

BLISTER PACKAGING SOLUTIONS

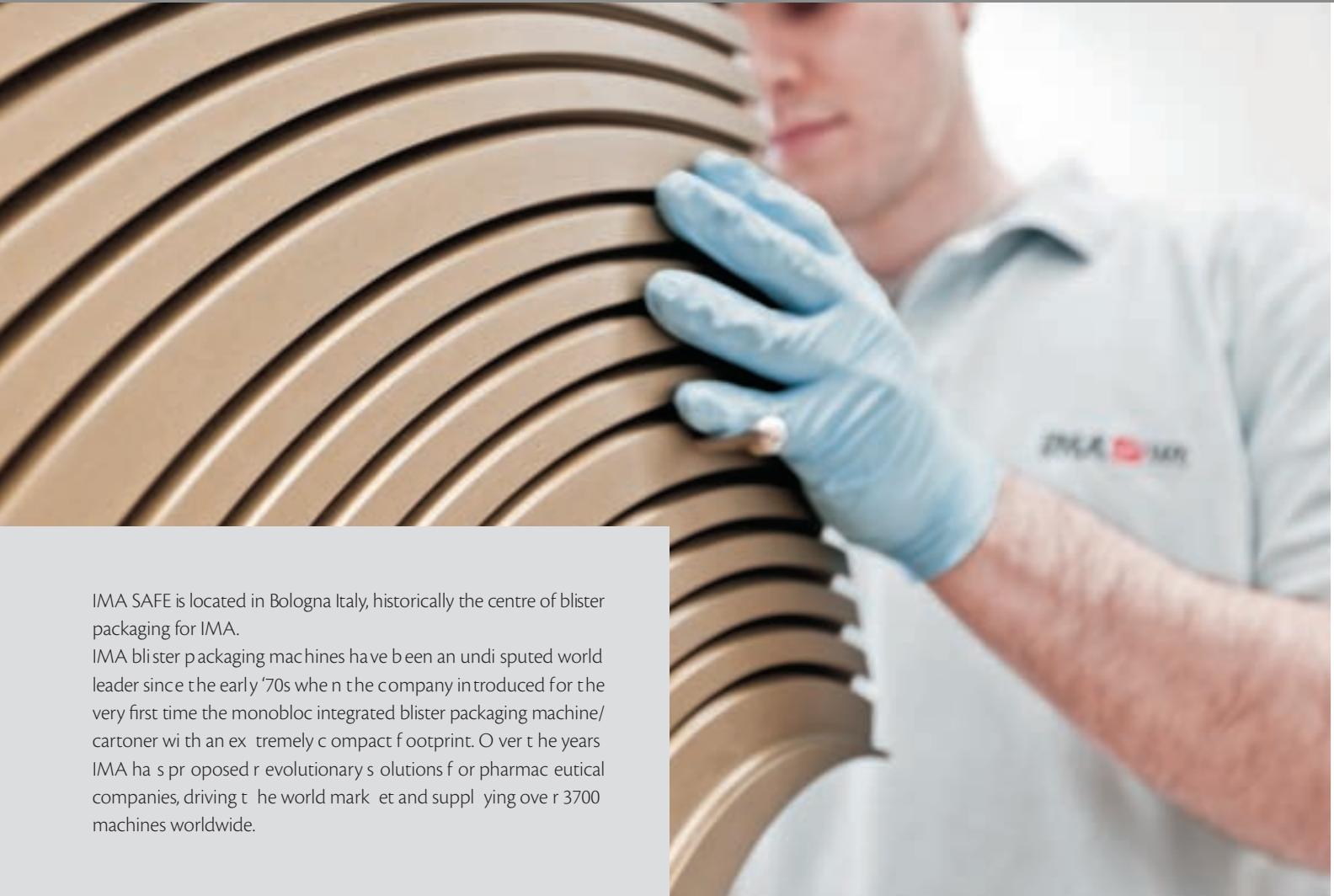
WORLDWIDE LEADER IN BLISTER MACHINES



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IMA IN BLISTER PACKAGING



IMA SAFE is located in Bologna Italy, historically the centre of blister packaging for IMA.

IMA blister packaging machines have been an undisputed world leader since the early '70s when the company introduced for the very first time the monobloc integrated blister packaging machine/cartoner with an extremely compact footprint. Over the years IMA has proposed revolutionary solutions for pharmaceutical companies, driving the world market and supplying over 3700 machines worldwide.

IMA uses Avant-Garde mechanical and electronic technologies to respond to the packaging issues of the most complex and varied products, guaranteeing maximum efficiency and minimal maintenance.

The characteristics that most distinguish the IMA Safe design and production team are:

- Passion
- Experience
- Creativity

Over 40 years and several generations later, roughly 350 people, including engineers, designers, developers and technicians, continue to work hard to keep the true IMA heritage unchanged: a technical approach with superior craftsmanship and a love for the minor and major challenges that come up every day. This is how intuition and ideas can combine to attain great heights: where the best technology and creativity work hand in hand.

THIS IS WHY IMA PROVIDES HIGH-END SOLUTIONS AND FORGES FIRM, LASTING RELATIONSHIPS WITH CLIENTS.

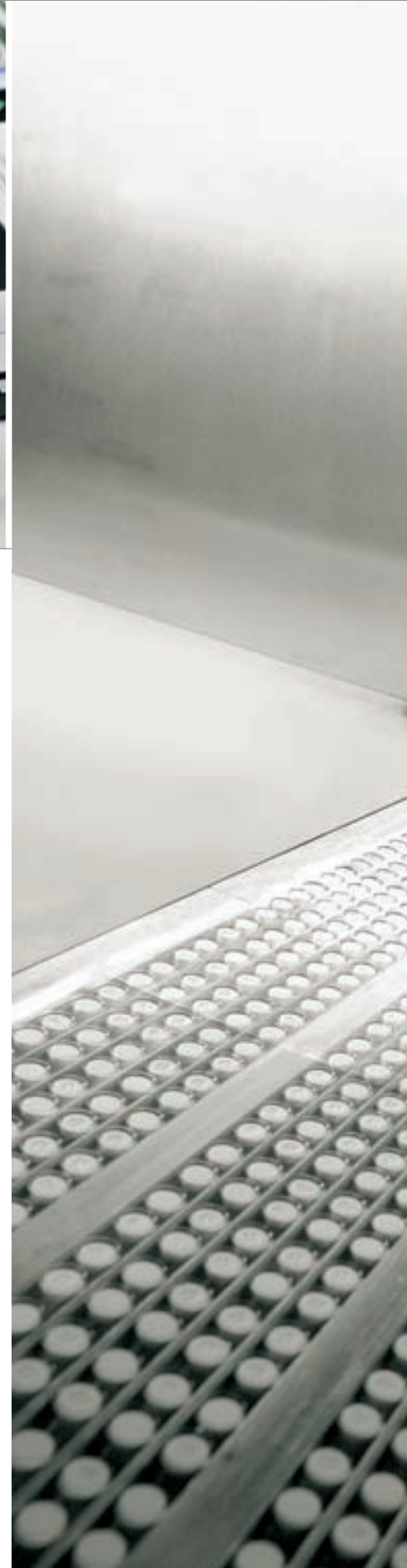


IMA produces a comprehensive range of machines to meet pharmaceutical production requirements, such as:

- Compliance with local standards
- High throughput
- Rapid return on investment
- Flexibility
- Extreme variety of batches requested
- Trained and qualified production and maintenance staff
- Costs contained

Nearly 5% of the overall annual turnover is spent in Research and Development. This significant investment enables IMA SAFE to constantly develop new technologies related to machines, working groups, material handling, etc.

IMA IN BLISTER PACKAGING



The main concepts characterising and inspiring the design and production of IMA solutions for blister packaging are:

Main features – IMA philosophy in blister packaging:



- Very high OEE - Overall Equipment Effectiveness



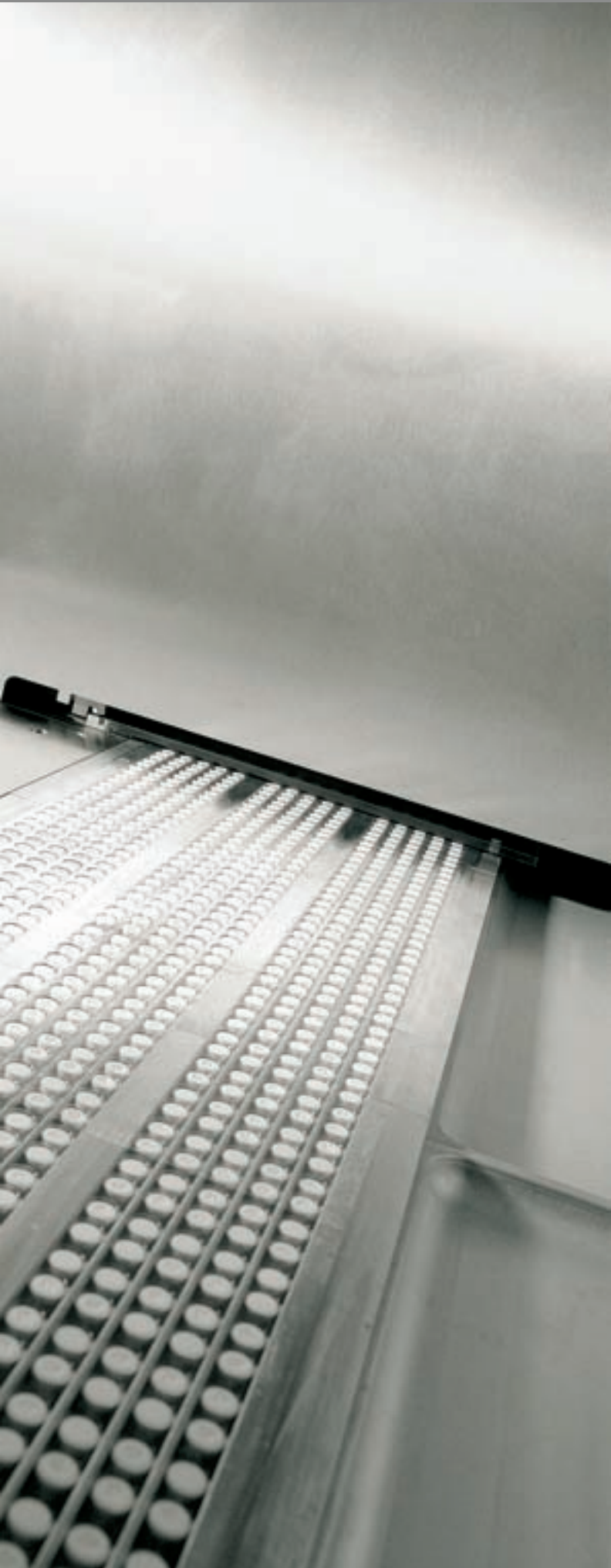
- Ease of use (size changeover, repeatability, cleanliness, batch change, maintenance)



- Safety: maximum safety for the product and the operator



- Minimal consumption: elimination of packaging material and product wastage, greater energy efficiency



ONE VAST RANGE FOR COMPREHENSIVE SOLUTIONS, ONE OBJECTIVE: TO SUPPLY QUALITY.

