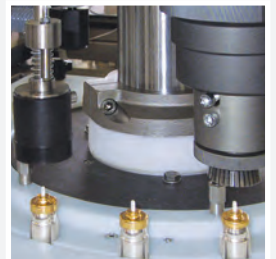
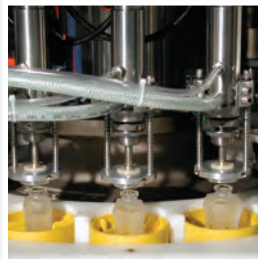


COSTER

 **COSTER**



AEROSOL FILLING TECHNOLOGY

Coster Filling Machines Division

Coster: Your Global Partner

Since 1963, Coster Machinery Division designs and manufactures high-quality filling machines. Now Coster is a world class leader in the provision of equipment to the Aerosol Industry.

The company manufactures packaging components too (aerosol valves, spray caps and actuators, bag-on-valves, spray pumps and dispensers, perfumery pumps) and is the sole player globally providing an integrated solution.

Fill your products with Coster machines

Coster machines fill a variety of product forms, from aerosols to sprays and dispensing products:

- Personal Care & Cosmetics: deodorants, shaving gels / foams, sun-screens
- Pharmaceutical: MDIs, nasal sprays, saline solutions, topical aerosols
- Perfumery: perfumes, body sprays
- Home: room fresheners, iron starches, insecticides, dust and spot removers
- Technical: car repair products, paints.

Machine types

Coster machines speed ranges from 15-20 cans per minute up to 300 cans per minute, according to the product to be manufactured. The machines are suitable to be used along with:

| COMPONENT | CONTAINER TO FILL |
|-------------------|-------------------------|
| 20 mm valves | alu cans |
| One inch valves | alu & tin plate cans |
| Bag-On-Valves | alu & tin plate cans |
| Pumps | glass & plastic bottles |
| Lotion dispensers | glass & plastic bottles |



Left, double indexing 1" aerosol valves filling line. Speed up to 90 cpm.

Right, Patented Coster Minicell MIG Machine. The only gas filling machine that is a gassing room itself. Single and double indexing movement equipped with all the safety requirements of a standard gas house.



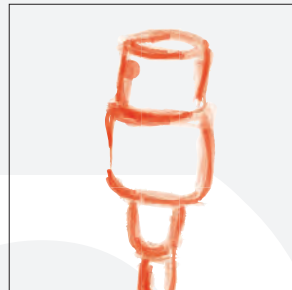
AEROSOL VALVES



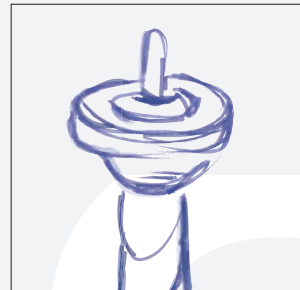
PUMPS AND DISPENSERS



PERFUMERY PUMPS



BAG-ON-VALVES



Filling Aerosol, Spray and Dispensing Products

Pharmaceutical Filling Machines

MDI and other Pharma Filling Machines

Coster pharmaceutical filling machines range from R&D to fully-automatic lines with a production capacity from 10 to 250 cans per minute. Easy to operate, highly flexible, reliable and secure, Coster machines are based on a modular design and use the same heads to guarantee continuity between lab and full-scale equipment. The range includes machines for filling MDIs (single & double stage), nasal, oral sprays and topical products.



Left, vacuum and valve crimping on 530/S/V/20C-PHARMA semiautomatic machine.



Left, 530/M/PHARMA semi-automatic machine with station for double stage filling.

Right, 530/G/PHARMA: station for filling propellant.



Right, 52SM/2/C/PHARMA MDI LINE - 9000 cph.

A high-output state-of-the-art filling line with a capacity of 150 cpm. Coster proprietary technology includes: cutting-edge camera vision system for validating the crimping parameters via statistical analyses and Coster Air-Q system blowing sterile air into key areas of the manufacturing process.



