



# **ABOUTUS**

#### **FOUNDATION**

Founded in 1989 and headquartered in 10th of Ramadan City, Egypt (70 km from Cairo).

MORCOS is a leading manufacturer of confectionery and bakery production lines and equipment worldwide. MORCOS has a long list of satisfied clients in Egypt and globally.

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. A decade later, In 1999, MORCOS bought Blum+CO a German company specialized in the production of chocolate enrobing production lines that process all fluid chocolate and.

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 also caning lines. In 2024, demonstrating their continued growth, MORCOS established its new headquarter on the 10th of Ramadan - Industrial East Complex.

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 for its huge production plant exporting to over 90 countries worldwide, more than 250 specialized employees and hundreds of local as well as international clients.







# **► 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. +4,000 SOLD MACHINES

90 COUNTRIES

6 CONTINENTS

MORCOS WORLDWIDE



## **OUR PARTNERS**

- MORCOS provides its products to local Egyptian clients and exports to over 90 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.

# OUR PARTNERS

















































# OUR PRODUCTS OUR PRODUCTS

# CHOCOLATE PREPARATION EQUIPMENT

- Batch Ball Mill
- Continous Ball Mill
- Pre-Mixer / Dry Conch
- Fat Blocks Grating Machine

# CHOCOLATE PREPARATION EQUIPMENT

### **M** BATCH BALL MILL

- Stainless Steel 304 chocolate components combined Mixer/Grinder, with a grossvolume of 500 L, driven by European-made/SEW motor.
- The equipment produces batches of approximately 500 Kg each, and the time to obtain an end fineness of 20-22 microns is 2.5 - 3 hours.
- The mixing/grinding tank is specially designed to perform two basic functions: mixing the ingredients, and refining the mass down to the required fineness. These two functions take place simultaneously during the production of the batch.
- The temperature of the mass is monitored by a PT 100 mounted at the bottom of the grinding tank, as well as a temperature controller in the control panel.
- During the process, continuous product circulation occurs, from underneath the grinding tank through the circulation pipe back into the tank. By the end of the process, the product is discharged by changing the above 3-way valve to the discharge position. A variable speed circulation pump is also provided with the system.
- Double Jacketed Stainless-Steel piping.





# M CONTINUOUS BALL MILL

- A continuous production chocolate kitchen machine capable of producing 1000 Kg/h of chocolate using powdered sugar with max. 120 microns to obtain an end fineness of 20-25 microns, depending on recipe and ingredients.
- The pre-mixed ingredients mass is pumped from the external pre-mixer, entering from the bottom of the grinding vessel, with the final product leaving from the outlet into the collecting vessel.
- The refining action is accomplished by specially hardened steel balls rotating at different speeds by a shaft with agitating arms, moving the steel balls in the jacketed grinding tank to keep refining the product paste, till reaching the desired output chocolate fineness.
- Double Jacketed Stainless-Steel piping.





# ▶ PRE-MIXER / DRY CONCH

- Stainless Steel mixing vessel, provided with a rotating special stirrer with sidescrapers.
- Stainless steel 304 jacketed tank.
- Provided in different batch capacities: 500 / 750 / 1000 Kg.
- Jacketed Stainless Steel piping.
- Chocolate Ingredients such as fat, milk powder, cocoa powder, sugar, lecithin and other dry solids are filled into the pre-mixer be a homogenous mass of solids and liquids.
- The side scrapers on the stirrer prevent sugar from sticking to the vessel's sides.
- Specially designed stirrer along with a suction fan for evacuating acid gases from real chocolate available in the Dry Conch.



# **FAT BLOCKS GRATING MACHINE**

- A specially designed grater for different fat blocks to reduce its melting time.
- Stainless Steel body with safety cover and side table to hold/prepare the next block.
- A pneumatic pusher to maintain constant pressure.
- Set of 4 knives with own SEW drive.
- Able to handle blocks of 25 Kg solid fat.
- Grating times:

CBS: 25 seconds Cacao mass: 40 seconds.

