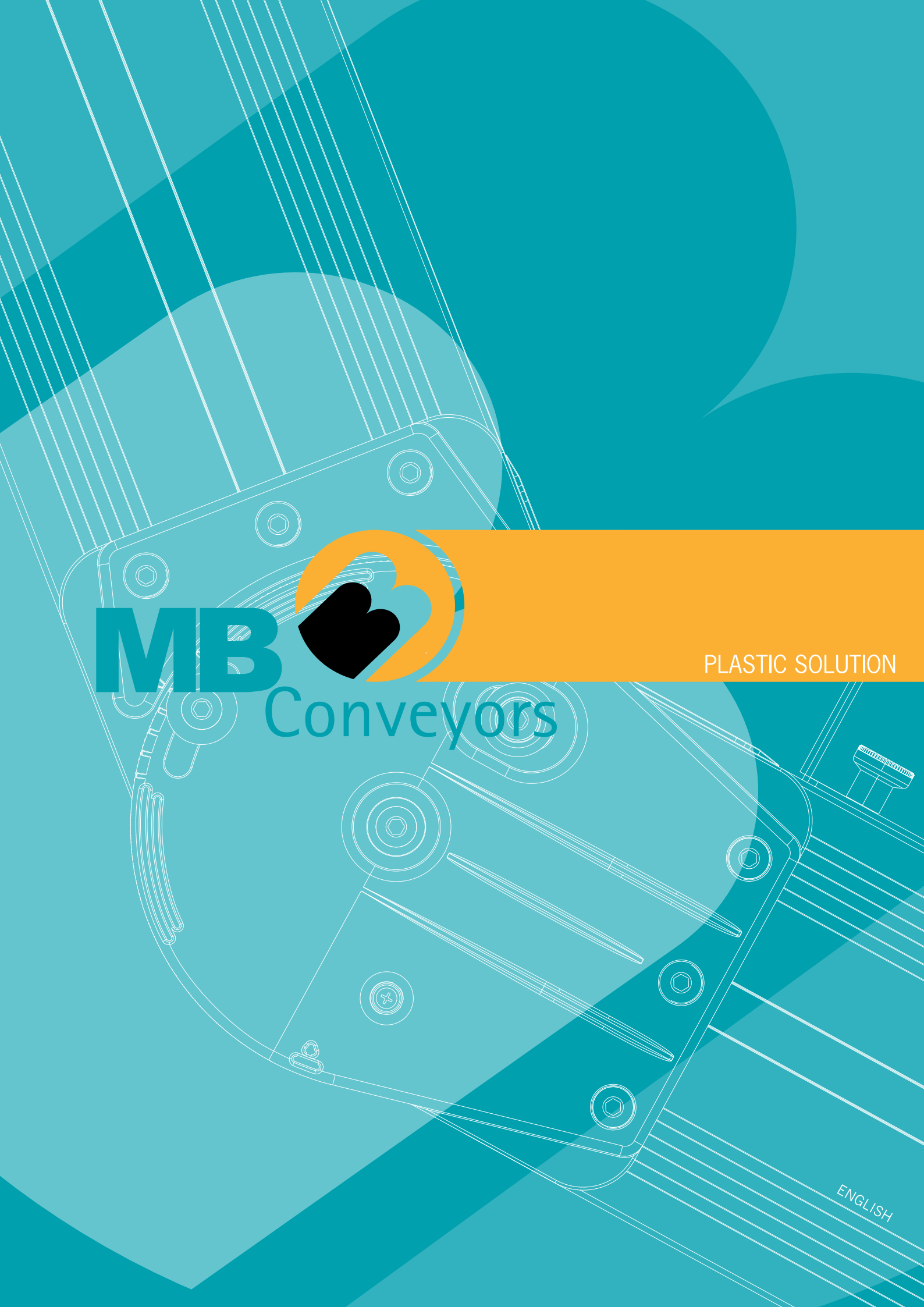


MB Conveyors

PLASTIC SOLUTION

ENGLISH

MB Conveyors

CONTENTS

Company Profile

Producing custom-made solutions, machinery and systems for every application and need in the field of industrial handling: this is how MB Conveyors pursue their company mission.

MB Conveyors boast 28 years of background and experience in mechanics which explains their passion for the product and careful attention to detail.
System functionality and profitability, service and customer care, research and development supported by experts and processes; these are the main components of a value chain that starts and ends in seamless integration between the company and our customers.

Quality is assured by performing rigorous tests along every step of the production line, using the latest generation production systems and choosing only the highest quality materials.

The team at MB Conveyors has always placed customer ideas at the center of their work where they express their professionalism.

HISTORY

MB Conveyors, 1985-2013: 28 years of continuing development.

1985 MB Conveyors is founded.
The first company in the industrial handling sector to manufacture custom-made machinery based on specific customer needs.

1985 MB Conveyors takes part in Europlast Paris trade show.

1993 Aluminum profiles replace sheet metal.
A simple change in material that led to decisive results: faster cycles and higher functionality for systems.

1995 The first conveyors for the PET sector are manufactured.

1996 Development and introduction of an MB control panel for conveyors.

1998 MB Conveyors moves and expands their production facilities.

2002 The PET sector production facilities are extended.

2010 MB Conveyors celebrates 25 years of business marked by extensive know-how in designing, building and installing industrial handling systems.
The company continues to maintain its role as a world class leader in the sector by investing in the search for new models, new operating systems, new development paths and gaining an increasing share of world markets.

RESOURCES

Technology. Professionalism. Customer service.

