



Macofar Micro Series

Microdosing Machines

Packaging - Processing

Bid on Equipment

1-847-683-7720

www.bid-on-equipment.com

 **Romaco**
EXCELLENCE THROUGH INNOVATION

Monoblock-Microdosing Machine Micro 6

The Romaco Micro 6 is an intermittent motion monobloc machine, suitable for loading round stable glass vials, for dosing powder and for sealing them at low and medium speed.

The Micro 6 is the ideal machine for applications that do not require an in line solution, where static ovens are used to obtain sterilization. The compact size of this machine, its GMP-design and its ergonomic features make it an outstanding solution for powder dosing. The Micro 6 can be linked to washing, sterilization and depyrogenation of a low production complete sterile line.

Micro 6 is the state of the art answer to satisfy flexibility, reliability and small batch production.



Powder dosing unit



Stoppering unit

Main Features

- Vial sampling achieved without machine production stopping
- Nitrogen flushing unit, before and after filling
- Liquid filling unit for media fill test
- Air drying unit to reduce humidity percentage in the filling area
- Vertical laminar flow over the dosing, stoppering and capping stations
- Laminar flow air speed control
- Vacuum creation inside the vial before placing the stopper
- Possibility to dose 2 different powders into the same vial
- Single tray vial discharge



Key Benefits

- Compact monobloc machine, featuring loading and unloading turntables, all with minimum of space requirements
- Vacuum pressure assisted, highly accurate dosing system
- Simultaneous adjustment of dosing port volume
- Simple, fast and repeatable changeover
- Positive vial transport: starwheels guide the vials through the filling, stoppering and capping stations, ensuring they remain upright and guaranteeing correct placement
- Vacuum assisted Pick and Place Stoppering station: the motion that applies the rubber stopper travels opposite to the vial direction. Product contamination with rubber particles is avoided by conveying the vial to the plugging station with the stopper already placed into their neck



Designed for modern manufacturing,
security and quality in powder
microdosing

Micro 9/18

Key Benefits

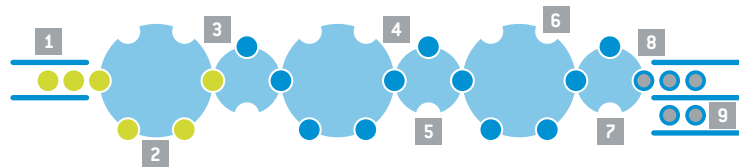
- Positive vial transport: Starwheels guide the vials through the filling, weighing and stoppering stations, ensuring they remain upright and guaranteeing their identification during the weighing procedure
- Vacuum pressure assisted dosing system
- Minimum residual powder at batch end is guaranteed by the vacuum pressure dosing system, utilizing one single dosing disc and one intermediate hopper
- High speed statistical weighing system that verifies approximately 4% of the complete production, by verifying vial weight twice: empty (tare) and filled (gross weight), for each dosing chamber
- Automatic simultaneous adjustment of dosing port volume: the weight cells send a feedback to the dosing ports which are automatically adjusted. The dosing ports can also be adjusted via the control panel by the operator
- Multiple dosing into the same vial can be performed through HMI
- Stoppering station operating by pick & place system, vacuum assisted, that applies the rubber stopper backwards to the running direction of the vials. The vial runs under the plugging station with the stopper already placed onto the vial neck, avoiding the risk of product contamination with rubber particles
- Thanks to the balcony design all areas of the machine are easily accessible and all operations are clearly visible during production
- The Through-wall installation grants a cost reduction, that is less floor space required in sterile room. Only the vial transport, filling and stoppering stations must be located in the sterile room. All the mechanical parts are fitted on a vertical frame, giving easy access and visibility from the machine rear. Hence, maintenance is performed from outside the sterile area

The Romaco Micro 9 and 18 are machines for dosing and filling sterile pharmaceutical powders into vials under aseptic conditions. The Micro range are intermittent motion machines, with mechanical speeds ranging from 9.000 to 18.000 vials per hour, at medium and high production speeds. They prove their performance in aseptic lines for dosage of antibiotic powders into round and stable glass vials sealed with rubber stoppers. Designed for cGMP compliance, thanks to their balcony design, the Micro machines are recognized world wide as leading powder microdosing machines, carrying on the decades of Macofar tradition.

Leading edge technology Micro 9 – 18 anticipates the market needs in terms of automation and controls, with features such as statistical weight checking, available as an option on both machines.