- Electrical control panel



# **ENROBING LINES**

- Enrobing Machines
- Cooling Tunnels
- Cooling Slabs
- Tempering Machines
- Nut Sprinklers
- Chocolate Decorators

# ENROBING LINES

# **►** CHOCOLATE & CARAMEL **ENROBERS**

- A wide range of chocolate & caramel enrobers ranging 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







- Separate in-feed table.
- Double jacketed tank with forced water circulation and specially designed stirrer.
- Separate temperature control with microprocessors for water and chocolate.
- Air blowers with adjustable speed and position.
- Double jacketed pump, to maintain product temperature.
- Single or double continuous chocolate curtains.
- Suitable for full or bottom enrobing.
- Heated detailer with adjustable position and reversible rotation.
- Wire mesh tensioning device and shaker.
- Variable speed drives with frequency inverters.
- A touch panel with a PLC control (Equipped with a new friendly interface).
- Removable independent enrober stainless steel tank for easycleaning & quick product switching.

# **OPTIONS TO BE ADDED ON REQUEST**

- 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.











# **M** COOLING TUNNELS

- Stainless steel frame and cladding.
- Contact, convection and radiation systems.
- Microprocessor for precise temperature regulation.
- Accessible along the whole length.
- Automatic belt tracking and tensioning devices.
- Variable speed drive with a frequency inverter.
- Spring loaded scrapers for rolls self-cleaning.
- Built in or separate air-cooled cooling units.

#### **TYPE STKK**







# **M** COOLING SLABS

- Stainless steel frame and cladding.
- Cooled by chilled water bed situated directly underneath the belt.
- Independently regulated functions.
- Automatic belt tracking and tensioning devices.
- Variable speed drive with a frequency 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.
- On request, special execution cooling tables without the covering hoods is available.







### **M** TEMPERING MACHINE

- A cylindrical heavy construction composed of double-jacketed multi-sections (tempering Plates).
- Capacities available in the range of 200 4000 kg/hr.
- Chocolate arrives at the machine from underneath forced by a 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 sections & then leaves the tempering machine tempered.
- The transfer of the chocolate from underneath towards the top is assisted by hollow spirals scraping the chocolate from the sides, bottom & top ensuring continuous mixing during 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, giving an ideal tempering result.



# LAB ENROBING MACHINES WITH **BUILT-IN BATCH TEMPERING UNIT**

- Available in two models, with 200 & 305 mm belt width.
- Integrated batch chocolate tempering unit.
- Suitable for enrobing as well as molding.
- Production capacities of 90 to 200 kg/h.
- Bowl capacities of 24 & 50 kg with agitator and own drive.
- Built in freon cooling unit and heating system.
- Touch panel with PLC for controlling all machine functions.
- Screw pump for chocolate circulation.
- The machine can be used as a melting unit as well as tempering unit.
- Equipped with Pedal for molding chocolate.
- A table with a shaker for molding chocolate.







# **NUT SPRINKLERS**

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













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- Stainless steel construction driven by a motor and a special gearbox.
- The device oscillates in two different axes independently; transversally &longitudinally.
- By changing the speed and the frequency in the two axes, different shapes of zigzag, one loop or double loops patterns are obtained.
- 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 affected and no need to dismount the pipe for cleaning from time to time.
- Decorator is equipped with its own heaters to keep the chocolate heated and with its own control panel.
- The decorator is designed to be a mobile device which enables it to be placed either at the outlet of the enrober or on the decorating table at the entry of the cooling tunnel.













# TANKS, PUMPS & ACCESSORIES

- Chocolate tank
- Glucose tanks
- Fat melting tanks
- Pumps
- Chocolate accessories

# TANKS, PUMPS & ACCESSORIES

Morcos designs and manufactures stainless steel and carbon steel processing storage tanks as well as 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 includes:

- Pressure and vacuum vessels
- Balance tanks
- Mixing 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 304/316L stainless steel and special alloys, our tanks and vessels are available in 100 to 30,000 liter capacities.

