

# MORCOS

EGYPTIAN ENGINEERING COMPANY  
Production Lines & Equipment Manufacturer



## PRODUCTS CATALOGUE

# ABOUT US

## Foundation

Founded in 1989 and headquartered in the 10th of Ramadan City, 70 km away from Cairo, Egypt. MORCOS is one of the leading manufacturers of confectionery and bakery production lines and equipment worldwide. MORCOS has a long list of satisfied clients in Egypt as well as all over the World.

MORCOS's primary market presence started back in 1970 with the agency of the premier Austrian company Franz HAAS Waffel- und Keksanlagen and the manufacturing license for certain capacity wafer production lines in Egypt, Sudan and other territories in 1989. HAAS is a globally renowned manufacturer of production lines for bakery, confectionery and dairy products for a wide range of end products such as wafer, waffles, biscuits and cakes.

In 1989, MORCOS established its first manufacturing facility in the 10th of Ramadan City. In 1999, MORCOS bought Blum+CO a German company specialized in the production of chocolate enrobing production lines that process all fluid chocolate and cocoa masses involved in the coating of candies, biscuits and cakes in addition to cooling tunnels.

In 2005, MORCOS founded its large state of the art production plant also located in the 10th of Ramadan City. Currently, MORCOS manufactures comprehensive chocolate and caramel enrobing production lines, automated transfer systems, powder processing systems in addition to tanks, pumps, accessories and metal detection systems as well as certain capacity wafer production lines under license from HAAS.

Today, MORCOS is renowned as being an expert in the manufacturing of production lines and equipment supporting the confectionery and bakery manufacturing industry. MORCOS is recognized with its huge production plant exporting to over 72 countries worldwide, more than 250 specialized employees and hundreds of local as well as International clients.

## Vision & Mission

MORCOS's vision is to become one of the top manufacturers of confectionery and bakery production lines and equipment worldwide.

MORCOS's mission is to manufacture and provide local and international clients with the best quality confectionery and bakery production lines and equipment with affordable prices as well as flawless after sales service.

## Competitive Advantages



### Premium Quality Standards

MORCOS's products are of premium quality and totally adhere to the international manufacturing standards of high quality.



### Lasting Partnership

MORCOS seeks lasting client relations as we see ourselves as our clients' partner and not merely their short-term supplier.



### High Value for Money

At MORCOS, we are dedicated to providing the highest quality products with reasonable pricing to best satisfy our clients.



### After Sales Dependability

At MORCOS, our clients can totally depend upon us for any needed after sales technical assistance and/or maintenance.

# EXPORT MAP



## OUR PARTNERS

MORCOS provides its products to local Egyptian clients and exports to over 70 countries worldwide, operating in the production of confectionery, bakery and dairy products. MORCOS has an impressive reference list composed of hundreds of satisfied local and multinational companies.