IMA SAFE's reputation is based on having the widest range of solutions for blister and tray packing on the market and for the highest level of service in terms of sales, technical support and assistance.

The IMA group is the leading supplier of entire packaging lines, with a vast range of primary and secondary packaging machines designed and manufactured in house. It also has a network of carefully selected partners.

If we may disagree about which sources of energy merit investment, we are in total agreement when it comes to the need to eliminate waste by reducing the consumption of energy and materials to a minimum.

IMA WAS THE FIRST TO DESIGN AND PRODUCE MONOBLOC MACHINES THAT DRASTICALLY REDUCE PACKAGING MATERIAL WASTAGE, WITH PARTICULAR REFERENCE TO THE QUANTITY REQUIRED TO START UP PRODUCTION OF A PACKAGING PROCESS.

The first to believe in and develop technologies suitable for mono-material drug packaging: polypropylene blisters and cartons. Erecting, feeding and sealing systems enable blisters to be produced with very closely spaced pockets in complete safety. IMA blister packaging machines produce the least amount of waste of all the machines on the market, enabling maximum reduction of material consumption.





IMA PRODUCES OPENING AND ERECTING SYSTEMS FOR CARTONS MADE ENTIRELY OF RECYCLED MATERIAL. IN ADDITION TO CARTONERS, IMA ALSO PRODUCES TRAY LOADERS THAT WORK WITH RECYCLED CARDBOARD.

In the design of new systems, a great deal of attention is paid to achieving maximum energy efficiency.

We have always been attentive to what happens around us, ready to grasp all the opportunities that technology offers to assist the pharmaceutical industry as it strives to produce responsibly and sustainably.

PACKAGING MATERIALS

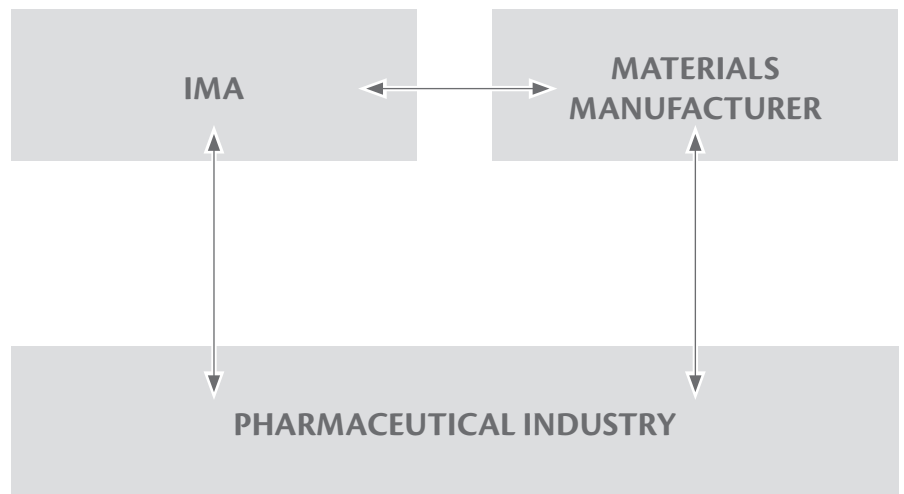
CHOOSING TECHNOLOGIES SUITABLE FOR DEALING WITH SOLID AND NON-SOLID PACKAGING ISSUES IS DICTATED BY THE DISTRIBUTION REQUIREMENTS OF PHARMACEUTICAL PRODUCTS IN DIFFERENT MARKETS AND CLIMATE ZONES AND BY THEIR SPECIFIC USE.

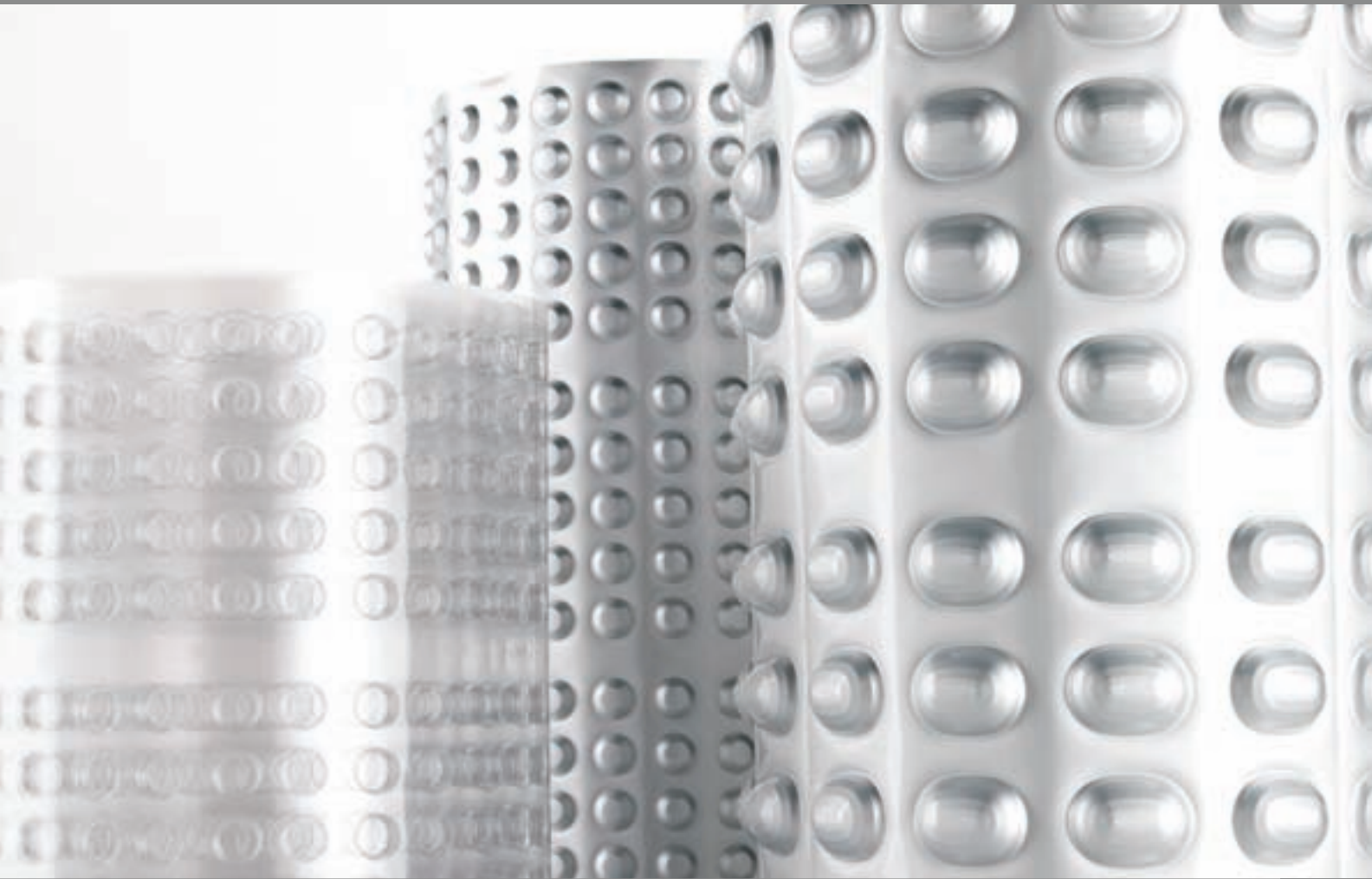


This means constant research into new packaging solutions.

In recent years, packaging material suppliers have developed new, multi-layered laminated materials in a bid to provide increased protection against penetrating external agents such as oxygen and humidity.

IMA works alongside the most innovative material suppliers, analysing the characteristics of new proposals before they are presented to the market and working on the basis of calculated and tested use conditions (heating, forming and sealing).





DETAILED ANALYSES ARE PERFORMED BOTH DURING SIZE PART DESIGN AND TESTING TO IDENTIFY WHICH TREATMENTS WORK BEST AND WHICH MATERIALS ARE BEST SUITED TO ENSURE STABILITY OVER TIME. THIS GUARANTEES OUR CLIENTS GET MACHINES AND SIZE PARTS THAT ARE ALREADY TESTED FOR THE LATEST PACKAGING MATERIALS.

IMA Blister machines can be supplied to run both Alu-Alu and thermoformable blisters.

FEEDING SPECIALISTS

IMA FEEDING SYSTEMS ARE THE RESULT OF 40 YEARS' EXPERIENCE IN THE BLISTER PACKAGING INDUSTRY WITH MORE THAN 9000 FEEDING UNITS SUPPLIED WORLDWIDE FOR HANDLING EVERY KIND OF PRODUCT SHAPE, ALL PACKAGING MATERIALS.

IMA FEEDING SYSTEMS REACH THE HIGHEST LEVELS OF POCKET FILLING EFFICIENCY, 99.9%, WORKING AT THE HIGHEST SPEEDS.



A specific IMA SAFE department is dedicated to product feeding solutions and includes several test rooms conforming to GMP guidelines for product feeding under controlled environmental conditions. Solutions are based on each unique product.

Thanks to a careful design of the feeding units studied by IMA specialists, the product - of every kind of shape - is handled with extreme delicacy throughout the whole feeding process, cleaning times are reduced to a minimum and the changeover is very fast with few parts to be changed.





Common features to all IM A feeding systems:

- No operator assistance
- Easy integration of multiple product feeding system
- Easy to clean and wash

Many IM A feeding solutions are patented and provide feeding efficiencies which cannot be reached by any other machine on the market.