MB Conveyors is considered one of the most reliable and modern companies in the sector of industrial handling.
Every project is managed by a highly qualified team of over 40 workers made up of engineers, technicians and designers.
The production facilities and plants are located in the industrial region of north-east Italy, in the province of Vicenza, Veneto.

The brand “Made in Italy” is not only a label on our products, but the result of production choices that binds our company to its territory.

Every year our 5,600 sqm production plant manufactures over 4,000 conveyor belts for a wide range of applications:

- plastics
- PET
- foodstuffs/pharmaceuticals
- medical
- mechanical.

MISSION

Experience. Determination. Enthusiasm

The spirit of MB Conveyors in three words. More than twenty-five years of history and success realizing projects in the present,to be recognized as a company who excels, provides innovative interpretations, offers quality, custom-made conveyors belt.

Tradition, skill, creativity and quality are the distinguishing features of our production system. By adopting the right strategies to face global competition we succeed in developing and maintaining the high value of production that is completely “Made in Italy”. All of this with a single objective: the highest quality at the customer’s service.

MB AND SPORT

Sponsor of the Speed Up Team in the Moto2 World Championship

After a positive 2012, MB Conveyors confirms its commitment for the 2013 season as a sponsor of Luca Boscoscuro's Speed Up Team for the Moto2 World Championship.
During the last exciting season, front runner Andrea Iannone (2 victories, 2 second places, 1 third places and 4 fourth places) came third in the general classification for the second year in a row, confirming himself as a rising star on the international scene.

For the 2013 season, the Team's bet is on the Italian Factory: Simone Corsi, Mattia Pasini, Alex De Angelis and Ricki Cardus will ride the prototype of the S13 Speed Up.

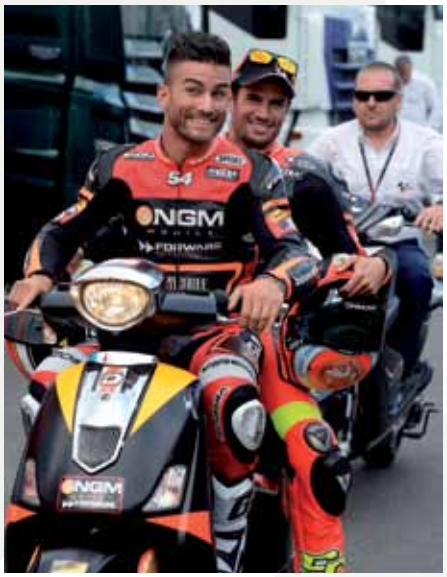
Once again, the MB Conveyors logo will feature in the colours of a Team that stands out for its record-breaking performance and results, and that has become one of the world's best on the motocycle racing scene.
A winning alliance in which our brand continues to play a leading role.

