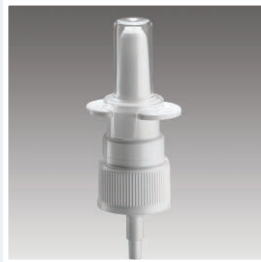
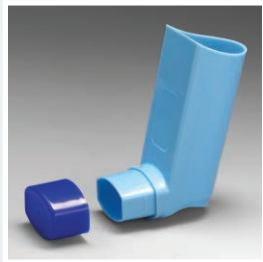


# Coster Pharma



## INTEGRATED PHARMA SOLUTIONS

Coster is the only company worldwide able to supply **integrated aerosol and spray packaging solutions**, including:

- MDI valves and inhalers for HFA & CFC propellants;
- 20 mm & 1" valves and actuators for several applications;
- Spray pumps and actuators;
- Bag-On-Valves (BOV) and actuators;
- Filling lines for inhaled, nasal, oral and topical products.

Coster Pharma ensures that its technology meets the pharmaceutical industry's stringent quality standards and product safety features at competitive prices, and offers a product portfolio suitable for a range of nasal, oral and inhaled drug delivery treatments.

The Coster Research & Development Center offers formulation and re-formulation services for selected aerosol and spray OTC products.

## ADDED VALUE

Over the past 40 years, Coster has acquired extensive experience in the conception and manufacture of high-quality customized packaging systems, jointly developed with its multinational customers. Coster Pharma offers development and manufacturing services to customers, enabling them to enhance existing products and to develop new ones to meet the demand for innovative actuators complying with the pharmaceutical industry's rigorous requirements.

## QUALITY: COSTER MAIN FOCUS

Continuing investments in injection moulding technology and assembly machinery allow real-time and 100% in-process controls. Advanced devices and laboratory equipment enable continuous monitoring of quality critical variables. Sampling procedures according to a QC Plan complete the internal checks. The products manufactured are delivered with the quality standards required by customers.

Pharmaceutical products with Coster components



# Pharma Solutions

## Comprehensive Packaging Solutions for Pharma Products

## **MDI valves and actuators for CFC and HFA solutions & suspensions**

### **ASTHMA INHALER WITH ROUNDED MOUTH PIECE**



- 2-piece asthma inhaler for different can sizes
- Suitable for 20DR valves
- Different spray holes available
- Color upon request

### **TWO-PIECE ASTHMA INHALERS**



- 2-piece asthma inhalers for 19 ml cans
- For 20DR & 20DPH valves
- Different spray holes available for HFA or CFC propellants
- Color upon request
- Front pad for company logo
- Ergonomic design



### **20 DPH VALVE**

- MDI valve for inverted use
- For suspensions and solutions
- Suitable for HFA & CFC-propelled formulations
- Filling through the valve: single and double stage
- Dosages: 25, 50, 63, 100  $\mu$ l
- Stem block  $\varnothing$ : 3.18 mm (2.8 mm upon request)
- Shot weight accuracy and consistency
- Easy and fast repriming



- Reduced contact area between external gasket and formulation
- Very limited moisture ingress
- Low-extraction elastomers

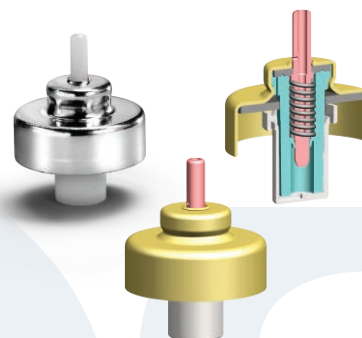
used: extractables studies available

- EP/USP compliant plastic components and gaskets
- Quality critical variables 100% in process controls
- ISO 8 Clean Room manufacturing
- ISO 15378:2006 certification in progress: GMPs applied to Primary Packaging Materials for Medicinal Products

### **20 DR VALVE**

- MDI valve for inverted use
- Suitable for HFA & CFC-propelled formulations
- Double stage filling over the internal gasket
- High filling speed
- Dosages: 50, 65, 75, 100  $\mu$ l
- Stem block  $\varnothing$ : 2.8 mm
- Shot weight accuracy and consistency
- Very low LOP (Loss of Prime)