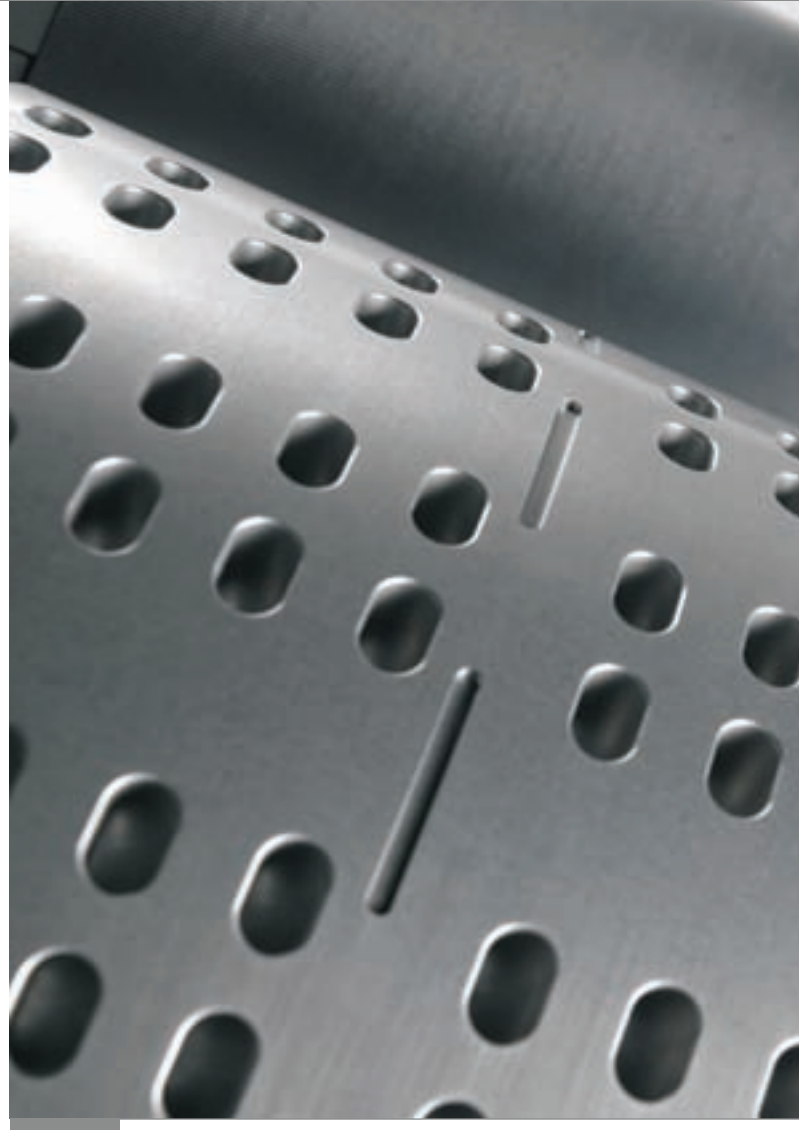


IMA ROLLER SEALING TECHNOLOGY

IT HAS BEEN PROVED THAT FOR COLD-FORMED BLISTERS THE COMBINATION OF TWO ROLLERS CREATES THE PERFECT SEALING BARRIER.

The advantages of the IMA roller sealing:

- Continuous sealing grid
- Minimal quantity of heat transferred to the product on a single contact line
- Reduced sealing time
- No adjustment problems due to parallelism of flat surfaces
- Lower sensitivity to the thickness changes of the thermofforming and lidding films
- Very high line ar speed
- Optimum sealing properties with the highest results in blue water and helium test
- Uniformity of laminated layers
- Higher camera efficiency due to continuous film motion granting greater product stability in the pocket
- No adjustment, no replacement for the size changeover
- Very fast cleaning operation



IMA roller sealing technology guarantees that heat, time and pressure are strictly controlled during the sealing process of all forming materials. The unique pyramid grid surface of the roller produces an even seal around the entire edge of each pocket and over the entire area of the blister. In addition, continuous motion sealing improves the efficiency of the camera control system given that the product inside the pocket is very stable, unlike alternate motion systems. The sealing unit is very easy to clean.



The IMA roller sealing system with pyramid grid has been designed to obtain constant and continuous sealing on the whole pocket edge with no unsealed area.



The imprint of the sealing grid guarantees that the pocket is sealed not only on the Criss-Cross line pattern but also in the Centre of the square grid.

| | PROFILE OF CONVENTIONAL ROLLERS AND PLATES | PROFILE OF IMA ROLLER |
|-----------------|--|-----------------------|
| SEALING SURFACE | | |
| SECTION | | |
| BLISTER DETAIL | | |

MONOBLOC BLISTER AND CARTONING MACHINES

VERY HIGH EFFICIENCY

VERY COMPACT FOOTPRINT LAYOUT

POSITIVE BLISTER TRANSPORT SYSTEM



Integrated or monobloc blister packaging machines and cartoning machines enable clients to achieve very high OEE (Overall Equipment Effectiveness)*.

The integrated line significantly reduces the number of product discards, reduces the consumption and cost of packaging materials and therefore reduces the amount of time and energy needed to produce a specific batch size.

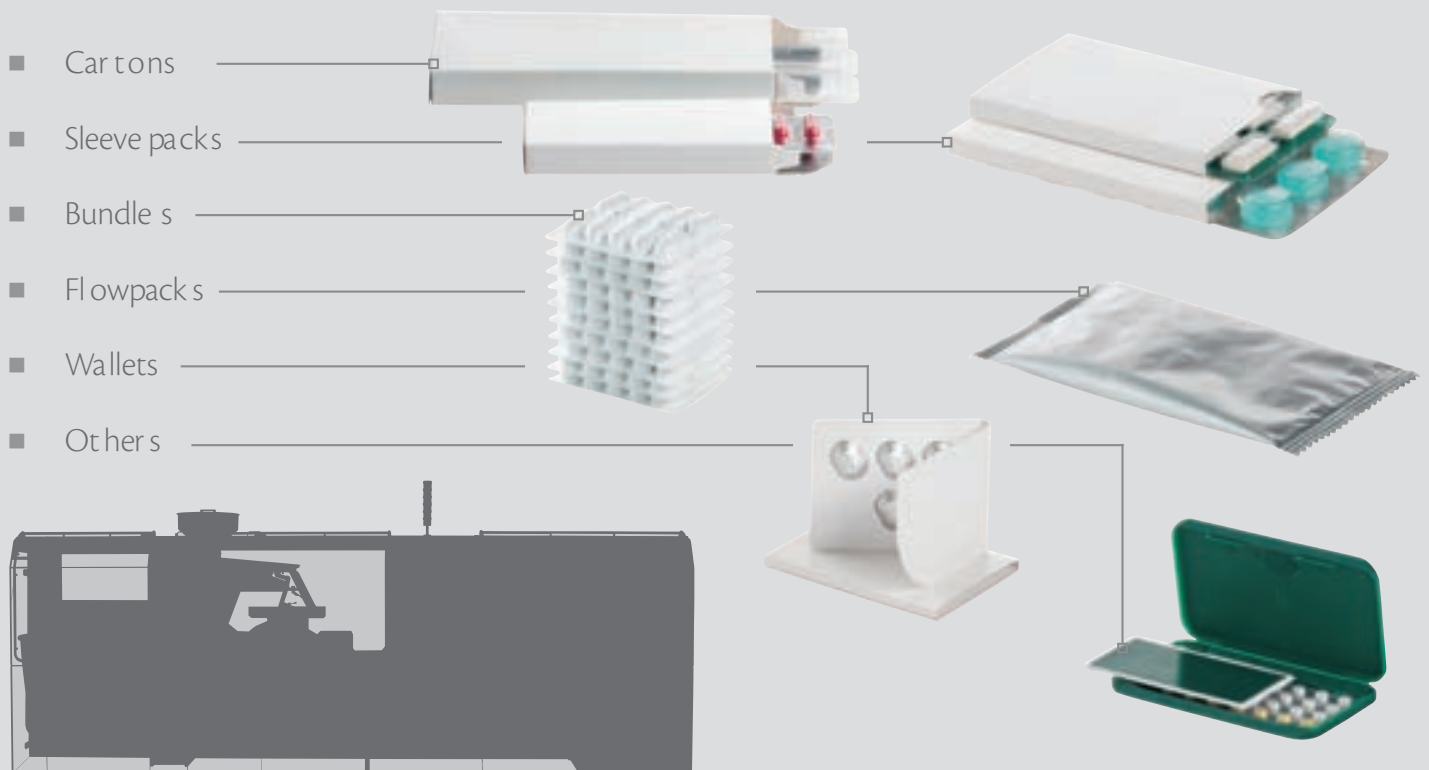
*OEE = Availability x Performance x Quality

Other relevant advantages:

- Very compact footprint layout;
- Positive transfer of the blister from the cutting station throughout the complete packaging process to guarantee:
 - All blisters are traceable during the entire production flow
 - Very high efficiency
 - No set-up time is required for each changeover or start-up of the machine (no blisters to be manually inserted in the blister magazine)
- Operator friendly: few interventions required by the operator
- Complete emptying and cleaning for the size changeover, extremely quick and simple.



STANDALONE BLISTER PACKAGING MACHINES



The relevant advantages of a standalone blister machine are:

- Adaptability to various non-linear production layouts
- Versatility: can be connected to one or more machines for secondary packaging, for packing into wallets, flowpacks, cartons, sleeves, bundles e.t.c.

IMA produces a comprehensive range of standalone blister packaging machines that covers all product, speed, output and economic investment requirements.

Designed for just-in-time production with frequent size changeovers, they offer great flexibility, ease of use and rapid size changeovers. They are offered in customised configurations to enable even very diverse production runs.

