

TECHNICAL SPECIFICATION

AFCS SERIES OF AUTOMATIC HIGH SPEED THERMOFORMING MACHINES

Ridat AFCS series of machines is ideally suited for in-expensive production coupled with flexible operation, high quality output and precision finishing. It is designed for quick tool changes, reduced set-up times and to provide flexibility in each stage of the production process.

The machine is fully automatic. Each process stage has individual time and duration controls using plc. For trimming, a 60mt press is fitted and powered by servo drive motor

Forming Capacities:

		2416AFCS	2420AFCS	3024AFCS
Maximum mould size	in	24 x 16	24 x 20	30 x 24
	mm	600 x 400	600 x 500	750 x 600
Maximum draw	in	4	4	4
	mm	100	100	100

Principal features:

Roll feed

Powered mechanism to lift 100 kg roll and place onto material stand

In-feed

Material in-feed table with adjustable in-feed guides for accurate alignment of material to chain transport

Forming

Heavy duty main frame construction

Top and bottom platen's are of substantial, web reinforced, fully welded heavy duty construction

Heating

- Top and Bottom Heater with independent operation
- Triple pitch pre-heat allowing next 3 indexes of material to be heated
- Ceramic heating elements
- Zonal Control of heaters (with PID temperature control of 8 zones)

Cooling

- By air vents
- Mould Cooling by bolster

Sheet transport

- Duplex 'spiky' chain with 1" centres
- Manual hand wheel chain width adjustment
- Water Cooling for chain track protection (from heat)
- Chain tensioning mechanism

Sheet Indexing

- Index accuracy of +/- 0.3 mm (excluding forming variation)
- Gearbox and servo motor controlled by PLC
- Index shaft directly drives sheet conveyors
- Index length and speed controlled via PLC

Trimming (Cut)

- Top & bottom platen's are of substantial, web reinforced, fully welded steel construction
- Adjustable upper platen for tooling height variation - 4" (100mm)
- Maximum cutting force – **60 Tons**
- Motorised adjustment of press to suit varying index
- Motorised height adjustment of platen
- Motorised trimming with servo drive

Component removal, stacking & skeletal rewind

- Formed components are separated from the skeletal waste by a pneumatic extraction arm.
- Adjacent to the Trim Press, the Stacker Box will collect the finished components by "Gang stacking" – stacking one on top of the other. Once the pre-set number of components has been accumulated, the stack is automatically pushed out.
- Skeletal waste is collected by a powered Rewind Unit.

Vacuum

- Pump 600 lpm
- Vacuum reservoir tank
- Line size to mould 1" diameter
- Main Vacuum plus vacuum bleed valves

Software controls

- Programmed for all settings and parameter on HMI operator interface panel
- Fault alert and rectification messages
- Pre-setting of cycle quantity requirement (batch control)
- Pre-setting of stack quantities
- Option to output primary parameter data for each cycle (to disk or printer)

Pneumatics

It incorporates proprietary brand control valves with ISO standard cylinders, serviced by a filter and Pressure regulator assembly. A pressure gauge is fitted at the front of the machine.

All movements have variable speed controls in both directions. All the valves are located to provide easy access for maintenance.

Guarding

Fixed side and rear guards are fitted as standard. The whole system conforms to Machinery Directive 06/42/EC, Low Voltage Directive 06/95/EC and Electromagnetic Compatibility Directive 04/108/EC to harmonized standards . 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 included

Servo drive system	-	Mitsubishi
Pneumatic Cylinders	-	Festo / SMC
Pneumatic Valves	-	Festo / SMC
Heating Elements	-	Ceramicx
Vacuum Pump	-	Becker or Busch
Microprocessor	-	Mitsubishi
Control switch-gear	-	Siemens

Optional extras includes

Pre-heat oven chamber	Bulk reel un-winder
Hole Punch station	

Brief technical specifications*

Models		2416AFCS	2420AFCS	3024AFCS
Forming Area (max)	in mm	24 x 16 600 x 400	24 x 20 600 x 500	30 x 24 750 x 600
Depth (Max)	mm	100	100	100
Max Sheet width	mm	660	660	660
Cutting Press – Top movement	mm	100	100	100
Cutting Press - Bottom movement - mm		120	120	120
Cutting Press – Tonnage	mt	60	60	60
Vacuum Pump	kw	1.2	1.2	1.2
Power Usage	kW	36	44	65
Air Usage (per cycle) litres		80	80	94

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

The above figures should be taken as typical example only: layout drawings and complete specifications will be supplied for specific machines. Standard power supplies are 415 V 50 Hz phase 4 wire and clean, water-free air at 5.4 atm (80 lbf/in²)

NOTE: PRESSURE FORMING VERSION, KNOWN AS AFCS-P IS ALSO AVAILABLE