- Very limited moisture ingress
- Low-extraction elastomers used: extractables studies available
- Quality critical variables 100% in process controls
- FDA-approved plastic components
- EP / USP compliant gaskets
- Clean Room manufacturing upon request



**High Quality  
at Competitive Cost**

**Pumps,  
valves  
and actuators  
for solutions  
and suspensions**

**PUMPS FOR PHARMACEUTICAL APPLICATIONS**

Coster manufactures a wide variety of pumps granting consistent spray performance, accuracy and dosage. Pumps are available in the following formats: crimp-on, snap-on and screw-on, with different dosages and suitable for use with various plastic / glass bottles. Coster pumps can be used in combination with different nasal actuators.



Crimp-on pump



Screw-on pump



Snap-on pump

**NASAL ACTUATOR  
WITH ROUNDED  
SIDE WINGS**



- Suitable for Coster screw-on and snap-on pumps
- Rounded side wings for ergonomic use
- Designed to minimize after-use bacterial contamination or solidification of residual product
- Internal micromist insert
- Translucent dust cap locks the actuator when not in use
- Can be Gamma irradiated

**NASAL ACTUATOR  
FOR CALCITONINE  
AND RHINOLOGICAL  
PRODUCTS**



- For Coster 20 mm standard and airless pumps crimped on customized glass or plastic bottles
- 100% of product is emptied
- Pump can be sterilized

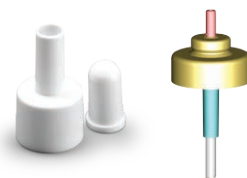
**NASAL ACTUATORS  
WITH  
PROTECTIVE CAP**



- With micromist insert
- With locking system
- For Coster screw-on and snap-on pumps

**VALVE AND NASAL ACTUATOR  
FOR PROPELLED FORMULATIONS**

- Coster 20 mm metering or continuous valve
- Actuator without micromist insert supplied with assembled cap



**SALUS NASAL ACTUATOR**



- For sea-water solutions
- For children and adult use
- Fine mist spray
- Small tip is secure for children's nostrils
- Translucent shaped overcap available
- Limited risk of after-use bacterial contamination
- Materials are food contact compliant



- Clean Room production upon request
- Can be Gamma-irradiated
- Suitable for Coster's:
  - BOVs
  - 1 inch valves
  - 1 inch pumps

**Complete & Cost-effective  
Nasal Spray Systems**



## Pumps, valves and actuators for buccal, throat and topical applications

### OX-LESS SYSTEM



### AIRLESS DISPENSER



### THROAT ACTUATOR

- Actuator with micromist insert
- For 20 mm crimp-on pumps and continuous valves



- Suitable for viscous Cosmetic & Pharmaceutical products: creams, balms, gels, emulsions
- Airless PP packaging preventing any possible product oxidization
- Unlimited decoration possibilities: offset, silk screen, hot stamping, sleeve, labelling
- Pump with open-close position
- Bottle capacity: 50 and 100 ml
- Pump dosage: 300 and 500 µl

- For viscous Pharmaceutical & Cosmetic products: creams, gels, emulsions
- 1" snap-fit mounting cup
- Customizable Ø 35 mm aluminum can, PP piston inside
- Bottle capacity: 30, 40, 50, 60, 75, 100 ml
- Pump dosage: 300, 500, 700, 1000 µl

### DENTAL ACTUATOR



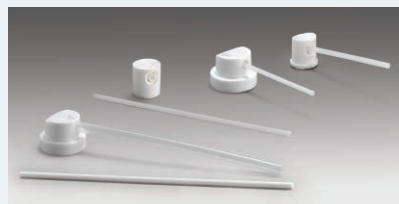
- With stainless steel extension tube
- Suitable for 20 mm continuous and metering crimp-on valves

### ACTUATOR FOR VAGINAL APPLICATIONS



- For inverted use valves
- Extension tube supplied separately
- Tube length upon request

### ACTUATORS WITH EXTENSION TUBES



- For press down valves
- HDPE extension tube supplied separately
- Tube length upon request

### BAG-ON-VALVES (BOV)

Valves with dual compartment system. DMF type III (22066) available.