These include: -



# CHOCOLATE & CARAMEL ENROBERS

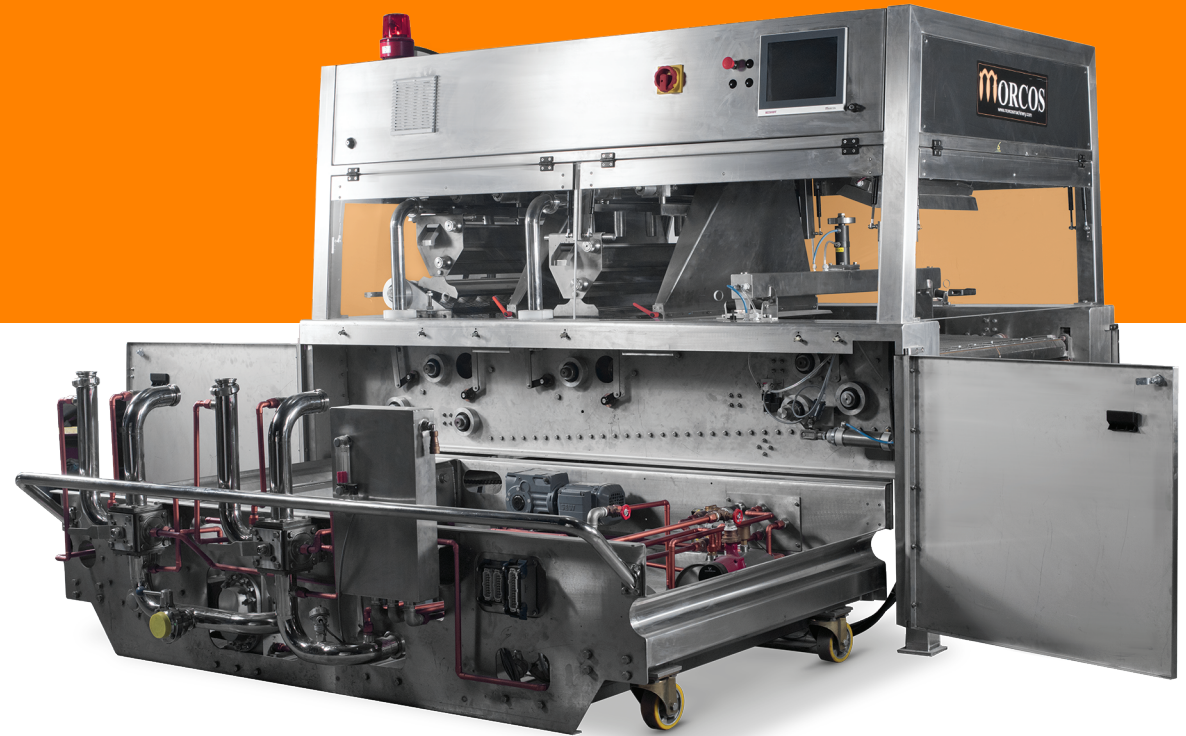


## Enrobing Machines

- A wide range of chocolate & caramel enrobers starting from 305 mm to 2200 mm belt widths.
- Mass wheel design available for small-scale lines (305, 420 & 510 mm belt widths).
- A double head design available for low-fat cocoa masses and belt speed over 6 m/min.

Type Cover P





## Product Specifications

- Separate in-feed table.
- Double jacketed tank with forced water circulation and chocolate stirrer.
- Separate temperature control with microprocessors for water and chocolate.
- Air blower with adjustable speed and position.
- Double jacketed chocolate pump.
- Single or double unbreakable chocolate curtains.
- Full or bottom enrobing.
- Heated detailer with adjustable position and reversible rotation.
- Wire mesh tensioning device and shaker.
- Variable speed with inverter.

## Options to be added on request

- A touch panel with a PLC control (Equipped with a new friendly interface).
- Removable independent enrober stainless steel tank for easy cleaning & quick product switching.

- A hold-down device for avoiding product floating if products are light and have a wide surface.
- Flip over device to flip the chocolate bottomed articles.
- Five roll bottom stripping device to remove completely the chocolate layer from the bottom.



# COOLING TUNNELS

## Product Specifications

- Stainless steel frame and cladding.
- Contact, convection and radiation systems.
- A microprocessor for precise temperature regulation.
- Accessible whole length.
- Automatic belt tracking and tensioning device.
- Drive station with speed inverter.
- Spring loaded scrapers for rolls self-cleaning.
- Built in or separate air-cooled cooling units.

## Type STKK

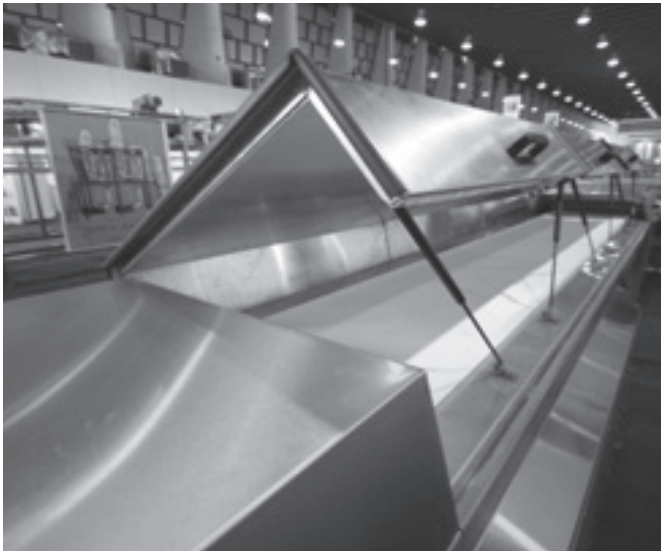




# COOLING SLABS

## Product Specifications

- Stainless steel frame and cladding.
- Cooled by chilled water situated directly under the belt.
- Independently regulated functions.
- Available with covering hoods on request.
- Automatic belt tracking and tensioning device.
- Drive station with speed inverter.
- Spring loaded scrapers for rolls self-cleaning.
- Built-in or separate air-cooled cooling units.
- Intensive contact, convection and radiation systems to minimize the cooling time.



# TEMPERING MACHINE



Type SK



## Continuous Tempering Unit

### Product Specifications

- A cylindrical heavy construction composed of double jacketed multi-sections. (tempering plates).
- Capacity 250 – 2000 kg/h.
- The chocolate arrives in the machine from underneath forced by a built-in chocolate pump fed from the buffer tank through pipes. The chocolate is then cooled down gradually through the different sections.
- The chocolate is finally slightly re-heated through the last 2 sections & then leaves the tempering machine totally tempered.
- The transfer of the chocolate from underneath towards the top is assisted by the motion of hollow spirals scraping the chocolate from sides, bottom & top ensuring a continuous mixing during all the procedure. This spiral is driven by the main drive of the tempering unit.
- The way of scraping ensures the maximum shear of the cacao butter crystals which gives an ideal result of tempering.
- A touch screen with a tempering program to control the system.

### Options to be added on request

- A double jacketed stainless steel De-Crystallizer on the chocolate return to the tank.
- A separate water heater circulator to heat pipes and De-Crystallizer.