COMPLETE RANGE OF MACHINES

| | | MODEL | BLISTER TRAY FLOWPACK | SEALING | SPEED BLISTER/MIN |
|--------------|---------------------------------------|----------------|-----------------------|---------|-------------------|
| | | | B T F | | |
| IMA - PG Ltd | STAND ALONE | CLINIPACK | B/T | PLA | 90 |
| | | PG TR100 LT | B | PLA | 150 |
| | | EXCEL SERIES | B | PLA | 200 |
| | | ROTOVAC SERIES | B | ROL | 240 |
| | | SUPER | B | PLA | 225 |
| IMA SPA | | C360 | T | PLA | - |
| | | TR135 / TR135A | B | ROL | 230 |
| | | TR200 / TR200A | B | ROL | 360 |
| | | GIANT | B | ROL | 400 |
| | | C80R | B | ROL | 400-600 |
| | | C80HS JP | B/F | ROL | 800 |
| | MONOBLOC POSITIVE BLISTER TRANSFER | GIANT1 | B | ROL | 350 |
| | | C80-A81 | B | ROL | 400 |
| | | GIANT-A86 | B | ROL | 400 |
| | | C90-A91 | B | ROL | 400 |
| | | C80HS-A86 | B | ROL | 700 |
| C80HS-A96 | | B | ROL | 700 | |
| C96-A96 | | B | ROL | 1300 | |

| CARTONERS | | | | | |
|--|-----|--------------|---------|-----|----------|
| PG - IC 150C | X1 | PG - IC 175C | A83E/EH | A80 | DYNAMICA |
| UP TO | | | | | |
| 120 | 140 | 150 | 160 | 175 | 250/400 |
| For clinical trials | | | | | |
| ■ | | ■ | ■ | | |
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| | | | | ■ | |
| | | | ■ | | ■ |
| OMORI INTERLOCKING / BANDING MACHINE | | | | | |
| 175 cartons/min. | | | | | |
| 250 cartons/min. | | | | | |
| 350 cartons/min. | | | | | |
| 270 cartons/min. | | | | | |
| 350 cartons/min. | | | | | |
| A96 450 cartons/min. A96HS 500 cartons/min. | | | | | |
| A96 450 cartons/min. A96HS 500 cartons/min. | | | | | |

SECONDARY PACKS AND END OF LINE SOLUTIONS

WALLET

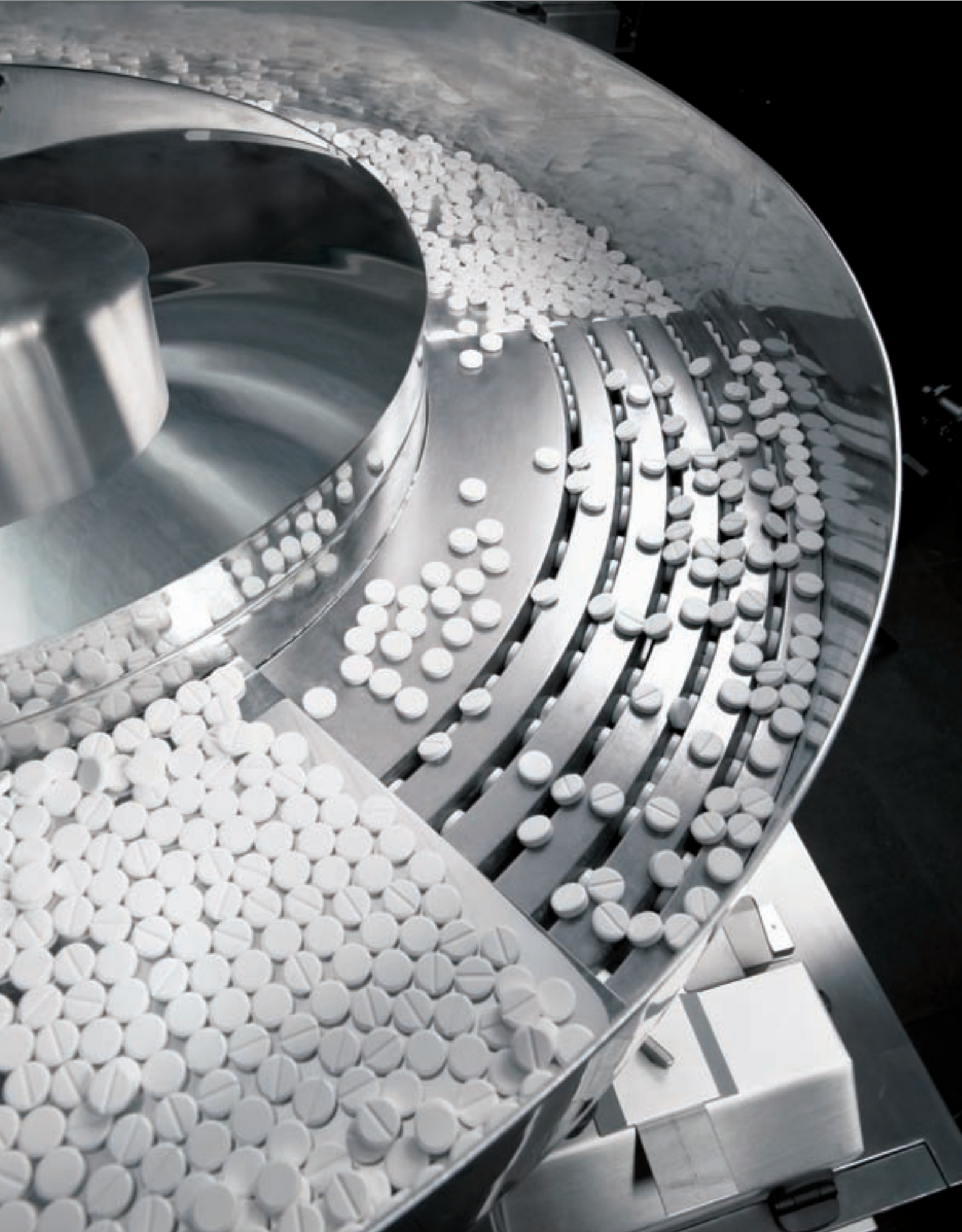
FLOWPACK

BUNDLE

END-OF-LINE SOLUTIONS:

- Stretch-Banding Machine s
- Overwrapping Machine s
- Tray Packers
- Case Packing Machine s
- Integrated Case-Packing - Palletizing
- Palletizing

TR SERIES COMPACT, SIMPLE, EXTREMELY VERSATILE





TR Series main features:

- Minimal overall dimensions (footprint) – can be installed in very small packaging areas
- Maximum productivity: capable to produce blisters on multi-row
- Extremely accessible, designed to ensure ease of use and cleaning. Complete size can be run by replacing 6 size parts
- Low energy consumption



TR135/TR135A

Blister packaging machine

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-------------------|
| BLISTER | 30-88 | 60-135 | 3-12 | 230 blisters/min. |

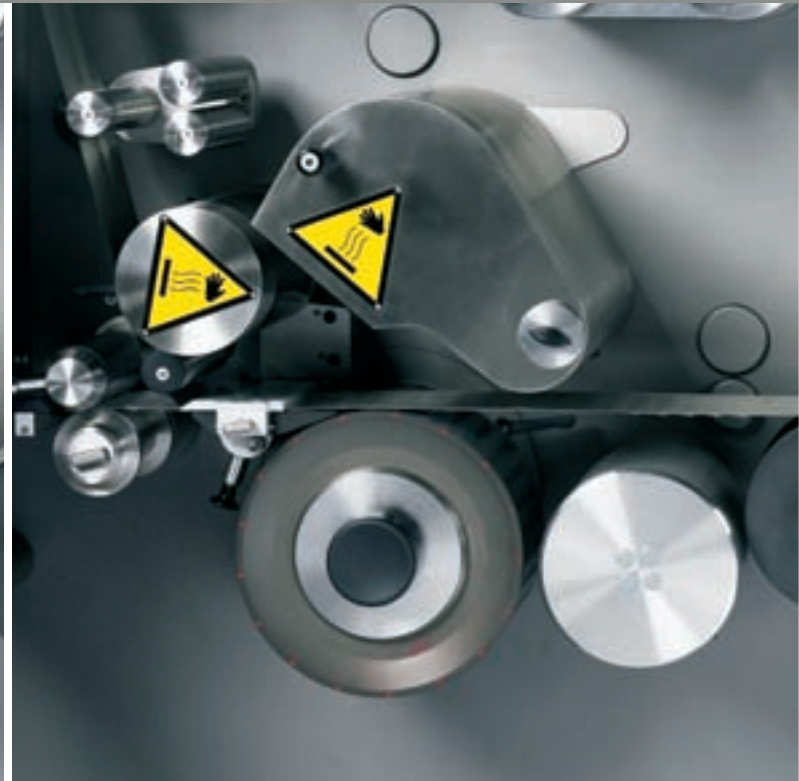


TR200/TR200A

Blister packaging machine

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-------------------|
| BLISTER | 30-90 | 60-200 | 3-12 | 360 blisters/min. |

GIANT SERIES



The GIANT SERIES includes the following configurations:

- GIANT1
- GIANT-A80
- GIANT-A86

Advanced and unique technology applied to the roller sealing, coding & perforating stations

- Completely assisted by servo motors
- Balcony style and small footprint. Full visibility of production flow
- Highly reduced change-over and cleaning times
- Complete integration with ancillary equipment (blister filling control, containment solution, coding, printing, leaflet folders, booklet inserting systems, open flap detection, checkweigher, labelling, etc.)



THE IDEAL SOLUTION FOR JUST-IN-TIME PRODUCTION OF SMALL AND MEDIUM BATCHES.

GIANT1 AND GIANT-A86: INNOVATIVE AND UNIQUE CUTTING UNIT.

To avoid the Product Recall problem the innovative and patented blister cutting system assures that rejected, faulty blisters cannot be re-inserted into the packaging process due to the different cutting configuration.



GIANT1

Blister packaging machine with integrated cartoner

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-------------------|
| BLISTER | 30-90 | 60-140 | 3-12 | 350 blisters/min. |
| CARTON | 35-95 | 65-145 | 12-100 | 175 cartons/min. |

The Giant1 blister packaging machine is the solution to obtain the highest possible OEE levels.