### ACTUATORS FOR GELS AND SPRAYS

Available for use with OTC products to be dispensed by means of continuous valves, for upright, inverted or 360° use. Suitable for use with Bag-On-Valves and standard 1" valves.

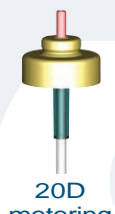


### ACTUATORS FOR ORAL & TOPICAL APPLICATIONS

A full range of oral and topical actuators for sprays and foams is available for applications such as mouth fresheners or sore throat products. Models are available for use with 20 mm metering valves, continuous valves and pumps.



20N continuous valve



20D metering valve



MSP spray pump

# Robust Product Technology

# Oral & Topical Applications

***Coster is the sole provider of filling machines, aerosol valves and packaging components for the Pharma Industry***



Micro filling head and ceramic piston ensure zero contamination.



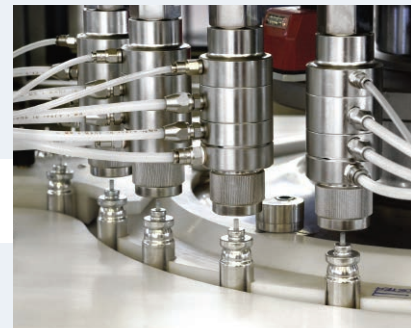
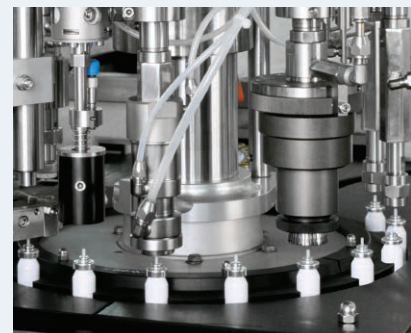
With over 40 years experience in the design and manufacture of high-quality filling machines, Coster is a world class leader in the provision of equipment to the pharmaceutical and cosmetics industries. Coster collaborates with its customers from early development to installation, training and production. Coster Customer Care Service offers world-

wide pre and post sales technical support. A full set of documentation for operation, maintenance and validation enables conformance with local legislation requirements. Certificates of Conformity with European safety regulations and of Conformance to Atex standard for operation in areas at risk of explosion and/or risk of fire are provided.



Crimping jaw and crimping head for 20 mm valves. Coster machines crimp 20 mm and 1" valves and pumps with maximum precision.

Close-ups of 52 - SM/2/PHARMA MDI double pitch machine with double valve inserting chute.



**The Only Pharma Provider  
of Integrated Packaging Solutions**

**Filling Machines & Lines**



## ISO 8 CLEAN ROOM



In the manufacture of high-quality components for the pharmaceutical industry, a dust-free working area with strict temperature and humidity control is of vital importance. Coster has implemented an ISO 8 Clean Room where dedicated pharmaceutical components are manufactured. Production takes place in accordance with ISO 15378:2006, an international certification which encompasses ISO 9001 procedures and cGMP guidelines applied to packaging components. New dedicated electrical injection moulding machines, equipped with laminar flow modules, and high-performance moulds have been installed. The cleanliness and quality standards set by our customers are guaranteed by the supervision of highly skilled personnel.



## LABORATORY EQUIPMENT

- GC - Gas Chromatograph
- Integrated Microscope and FT-IR Spectrometer
- DSC - Differential Scanning Calorimeter
- TGA - Thermogravimetric Analyzer (FT-IR coupling)
- Dinamometers
- Extractometer
- Laser Diffraction Particle Size Analyzer
- High-speed Vision System
- Automatic Shot Weight Measurement System
- Gassing Room
- Karl Fischer Titrator