# CHOCOLATE TANKS

## Product Specifications

- Melting and storage double jacketed tanks are available in different sizes from 150 to 20000 kg.
- Available in stainless steel or painted steel.
- An ideal ratio between the height and the diameter to ensure the best heat exchange.
- A special agitator to move chocolate from downward to upward and from the middle to the extremities.
- The top cover is equipped with a micro-switch to stop the agitator when opened.
- The tank is equipped with a drain gate and a water pump for an open circuit water circulation.
- The tank is equipped with an electrical control panel.
- A thermometer is installed to read out permanently the chocolate temperature.
- The tanks are supplied with all needed accessories: boilers, double jacketed chocolate pumps, double jacketed 3-way valves, level testers and etc.



# NUT SPRINKLERS



## Product Specifications

- Stainless steel hopper with a gate along the width to control the quantity of the sprinkles taken by the conveyor belt underneath (No risk of blockage).
- This hopper is fixed on a special overhead motorized conveyor belt with holes on its surface to ensure homogenous sprinkling along the width and continuous regular sprinkling.
- Designed for an easily changeable belt and easy cleaning.
- The whole device is fixed over the decorating table with special fixations.



# CHOCOLATE DECORATORS

## Product Specifications

- Stainless steel construction is driven by a motor and a special gearbox.
- The device is oscillating in two different axes independently, transversally & longitudinally.
- By changing the speed and the frequency in the two axes, we obtain different shapes of zigzag, one loop or double loops patterns.
- A special cleaning system with 2 filter screens, used in a cycle, cleaning continuously the decoration chocolate and the filter screens as well to avoid any system blockage.
- Thanks to this special cleaning system, very thin decoration strings are effected and no need to dismount the pipe for cleaning from time to time.
- The final decoration pipe is a simple pipe with holes without any needles, very easy to be replaced for different product types.

- A decorator is equipped with his own heaters to keep the chocolate always hot and with his own control panel.
- The decorator is designed to be a mobile device which enables it to be placed either inside the enrober at the outlet or on the decorating table at the entry of the cooling tunnel.



# TRANSFER STATIONS & INDEXING SYSTEMS



## Product Specifications

Fully automatic feeding systems to feed one or several wrapping machines, suitable to feed rows of delicate, non-uniform products, up to 80 rows/min. The system consists of:

- One or more transfer stations with storing or recycling conveyor.
- Product turning conveyor.
- Indexing systems.

The transfer station realigns the rows and feeds row by row to a tilting plate equipped with a pusher.

In its turn, the pusher feeds the row to a transversal conveyor which evacuates it to the indexing system, the tilting plate acts also as a storing station if the transversal conveyor is still loaded with a previous row.

In case the tilting plate is still loaded or engaged in a motion cycle, then the new coming row pursues its way to the next station, which feeds the next wrapping machine.

At the end of the last station, an accumulating conveyor stores the excess rows not fed to the wrapping machines due to an eventual stopping of a wrapping.

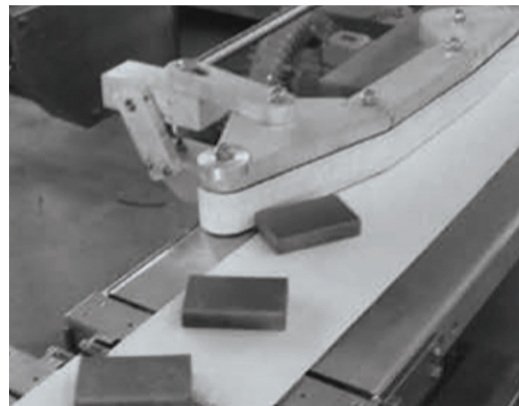
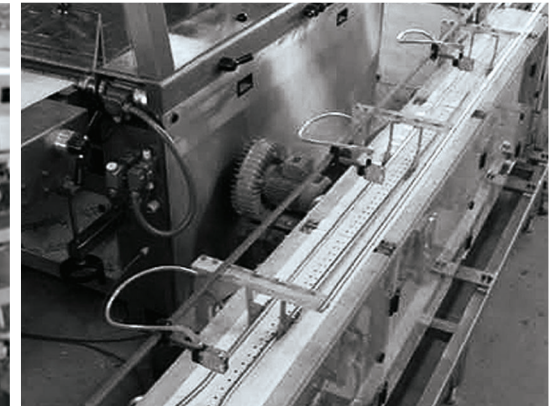
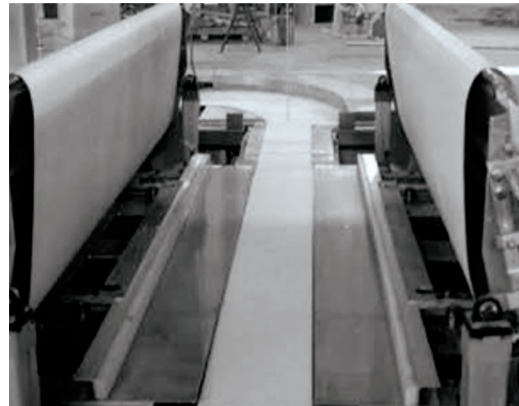
This conveyor can be equipped with an automatic refeed system to recycle the stored rows to the last wrapping machine at each gap between the incoming rows.