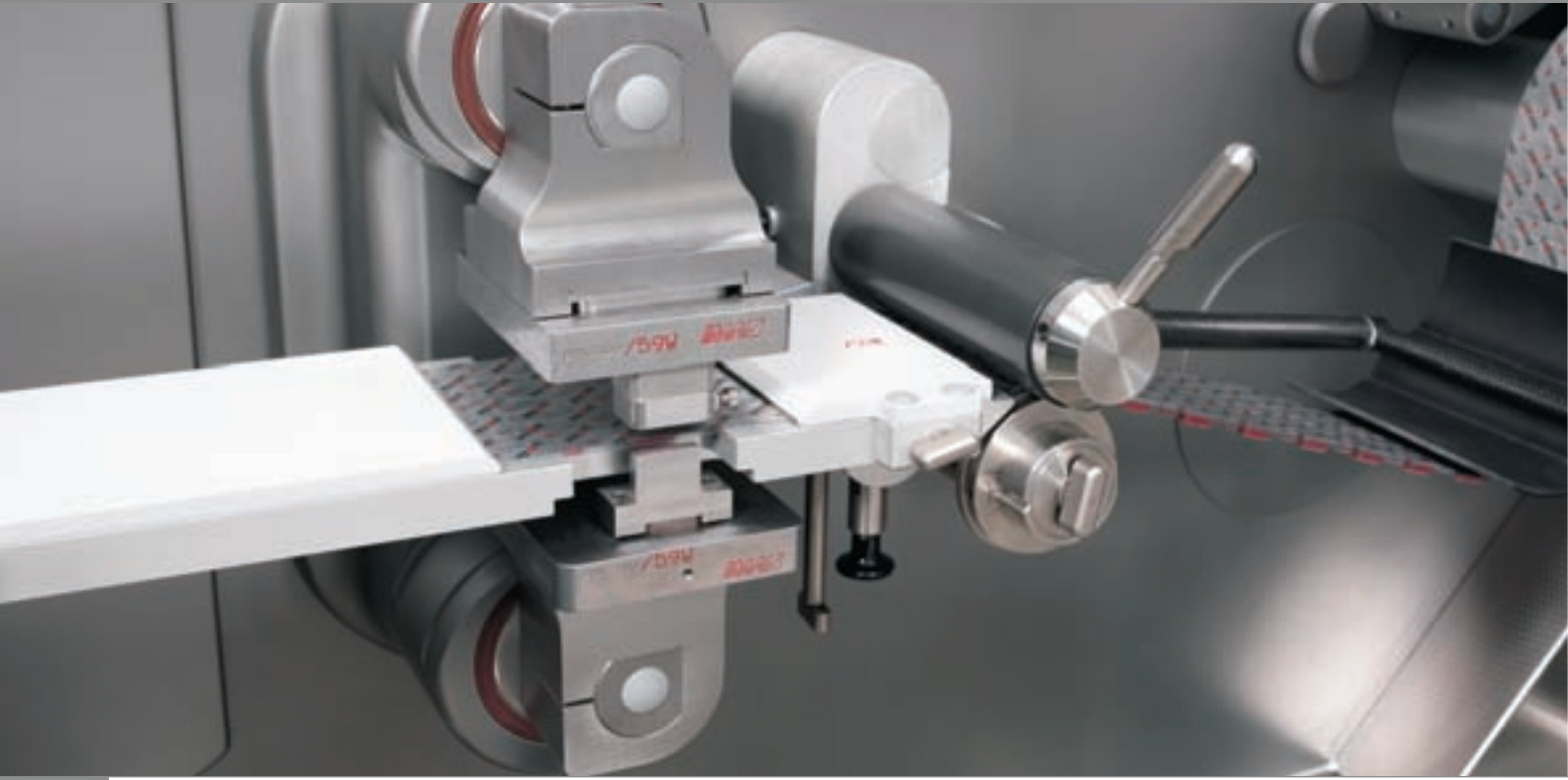
Only a 7.3 meter footprint with thermoforming jumbo reel holder and chiller included.

GIANT-A86

Blister packaging machine with integrated cartoner

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-------------------|
| BLISTER | 30-90 | 60-140 | 3-12 | 400 blisters/min. |
| CARTON | 30-90 | 65-150 | 15-90 | 350 cartons/min. |

GIANT SERIES

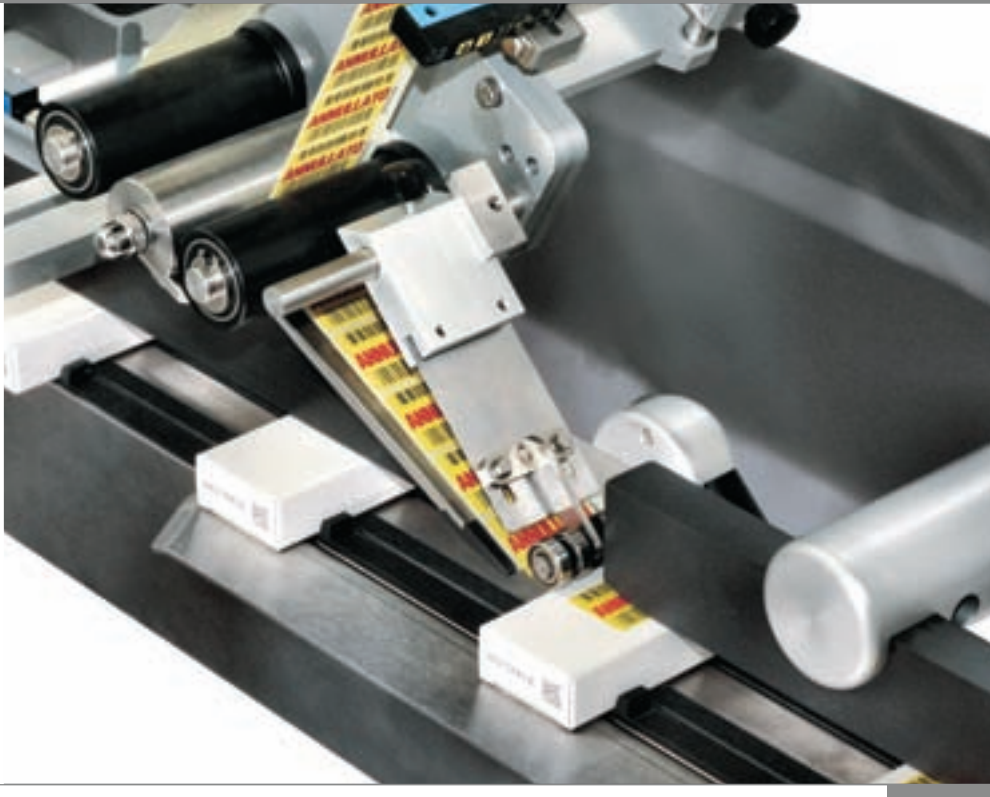


GIANT-A80

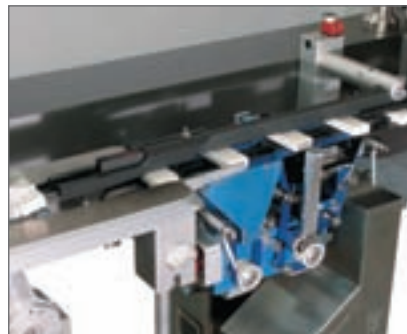
Blister packaging machine with integrated cartoner

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|---------------|----------------|---------------|-------------------|
| BLISTER | 30-90 | 60-140 | 3-12 | 350 blisters/min. |
| CARTON | 35-90 | 65-145 | 15-90 | 175 cartons/min. |

UNITRACE



Labeller



Checkweigher



Printer

UNITRACE INTEGRATED TRACK & TRACE SOLUTION

GIANT1 and GIANT-A80 can be further integrated with a complete Track & Trace solution which complies with all regulatory needs.

UNITRACE, is the first integrated solution available on the market, able to guarantee complete inspection of each single carton, from the beginning of the cartoning process until the package is ready for shipment.

A positive transport system with tooth belts, allows for each carton to be identified through the entire Track & Trace process. (Check-weigher, T&T code printing, Labelling) and assures the highest efficiency and reduced false rejects.

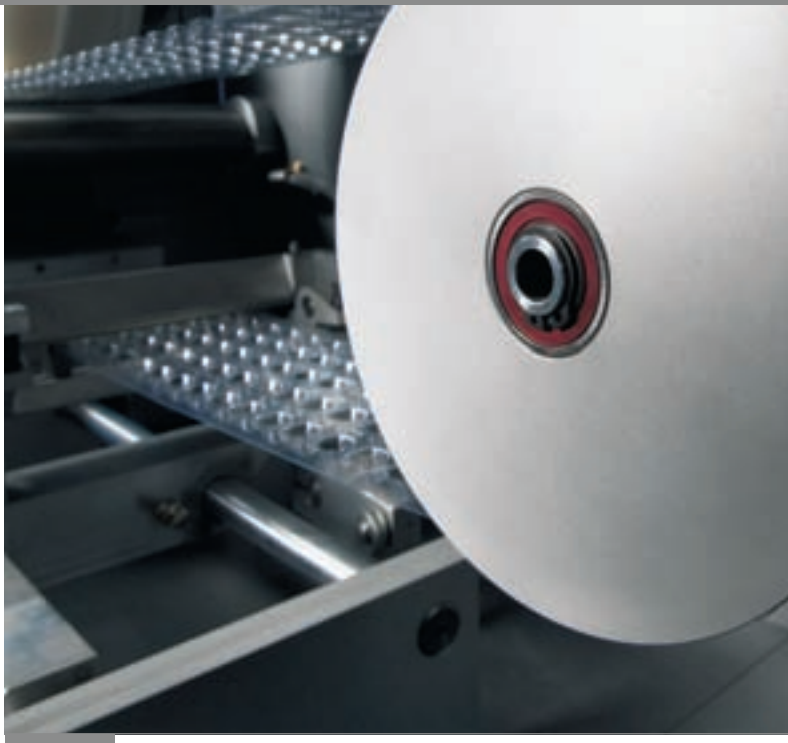
A single user interface controls the entire production line. Each recipe change modifies both Machine and Track & Trace parameters.

SPACE SAVING: the integration of devices enables the system to be very compact, thereby considerably reducing the overall dimensions of the line.

C90-A91

RELIABLE, SOLID, VERSATILE AND EFFICIENT, HIGHEST PACKAGING QUALITY AND PRODUCTIVITY.