Skilled People, State-of-the-Art  
Equipment & Laboratories

Clean Room & Analytical Services

# COSTER GROUP SALES ORGANIZATION

AREA		COMPANY / E - MAIL	ADDRESS	TELEPHONE / FAX
HEAD OFFICES		Coster Technologie Speciali S.p.A. sales@coster.com	Corso Como 15 20154 Milano (Italia)	TEL : +39 02636161 FAX : +39 0229006706
SUBSIDIARIES	BENELUX, SCANDINAVIA	Robertpack Engineering B.V. sales.nl@coster.com	Pascalweg 3, Industrierrein Marslanden D 8013 RC - Zwolle, Netherlands	TEL : +31 (38) 4652 080 FAX : +31 (38) 4657 076
	FRANCE, MAGHREB	Coster s.à.r.l. sales.fr@coster.com	ZI Mitry Compans Rue Gay Lussac 77290 Mitry Mory	TEL : +33 (1) 6467 9655 FAX : +33 (1) 6467 0404
	GERMANY, AUSTRIA, POLAND, CZECH REPUBLIC	Coster Technologie Speciali GmbH sales.de@coster.com	Siemensstraße 22 76275 Ettlingen	TEL : +49 (7243) 5483-0 FAX : +49 (7243) 5483-54
	INDIA	Coster India Packaging Pvt. Ltd. info@costerindia.com	C-021-A, 2 <sup>nd</sup> floor, Super Mart Commercial Complex-1 DLF Phase IV - Gurgaon-122016 Haryana	TEL : +91 (124) 404 3701 FAX : +91 (124) 404 3704
	LATIN AMERICA	Coster Packaging S.A. ventas.ar@coster.com	Ruta 8, Km 60 - Calle 14 y 9 B1629MXA Parque Ind. Pilar - Buenos Aires	TEL : +54 (0230) 4466 206 FAX : +54 (0230) 4496 664
	MALAYSIA	Costerpack Sdn. Bhd. costerap-karen@costerpackmfg.com.my	5, Jalan Firma 3 Kawasan Perindustrian Tebrau IV - 81100 Johor Bahru, Johor	TEL : +60 (7) 357 3351 FAX : +60 (7) 357 3349
	SINGAPORE	Coster Asia-Pacific Pte. Ltd. sales.sg@coster.com	92, Hillview Ave., # 06 -12 Hillbrooks 669592 Singapore	TEL : +65 9139 1468 FAX : +65 6891 3687
	SPAIN, PORTUGAL	Costertec, S.A. sales.sp@coster.com	Besalú, 4 08570 Torelló - Barcelona	TEL : +34 (93) 859 1038 FAX : +34 (93) 859 3510
	UNITED KINGDOM	Coster Aerosols Limited sales.uk@coster.com	Babbage Road, Stevenage Herts SG1 2EQ	TEL : +44 (1438) 367 763 FAX : +44 (1438) 728 305
	U.S.A.	Coster USA Inc. sales@costerusa.com	1625 Shanahan Drive, South Elgin Illinois 60177 USA	TEL : +1 (847) 760 6040 FAX : +1 (847) 760 6035
LICENSEES	IRAN	Padine Co. Ltd. info@foumanchimie.com	No. 24, 8th Ave. Ahmad Ghassir Ave. Tehran 15147	TEL : +98 (21) 8873 8833 FAX : +98 (21) 8873 7686
	TURKEY	Aerosol Valf Sanayi A.S. info.avs@fareva.com	Geposb-Gebze Plastikçiler Organize Sanayi Bölgesi İnönü mahallesi 7, Cadde Gebze/Kocaeli	TEL : +90 (262) 751 2713 FAX : +90 (262) 751 2180
AGENTS AND DISTRIBUTORS	BALTIC COUNTRIES, RUSSIA, C.I.S.	Sun Spray Packaging Ltd. bordoloi_p@yahoo.com	Bolshaya Spaskaya St. - House 12, Office 50 129010 Moscow	TEL : +7 (495) 956 3218 FAX : +7 (495) 956 3259
	CANADA	Norlimar Canada Inc. ngoudreau@norlimar.com	104, Rue Des Oblats, Lasalle Québec H8R 3K8	TEL : +1 (514) 696 2947
	EGYPT, YEMEN, GCC	Cesam Engineering & Trading Co. cesam@cesam-eg.com	I.Z. #2, Str. #81 btw. Rd #18 & Rd #20 POB 153 October VI City - Giza 12573 Egypt	TEL : +20 (2) 3833 9896 FAX : +20 (2) 3833 5197