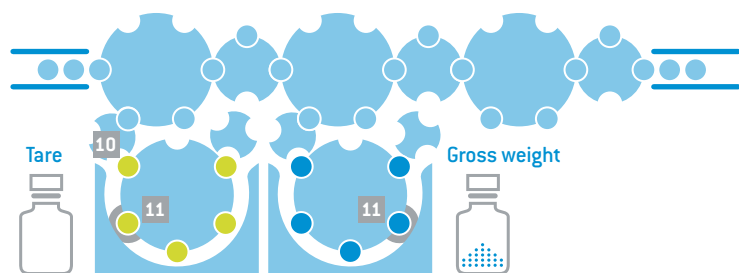


Transport System



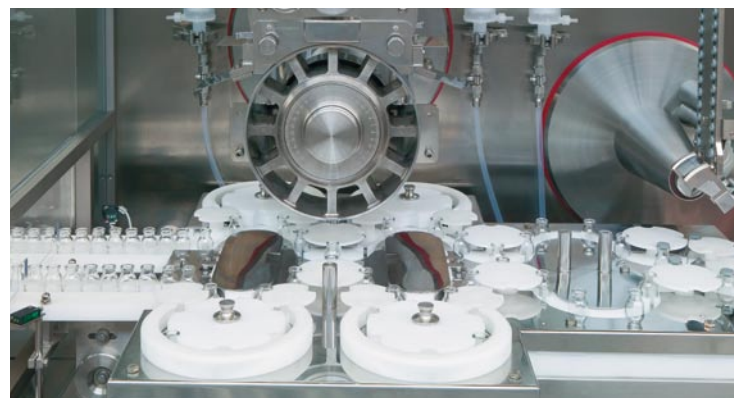
- 1 Inlet belt: minimum load
- 2 1st and 2nd starwheel: transport to dosing station
- 3 Powder dosing station: vials centring dosing chamber traceability from PLC
- 4 3rd starwheel: only transport
- 5 4th starwheel: liquid filling (opt.) for media fill test, with powder dosing unit in place (powder and/or liquid filling)
- 6 5th starwheel: possibility of nitrogen flushing (opt.)
- 7 Stoppering station
- 8 Outlet belt: max load, stopper presence control
- 9 Sampling station and no plugged vial ejection

Transport System: C.W. path



- 10 C.W. Starwheels system: movement in phase with machine, motion through brushless motors, same principle to determine Tare and Gross weight
- 11 C.W. station: vertical movements pneumatically driven, vial mouth always protected by LAF, Load Cells PC-PLC communication

Positive vial transport

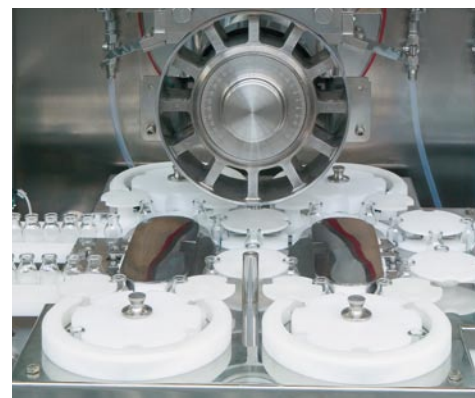


Main Features

- Simple, fast and repeatable changeover
- Automatic height adjustment of filling and closing groups, no manual adjustments required
- Product format data is recorded in an electronic database and can be recalled via the touch screen
- Nitrogen flushing before, during and after filling
- Liquid filling group for media fill test
- Air drying unit to reach a lower humidity percentage in the filling area
- Vertical laminar flow over the dosing and stoppering stations



Stoppering station



Check weight



Full aseptic line competence

Built on Macofar's early reputation as an expert in aseptic powder handling by developing a range of equipment to complement its superb microdosing machines, Macofar is now a recognized global supplier of technologically advanced and highly innovative aseptic lines for both solids and liquids. Macofar does not only offer a machine, but full lines for aseptic filling. We can offer lines including washers for vials and ampoules, sterilizing tunnels, filling and dosing equipment for both liquids and powders as well as capping machines. And to complete the line, we can also offer cartoners and case packers.

Romaco is your single source supplier for fully customized, state of the art aseptic lines. Starting from the first project meeting, integration into existing equipment, set up, training qualification, validation and service Romaco is your partner.



1 Washer

Macofar automatic washing machines, which have a mechanical speed of between 9.000 and 24.000 vials/ampoules per hour, handle vials and/or ampoules through a unique system of universal grippers to ensure stable, reliable and efficient transport of cylindrical containers. The key features of the balcony design machine includes separated working and mechanical areas, modular washing cycles and self draining washing circuits.

2 Depyrogenation Tunnel

Macofar depyrogenation tunnels are designed to sterilize and depyrogenate ampoules, vials, bottles and other glass containers based on the laminar flow principle using hot sterile air (max. 340 °C).