To simplify cleaning, the station is equipped with an automatic opening system, and the transversal conveyor can be easily moved out, using a specially designed trolley.

The product turning conveyor consists of two parallel bands with independent drives with different adjustable speeds, in addition to a side conveyor to ensure turning the products from long side leading to short side leading whenever it is necessary.

The indexing system consists of a gap closing conveyor followed by several short conveyors which detect continuously the position of the product relative to the position of the lugs of the wrapping machine and correct the product position to ensure feeding it between the lugs at high speeds.

The indexing can be adjusted to place between the lugs either one by one product or a defined number of products at each time to enable wrapping individual or several products in the same packet.



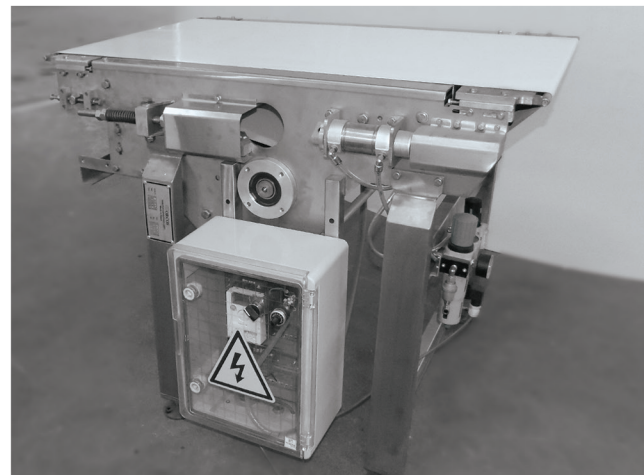
# CONVEYING SYSTEMS



We offer a wide range of high-quality reliable conveyor systems and our experienced engineers bring innovative, custom design solutions to suit each project demands.

## Our Conveyor Product Line Includes

- Curved conveyors (35 – 180 degrees)
- Straight conveyors.
- Packing conveyors.
- Roller conveyors.
- Bucket elevators.
- Gravity roller.
- Biscuits cooling conveyors.
- Biscuits stacking devices (penny & star) stackers.

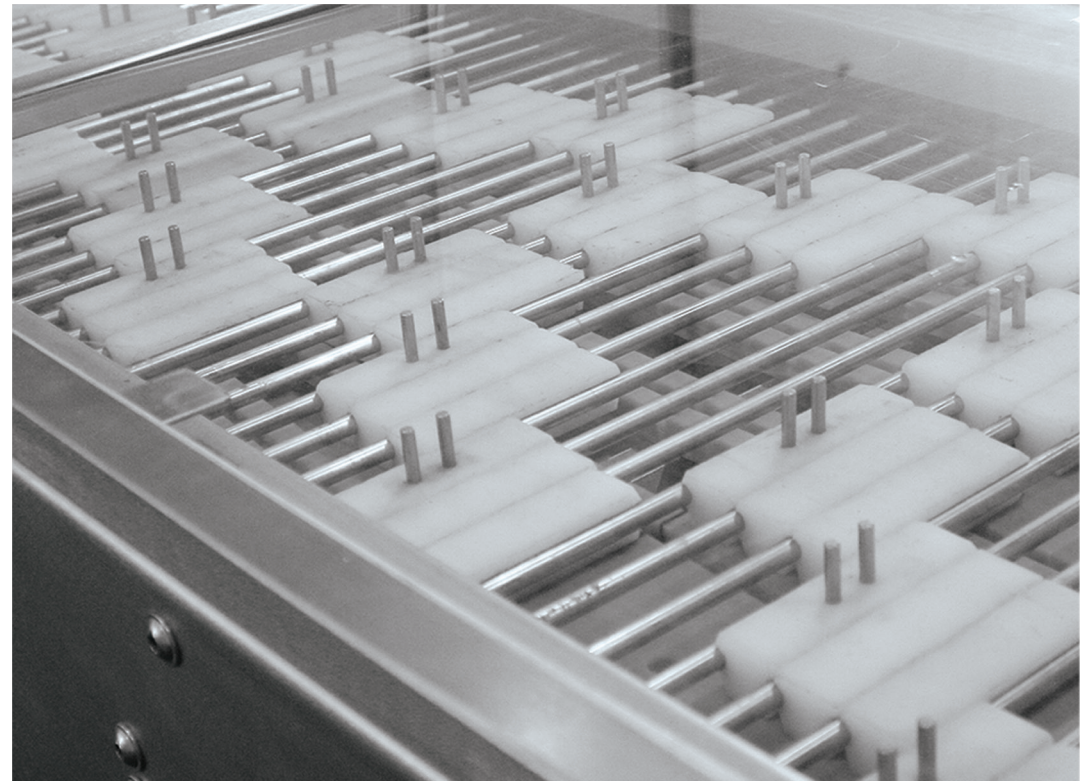




# ROW MULTIPLIER

## Product Specifications

- Used at sandwiching machines outlet to connect with an enrobing line.
- Distributes one lane into 2 to 12 lanes of products.
- Decreases the linear speed of a production line while spreading the products along the width.