	GREECE, CYPRUS	Panuropean S.A. pto@ath.forthnet.gr	N. 17, Souri street 121 31 Peristeri Athens	TEL : +30 (210) 574 141417 FAX : +30 (210) 574 1418
	GUATEMALA	Representaciones del Caribe S.A. repca@repca.com	14 Avenida 7-12 Zona 14 Bodega # 8 Guatemala C.A. 01014	TEL : +502 24 210 300 FAX : +502 24 210 301
	ISRAEL	Maydan Representatives Ltd. mayrep@bezeqint.net	Kehilat Saloniki str. 13 69513 Tel Aviv	TEL : +972 (3) 540 3710 FAX : +972 (3) 549 2524
	JAPAN	Koike Chemical Co. Ltd.	3-2-1, Kinshi, Sumida-Ku Tokyo 130-0013	TEL : +81 (3) 5610 5169 FAX : +81 (3) 5610 5171
	LEBANON	Jean Zakka Fils S.a.l. info@zakkamultitec.com	P.O. Box 90360 Jdeidet El-Maten	TEL : +961 (1) 870 942 FAX : +961 (1) 895 654
	ROMANIA, BULGARIA, MOLDOVA	Pluritrade S.r.l. antonia.teaha@pluritrade.ro	GreenGate offices, 22 Tudor Vladimirescu Blvd. 5 <sup>th</sup> Floor, 5 <sup>th</sup> District - 050883 Bucharest Romania	TEL : +40 (21) 407 4946 FAX : +40 (21) 313 8857
	SWITZERLAND	Pack-Part GmbH info@pack-part.ch	Landstrasse, 19 CH 4303 Kaiseraugst	TEL : +41 (61) 811 1109 FAX : +41 (61) 811 2166
	TURKEY	Metpak Temsilcilik Dış Ticaret Ltd. Şti info@metpak.com.tr	Merdivenköy Mh. Şair Arşi Cd. Nazenin Sk. Karadeniz Apt. 9/7 - 34732 Kadıköy İstanbul	TEL : +90 216 411 87 87 FAX : +90 216 478 53 53
	BALTIC COUNTRIES, RUSSIA, C.I.S.	VA Intertrading AG marina.smirnskaya@gmail.com	Kantemirovskaya Street 58 Office 7038 Moscow 114577	TEL : +7 (495) 651 9335
PHARMA AGENTS & DISTRIBUTORS	BANGLADESH	Orbit Corporation rokun@orbitcorpbdd.com	89/ka, P.C Culture Housing Society Shamoli, Mohammadpur, Dhaka - 1212	TEL : +88 (02) 81 58 805 FAX : +88 (02) 81 59 957
	CHINA, TAIWAN, KOREA	Anomatic (Suzhou) Metal Packaging Co. Ltd. pjm@anomatic.com	1999, LinHu Avenue, Fenhui Economic Development Zone Wujiang, Jiangsu Province 215211, China	TEL : +86 (512) 6326 9696 FAX : +86 (512) 6301 6756
	INDIA	Mascot Universal Private Limited info@mascot.in	317, Shaha & Nahar I.E., Off. Dr. E. Moses Rd. Worli, Mumbai 400018 Maharashtra	TEL : +91 22 4064 0333 FAX : +91 22 4064 0311
	IRAN (PACKAGING COMPONENTS)	Borna Khooshe Co. info@bornakhooshe.com	Flat 1, No.26, Souri Str. Ati Saz 1997657653 Tehran	TEL : +98 21 2234 5737 FAX : +98 21 2234 5737
	IRAN (MACHINERY)	IMA Darou Afzar Co. ojaghian@hotmail.com	Unit 8, 3rd Floor, N. 30 37 <sup>th</sup> Street Yousefabad Ave. Tehran	TEL : +98 21 88214976 FAX : +98 21 88210931
	SYRIA, JORDAN	Gulf - Alfourat FZC ahmad.abdulmajeed@fourat-tc.com	P.O. Box 16670 RAK-UAE	TEL : +963 93 340 3370 FAX : +971 15 660 3267
	TURKEY	Metpak Temsilcilik Dış Ticaret Ltd. Şti info@metpak.com.tr	Merdivenköy Mh. Şair Arşi Cd. Nazenin Sk. Karadeniz Apt. 9/7 - 34732 Kadıköy İstanbul	TEL : +90 216 411 87 87 FAX : +90 216 478 53 53