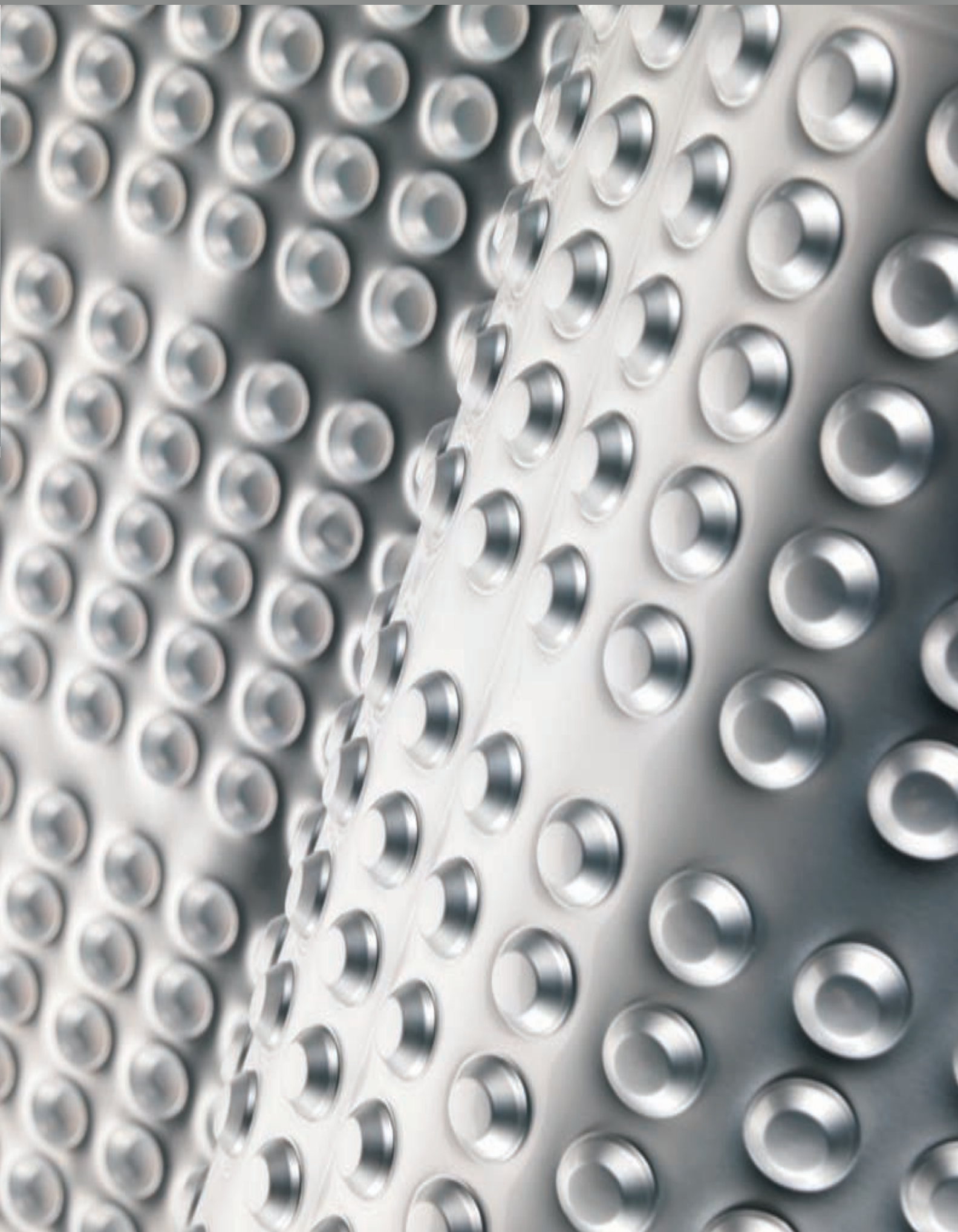
With over 300 machines manufactured, it represented a real step forward in pharmaceutical packaging in the '90s, and its updated version is still much in demand thanks to its reliability and robustness.



C90-A91

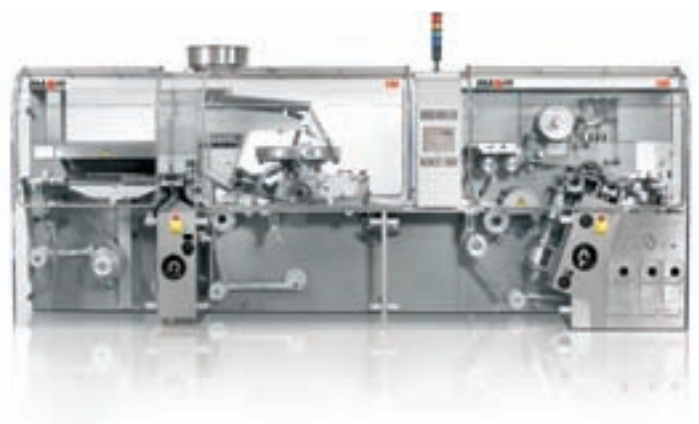
Blister packaging machine with integrated cartoner

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|--------------|------------|-------------------|
| BLISTER | 30-85 | 60-127 | 3-12 | 400 blisters/min. |
| CARTON | 35-90 | 65-132 (135) | 12-90 | 270 cartons/min. |



C80 SERIES

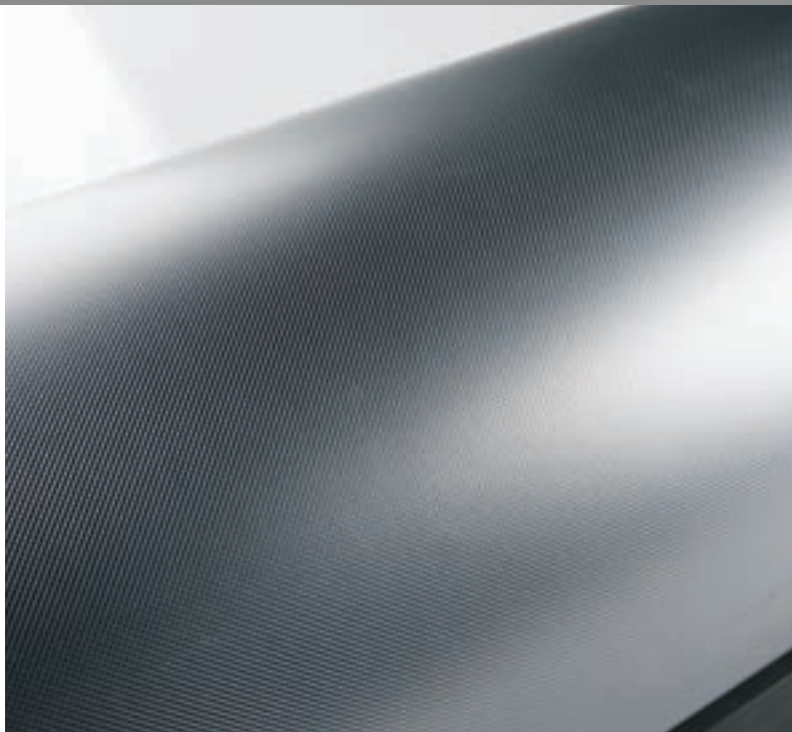
THE IMA C80 IS A BLISTER PACKAGING MACHINE CHARACTERISED BY SUPERIOR PERFORMANCE AND FLEXIBILITY WITH MINIMAL PRODUCT AND MATERIAL WASTE. PRODUCTION FLEXIBILITY IS THE KEY ELEMENT IN THE SOLID AND RELIABLE TECHNOLOGY OF THE C80.



C80R

Stand alone blister packaging machine

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-----------------------|
| BLISTER | 30-90 | 60-150 | 3-12 | 400-600 blisters/min. |



C80-A81

Blister packaging machine with integrated cartoner

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | MAX OUTPUT |
|----------------|---------------|----------------|---------------|-------------------|
| BLISTER | 30-90 | 60-150 | 3-12 | 400 blisters/min. |
| CARTON | 35-93 | 70-155 | 12-90 (100) | 250 cartons/min. |

C80 SERIES

C80HS

C80HS (High Speed) is available in the following versions:

- C80HS-A86
- C80HS-A96
- C80HS-A96HS
- C80HS/JP

C80HS-A86 AND C80HS-A96/HS INNOVATIVE AND UNIQUE CUTTING UNIT.

To avoid the Product Recall problem the innovative and patented blister cutting system assures that rejected, faulty blisters cannot be re-inserted into the packaging process due to the different cutting configuration.



C80HS-A86

Blister packaging machine with integrated cartoner

A design that has taken into consideration every detail in order to achieve high output.

Rejected blisters are easily identifiable due to a difference in shape from good ones; this therefore avoids any possible mix up during the production process.

The movements of the machine are fluid and harmonious and this, together with the purpose-made guards, guarantees noise reduction never experienced before.

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-------------------|
| BLISTER | 30-90 | 65-145 | 3-12 | 700 blisters/min. |
| CARTON | 30-90 | 70-150 | 15-90 | 350 cartons/min. |



C80HS-A96

Blister packaging machine with integrated cartoner

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|--|
| BLISTER | 30-90 | 65-145 | 3-12 | 700 blisters/min. |
| CARTON | 35-95 | 70-150 | 15-90 | A96: 450 cartons/min. A96HS: 500 cartons/min. |

C80HS-JP

Blister packaging machine

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-------------------|
| BLISTER | 30-90 | 60-145 | 3-12 | 800 blisters/min. |

The C80H S/JP is a close collaborative and production effort between IMA SAFE and OMORI.

With OMORI's In terlocking & Banding, the C80/JP is the central part of the fastest packaging system in the Japanese market. The overall footprint of the packaging line is greatly reduced.

C96-A96



THE FASTEST IN SPEED AND CHANGEOVER

The IM A SAFE C96- A96 blister line has been designed for the highest attainable outputs and efficiency in the world: 1300 blisters/minute and 450 or 500 cartons/minute. Again, the line concept is based on continuous motion. The integrated high-speed A96 cartoner uses positive blister transport to achieve the highest possible machine efficiencies and outputs. The A96 features fast and easy changeover and cleaning which helps reduce downtimes to a minimum. The C96-A96 can also include optional features which further eliminate the need for operators so that non-stop production can be obtained.

C96-A96

Blister packaging machine with integrated cartoner

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|--|
| BLISTER | 30-90 | 65-145 | 3-12 | 1300 blisters/min. |
| CARTON | 35-95 | 70-150 | 15-90 | A96: 450 cartons/min. A96HS: 500 cartons/min. |

C360



THE C360 IS IMA SAFE'S LATEST TREND SETTING A THERMOFORMER DESIGNED FOR DEEP DRAW PACKAGING.