Mugello 2013 - Corsi - De Angelis

Mugello 2013 - Pasini

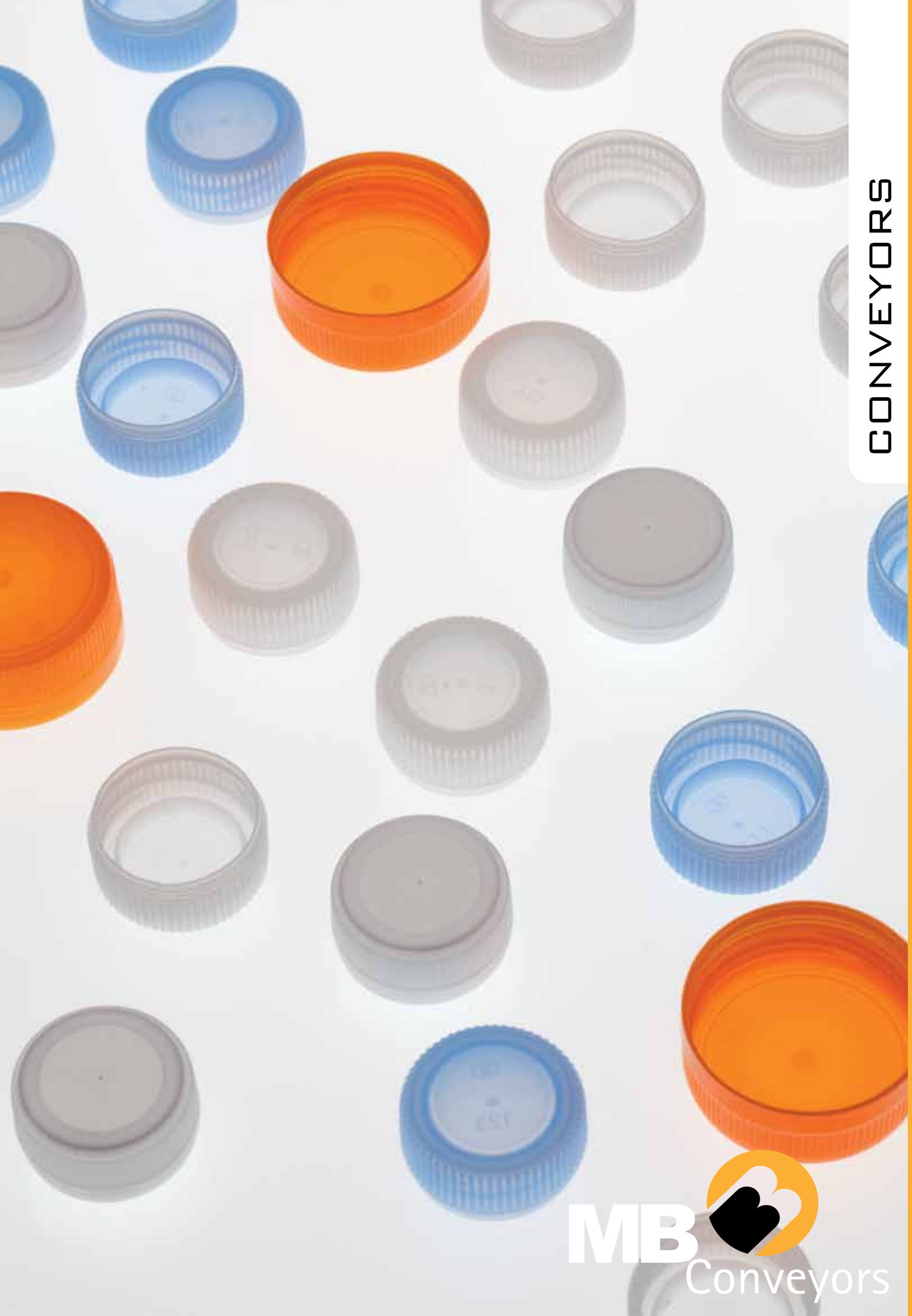
Sacksenring 2013 - Corsi

Jerez 2013 - Corsi



Silverstone 2013 - Pasini - Corsi

Catalunya 2013 - De Angelis



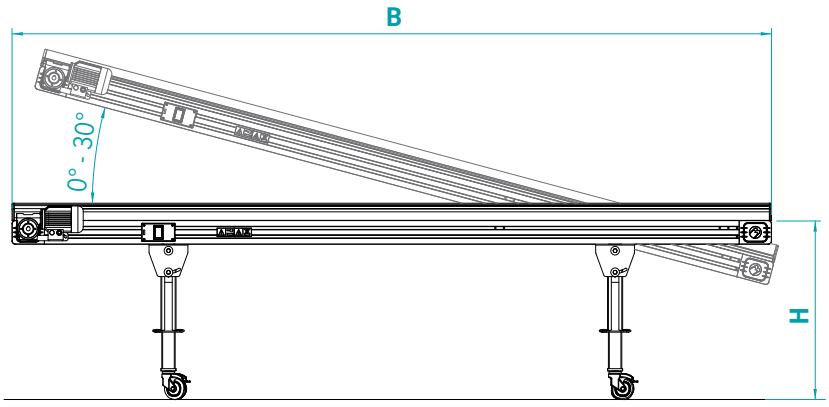
CONVEYORS

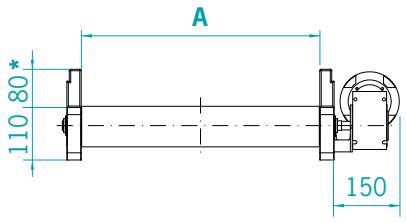
MB Conveyors

PA standard flat conveyor

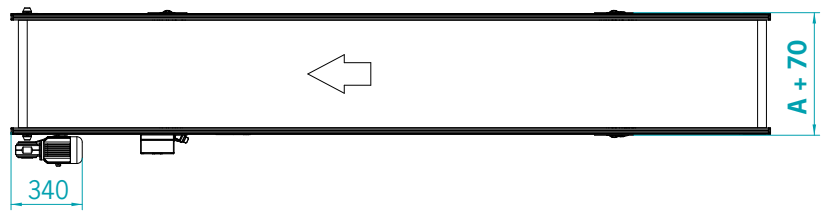
- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation average thickness 15 micron.
- Standard cut-proof, oil-proof belt, with smooth green Polyurethane covering (ref. Pantone 320); vulcanised belt joint.
- Minimum and maximum temperature resistance of belt: -10°C to +90°C.
- Standard transmission group consisting of 0.12 kW, three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication.
- Fixed standard conveyor speed 3 m/min.
- Conveyor complete with Siemens Start and Stop switch/motor cut-out, with 5 m cable and 4P CE plug (3 phases+ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES





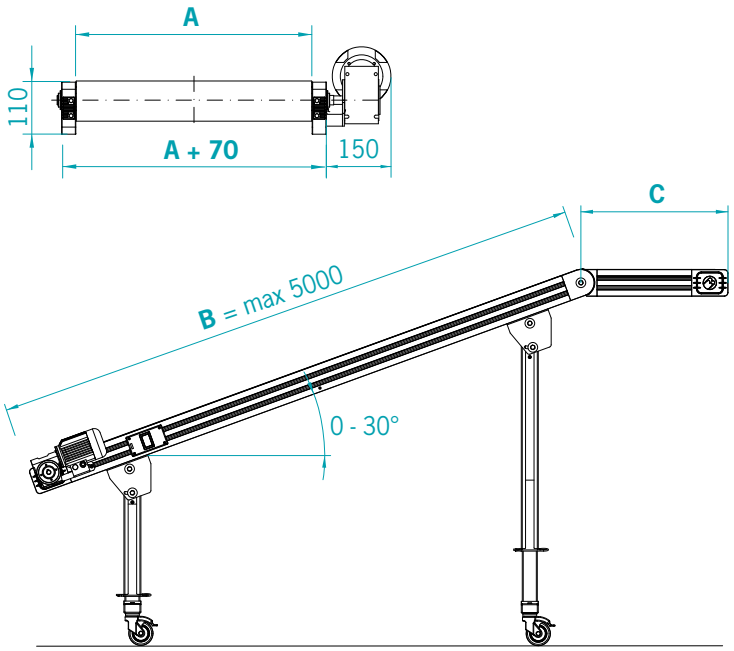
*Standard removable side panels 80 mm h

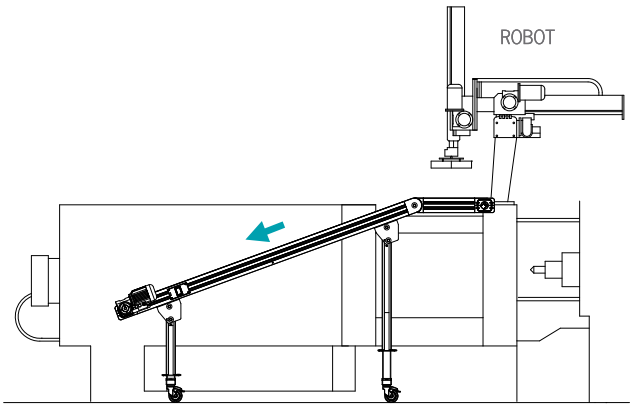


A	B	H
min 100 mm	min 600 mm	min 200 mm
max 2000 mm	max 60 mt	max 2000 mm

- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation average thickness 15 micron.
- Standard cut-proof, oil-proof belt, with green high grip PVC covering (ref. Pantone 320); vulcanised belt joint.
- Minimum and maximum temperature resistance of belt: -10°C to +60°C.
- Standard transmission group consisting of 0.12 kW, three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication.
- Fixed standard conveyor speed 3 m/min.
- Conveyor complete with Siemens Start and Stop switch/motor cut-out, with 5 m cable and 4P CE plug (3 phases+ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES





Example of application

A	B	C
min 100 mm	min 600 mm	min 600 mm
max 1200 mm	max 5000 mm	max 1000 mm

PA conveyor to work with Robot

PA to work with Robot

• The image alongside shows a PA conveyor, positioned beside the IMM, for collecting and conveying the products deposited by the Robot.

• In this image, the Robot stacks the product one on top of the other and, after completing this operation, it sends a consent for Start to the conveyor MB control panel.

• After receiving the signal (A/C voltage-free signal) from the Robot, the control panel activates timed forward movement of the conveyor.

PA for Robot with Polycarbonate guards

• The photo alongside shows the PA conveyor complete with polycarbonate guards.
The PA model conveyor (110 x 30 mm lateral section) is found to be the most suitable for this purpose because of:

- the sturdiness and solidity of the structure;

- the possibility of installing/removing the containment side panels;

- possibility of installing control photocells above the side panels and inside these;

- facility of installation of the Robot protection structure.

PA for Robot with metal mesh guards

• The photo alongside shows the RAL 1023 yellow painted metal mesh guard for the Robot.

• The metal mesh can be supplied with galvanized finish instead of paint, at no extra cost.

• The painted/galvanized mesh guard costs 20% less than the polycarbonate guard.

• The inspection door is used for removing product samples to be checked.

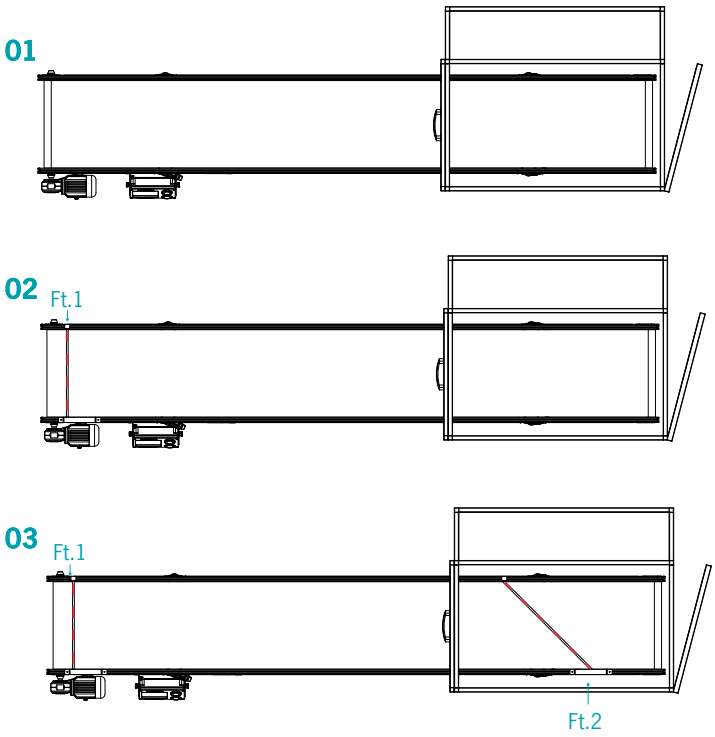
• The inspection door is protected by means of microswitches which permit Robot descent only if it is closed perfectly.
The connection of the microswitch to the robot is up to the customer.

MB Top Control panel installed on PA conveyor to work with Robot

• MB Top Control panel installed for control of the conveyor to work with Robot.
The panel controls:

- A/C voltage-free signal coming from the Robot;
- photocells, if any (max 3) for controlling the conveyor;
- safety microswitch positioned on the openable door of the guard.

• Control panel connection voltage: 400 Volts/50 Hz.



Standard logics contained inside the MB Top Control panel for control of the conveyor working with Robot

01 ROBOT/PULSE Program

• The Robot releases the product on the conveyor and sends a voltage-free A/C signal to the MB control panel.

• The panel sends a Start signal to the conveyor for a preset time.

• When the Start time ends, the conveyor stops to wait for the next signal from the Robot.

02 ROBOT/PULSE Program + Photocell Ft.1

• In addition to program 01 there is photocell Ft.1, positioned at the end of the conveyor, with the overflow function.

