COMPANY
PRODUCTS OVERVIEW
- Semiautomatic powder dosing machines
- Alternate motion dry syrup machines
- Continuous motion powder dosing machines
- Aseptic powder dosing and closing machines
- Liquid filling & closing machines
- Bottles air cleaners
- Washing machines and sterile tunnels
- Bottles/vials closing machines
- Complete lines
- Patented applications

SOLUTIONS by DOSA
LINES ENGINEERING
EVENTS
• Dosa is capable of granting a wide range of high performing and reliable automatic machines, thanks to over thirty years experience in this field.

• Dosa specializes in the design and production of single Dosing machines or complete automatic lines for Powder and/or Liquid, destined to the sterile or non-sterile environments, for pharmaceutical, cosmetic and other products such as Dry Syrup, Injectable Antibiotics, Ophthalmics etc.

• Recently, Dosa has been designing and registering several patents, which are applicable to various machine models.

• For instance a unique system for conveying powder products to the containers, create the high vacuum into the glass vial after having dosed the powder and a laminar flow system protecting the containers along the way through the closing unit.
## Products Overview

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Semiautomatic powder dosing machines

**DOSA JIFFY**

Dosing machine with servo-controlled auger dosing system, for powders, granules, milled products and others.

**Features:**
This is a multifunctional dosing machine with great dosing capacity for powders, granules and milled products.
The high precision of the brushless motor driving the auger and the multiplicity of the programmable functions are possible thanks to the installed high performance PLC. Its modular design enables to prearrange the machine so as to comply with your needs.

**Advantages:**
- Reproducibility of the dosing parameters.
- Screw drive by brushless motor.
- Mixer drive by independent motor.
- 10 liters product tank, glaze-polished.
- Dosing screw tooled from solid tool.
- All parts coming in contact with the product are in AISI 316 L steel.
- Display with graphic representation of the functions.
- Customized executions.

**Technical Data:**
Dosing Range: 0,250 – 500gr
Production: up to 30 pcs/min
Semiautomatic powder dosing machines

**DOSA A1**

Dosing machine with servo-controlled auger dosing system, for powder, granules, milled products and others.

**Features:**
This is a multifunctional dosing machine with great dosing capacity for powder, granule and milled products.
The high precision of the brushless motor driving the auger and the multiplicity of the programmable functions are possible thanks to the installed high performant PLC. Its modular design enables to prearrange the machine so as to comply with your needs, nevertheless the possibility of future extensions are preserved.

**Advantages:**
- Reproducibility of the dosing parameters.
- Quick change from volumetric dosing to weight cell dosing.
- Auger drive by brushless motor.
- Mixer drive by independent motor.
- Polished 40 liters product tank.
- Dosing auger machined from solid stainless steel.
- All parts coming in contact with the product are in AISI 316 L steel.
- Touch-screen display with graphic representation of the functions.
- Effective container vibrating system to bedding the product.
- Possibility of dosing rigid containers and bags/sacks.
- Ergonomic execution.

**Technical Data:**
Dosing Range: 3 g – 30 Kg.
Production: up to 20 pcs/min
Alternate motion dry syrup machines

**DOSA A1 - A2 G**

Alternate Motion Rotary Filling (& Capping) Machine with single or double filling head. Special version with capping unit. Equipped for conditioning:
- powder, granule and milled products by means of servo-driven auger filling system;
- automatic capping of PFP caps.

**Features:**
This machine is designed for fitting auger fillers to conditioning small and medium sized containers, with a production capacity up to 60 pcs/min.
Its filling system grants the use of this machine throughout a large product range. Furthermore, the filling operation can be completed, upon request, with the application of one capping element.

**Advantages:**
- Reproducibility of the dosing parameters.
- High precision volume and/or weight determining system.
- All parts coming in contact with the product are in AISI 316 L steel.
- Touch-screen display with graphic representation of the functions.
- Container lifting up device to make easier the product filling.
- Container conveying carrousel of the auger fillers and capping units driven by brushless motors.

**Technical Data:**
Container sizes: d.30 – d.90 mm h.60 – h. 180 mm
Production: up to 60 pcs/min
Alternate motion dry syrup machines

DOSA A1 - A4 Automatic

Automatic Linear Dosing machine with servo-controlled auger dosing system, for powder, granules, milled products and others.

Features:
This dosing machine is particularly suitable for carrying out completely automated operations of each cycle. The end of an operation releases the start of the following one; therefore both product and container characteristics determine the functioning machine rate. Its modularity grants a wide range of applications.