### **CHOCOLATE TANK**

- Double-jacketed tanks for chocolate melting and storage.
- Available in full Stainless-Steel or Painted Steel with outer Stainless-Steel cladding.
- Available in different sizes of 150 to 20000 Kg.
- Our tanks have an ideal ratio between height and diameter to ensure the best heat exchange.
- A special agitator inside moves chocolate from upwards and from the middle to the extremities, for homogenous temperature distribution.
- Tanks have a top cover with one fixed half and one hinged half.
- Rockwool Insulation with stainless-steel cladding.
- A temperature sensor reads out the chocolate temperature, to ensure ideal temperature control.
- Equipped with a laser level sensor.
- Equipped with a drain gate and a water pump for an open circuit water circulation.
- Equipped with an electric control panel.
- Supplied with all needed accessories: Water heaters, Double-jacketed chocolate pumps, Double-jacketed 3-way valves, Level testers, etc...





### **M** GLUCOSE TANKS

- Triple jacketed tank for optimum temperature control.
- Stainless Steel 316L inner tank with a bottom dish end.
- A heated water circuit at 50 degrees with heaters and water pump.
- Rockwool Insulation with stainless-steel cladding.
- Four stainless steel 304 legs.
- Electrical control panel.
- Stainless steel ladder + safety guards handrails surrounding the tank top available for larger tanks.
- Equipped with one stainless steel Manhole 500 mm on the Top.
- Washing Spray ball.
- 1x St. 3-way valve with Pneumatic actuator at top of the tank to feed circulation pump or feeding pump.
- 3 x manual butterfly valves.
- 1x pressure transmitter to read tank storage in kilograms 1x pressure switch with digital reading (safety, to shut off the pump in case of high pressure).
- 1x separate filling circuit for glucose.
- Automatic glucose circulation is provided for short circuits.
- Jacket heating system is equipped with automatic level control.



# M FAT MELTING TANKS

- An ideal ratio between the height and the diameter to ensure the best heat exchange.
- Single or Double jacketed steel or stainless steel walls (304L or 316L Stainless steel).
- Capacities up to 5000 liters.
- Complete electrical water heating circuit with a control panelRockwool Insulation with stainless-steel cladding.
- Tanks have a top cover with one fixed half and one hinged half.
- The tank is equipped with a water pump for an open circuit water circulation.
- The tank is equipped with a drain gate. A temperature sensor reads out the chocolate temperature, to ensure ideal temperature control.
- Added on request a level control to visualize and control the fat level inside the tank.
- Ability to melt up to 500 Kgs/hr of fat Blocks.



# **PUMPS**

- Different pumps types: Gear pumps, Star pumps & Sanitary pumps.
- Different construction materials: Cast iron or Stainless steel execution (304L or 3 l 6L).
- Different applications: Single or Double jacketed for Oil, Cream, Chocolate, Fat.
- Different sizes: Ranging from 50 kg/hr. (dosing pumps) up to 6 tons/hr.









# **►** CHOCOLATE ACCESSORIES

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







# POWDER PROCESSING EQUIPMENT

- Powder Mixers
- Screw Feeders
- Industrial Food Processors
- High Performance Turbo Mills
- Circular Sifters
- Powder Sifters

# POWDER PROCESSING EQUIPMENT





- Driven by a European made motor with gearbox.
- Bowl capacity: 17 2400 liters.
- Production capacity: batches ranging from 17 to 2000 liters of powder depending on ingredients and the degree of mixing.
- Fully stainless-steel chassis 304L (or 316L upon request).
- Powerful stainless steel spiral with two levels of spirals; one internal anticlockwise spiral and one external clockwise spiral to ensure optimal mixing.
- 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**

- Magnetic trap including Magnetic Bars (9000-1000) mounted on the mixer discharge port
- Mobil bin can be added on request with the mixer to easily handle the mixed powder.