• When the product enters its visual field, photocell Ft.1 sends a signal to the MB control panel which activates the alarm and stops the conveyor.

03 ROBOT/PULSE Program + Photocell Ft.1 and Ft.2

• In addition to programs 01 and 02, there is photocell Ft.2 which has the function of making sure the Robot deposit area is clear before each descent. If the area is not clear, Robot descent is inhibited.

PA conveyor working with Robot

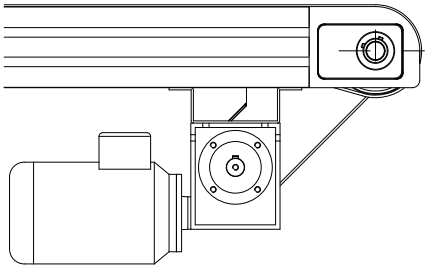
• The photo alongside shows the installation of a PA conveyor on a IMM connected to two Robots.

• The application involves accumulation of the product one on top of the other in a number of rows and the advancement of the conveyor is timed by the control panel (see program 01).

STANDARD HEADS for PA conveyor

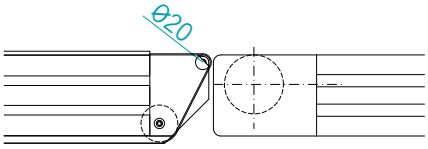
T1

• Head roller diameter 120 mm.
• In this case, the belt thickness is always greater than the conveyor structure.
• Solution indicated for products with dimensions greater than the working width of the conveyor.



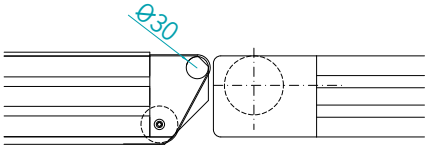
T2

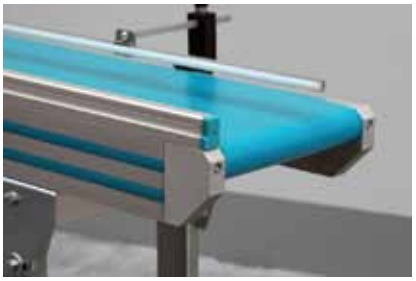
• Head roller diameter 20 mm.
• This solution facilitates the passage of small products from one conveyor to another.



T3

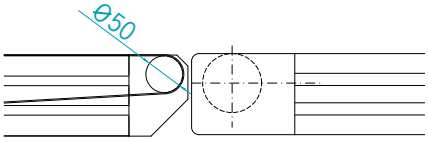
• Head roller diameter 30 mm.
• This solution facilitates the passage of small products from one conveyor to another.

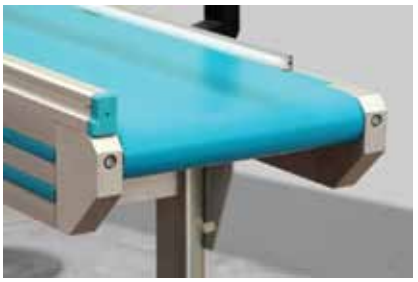




T4

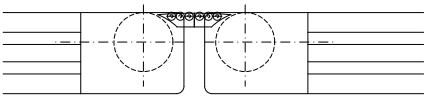
• Head roller diameter 50 mm.
• This solution facilitates the passage of small products from one conveyor to another.





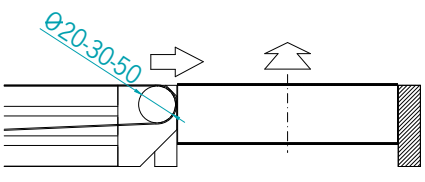
T5

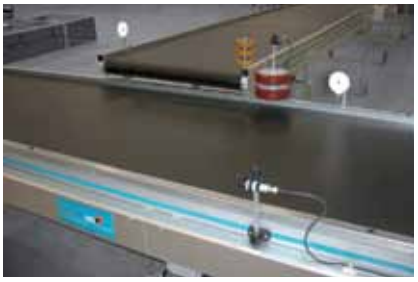
• Head roller complete with roller inserts.
• This solution facilitates the passage of small products from one conveyor to another as long as the surface of the product resting on the conveyor is perfectly flat.



T6

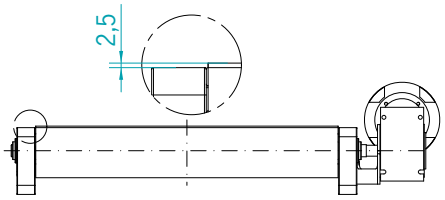
• Example of orthogonal passage between two conveyors.
• To optimize this solution it is important to view the shape of the product to be conveyed.





S1

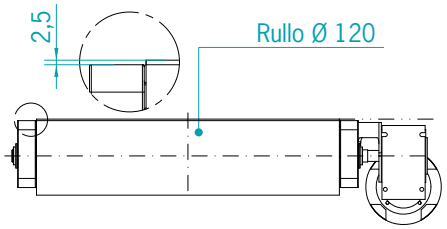
- PA without side panels.
- In the presence of workers working directly above the conveyor.
- When the product width is greater than that of the conveyor and it is picked up before it reaches the height of the transmission group.



PA	PA-180
yes	no

S2

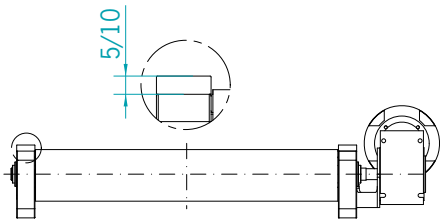
- PA without side panels and with motor under the belt.
- For conveying products with dimensions greater than the conveyor width.