Advantages:
• Automatic container displacement.
• Reproducibility of the dosing parameters.
• Quick change from volumetric to gravimetric dosing.
• Auger drive by brushless motor.
• Mixer drive by independent motor.
• Polished 40 litres tank.
• Dosing auger machined from solid stainless steel.
• All parts coming in contact with the product are in AISI 316 L steel.
• Touch-screen Display with graphic representation of the functions.
• Possibility of fitting up to (4) dosing heads.
• Possibility of conditioning unstable containers.

Technical Data:
Container sizes: d.30 – d.160 mm h.60 – h.220 mm
Production: up to 20 pcs/min
Alternate motion dry syrup machines

DOSA A1 - A2 MON

Automatic Linear Dosing machine with servo-controlled auger dosing system, for powder, granules, milled products and others.

Features:
This dosing machine is particularly suitable for carrying out completely automated operations of each cycle.
The end of an operation releases the start of the following one; therefore both product and container characteristics determine the functioning machine rate. Its modularity grants a wide range of applications.

Advantages:
• Automatic container displacement.
• Reproducibility of the dosing parameters.
• Quick change from volumetric to gravimetric dosing.
• Auger drive by brushless motor.
• Mixer drive by independent motor.
• Polished 40 litres tank.
• Dosing auger machined from solid stainless steel.
• All parts coming in contact with the product are in AISI 316 L steel.
• Touch-screen Display with graphic representation of the functions.
• Possibility of fitting up to (4) dosing heads.
• Possibility of conditioning unstable containers.

Technical Data:
Container sizes: d.30 – d.160 mm h.60 – h.220 mm
Production: up to 20 pcs/min
Alternate motion dry syrup machines

DOSA A2 - A2

Automatic Alternate Motion Rotary Dosing Machine with 4 dosing heads, equipped for:
• conditioning powder, granule and milled products by means of servo-driven auger dosing system,
• possibility of installing 100% check weighing system

Features:
This machine is designed for fitting auger dosers, to conditioning small and medium sized containers, with a production capacity up to 200 pcs/min.

Advantages:
• Reproducibility of the dosing parameters.
• High precision volume dosing system.
• All parts coming in contact with the product are in AISI 316 L steel.
• Touch-screen display with graphic representation of the functions.
• Containers elevation during dosing/filling phase.
• Container conveying carrousel driven by brushless motor.
• Prearrangement for in line connection with the container feeding machine.
• Prearrangement for in line connection with the container closing machine.

Technical Data:
Container sizes: d.30 – d.70 mm h.60 – h.140 mm
Production: up to 200 pcs/min
Continuous motion powder dosing machines

DOSA AR 12 – 16 – 24

High Production Speed Rotary Dosing Machines equipped with

- Auger dosing system for powder, granules and milled products;
- Patented product conveying system from the doser to the container.

**Features:** the design of these machines has favored the precision and continuity of dosing, the product conveying efficaciousness onto the container, the cleaning easiness during and after the working cycle. These machines are particularly suitable for rooms and products requiring the elimination of environmental contamination.
- Possibility of installing 100% check weighing system

**Advantages:**
- Patented conveying system of the products, into containers with small sized mouth.
- Effective self-cleaning system in the course of the dosing cycle.
- Upon request CIP version (cleaning in place) of all the parts coming in contact with the product, from the doser hopper, to the filling funnel.
Aseptic powder dosing and closing machines

DOSA MIMA / VP-TP-S
Automatic Rotary Alternate Motion Dosing/Closing Machine equipped with

• vacuum pressure 8 (or 16) chambers dosing wheel,
• closing units for closures of various typologies, (MON).

Features:
This is a monobloc machine apt to fitting the vacuum pressure dosing system and different container closure units with various closure typologies.

Advantages:
• Reproducibility of the dosing parameters.
• All the drives such as liquid dosing disk, container carrousel and closing units equipped with brushless motor.
• High performance and speedy PLC for managing all the functions.
• Touch-screen display with graphic representation of the functions.
• High precision volumetric dosing system.
• All parts coming in contact with the product are in AISI 316 L stainless steel.

Technical Data:
Container sizes: d.20 – d.52 mm h.35 – h.75 mm

Production speed:
• VP 8: output up to 90 pcs/min
• VP 16: output up to 120 pcs/min
DOSA NAKED

POWDER MICRODOSER FOR ASEPTIC FILLING AND VIAL CLOSING
Monobloc Alternate Motion Filling & Closing Machine complete of dosing system:
with 8-16 dosing-filling ports wheel;
with multiple stoppering unit by pick-and-place system.
with 2-heads seal caps unit

Features:
• Designed to operate in aseptic environments.
• Horizontal LF to protect the filling and closing area with recovery of powder particles in suspension and air recycle, c-RABS system.
• Vertical LF to protect the vials from rotary table to machine out feed.
• All parts coming in contact with the product are in AISI 316 L stainless steel or other valuable materials.
• The drives of the transport carrousels, powder filling unit and closing units are obtained by means of brushless motors 5 servo motors.
• Centralized adjustment of the 8-16 dosing-filling ports.