# POWDER MIXERS



Type RM



## Technical Specifications

- Motor speed: 1500 rpm assisted with a gearbox.
- Bowl capacity: 250 - 2000 liters.
- Motor Power: 3 kw-14 kw.
- Electric connection: 3 Ph. 380V 50Hz (other voltages on request).
- Production capacity: One batch (250 - 2000 liters) of powder depending on the degree of mixing.

## Product Specifications

- Fully stainless steel chassis 304L (or 316L upon request).
- Recipient of 3-5 mm thick stainless steel, sides of 5-12 mm thick stainless steel.
- Powerful spiral of 5-8 mm thick stainless steel with two levels spirals, one internal anticlockwise spiral and one external clockwise spiral.
- A micro switch to avoid working with an open hatch for safety reasons.
- A complete sealing for the cover and gates to handle very fine powders.

## Options to be added on request

- Mobil bin can be added on request with the mixer to easily handle the mixed powder.

# SCREW FEEDERS

## Product Specifications

- Stainless steel conical tank with different capacities
- Stainless steel safety guards and sieve to filter the powder at the hopper inlet.
- Stainless steel screw spiral elevator powered by a powerful motor for a flow of 100 kg/hr. to 3000 kg/hr.
- Screw cleaning gate at the bottom protected by a micro switch for safety purposes.
- Magnetic trap at the end of the feeder to ensure the powder filtration & screw safety.
- Easy removal of the magnetic trap for cleaning purposes.
- Motor protected by a contactor for safety purposes.

## Options to be added on request

- Stainless steel 3D sifter to sieve the powder.



# INDUSTRIAL FOOD PROCESSORS



Type C40T–C60T

## Technical Specifications

- Rotor speed (2 speeds): 1500 rpm & 3000 rpm.
- Bowl capacity: 40 liters & 60 liters.
- Motor power at:
  - 40 l: 6 kw on 1500 rpm and 7.5 kw on 3000 rpm.
  - 60 l: 9 kw on 1500 rpm and 11.25 kw on 3000 rpm.
- Electrical connection: 3 ph. 380 v 50 hz (other voltages on request).
- Production capacity: One batch (40 or 60 liters) each 3 min.

## Product Specifications

- The machine is equipped with a set of 3 powerful knives in 3 different levels.
- Easy removal and positioning of these knives.
- Two speeds available, the first speed 1500 rpm for milling only, the second speed 3000 rpm for refining.
- The bowl is tilting for easy discharge on horizontal position.
- Secured cover and working position with 2 micro switches, (the mill does not work unless the cover is closed and the bowl is in vertical position).



# HIGH PERFORMANCE TURBO MILLS

## Technical Specifications

- Rotor speed: 7500 rpm.
- Grinding chamber diameter: 220 mm.
- Motor power: 5.5 kw.
- Electrical connection: 3 ph. 380 v 50 hz.
- Production capacity: 300 to 500 kg/hr. depending on the required micron of the milled sugar.

## Product Specifications

- The machine is equipped with a hopper feeding the granulated sugar to the grinding chamber through an adjustable orifice.
- The grinding chamber is composed of two grinding elements:
  - A turbo rotor element totally free of friction.
  - A stationary element which is a ring sieve plate with perforation size 0.5 mm (could be amended on request).
- A self-air cooling stream is insured by an intensive air flow through the grinding chamber.
- The cooling air is filtered through a cloth bag collecting the very fine sugar imported by the air stream.
- The mill is mounted on a steel table allowing a free space underneath to attach a plastic bag to collect the milled sugar.
- The mill is equipped with separate electric control box with light lids, timers and all necessary equipment for soft starting.
- Optionally: A feeding system can be added to feed automatically the sugar to the machine hopper from a hopper placed on the ground to facilitate discharging of sugar bags and ensure a regular feeding flow rate of 300 kg/hr. for very fine sugar.



# POWDER SIFTERS



## Multi Stage Gyratory Sifter

### Product Specifications

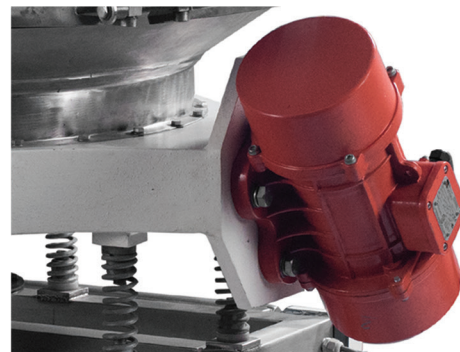
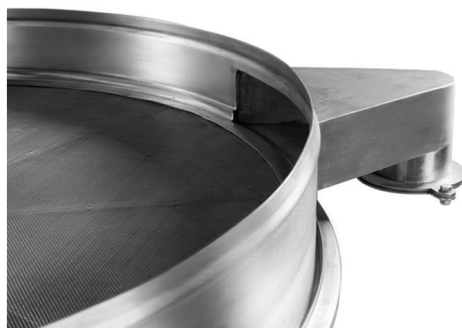
- Painted steel heavy structure chassis.
- Stainless steel feeding hopper with a magnetic trap.
- Stainless steel six sieving boxes offering 3 different powder sizes.
- Different mesh sizes.
- Artelon cubes between the mesh and the sieve box to clean the mesh.
- A magnetic trap on the sifter outputs.
- Safety guard surrounding the sifter.