PA	PA-180
yes	no

S3

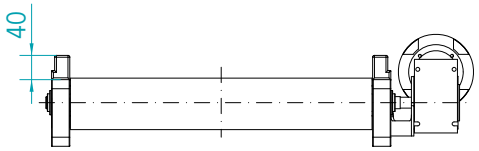
- PA with side panels made of 5/10 mm thick Polyzene plate.
- Solution proposed on request, a conveyor without side panels, large size and high speed, which therefore needs a minimum containment of the belt.



PA	PA-180
yes	no

S4

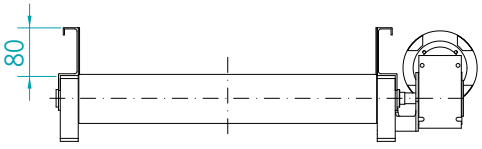
- PA with h. 40 mm side panels.
- Solution proposed when side panels are required, limiting the height of the conveyor.



PA	PA-180
yes	yes

S5

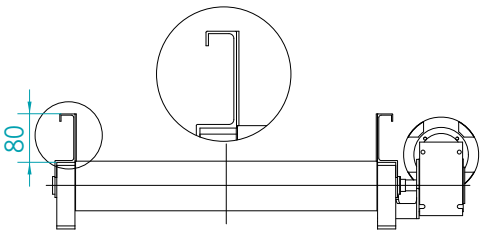
- PA with h. 80 mm side panels.
- Solution which allows installation on top of these of:
- protective polycarbonate or aluminium sheet guards;
- tunnel for cooling the product.



PA	PA-180
yes	no

S6

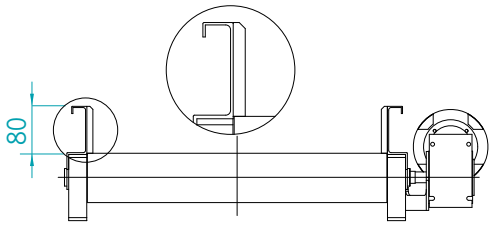
- PA with h. 80 mm Teflon-coated side panels.
- Solution proposed when the product is particularly “delicate” and even the slightest contact with the aluminium side panels can damage it.



PA	PA-180
yes	no

S7

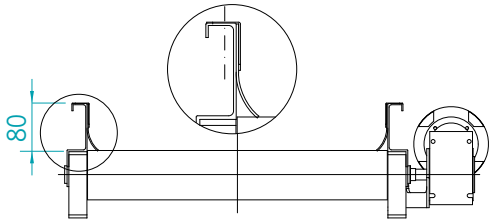
- 80 mm h. side panels with polyzene inner cladding.
- Solution to be proposed when the food/ pharmaceutical product must not come in contact with non-FDA surfaces.



PA	PA-180
yes	no

S8

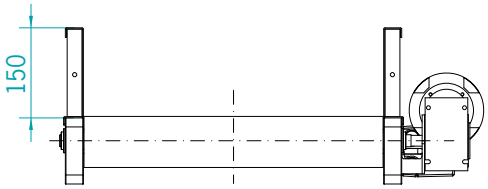
- Side panels made of AISI 304 stainless steel h. 80 mm complete with shim strip.
- Solution to be proposed when the food/ pharmaceutical product must not come in contact with non-FDA surfaces.
- The shim strips ensure side sealing between the sides and the belt.



PA	PA-180
yes	yes

S9

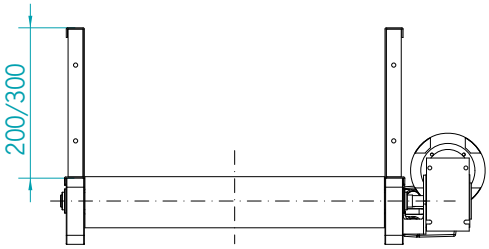
- Side panels made of AISI 430 stainless steel h. 150 mm.
- For conveying products in large sizes and/ or quantities.



PA	PA-180
yes	yes

S10

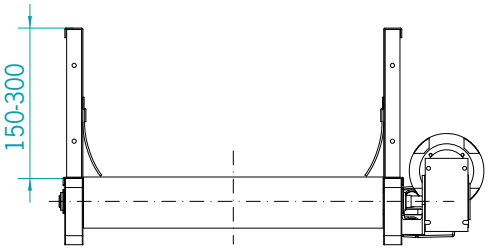
- Side panels made of AISI 430 stainless steel h. 200/300 mm.
- For conveying products in large sizes and/ or quantities.



PA	PA-180
yes	yes

S11

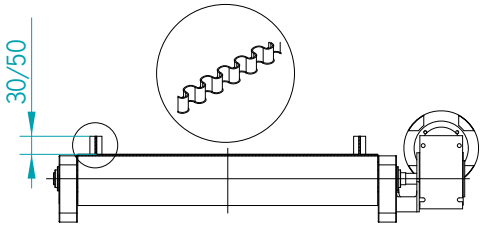
- Sides made of AISI 430 stainless steel h. 150/200/300 mm complete with shim strips.
- For conveying products in large sizes and/ or quantities.
- The shim strips ensure side sealing between the sides and the belt.



PA	PA-180
yes	yes

S12

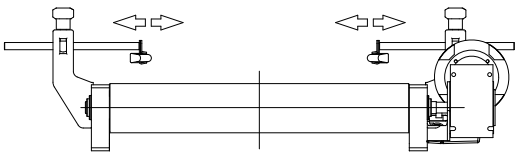
- Belt with lateral Sponda flex.
- Solution to be proposed when the product is small or has pointed or very thin parts.