Advantages:
An adequate adjusting system enables to determining and surveying the air-vacuum pressure and suction parameters. The PLC interface with the touch-screen display, between operator and machine ensures to set-up the production parameters; set-up and recall the recipes; survey all operative parameters and the weight checking; save and analyze the production data.

Production speed:
Up to 120 vials per minute
Aseptic powder dosing and closing machines

DOSAFILL

POWDER MICRODOSE FOR ASEPTIC FILLING
Monobloc Alternate Motion Filling & Stoppering Machine complete of dosing system:
with 8-16-24 filling chambers wheel

Features:
• Designed to operate in aseptic environments.
• Horizontal LF to protect the filling and stoppering area with recovery of powder particles in suspension and air recycle.
• Vertical LF to protect the vials conveyor.
• All parts coming in contact with the product are in AISI 316 L st. st. or other valuable materials.
• The drives of the transport carrousel, powder filling unit and stoppering unit are obtained by means of brushless motors (5 servo motors).
• Centralized adjustment of the 8-16-24 filling chambers.

Production speed:
• 8 filling chambers wheel version: output up to 120 pcs/min;
• 16 filling chambers wheel version: output up to 180 pcs/min;
• 24 filling chambers wheel version: output up to 240 pcs/min

Notes and patent pending:
• Special version with speed up to 300 v.p.m.
• Special version with vial vacuum by stoppering.
• Possibility of installing weighing system control.
Liquid filling and closing machines

DOSA LIO 14-28-42
Automatic Alternate Motion Rotary Liquid Filling/Closing Machine for

• dosing and filling from 1,0 – 100 ml of liquid;
• closing units suitable for stoppers – alu caps – etc.

Features:
this machine is designed for fitting peristaltic dosers, to conditioning small and medium sized containers, with a production capacity up to (depending on version) 12000/h, to operate in sterile area.

Advantages:
• All operatives units are driven by servo motors.
• Touch-screen display with graphic representation of the functions.
• Reproducibility of the dosing parameters.
• High precision volume dosing system.
• All parts coming in contact with the product are in AISI 316 L steel and silicone.

Options:
Possibility to fitting: laminar flow, cassettes loading unit, gas insufflations during filling and weighing system.
Bottles air cleaner

AIR CLEANER BAC 20(T)—30(T) SERIES

Blowing Machine Series to carry out the inside cleaning, by air, of glass or plastic bottles, by means of filtered compressed air.

Features:
- The bottles are loaded into the vertical blowing wheel by a rotating plate (T version) or by a tabletop conveyor.
- Each pocket has its own blowing needle; the needles are placed on the external wheel circumference.
- The needles blow when they are inside the bottles, during the wheel rotation.
- The blown cleaning air is recovered from each bottle mouth.
- The blowing air is 0.2 micron filtered.
- The machine structure is totally made of stainless steel AISI 304, while the blowing circuit is of mirror-polished AISI 316L.
- Min. and max. load controls allow the machine to be integrated to packaging lines.
- A human interface terminal allows the adjustment of speed, self-diagnostic data and alarms.

Production speed:
BAC 20 up to 160 bpm
BAC 30 up to 220 bpm
WASHING MACHINE
VW-1A – 3A – 5A

Washers designed to process vials, up to different outputs.

Features:
• All parts that come into contact with the interior of the vials, and process fluids are constructed of AISI 316L stainless steel. Other parts, such as the frame, shafts and bearings are made of AISI 304 stainless steel.
• Washing process cycle choices include ultrasound, recycled water, fresh water, compressed air, hot air drying or others, as required.
• Pressure of the various fluids is constantly monitored to insure that vials and ampoules are properly washed.
• Each vial is guided through a series of process steps which can include a combination of air, recycled water, WFI.
• Vials are automatically discharged at the end of the production cycle directly on the tunnel conveyor belt.
• Manufactured in accordance with cGMP standards.