Above, crimping head for 20 mm valves.

Left, micro filling head and ceramic piston.

Right, a pharmaceutical filling machine.



Filling Machines & Packaging Components from One Source

Automatic Indexing Machines

Coster Indexing machines: the best seller of machines from 30 to 120 pcs per minute. Modularity and versatility are the strengths of these machines with single and double pitch movements and back to back configuration as well. Updated to the most recent standard for cosmeceutical.



Above, machines for liquid filling: sorters for two different types of valves; Valve Crimping, on a back to back configuration.

Right, complete indexing line.

Below, close view inside the machine.



Right, piping for product with innovative clamps.



Left, valve feeder.

COSMECEUTICAL CRITERIA

- New design for piping and components, to minimize the edges inside the product filling circuit.
- INLET/OUTLET with cylindrical threads and flat gasket to improve the cleaning process of the circuit. Both INLET/OUTLET ended with Tri-Clamp.
- Manifold connections, metering cylinders, filling heads, check valves: use flat gasket and cylindrical fittings.
- Gemu membrane valves instead of ball valves.
- Stainless steel 316L, Rilsan® PA11, AISI 630 (aging treatment); Ti or Peek for gasket of HP connections, PTFE, Viton gasket.

Standard and Customized Solutions for all Applications

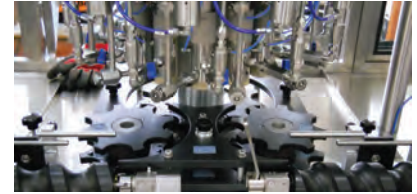
Automatic Rotary Machines



Left, double column rotary machine for liquid filling, valve insertion and crimping.



Right and below, close-ups.



With a production capacity of up to 300 cpm, RTV machines are suitable for 1" and 20 mm valves, for 35 mm to 66 mm diameter, 75 to 320 mm height cans.

The RTV range includes:

- high precision rotary liquid product filler, equipped with pneumatic or hydraulic metering cylinders;
- valves inserter complete with sorter and elevator; the selection of the valves can be carried out by a mechanical sorter or by a magnetic sorter (the latter is suitable for tin plate valves only);
- valves crimper equipped for either standard crimping or vacuum and crimping operations;
- propellant filler, equipped with pneumatic or hydraulic metering cylinders.

The gas filling station is designed to operate with all types of propellants presently used in the aerosol industry (LPG, HFA, DME, CO₂, N₂O, Nitrogen, etc.).



Basement inside view of the above machine.

Below and right, close-ups.



Leader in Production of High Speed Filling Lines

Automatic Rotary & Ancillary Machines



Left, high speed rotary filling line. Right, close-ups.



Left, high-performance aerosol filling line. Below, a close-up.



- COSTER
ANCILLARIES/
AUXILIARIES MACHINES**
- VALVE & CAP FEEDING SYSTEM
 - CAP & ACTUATORS PLACING
 - DIVERTING SYSTEM
 - REJECTION SYSTEM
 - AIR-Q (AIR CONTROL SYSTEM)
 - CAMERA INSPECTING SYSTEM
 - FILLING QUANTITY CHECK
 - GASSING ROOMS
 - PRODUCT PUMPS
 - VACUUM PUMPS
 - PROPELLANT PUMPS
 - FILTERS
 - DEODORISATION UNITS
 - HOT WATER TEST BATH
 - LAB COSTER MIXER



Coster Air-Q System is a stand-alone solution for the control of airborne particles, especially infectious micro-organisms, gaseous contaminants and odours. The system keeps the units used within an atmosphere of sterile air overpressure. Left, sterile filling area.



Left, innerview of a gas house with a rotary gassing machine.



Right, water test bath.

High Speed Filling Lines
& Wide Range of Ancillary Machines

Semiautomatic & Laboratory Machines

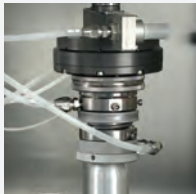
Semiautomatic machines

Coster produces a full range of semi-automatic machines for laboratory and small production lines: are easy to operate, highly flexible, reliable, secure, long-lasting, low-maintenance. Their modular design guarantees continuity between laboratory testing and full-scale production, minimising reverification.