# **► SCREW FEEDERS**

- Stainless steel hopper with different capacities.
- Stainless steel safety guards and sieve to filter the powder at the hopper inlet.
- Stainless steel screw powered by powerful motor for a flow of 100 Kg/hr to 3000 kgs/hr.
- Screw cleaning gate at the bottom protected by a microswitch for safety purposes.
- Magnetic trap at the outlet of the feeder to ensure the powder filtration & screw safety.
- Easy removal for the magnetic trap for cleaning purposes.







# **► INDUSTRIAL FOOD PROCESSORS**

- Production capacity: One batch (40 liters) within 3 min.
- Machine is equipped with a set of 3 powerful knives in 3 different levels.
- Easy removal and positioning of the knives.
- Two speeds available, the first speed for milling only, and the second speed for refining.
- The bowl is tilting for easy discharge on horizontal position.
- Secured cover and working position with 2 microswitches, (the mill does not work unless the cover is closed and the bowl is in vertical position).









### HIGH PERFORMANCE TURBO MILLS

- Rotor with high speed driven by a powerful motor.
- Production capacity: 300 to 750 kg/hr. depending on the required micron of the milled sugar.
- Machine is equipped with a hopper for 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 with perforated plates.
- A self-air-cooling stream is ensured 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 a standalone electric control box.





Optionally: A feeding system can be added to feed automatically the sugar to the machine hopper from a hopper placed on ground to facilitate discharging of sugar bags and ensure a regular feeding flow rate of 300 kg/hr. for very fine sugar.







# **∠** CIRCULAR SIFTERS

### **MULTI STAGE GYRATORY SIFTER**

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





### **POWDER SIFTERS**

- Stainless steel 3D sifter with a diameter of 600 to 1200 mm The sifter is powered by a special motor vibrating in a 3D movement for the best powder-sieving effect.
- Suitable for one-stage sifting.
- The output is equipped with a special hopper to facilitate the powder collection.
- Easily removable hopper 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 can be customized based on the customer needs.



Magnetic trap including Magnetic Bars (9000 - 11000) mounted on the mixer discharge port.







# AUTOMATED TRANSFER SYSTEMS

- TRANSFER STATIONS & INDEXING SYSTEMS
- CONVEYING SYSTEMS
- REJECTION CONVEYORS
- ROW MULTIPLIER

# AUTOMATED TRANSFER SYSTEMS

# **M** TRANSFER STATIONS **& INDEXING SYSTEMS**

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.

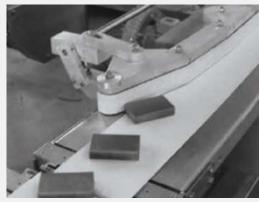
In case the tilting plate is still loaded or engaged in a motion cycle, the new coming row pursues its way to the next station, which feeds the next wrapping machine.



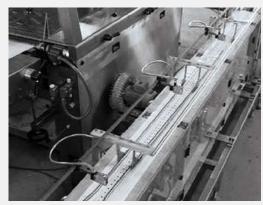




- At the end of the last station, an accumulating conveyor stores the excess rows not fed to the wrapping machines due to an eventual stopping of a wrapping.
- This conveyor can be equipped with an automatic refeed system to recycle the stored rows to the last wrapping machine at each gap between the 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.









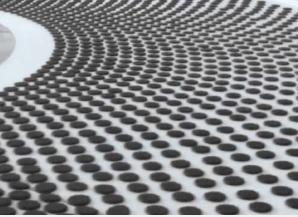
# **► CONVEYING SYSTEMS**

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

Our Conveyor Product Line Includes:

- Curved Conveyors (5 180 degrees).
- Straight Conveyors.
- Packing Conveyors.
- Roller Conveyors.
- Bucket Elevators.
- Gravity Roller.
- Biscuits cooling conveyors.
- Biscuits Stacking devices (penny & star) stackers.







### **REJECTION CONVEYORS**

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





# **ROW MULTIPLIER**

- 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.
- Available with different designs to suit different products.