Production speed & Prices:
VW-1A up to 120 bpm
VW-3A up to 180 bpm
VW-5A up to 250 bpm

Note:
dedicated version with capacity up to 300 p.m.
Washing machines and sterile tunnels

DEPYROGENATION TUNNEL
ST3 – ST5 – ST9

ST model features a variety of production capabilities for processing small vials. The tunnels are compact designed to fit even the tightest production spaces and where specifically developed as a response to demand from pharmaceutical manufacturers for handling a wide range of container types and sizes.

Features:
• These extremely versatile, reliable, high performance machines can handle different types of glassware of various size, in the same tunnel
• Among the many advantages, to be noted is the unique “closed tunnel” system, which re-circulates air to provide the cascading air balance required between the aseptic and non-aseptic areas; only a small exhaust is required for full balance and control
• It provides a full range of additional integration equipment including rotary accumulation tables, feeder belts, vial pushers for your specific needs.

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Production speed:
- ST3 up to 120 bpm; - ST5 up to 240 bpm; - ST9 up to 300 bpm.
Bottles/vials closing machines

DOSA MAX / TP-TG-TV

Washers designed to process vials, up to different outputs.

Features:
- All parts that come into contact with the interior of the vials, and process fluids are constructed of AISI 316L stainless steel. Other parts, such as the frame, shafts and bearings are made of AISI 304 stainless steel.
- Washing process cycle choices include ultrasound, recycled water, fresh water, compressed air, hot air drying or others, as required.
- Pressure of the various fluids is constantly monitored to insure that vials and ampoules are properly washed.
- Each vial is guided through a series of process steps which can include a combination of air, recycled water, WFI.
- Vials are automatically discharged at the end of the production cycle directly on the tunnel conveyor belt.
- Manufactured in accordance with cGMP standards.

Production speed & Prices:
VW-1A up to 120 bpm
VW-3A up to 180 bpm
VW-5A up to 250 bpm

Note:
Dedicated version with capacity up to 300 p.m.
Bottles/vials closing machines

DOSA MAC / TP-TG-TV

Continuous Motion Closing Machine suitable for stable shaped containers, with pressure – screw – nut seal caps and other types of closures.

Features:
• This closing machine is the result of a long experience in development and design.
• Multiple versions to conditioning small, medium sized and big containers and any kind of closure.
• Its wide range of applications makes it particularly suitable for being connected in line with small and medium capacity filling machines, to fill and close various products into rigid containers.

Advantages:
• A wide range of versions, with 4-6-8 heads, for production speed up to 240 containers per minute.
• Closing systems for all closure typologies.
• Dedicated versions to suit specific requirements.
• Robust and very stable machine frame.
• All outside machine parts in AISI 304 steel.
• Mechanical parts in AISI 304 steel and/or chemical nickel treated.
• Parts in contact with closing caps in AISI 304 steel (upon request in AISI 316).
• Main motorization with acceleration and deceleration pad.
• Closing carrousel with motor-driven height adjustment.
• Closing heads with independent motorization to determining the closing mandrels rotation, independently from the machine running speed.
• Easy and quick size change.

Note:
Featured to be combined for application up to 3 different closing elements, to be quoted upon request.
Dedicated machine version for sealing of Alu-Flip-off caps with capacity up to 300 vials/min.
DOSA DRY SYRUP LINES

Composed by:
Bottles automatic loader, Dosing machine, Product automatic loader, Closing machine, Caps automatic loader, Metal Detector Unit, Weight Checking Unit, Induction sealing unit, Measuring caps application unit, Labeling machine, Cartoning Machine.
DOSA ASEPTIC LINES

Composed by:
• tunnel washing machine; • sterile compact laminar flow tunnel; • monobloc filling & closing machine based on a vacuum-pressure principle; • peristaltic system for liquid dosing; • Dosing and filling with 8-16-24 chambers dosing wheel; • single or multiple stoppering unit by pick-and-place system; • rotary seal cap unit

Features:
• Washing machine and sterilizing tunnel designed to be integrated in a compact line with dosing and closing equipment;
• Dosing and closing unit, designed to operate in aseptic environments;
• Horizontal LF to protect the filling and stoppering area with recovery of powder particles in suspension and air recycle;
• Vertical LF to protect the vials conveyor;
• All parts coming in contact with the product are in AISI 316 L stainless steel or other valuable materials;
• The drives of the transport carrousel, powder filling unit and stoppering unit are obtained by means of brushless motors (5 servo motors);
• Centralized adjustment of the filling chambers;
• Control and adjustment box for vacuum, compressed air, air suction and gas;
• Board for electric and electronic plants separated from line including electrical equipment and drives for the whole line;
• Touch-screen display with graphic representation of the functions.

