

Optional Modules

The A.M.P Rose moulding lines can be made to produce all kinds of chocolate slabs and articles, for example with fruit or nut inclusions, or with wafer or biscuit inside.

Due to their modular design these lines can also be extended at a later date, either to increase capacity or to add specific modules. For whole or chopped nuts for example an additional nut/ chocolate mixer could be added as a simple retro-fit.

Whole Nuts

A nut feeding system can be supplied to feed whole nuts into the mould cavities.

Inclusions

Chopped nuts, rice crisp pieces, raisins and other fruit pieces can be incorporated into the chocolate prior to depositing.



Chocolate with Biscuit

A biscuit placing system can provide a new product range.

Chocolate with wafer sticks

A cut and place module for wafer sticks/books can be incorporated into the moulding line.



Aerated Chocolate

Add texture whilst giving away less product with the addition of an aerated chocolate depositor.



Specifications & Capacities

	700-10	700-15	700-20
Typical capacities	100g bars - 480kg/hr 28mm dia. 13g piece - 960kg/hr	100g bars - 720kg/hr 28mm dia. 13g piece - 1440kg/hr	100g bars - 960kg/hr 28mm dia. 13g piece - 1920kg/hr
Moulds/Minute	Up to 10 moulds/Min	Up to 15 moulds/Min	Up to 20 moulds/Min
Mould size	622 x 233 x 34mm	622 x 233 x 34mm	622 x 233 x 34mm
Max. depositing area	570mm x 220mm	570mm x 220mm	570mm x 220mm
Mould Type	Centre pin drive carrierless	Centre pin drive carrierless	Centre pin drive carrierless
Mould Pitch	10"	10"	10"
Mould Changing	Manual	Manual	Manual
Moulds in Circuit	290 approx.	503 approx.	627 approx.
Conveyor drive	Continuous	Continuous	Continuous
Plant length	22m	24m	27m
Cooling time	20 minutes	20 minutes	20 minutes
Main Frame	Stainless steel frame		

	1000-10	1000-15	1000-20
Typical capacities	100g bars - 720kg/hr 28mm dia. 13g piece - 1440kg/hr	100g bars - 1080kg/hr 28mm dia. 13g piece - 2160kg/hr	100g bars - 1400kg/hr 28mm dia. 13g piece - 2880kg/hr
Moulds/Minute	Up to 10 moulds/Min	Up to 15 moulds/Min	Up to 20 moulds/Min
Mould size	922 x 233 x 34mm	922 x 233 x 34mm	922 x 233 x 34mm
Max. depositing area	870mm x 220mm	870mm x 220mm	870mm x 220mm
Mould Type	Centre pin drive carrierless	Centre pin drive carrierless	Centre pin drive carrierless
Mould Pitch	10"	10"	10"
Mould Changing	Manual	Manual	Manual
Moulds in Circuit	290 approx.	503 approx.	627 approx.
Conveyor drive	Continuous	Continuous	Continuous
Plant length	22m	24m	27m
Cooling time	20 minutes	20 minutes	20 minutes
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Due to the Company policy of continuous improvements we reserve the right to change any or all specifications without prior notice

Chocolate Moulding



A.M.P Rose moulding lines have been designed with the chocolate manufacturer in mind – high quality precision engineered assemblies have been developed through years of experience in the chocolate manufacturing industry.

With the focus on reliability, reduced maintenance, cleaning and downtime these lines ensure high efficiency rates even on 24/7 production.

The moulding line is constructed in modules, making the line extremely flexible and allowing for future expansion, or the addition of further modules such as nut or biscuit placing.

Synchronously matched Servo motors are used to drive the chains on a continuous basis, thereby ensuring smooth mould flow throughout the plant. Motor torque settings are monitored and if overloaded will stop the plant in the event of a problem. The moulds used have centre pin mounts on continuously moving chains, which ensures smooth mould transition throughout the plant and reduces breakages to a minimum. Mould presence and mould pin detection sensors are also provided.

A Servo motor moves the Depositor in a linear motion at exactly the same speed as the mould chains, which eliminates intermittent motions and allows for high speed depositing cycles. The drives to the Right and Left side Depositor pistons are also via Servo motors, providing excellent control and flexibility. The Depositor can be set for spot or ribbon deposits, ensuring clean and accurate moulding, whilst maximising line speed and minimising moving parts. 'One-shot' products can be made on the depositor, typically at up to 60% filling rates. Centres such as caramel, praline, fondant, crème and jelly can all be used.

The Depositor has been designed for quick product change-overs. Most products can be changed through the HMI and with suitable nozzle plates. The HMI stores the pre-set recipes and they can be recalled at the touch of a button. Where change from one piston block to another is necessary, an optional 'quick release' block can be provided. The depositor is mounted at a height that is convenient for the operator to monitor all functions from ground level.

The 60mm thick insulated doors are clad in food-grade stainless steel are therefore hygienic and easy to clean and at the same time reducing plant noise to a minimum. These doors provide complete insulation, thereby ensuring that the correct cooling profile is maintained across the full length of the plant. The doors are hinged to allow access from both sides, and panels have windows and interior lighting where inspection is necessary.


All these special features combine to ensure that products made on A.M.P Rose moulding lines are of the best quality, with perfect shapes and with high gloss and smooth surface finishes.



Depositor
The flexible depositor can produce solid, striped or 'one-shot' products with up to 60% centres. Water and fat based centres such as caramel, praline, fondant, crème and jelly can all be used. Parts that need cleaning can be removed quickly and easily to minimise change-over and down-times.