# FOOD SAFETY & HYGIENE EQUIPMENT

- Hygiene Entrance Units
- MAG Filters

# FOOD SAFETY 6-HYGIENE EQUIPMENT

# **HYGIENE ENTRANCE UNITS**

- Our Hygiene Entrance Unit HYU is the most complete unit for a hygienic work process.
- The machine sensors avoid superfluous use of raw materials and/or time.
- While the hands are being 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.











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









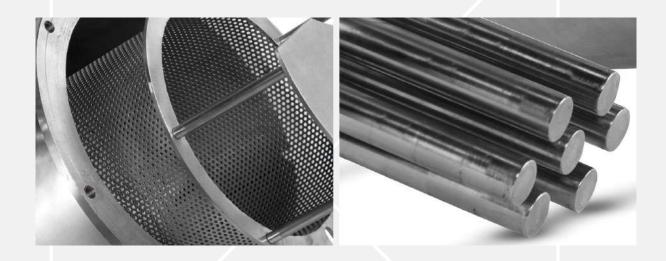


# **MAG FILTERS**

- MAG fillers remove the hazards of unwanted ferrous and work-hardened stainless contaminants from processing lines.
- Placed in conjunction with pumps, screens and mills. They protect vital plant equipment from metal damage, with its costly resultant downtime.
- With strong magnets to 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.
- Magnets range (from 9000-11000 Gauss) in surface and are covered with a stainless steel 316 case.



- MAG Filters are available from I/2" through 6"line sizes.
- We have two MAG Filters:
  - Type RMT: Is used for cream, chocolate or any fluid with similar viscosity.
  - Type RMT-M: Is used for cream, chocolate or any fluid with similar viscosity and includes seven Magnetic bars.
- 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.



# SPARE PARTS, SERVICES & SUPPORT

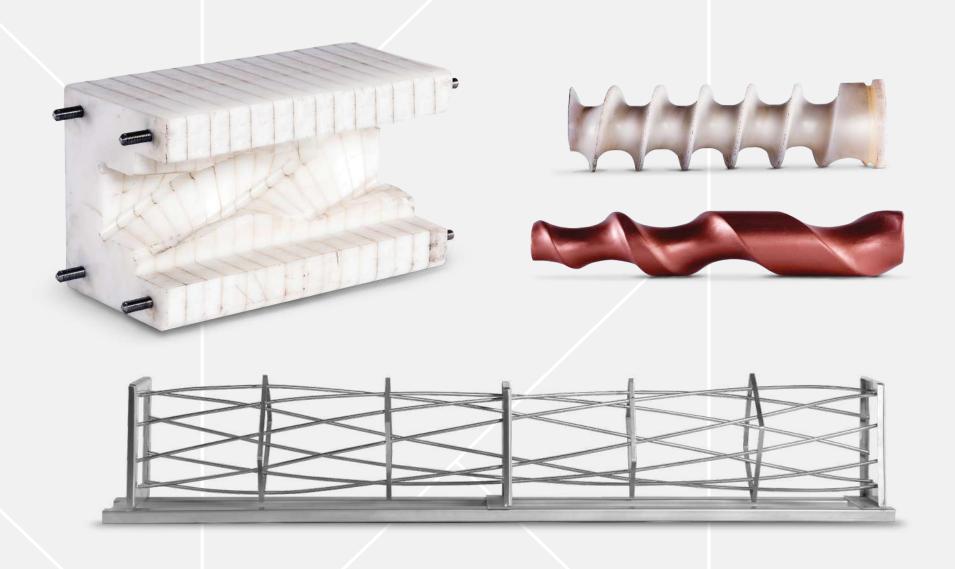
- Spare Parts
- Services & Support

# SPARE PARTS, SERVICES & SUPPORT

# **■ SERVICES & SUPPORT**

- MORCOS offers a comprehensive selection of spare parts for all our equipment, regardless of the original manufacturer.
- We can also produce custom parts using high-quality CNC, laser cutting, and wire-cutting technologies to meet your specific needs.





### ■ 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' production plant also has a 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.





# morcos

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