PA	PA-180
yes	yes

S13

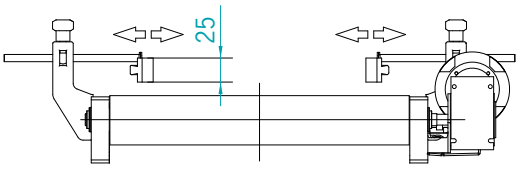
• Polyzene side panels adjustable for width.
• For conveying and guiding containers and/or products of different dimensions.



PA	PA-180
yes	no

S14

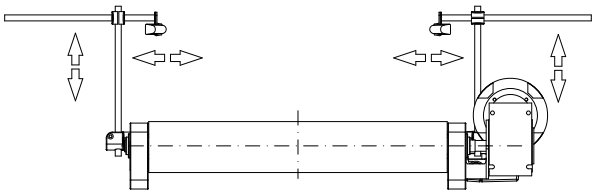
• Polyzene side panels adjustable for width.
• For conveying and guiding containers and/or products of different dimensions.



PA	PA-180
yes	no

S15

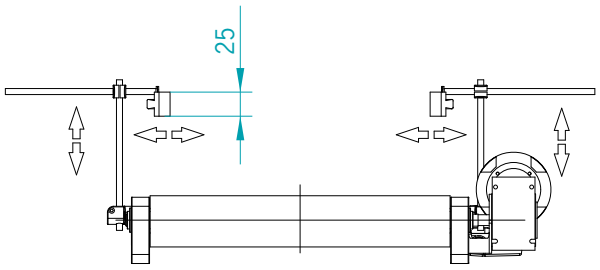
• Polyzene side panels which can be adjusted for width and height.
• For conveying and guiding containers and/or products of different dimensions.



PA	PA-180
yes	no

S16

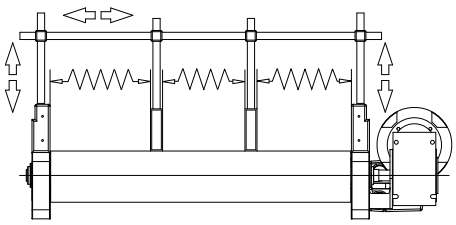
• Polyzene side panels which can be adjusted for width and height.
• For conveying and guiding loose medium and large sized products.



PA	PA-180
yes	no

S17

• Central partitions which can be adjusted for height and width.
• For conveying different products which must not mix with one another.



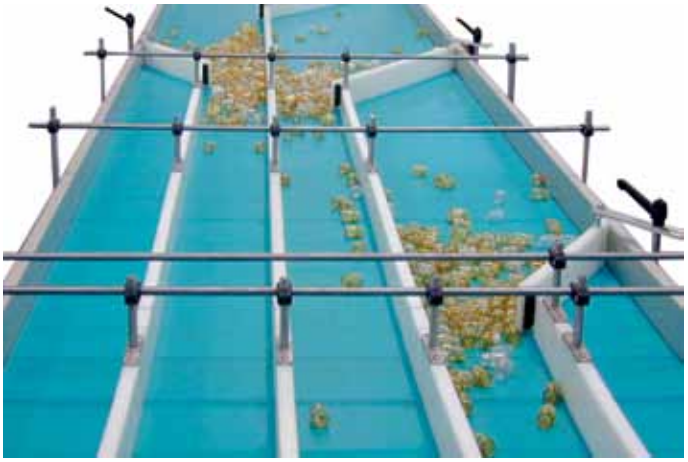
PA	PA-180
yes	yes

Side panels with parallel adjustment

- The photo alongside shows a solution which makes it possible to always have perfect parallelism between the side panels whatever their position.
- Solution to be proposed when the product (cardboard or plastic containers) has different dimensions and must be aligned precisely.

Flat conveyor complete with adjustable side panels

- The photo alongside shows the application of the adjustable side panels.
- Note the black coloured plastic clamps which are used for adjusting the width and height of the side panels.
- Each of the the side panels consist of two polyzene bars with metal support.
- Also note the head roller insert, necessary for conveying small products from one conveyor to another.



PA complete with central partitions

- The photo alongside shows the installation of the central polyzene partitions for separate routing of product.
- When the side panels are fixed, the black plastic clamps are used for changing the width between the partitions.
- This solution makes it possible to create different independent conveying routes within the same conveyor.
- In this application the conveyor belt must have high flowability.

PA with belt complete with Sponda Flex

- The photo alongside shows the conveying routes created by the Sponda Flex.
- For PA conveyors, the maximum height of the Sponda Flex may not exceed 50 mm.
- In this application, the Sponda Flex is not used to delimit the lanes but to support the product.

PA overlapped with unload from Robot

• The photo alongside shows the great versatility of the PA conveyor model.

• In this application, the PA conveyors creates a product storage warehouse vertically, to be placed beside the IMM.

• The offset between conveyors created in the initial part is necessary for accessibility of the unloading Robot.

• Note the supporting legs and protection of the Robot deposit area.

PA forming a conveyor line

• The photo alongside shows a solution for conveying the incoming production from a number of operating units.

• The dimensions of the conveyors and the solutions to be adopted in the orthogonal passage vary according to the type of products to be conveyed and the duration of the moulding cycles.

• Conveying may be done in two ways:

- when the product can come in contact with other products;

- when the product must not come in contact with other products.

PA forming a conveyor line

• The photo alongside shows a very special solution where, during conveying, it is necessary to overcome an obstacle exceeding 4 m.