Advantages:
In a limited space and in accordance with cGMP rules, a compact line to process glass vials to be washed, sterilized, filled and closed under sterile conditions. An adequate adjusting system enables to determining and surveying the parameters of all line. The PLC interface with the touch-screen display, between operator and machine ensures to:
• set-up the production parameters;
• set-up and recall the recipes;
• survey all operative parameters and the weight checking;
• save and analyze the production data.

Production speed: 8 filling chambers wheel version: output up to 120 pcs/min, 16 filling chambers wheel version: output up to 180 pcs/min, 24 filling chambers wheel version: output up to 240 pcs/min.

Note: Special version with speed up to 300 v.p.m.
DOSA JARS FILLING LINES

Composed by:
Bottles automatic loader, Dosing machine, Product automatic loader, Closing machine, Caps automatic loader, Metal Detector Unit, Weight Checking Unit, Induction sealing unit, Measuring caps application unit, Labeling machine, Cartoning Machine.
DOSA LOW FLOWABILITY PRODUCTS SYSTEM

Special vibrating hopper suitable for very difficult and not flowing powder. Total integration in all the dosing dry syrup machine.

DOSA SYSTEMS FOR VIALS STOPPERING UNDER VACUUM

Special design, for the application of stoppers on vials with vacuum on vial before stopper application. The stopper will be applied to the vials after removing the left oxygen from the vials by a vacuum system. The maximum rate of vacuum will be between 540mmhg and 600mmhg. System dedicated to the Aseptic dosing & closing machine.
DOSING, STOPPERING AND CAPPING OF VIALS
C-RABS PROTECTED

TO PROTECT VIAL TRANSPORT AND PRODUCT HOPPER DOCKING AREA
TO PROTECT FILLING AND STOPPERING AREA

A closed RABS booth to be installed on the powder filling-stoppering units and related devices.
The laminar flow booth structure is manufactured in stainless steel AISI304, with external surfaces satin finished for ease of cleaning.
The dosing machine is enclosed in a structure (front and rear sides) that is out of the LF scope.

Inside, the equipment will be divided in two main areas:

1. dosing and stoppering machine area
   This area is characterized by an horizontal air flow

2. vials belt area
   This areas are characterized by a vertical air flow
   In order to prevent air flow mixing between the horizontal and vertical air flow regimes, the two areas are separated by means of appropriate devices.
DOSING MACHINE FOR SPRAY PRODUCT

Composed by:
1. Dosing machine model **DOSA A2/MON**
2. Vibrating hoppers
3. Insertion of st.st. ball
4. Product feeding by st.st. screw

The machine is designed for a speed up to **60bpm**
TALCUM POWDER FILLING LINE

Composed by:
1. Dosing machine model **DOSA A2-A2**, dedicated to 4 different talcum containers
2. Checkweigher with progressive rejection system able to handle open containers

The line is designed for a speed up to **200bpm**
TALCUM POWDER MONOBLOC MACHINE

Composed by:
1. Monobloc dosing and closing machine **DOSA A2 TP2/MON** dedicated to 6 different talcum containers
2. Pressure Cap insertion unit
3. Checkweigher with progressive rejection system

The machine is designed for a speed up to **60bpm**
DRY SYRUP LINE

Composed by:
1. Dosing machine model **DOSA A2-A2** with 100% weight checking system
2. Metal Detector with progressive rejection system
3. Closing machine model **Dosa MAC 8**
4. Induction Sealing Unit
5. Measuring Caps application Unit model **DOSA MEBI**

The line is designed for a speed up to **200bpm**
ASEPTIC DOSING and STOPPERING MACHINE

Model DOSA VP24:
- Alternate filling and stoppering machine
- Vacuum-Pressure filling system with 24 filling chambers wheel
- Horizontal and Vertical Air Laminar Flow Combined System
- Stoppering under vacuum
- Speed up to 240 vpm (special version up to 300vpm)
POWDER FILLING LINE for COSMETIC SPRAY PRODUCT

Composed by:
1. Automatic continuous motion dosing machine **Dosa AR12-A1**
2. 100% Check Weighing System

The line is designed for a speed up to **180bpm**
ASEPTIC LINE

Composed by:
1. Dosing and Stoppering machine **DOSAFILL VP16**
2. Closing machine model Dosa **MAC TG 240-5**

The line is designed for a speed up to **180vpm**
Complete Lines Engineering based on Dosa Machines

Dovema Group realizes the engineering of complete lines, based on Dosa machines.
Events

ACHHEMA 2012
30th World Exhibition Congress - Frankfurt am Main - 18 – 22 June 2012
Chemical Engineering - Environmental Protection - Biotechnology

interpack
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