C360

Deep draw thermoforming machine

PRODUCTION OUTPUT

600-1000 1-2 ml DIN ampoules/minute
600-1000 1 ml DIN syringes/minute

CARTONERS

| | |
|-----------------|--------------------------|
| X1 | up to 110 cartons/minute |
| FLEXA | up to 140 cartons/minute |
| DYNAMICA | up to 350 cartons/minute |

This modular designed line has the most compact footprint in its product range while granting the highest flexibility in production applications and it can be integrated with different ima safe cartoning models.

A wide range of products can be packed such as ampoules, vials, syringes and many others thanks to the use of robotic systems which have been applied to the most critical areas: product feeding & connection to the cartoner.

In 1995 IMA acquired the company Precision Gears set up in 1961, now known as IMA-PG India Ltd., based in Mumbai (India) with a second production facility in Indore. IMA-PG India Ltd. produces low-speed thermoforming machines for blisters and trays, cartoning machines for exportation and a vast range of models for the domestic market.

THE MACHINES MANUFACTURED BY IMA-PG INDIA ARE ESSENTIAL AND ECONOMICAL, AND ARE SOLD NOT ONLY LOCALLY, BUT AROUND THE WORLD.



CLINIPACK

Blister and Tray packaging machine

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------------|-------------------|
| BLISTER | 90 | 122 | ALU 12 PVC 22 | 90 blisters/min. |

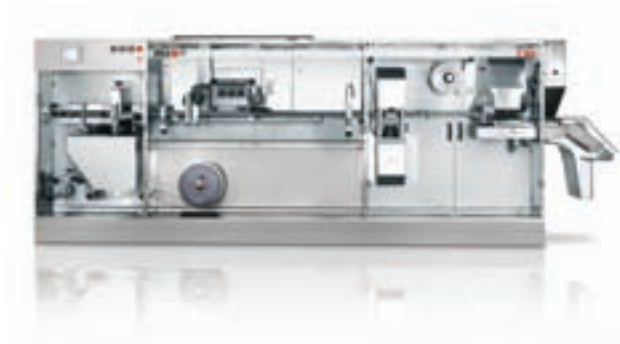


TR 100LT

Blister packaging machine

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-------------------|
| BLISTER | 138 | 152 | 12 | 150 blisters/min. |

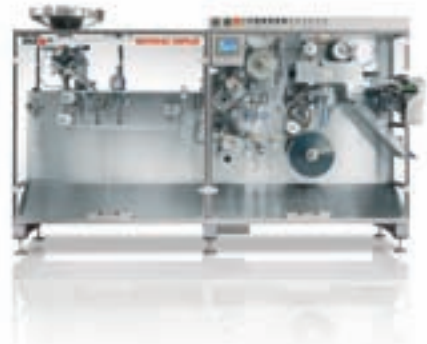
The TR100 is a compact and economical blister machine manufactured by IMA-PG India. Thanks to extremely flexible features, the machine is especially suitable for small to medium production runs, clinical trials and contract packagers, even though its concepts are those of a high-scale production machine.



C102 SERIES

Deep draw thermoforming machine

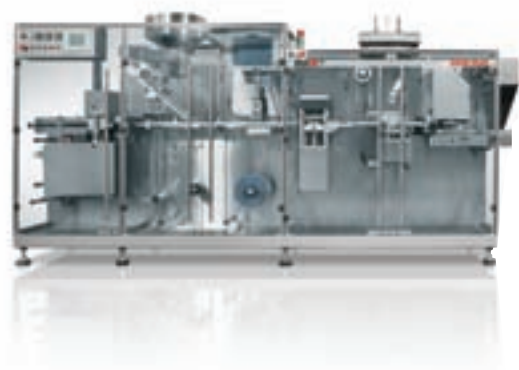
| PRODUCTION OUTPUT |
|--|
| Output for 105 trays of 5 ampoules of 1 ml/ 2 ml: 525 ampoules/minute (single feeder) |



ROTOVAC SERIES

Blister packaging machine

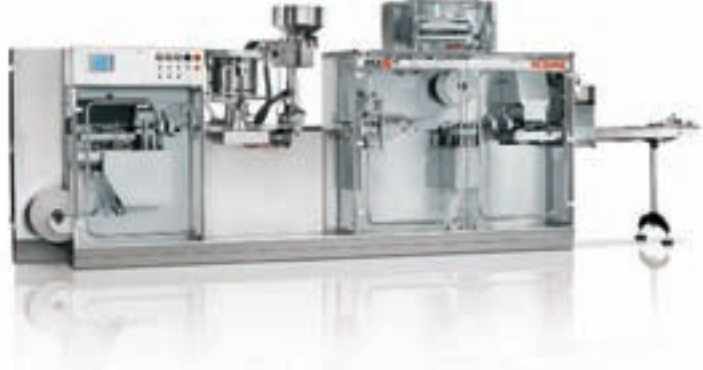
| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-------------------|
| BLISTER | 100 | 200 | 10 | 240 blisters/min |



EXCEL SERIES

Blister packaging machine

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-------------------|
| BLISTER | 138 | 177 | 12 | 200 blisters/min. |



SUPER

Blister packaging machine

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|----------------|------------|-------------|------------|-------------------|
| BLISTER | 152 | 128 | 12 | 225 blisters/min |

STAND ALONE CARTONERS

Since the mid 1970s IMA SAFE has had the reputation of innovator in cartoning technology. IMA SAFE cartoning machines are designed to run efficiently, reliably, quietly and with fast changeovers. Maintenance needs are minimized. Each machine is designed to optimize valuable floor space with innovative solutions, such as carton transport by way of belts, tuck closing solutions and balcony construction are the result of IMA SAFE's focus on increasing production output. Compact and versatile, IMA SAFE cartoning machines ensure high operation standards and are suited to flexible packaging needs.

FEEDING SYSTEMS

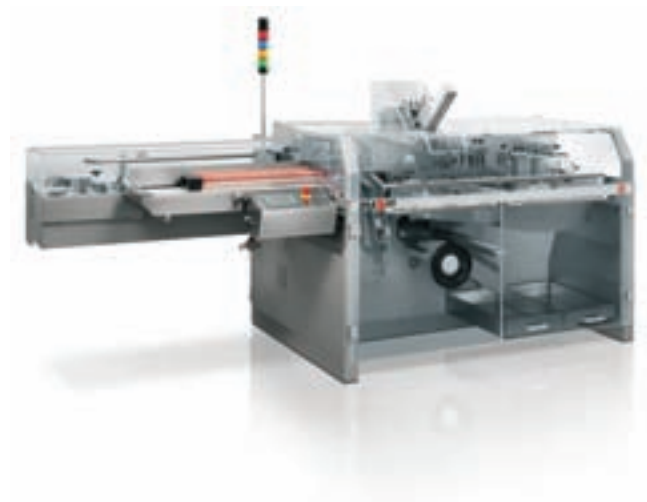
Cost effective and flexible feeding systems are available which offer a wide range of solutions for pharmaceutical and other types of products. Systems have been developed to facilitate modular feeding concepts which are necessary to meet the market's needs as well as product variants which are increasing over time.



IC 150 - IC 175C

| CARTON | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | A+B (MM) | PRODUCTION OUTPUT |
|---------|------------|-------------|------------|----------|-------------------|
| IC 175C | 32-85 | 60-120 | 12-60 | 140 max. | 150 cartons/min |
| IC 150 | 20-85 | 50-190 | 12-60 (68) | 140 max. | 120 cartons/min |

IC150 - Intermittent motion cartoning machine designed for low/medium production packaging lines.



X1

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|--------|------------|-------------|------------|-------------------|
| CARTON | 15-105 | 55-220 | 12-90 | 140 cartons/min |

Horizontal intermittent motion cartoner.

IMA CARTONING MACHINES CAN FEED:

| | | |
|---|--|-----------------------------|
| BLISTER COMBINATIONS | BLISTER-CARTON | |
| | BLISTER PROTECTED IN FLOWPACK + CARTON | |
| | BLISTER + INHALER | |
| | BLISTER + TABLET CASE | |
| | TRAYS | |
| COMBINATION THERAPY, E.G. BLISTER + BOTTLES | | |
| OTHER PRODUCTS | VIALS | VIALS |
| | BOTTLES | BOTTLES |
| | TUBES | TUBES |
| | SYRINGES | SYRINGES |
| | PPP (Parenteral Paper Pack) | PPP (Parenteral Paper Pack) |

| |
|--|
| PRODUCT INFORMATION |
| INSTRUCTION LEAFLETS, BOOKLETS, DIVIDERS, ETC. |



FLEXA SERIES

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|---------------|------------|-------------|------------|-------------------|
| CARTON | 15-140 | 55-220 | 12-90 | 190 cartons/min |

Continuous or intermittent motion cartoning machine Flexa Series is available in 9 models.



A83E/EH

| | WIDTH (MM) | LENGTH (MM) | DEPTH (MM) | PRODUCTION OUTPUT |
|---------------|------------|-------------|------------|---|
| CARTON | 35-90 | 72-150 | 14-90 | A83E: 140 cartons/min A83EH: 160 cartons/min |

Intermittent motion cartoning machine, the simplest and most reliable cartoner designed to be linked with blister machines.



DYNAMICA SERIES

| CONTINUOUS MOTION CARTONER | WIDTH (A) (MM) | HEIGHT (B) (MM) | LENGTH (H) (MM) | A+B MAX. | PRODUCTION OUTPUT |
|----------------------------|----------------|-----------------|-----------------|----------|-------------------|
| DYNAMICA S | 25 – 90 | 15 – 90 | 65 – 200 | 180 | 350 crt/min |
| DYNAMICA L | 25 – 130 | 15 – 90 | 65 – 200 | 180 | 250 crt/min |
| DYNAMICA V | 25 – 90 | 15 – 90 | 65 – 150 | 180 | 400 crt/min |

Continuous motion cartoning machine.

END-OF-LINE SOLUTIONS

IMA HAS A LONG TRADITION OF DESIGNING AND MANUFACTURING END-OF-LINE OR "SECONDARY PACKAGING" MACHINES.