3a Powder Dosing Micro 9/18

Macofar offers a range of intermittent motion machines, with mechanical speeds of 9.000 and 18.000 vials per hour, featuring volumetric vacuum/pressure dosage for filling sterile antibiotic powders into round glass vials closed by rubber stopper.



3b Liquid Filling VF 18

(alternative to powder dosing machine)

Macofar offers an aseptic liquid filling machine with speeds up to 18.000 vials per hour. This slim design machine features outstanding performance and reliability and is the benchmark in aseptic liquid filling.

4 Capping Machine

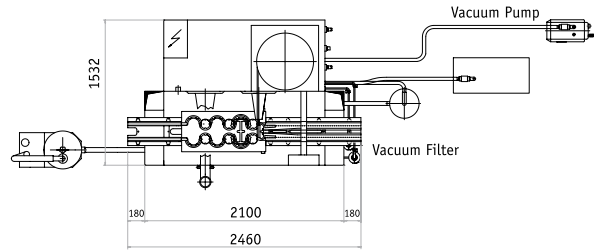
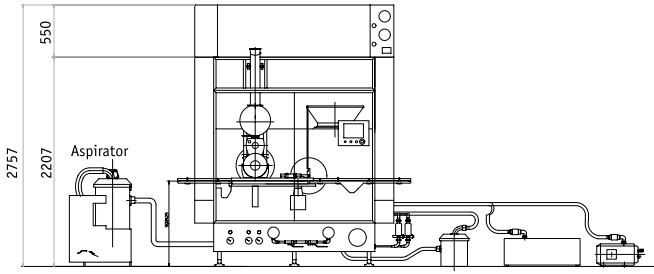
The automatic continuous motion capping machine offers a mechanical speeds up to 10.000 and 24.000 vials per hour. The range of capping machines is suitable to close cylindrical glass or plastic containers with simply flanged alu-caps with or without plastic cover (FLIP-OFF), pilfer-proof caps, press-on plugs or screw caps (with proper equipment).

5 Cartoning Machine

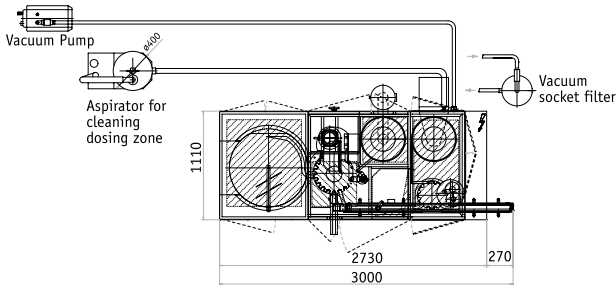
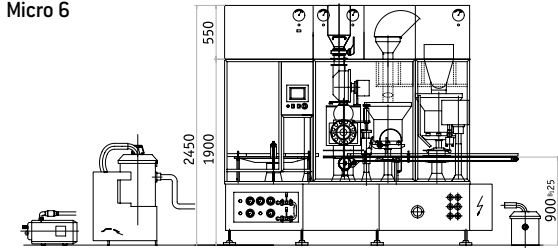
With speeds up to 400 cartons per minute Promatic cartoners deliver optimum performance and versatility. In combination with the Promatic case packers, this is the perfect solution for secondary packaging.

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Micro 9 / Micro 18



Micro 6



Key Technical Data

	Micro 6	Micro 9	Micro 18
Output single dose (vials/hour)	5.000	9.000	18.000
Vial diameter (min – max), in mm	18 – 52	15 – 52	15 – 52
Vial height (min – max), in mm	35 – 110	35 – 120	35 – 120
Minimum dose, in mg	50	80	80
Maximum dose (single dose), in mg	1.500	1.500	1.500
Dosing disc	1	1	1
Dosing port per disc	12	12	12
Power consumption, in kW	5.4	5	5
Compressed air for powder ejection, in l/min	70	70	120
Vacuum pump capacity, in m ³ /h	100	100	100
PLC standard	Siemens	Siemens	Siemens
Net weight, in kg	1.800	2.000	2.100
Width, in mm	1.490	1.530	1.530
Length, in mm	3.130	2.465	2.465
Height (with laminar flow hood), in mm	1.900	2.750	2.750

Pharmaceutical expertise

Romaco Macofar has built its reputation in over 30 years of outstanding performance, with over 1.800 installations worldwide and an exceptional record in service and support. Macofar is a recognized global

supplier of capsule fillers, liquid fillers, powder microdosing machines, powder macrodosing machines, aseptic liquid fillers, vial and ampoules washing machines as well as sterilization tunnels.

Macofar is the expert partner to assist any pharmaceutical company in the process of installing a new aseptic filling line, from feasibility study to validation. Our Romaco Macofar team is looking forward to the next challenge.

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Macofar

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