Right, semiautomatic pneumatic machines for filling aerosols with 1" valves with conveyor and automatic cans feeder and accumulator for lab applications and/or small scale production.



Left, VSA35/A - semiautomatic test bath, electrically heated by means of explosion proof resistances and equipped with explosion proof electric board, protective guarding.



Left and right, details of Series 530 different models.



Left, 530/UTC unit for pressurized crimping of Bag On Valves.



500D semiautomatic machine for filling into open can liquid products with a maximum viscosity of 1000 cp. The machine, completely pneumatic, is able to operate on one or two cans at a time (depending on the number of metering cylinders installed), with the possibility of receiving cans with diameters ranging from 35 mm to 66 mm and heights ranging from 75 mm to 300 mm.

A Wide Range of Solutions for all Market Segments



Left, Coster Machinery Division plant in Pero, near Milano:

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MACHINERY DIVISION
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I-20016 PERO MI
TELEFONO: +39 02 339 561
E-MAIL: INFO.MACHINE@COSTER.COM

Pre & post-Sales Support

Coster customer care provides worldwide pre and post-sales technical support. This can be granted not only at the beginning but also throughout the years.

A full set of documentation for operation, maintenance and validation purposes enables conformance with local legislation requirements. Certificates of Conformity with European safety regulations and of Conformance to Atex standards for areas at risk of explosion are provided too.

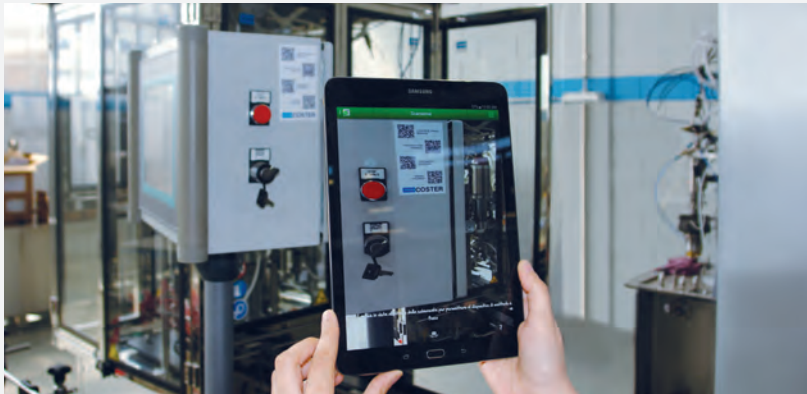
Collaboration with Universities

Coster collaborates with Universities and Research Institutions: The Faculty of Pharmacy of the University of Parma uses a Coster MDI filling machine for testing and developing formulations. Moreover, Coster has strategic partnerships with end-of-line packing machinery providers and complementary machine manufacturers. Coster collaborates with its customers since the early stages, from development to production, installation and training.

Distinctive Coster features

- Indexing & rotary systems available
- Single & double stage filling technology incorporated in the same machine;
- Validation procedures are made easy: filling and crimping heads are the same in both Lab machines and fully-automatic lines;
- Flexibility is granted: during conception and design, machines can be amended according to customer requirements;
- Every single project is customized;
- Modular and compact;
- Low maintenance;
- Easy cleaning;
- User-friendly;
- Robust & long-lasting;
- Touch screens for easy running.

All Coster machines are manufactured according to the most recent requirements for cosmeceutical: cosmetic products with biologically active ingredients purporting to have medical or drug-like benefits.



Above, the electronic documentation management system allows reading QR-codes by means of smart phone, tablet and PC. With this system it is possible to obtain in real time, directly on the machine, all pieces of information regarding the use, maintenance, assembly/disassembly of components.

Right, inside view of Pero testing and formulation laboratory.



After Sales Support & Assistance