IMA BFB employs 160 people and is in the fortunate position of being the ideal supplier to multinationals, small laboratories and subcontractors. The reasons behind our success can be found in our extensive knowledge of the market and ability to provide customized solutions that cater for most of our user's needs.

The constant flow of ideas generated by our close-knit team has resulted in a number of innovative concepts such as compact machine sizes, integrated packaging solutions, rapid size changeover and the handling of complex or non-standard products.

A dedicated team of designers work on creating solutions intended to facilitate production and assembly, while cutting down on delivery times and installation costs.

We pay particular attention to limiting the costs of manufacturing and maintaining the machines (life cycle costs), which results in higher profits for our customers.

STRETCH-BANDING & SHRINK-WRAPPING MACHINES

- MS280BAN up to 80 bundles/min.
- MS250 up to 60 bundles/min.
- MS250 FOR BLISTER up to 350 stacks/min.



OVERWRAPPING MACHINES

- 3705 up to 300 bundles/min.
- 3701-11-21 up to 100 bundles/min.
- 3703 up to 100 bundles /min.
- AF60 up to 60 bundles/min.



TRAY PACKERS

- TP60 up to 60 trays/min.
- FR30 up to 40 display boxes/min.



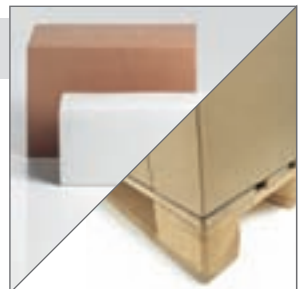
HORIZONTAL & VERTICAL CASE PACKING MACHINES

- VERTICAL 3754 (V) up to 30 cases/min.
- CPV20 (V) up to 20 cases/min.
- CPV15 (V) up to 15 cases/min.
- TLS (V)
- CP50 up to 50 cases/min.
- CP38/20-CP38 up to 30 cases/min.
- CP18/28 up to 10 cases/min.
- CP48 up to 8 cases/min.
- CPM



INTEGRATED CASE-PACKING/PALLETIZING

- CPV15+FLEX 2FPS up to 15 cycles/min.
- VERTICAL CARTOPALLET up to 7.5 cycles/min.
- CP18/28+FLEX 2FPS up to 8/10 cycles/min.
- CP18+MINIFLEX up to 5/6 cycles/min.



PALLETIZING & DE-PALLETIZING

- FLEX PALLETIZER up to 15 cycles/min.
- 2FPS up to 10 cycles/min.
- MINIFLEX up to 6 cycles/min.
- DE-PALLETIZER up to 6 cycles/min.



OTHER IMA SOLUTIONS FOR BLISTER PACKAGING

- A solution to manufacture small blister batch sizes on (existing) equipment
- A solution that permits users to better utilize existing assets without having to modify or add expensive components
- A solution for blister manufacturers who are unable to invest in new high performing blister and cartoning machines like the Giant and Giant 1
- A solution which allows for the seamless integration of production sites and packaging sites



POD – PRODUCTION ON DEMAND

The solution for Late Stage Blister Customization

It's a patented de-cartoning system combined with a positive blister transport system, a Drop On Demand printing solution and cartoner, which enable customers to have highly flexible production systems, while still using their existing blister machines.



CONTAINMENT

IMA SAFE has supplied a variety of customized solutions for the containment of highly potent drugs which are packaged in blisters. With more than 50 references, IMA SAFE's CONTAINMENT solutions are based upon the individual needs of the client and are also based on the containment and isolation technologies commonly used by IMA ACTIVE Solid Dose Solutions and by IMA LIFE Aseptic Processing and Freeze Drying Solutions.

PRODUCT CATEGORIES ACCORDING TO OCCUPATIONAL EXPOSURE LIMITS

| OEL CATEGORY | OEL RANGE $\mu\text{g}/\text{m}^3$ | HAZARD DESCRIPTION |
|--------------|------------------------------------|---|
| OEL 1 | 1000-5000 | harmful, and / or low pharmacological activity |
| OEL 2 | 100-1000 | harmful, and / or moderate pharmacological activity |
| OEL 3 | 10-100 | moderately toxic and/or high pharmacological activity |
| OEL 4 | 1-10 | toxic and very high pharmacological activity |
| OEL 5 | >1 | extremely toxic and extremely high pharmacological activity |

OEL (Occupational Exposure Limit): safe level of airborne exposure for an 8-hour workday, which does not impair health day after day at work (mg/m^3).

IMA's technology reaches all potential levels request.

OBJECTIVES:

- Full compliance with specific safety requirements and system reliability
- Assurance of a controlled working environment
- Repeatability of the operational process and parameters
- Easy calibration of instruments and subsequent qualification of equipment and processes
- Avoid the use of special clothing and breathing systems needed for individual operator safety
- Eliminate the elevated cost and maintenance needed in containment rooms for packaging equipment
- Protect operators from exposure to highly active pharmaceutical ingredients (APIs)

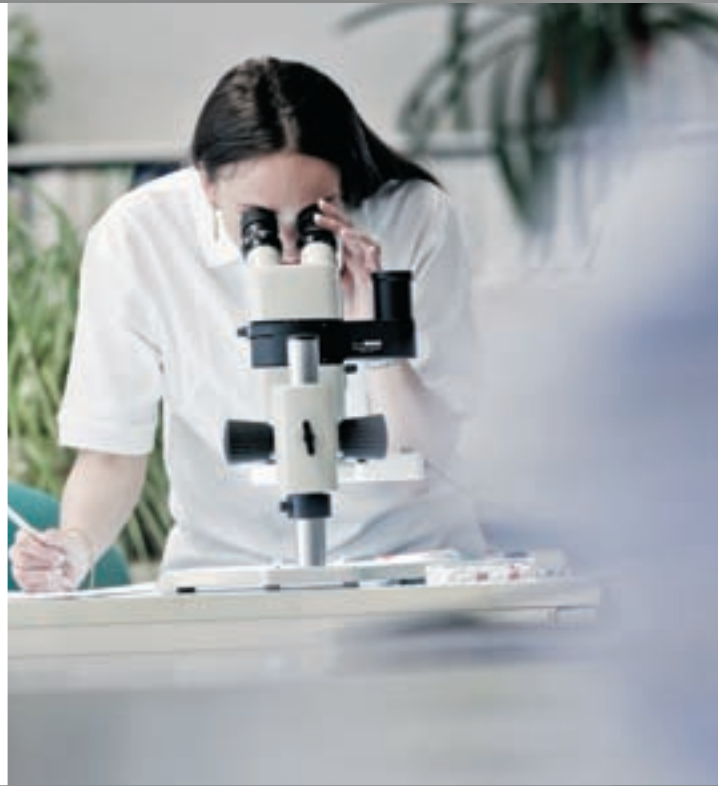
TRACK & TRACE + SECURITY



IMA SAFE AND IMA SAFE LINE WORK ACTIVELY ALONGSIDE THE MAJOR SUPPLIERS OF TRACK & TRACE SYSTEMS FOR THE INTEGRATION OF 2D CODE PRINT UNITS AND DATA COLLECTION AND STORAGE WITH A VIEW TO FINDING THE MOST FUNCTIONAL AND GMP SOLUTION POSSIBLE.



SIZE PARTS TESTED PERFORMANCE GUARANTEED



IMA size parts are fully tested before being sent to the customer, thus ensuring that production can start immediately. Originally manufactured size parts allow IMA machines to work at their highest production efficiency. Size parts are designed with a combination of detailed technical knowledge and practical know-how.

- Detailed experience with all types of packaging materials
- Detailed knowledge of the customer's particular machine configuration
- Design and drawing systems based on the technical parameters of each machine model.

SALES AND SERVICES

A GLOBAL APPROACH TO CUSTOMER REQUESTS.

PROMPT AND EFFECTIVE TECHNICAL ASSISTANCE THROUGHOUT THE ENTIRE LIFE-CYCLE OF THE MACHINE.

GLOBAL MANAGEMENT OF LINE MATTERS FOR COMPLETE LINES SUPPLIED BY IMA. DIRECT INVOLVEMENT OF ENGINEERING DEPARTMENTS AS REQUIRED.



SERVICE

IMA machines incorporate the latest developments in technology and are designed to ensure the highest production efficiency with low maintenance. To obtain top performance from our machines, IMA recommends **technical training courses** for personnel from Production (Operators, Technicians and Supervisors), R&D, Process Transfer Department and the Maintenance Department.

Training courses can be organized at IMA's site or at the customer's plant and are taught by qualified IMA technicians. These courses are tailor-made and modular and are designed to fulfil each individual customer's specific needs. Basic, Intermediate and Advanced training modules can be applied and special attention is given to the customized units which are fitted on the client's specific machine.

These courses allow the customer's staff to operate the machine, maintain it in perfect working condition and explain





SPARE PARTS

The service of supplying original **IMA spare parts** fits completely with IMA's first-class maintenance service concept of taking care of the equipment as well as the customer's investment completely.

The Spares Department has a very efficient delivery network, thanks to our Subsidiaries and Agencies, we are able to carry out deliveries of Spare Parts in the shortest time possible.

Extended to most of the IMA machine models, **My IMA Spare Parts** is your virtual shop window available 7 days a week, 24 hours a day intended to provide immediate replies to enquiries, price, delivery time, quotations and order status. All that you need is in just a few clicks!

how to carry out troubleshooting procedures in the easiest and fastest possible way. IMA can also provide **course on improving O.E.E.** and increasing production levels which are very important objectives in the pharmaceutical industry.

To guarantee fast and efficient assistance and support, **RSA – Remote Service Assistance**, enables IMA to provide support via modem and via tele-video conference. RSA enables an immediate analysis of the machine's status and working condition and can be of particular use in case if problems occur.



IMA SAFE PROVIDES PROMPT AND EFFECTIVE TECHNICAL ASSISTANCE WHICH COVERS THE ENTIRE LIFE CYCLE OF ITS EQUIPMENT. THIS ASSISTANCE IS PROVIDED BY A DEDICATED TEAM OF EXPERTS ABLE TO MEET OUR CLIENT'S NEEDS ON A DAY TO DAY BASIS.

A CUSTOMER ORIENTED AFTER SALES SERVICE STAFF IS WHAT DISTINGUISHES IMA FROM THE OTHER MANUFACTURERS.

IMA SAFE IN THE WORLD



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