Mould Change Station
The conveyor chains centres are increased to allow the operator to remove or insert up to 4 moulds at a time. Moulds that do not need changing are simply conveyed through the station. This area is at a convenient height for the operator to easily change the moulds.




Mould Heater
Heaters are temperature controlled within close tolerances to ensure that the mould surfaces are within the required specifications. If the line stops the heaters will be automatically retracted. A more sophisticated infra-red option is also available.




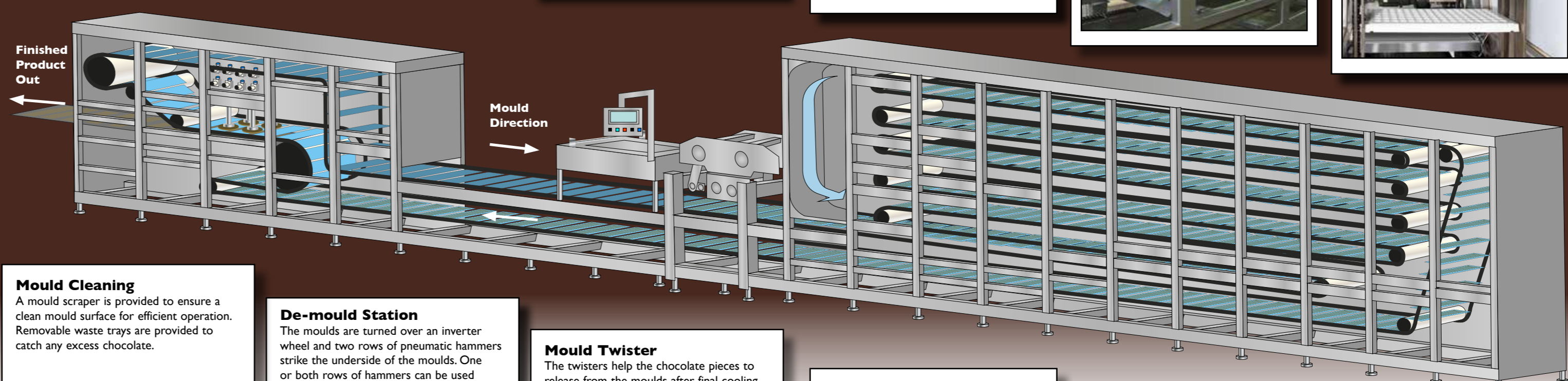
Depositor
Servo motors independently control the left and right side pistons to give complete process flexibility. The servo-driven linear movement of the head ensure that mould filling is clean and accurate, and that smooth running at high speeds can be achieved.



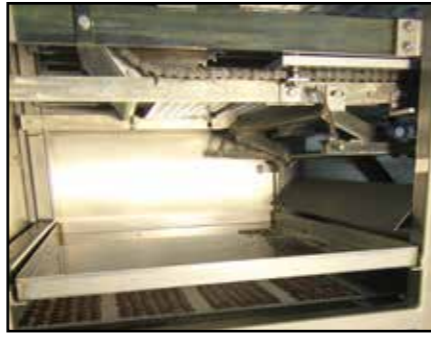
Shakers
One lateral plus three vertical shakers are used to level the chocolate and remove air bubbles. The amount of vibration can be adjusted both in time and amplitude.




Cooling Tunnel
The cooling system is designed for use with chilled water @ 2°C. The temperature inside the tunnel is closely monitored to ensure the correct cooling profile. The cooling capacity and tunnel size is calculated based on the product volume and desired production capacity. Typical cooling time is 20 minutes.

Mould Cleaning
A mould scraper is provided to ensure a clean mould surface for efficient operation. Removable waste trays are provided to catch any excess chocolate.



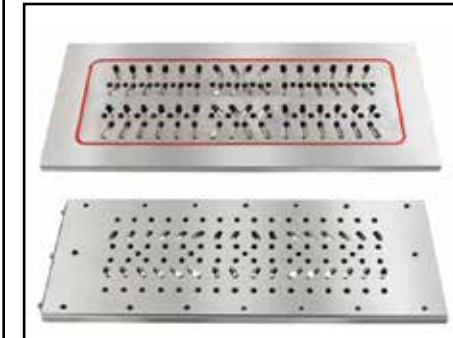
De-mould Station
The moulds are turned over an inverter wheel and two rows of pneumatic hammers strike the underside of the moulds. One or both rows of hammers can be used depending on product characteristics.




Mould Twister
The twisters help the chocolate pieces to release from the moulds after final cooling and prior to de-moulding. Adjustable fingers mounted to sprockets ensure that the correct pressure is applied.



Depositing Plates
A.M.P Rose technicians design nozzle plates specifically for customers' products using advanced CAD software. This allows us to produce complex one-shot nozzle plates that result in perfectly formed chocolates.



Mould Carrying System
Moulds are transported around the plant on chains with extended pins. The moulds are centre-mounted to ensure smooth mould transition and reduce breakages to a minimum. Synchronously matched Servo motors drive the chains continuously, allowing smooth high speed mould movement.



Electrics & Pneumatics
The plant is supplied with a free-standing electrical cabinet containing all the electrical components. The PLC system monitors all system functions ensuring maximum up-time. Air regulator units are conveniently located at different positions to allow the operator to see the results of any changes made to air pressures.