## Circular Sifters

### Product Specifications

- Stainless steel 3D sifter with a diameter of 600 to 1000 mm
- The sifter is powered by a special motor vibrating in a 3D movement for the best powder sieving effect.
- The motor is linked to an electrical contactor for motor protection
- The sifter is equipped with 1 to 3 sieving stages offering 2 to 4 different powder sizes outputs.
- Each output is equipped with a special hopper to facilitate the powder collection.
- Each stage is easily removed for cleaning purposes (cleaning feature).
- The sieve mesh is made from stainless steel and fixed with a special locking ring for easy replacement.
- The mesh holes' diameters are chosen and confirmed by the client.



# TANKS



Morcos designs and manufactures stainless steel and carbon steel processing storage tanks as well vessels for industrial, sanitary (food, beverage, dairy). From simplest executions to the most sophisticated process systems, Morcos will deliver quality tanks and vessels designed to your desired specifications.

Our tanks and vessels product line include:

- Pressure and vacuum vessels.
- Balance tanks.
- Mix tanks.
- Holding and storage tanks.
- Melting tanks.

Our tanks and vessels are manufactured according to our quality assurance program and offer regulatory-approved design and construction.

Built from quality 304L/316L stainless steel and special alloys, our tanks and vessels are available in 100 to 30,000 liter capacities.



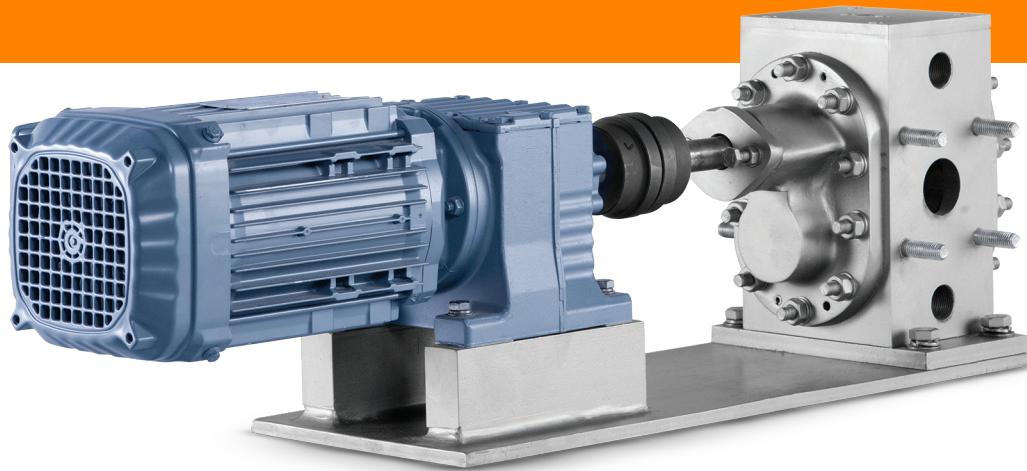
# FAT MELTING TANKS

**Stainless steel fat melting tank with capacity of 500kg/hr.**

- Shearing heated grid @90°C.
- Storing insulated tank for 500 kg of fat at 50 °C.
- Oil heating circuit with own pump and temperature control for the grid.
- Water heating circuit with own pump and temperature control for the storing tank.
- Discharge pump type TM6.
- Flow meter to read the flow.
- Digital control to set a specific discharge patch.

