine frame is of mild steel welded construction designed to provide a solid and rigid chassis. The mould table is housed in an airtight box with easy access from the top for tool changes. The machine is fully guarded and conforms to current European safety legislation. The machine is CE marked and a Certificate of Conformity will be provided as part of the standard documentation.

Heating system comprises of horizontally moving heater box powered by a cushioned pneumatic cylinder with high temperature seals. Heater movement is timed and controlled via PLC.

Ceramic infrared heating elements are fitted as standard. Up to 12 zones are provided for balanced heat and controlled via the HMI operator panel.

A heat reflector is fitted below the heater in the in the 'park' position.

Material clamping utilizes hinged moving clamp frame with self adjusting rear springs. Clamping is achieved by power assisted cylinders using push button. Unclamp at the end of the cycle is carried out by push button that actuates quick release mechanism.

Drape (mould) table is lifted by a cylinder. It is stabilised and balanced by a pair of guide rods to assure smooth and easy movement.

Vacuum System comprises of electrically driven reciprocating vacuum pump, fitted with a 3 phase motor, and is coupled to an integral vacuum reservoir in the machine base frame. A vacuum gauge is fitted as standard.

Sheet Sag can be controlled automatically by using the bubble facility to release small amounts of air within the sealed mould chamber to cushion the sagging material. The time for the bursts of air and its frequency is adjustable via the controller. The drape forming tank is air-tight.

Product cooling is achieved by electrically driven high Velocity turbo fans.

Process Controller consists of a microprocessor PLC fitted with digital and analogue I/O, with sophisticated software developed by Ridat. The HMI operator panel gives the operator the ability to display and control each individual function of the machine. Full manual and automatic operation is possible allowing both prototyping and full production work to be carried out. Once a tool set-up has been created it can be stored in the onboard memory.

Pneumatic System incorporates proprietary brand control valves with ISO standard cylinders.

All movements have variable speed controls. The main solenoid and pilot operated spool valves are located at places easily accessible for maintenance.

Guarding/Safety

The front door is fitted with electrical safety inter-lock. Heater Box will automatically returns to park position at the end of the pre-set period or in the event of an emergency. The guard controls fail-safe safety circuits which 'freeze` or cancel dangerous functions if the guard is interfered with during the machine's operating cycle.

Fixed side and rear guards complete the arrangement and the whole system conforms to Machinery Directive, Low Voltage Directive and Electromagnetic Compatibility Directive. The machine will be CE marked in accordance with current European legislation and a Certificate of Conformity will be provided as part of the standard documentation.

Proprietary components are sourced from companies of global repute. These include Moeller and Siemens for *control switchgear* and PLC, Festo and SMC for *pneumatics*; Becker for *vacuum pumps*.

Optional feature:

Plug assistance

Water cooled bolster

Pyrometer-heat

Brief Technical Specifications*

Model		2420SA	3020SA	3624SA	4030SA	5426SA	6040SA
Forming (max)	in mm	24 x 20 600 x 500	30 x 20 750 x 500	36 x 24 900 x 600	40 x 30 1000 x 750	54 x 26 1350 x 650	60 x 40 1500 x 1000
Depth	mm	200	200	300	300	300	300
Air Usage Extra if plug used	lit /cycle	5.3	5.3	6.5	6.8	6.7	6.9
Power Usage	kW	6.0	8.6	13.1	16.7	16.9	17.5
Floor Area	cm	178 x 145	178 x 145	230 x 160	230 x 160	249 x 196	281 x 210
Height	cm	242	242	249	249	249	249
Weight	kg	392	392	450	450	540	590

*The above figures should be taken as typical example only; complete specifications supplied on request