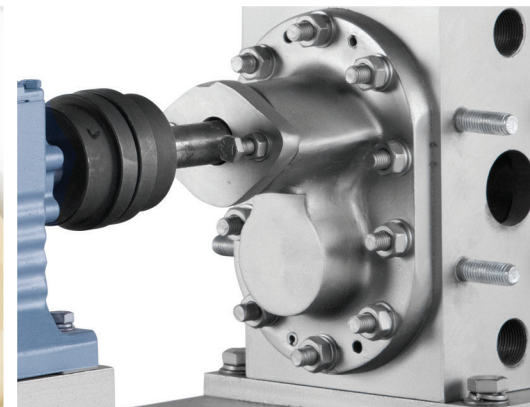


# PUMPS



## Product Specifications

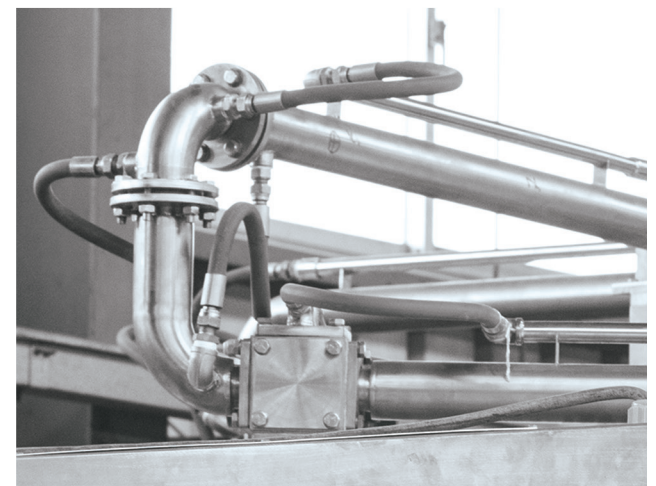
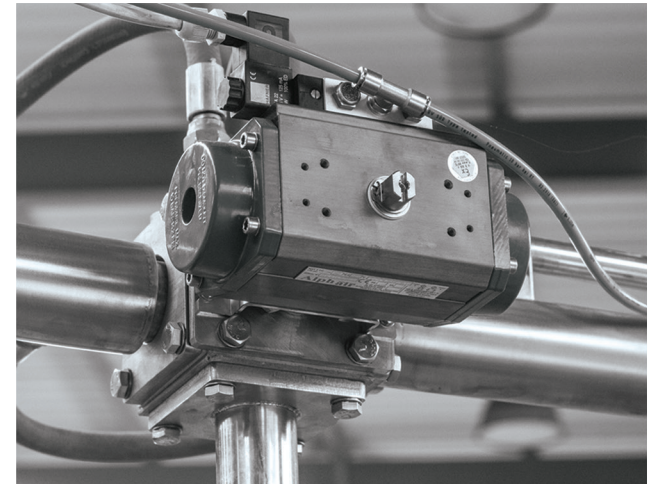
- Different pump types: gear pump, star pump.
- Different construction materials: cast iron or stainless steel execution (304L or 316L).
- Different applications: single or double jacketed for oil, cream, chocolate and fat.
- Different sizes: range from 50 kg/hr. (dosing pumps) till 6 tons/hr.



# CHOCOLATE ACCESSORIES

## Product Specifications

- Double jacketed chocolate transfer pipes.
- Water heat exchangers.
- Water jacketed three-way valves.



# REJECTION CONVEYORS



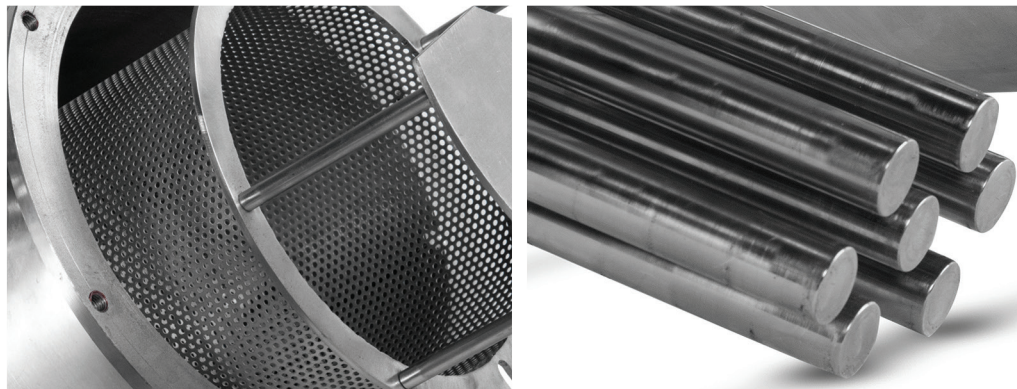
## Product Specifications

- Totally stainless steel chassis.
- Different widths: 200 - 2500 mm.
- An automatic tensioning station at both sides with 2 pneumatic cylinders.
- An automatic centering device at both sides with 2 pneumatic cylinders.
- Two knife edges one from each extremity with free rolling multi rollers.
- Belt cleaning station with drawer.
- Separate metal detector stainless steel chassis.
- 0.5 m length metal free zone suitable for metal detection.
- Pneumatic rejection retraction system at the knife edge end.

# MAG FILTERS

## Product Specifications

- MAG filters remove the hazards of unwanted ferrous and work hardened stainless contaminants from processing lines.
- Placed in front of pumps, screens and mills, they protect vital plant equipment from metal damage, with its costly resultant-downtime.
- Their rare earth magnets catch all sizes of ferrous debris found in product lines. They also capture particles of work hardened 304 and 316 stainless steel as well as nickel and carbide items.
- MAG filters are available from 1/2" through 6" line sizes.
- We have two MAG filters:
  - Type MT: is used for cream, chocolate or any fluid with similar or nearer viscosity.
  - Type RMT: is used for jam with fruit particles, tomato sauces...etc.



- The two types can be 304 or 316 stainless steel grade and can be double jacketed.
- MAG Filters may be mounted in vertical, horizontal or sloped lines without affecting the magnetic efficiency.
- RMT model is available with impurities mesh.

# HYGIENE ENTRANCE UNITS



Our hygiene entrance unit HYU is the most complete unit for a hygienic work process. The sensors avoid the superfluous use of raw materials and/or time. While the hands are washed and disinfected, boots are cleaned. The unit is equipped with a high-end hand dryer, ensuring the best quality. The tripod gate is released only after all steps are completed.

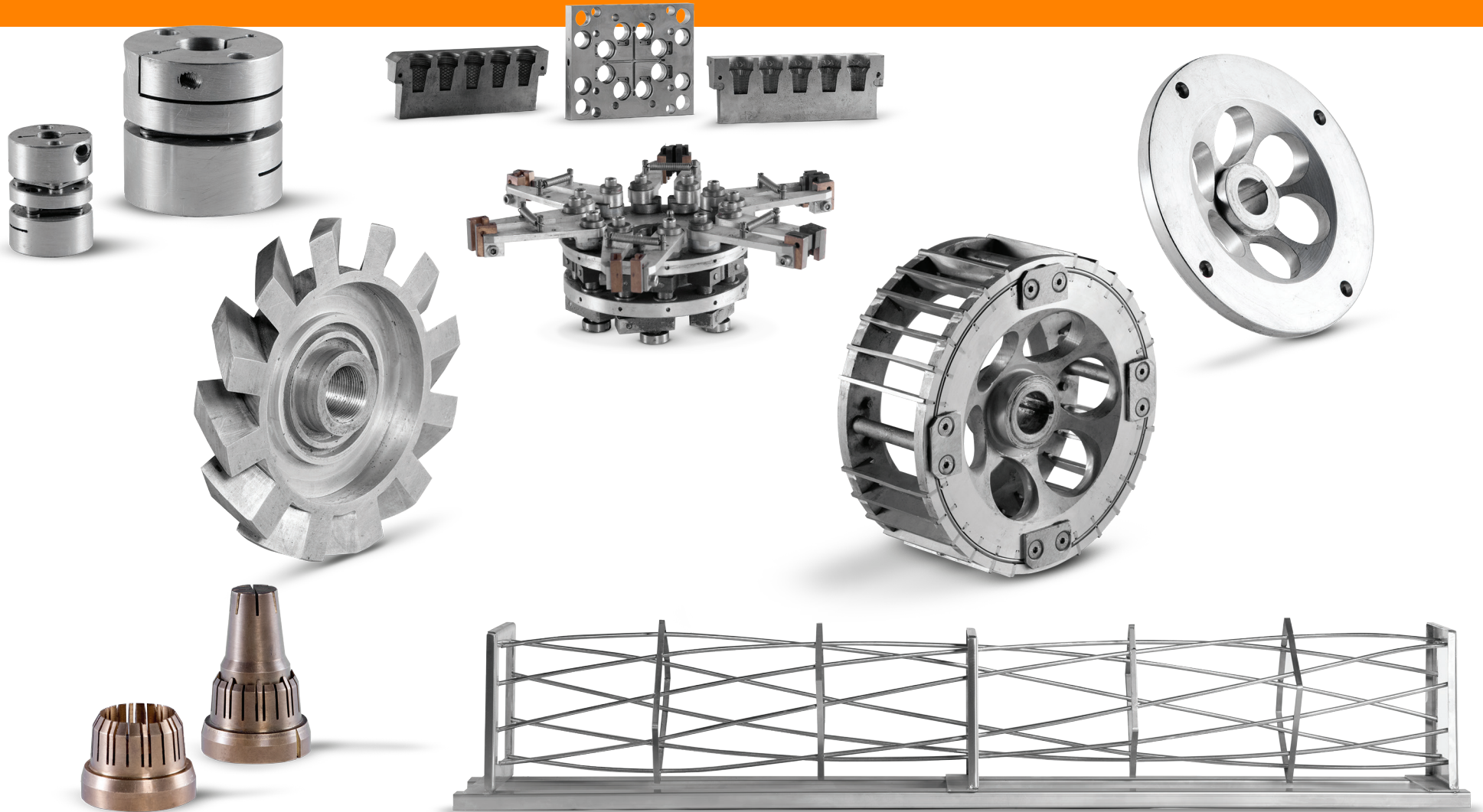


## Product Specifications

- A level indication of soap and sanitizer.
- Reduces contamination risks.
- No paper consumption.
- System is driven by a PLC control panel.



# SPARE PARTS





# SERVICES & SUPPORT

For our clients' full convenience, Morcos provides all technical and technological services including product installation, system start-ups, the complete operation know-how as well as the final product testing. We also provide customized machines and machine parts according to clients' individual needs.

Morcos's production plant also has perfectly equipped and managed maintenance and technical support division responsible for after-sales services. These include the provision and installation of machine spare parts, preventive maintenance and on-site repairs.

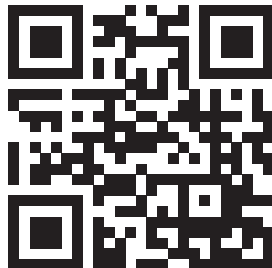
Morcos also provides pre-sales machine related consultancy as well as continuous after sales support including sending qualified engineers and technicians to the client's premise for any needed technical or technological support.







[www.morcosmachinery.com](http://www.morcosmachinery.com)



## Contact

Headquarters Address: 23 IZ. B4, 44634 10th of Ramadan City, Egypt.

Tel: +2 0554 50 11 50 - +2 0554 50 11 51 - Fax +0554 50 11 25

Website: [www.morcosmachinery.com](http://www.morcosmachinery.com)

Email: [info@morcosmachinery.com](mailto:info@morcosmachinery.com)