• The conveyors comprising the line are all PA models like that placed in the centre of the photo.

• The polycarbonate Tunnel guards protect the product during the conveying phase.

PA installed under a press

• The photo alongside shows the conveyor installed square, inside a press.

• The photo shows how the chute that collects the product as it leaves the die has been made to accurately cover the entire area where the product passes through.

• Polycarbonate guards prevent the product from being soiled by leaking oil or other contaminants.

Conveying system for AUTOMOTIVE products

• A conveying system for vehicle fenders is shown in the photo alongside.

• The system comprises two independent lines, each of which can vary as to center distance and operating height.

• This system allows fenders of different sizes to be collected, conveyed and amassed.

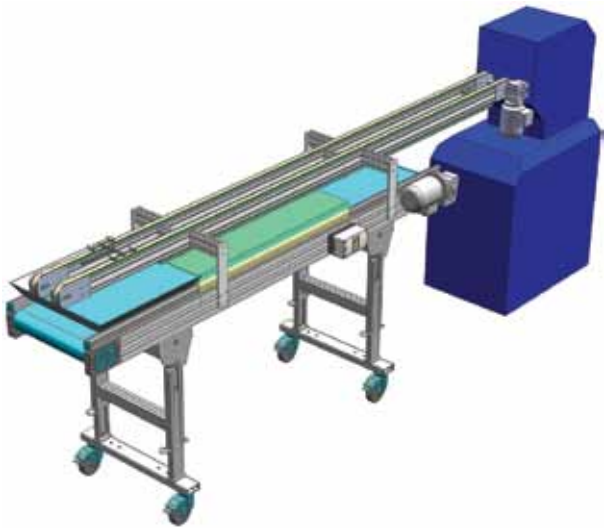
PA for conveying lines

• The photo alongside shows a conveyor installed in a conveying line.

• The conveyor in this application collects and conveys the product from one machine tool to the next.

• A width of 180 mm, as in this case, allows the product to be positioned on the conveyor in several parallel rows.

• The photo shows the tight belt-turning diameter (20 mm), which allows the product to be smoothly transferred from the machine tool to the conveyor without obstruction.



PA with overlapped belts conveyor

• Solution used to allow the Robot to deposit the product on the lower flat conveyor and the sprues on the upper belt conveyor for routing in the granulator.

• In this application the product is a thermo-setting substance with a temperature of approx. 110°C and this is why a belt with elastomer covering heat-resistant up to 140°C is fitted on the PA.

PA with belt back-lighting device

• Solution used to allow detection of the product position by means of a videocamera and thus provide the pickup anthropomorphic Robot with the correct coordinates.

• The special type of belt allows light to pass through to allow correct detection by the videocamera.

• The lamps for the back-lighting are fitted in the removable drawer shown in the drawing.

Product conveying and recovery line

• Solution used for feeding an assembly line and, simultaneously recovering the unused product to bring it back to the line.

• The line consists of an elevator which unloads the product on a table and a side chute which receives the product surplus, routing it on the PA conveyor which conveys it back to the elevator hopper to send it back to the line.

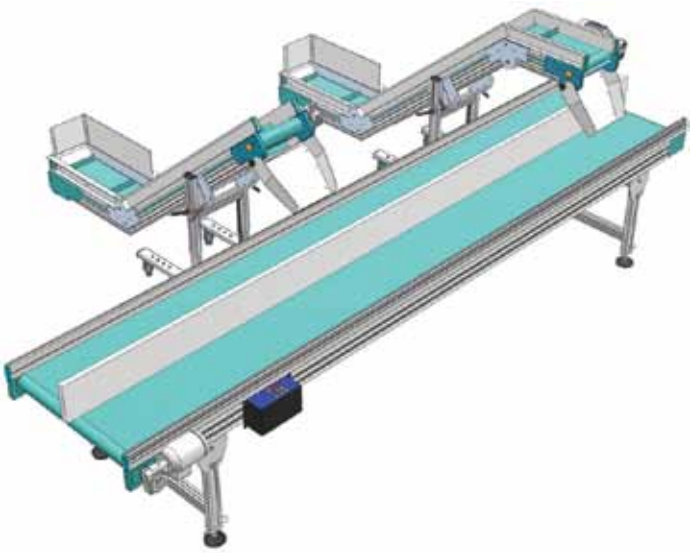
Conveying line for food products

• This solution makes it possible to receive the incoming product and distribute it to the number of work stations for packaging.

• The conveyor line conforms to the F.D.A. regulations

• The Line is completed by a system for recovering the unpacked product and returning it to circulation.

• It is interesting to note the functionality and quality of an assembly comprising a number of MB conveyors.



Product pickup and conveyor line

• Solution used for conveying products coming from a number of operating units which must be kept separate during transport.

• The CP/CPT conveyors release the product in two separate lanes of the PA conveyor.

• The number of lanes to be obtained depends on the product dimensions. The maximum available width of a PA conveyor is 2 m.

Collecting and conveying line

• The photo alongside shows another solution for conveying plastic components from the production unit to the pickup and assembly point.

• This solution is suitable to convey the product to a certain height so as not to interfere with the equipment on the floor. On the polycarbonate covers there are four openings for the cleaning and maintenance of the line.

Conveyor line with alignment system

• Solution used for conveying the product and aligning it at the same time.

• A system of adjustable diverters, together with a series of conveyors with increasing speed and with orthogonal passage, make it possible to obtain perfect alignment of the product necessary for the packaging unit positioned subsequently.

• The conveyors comprising this line confrom to the F.D.A. regulatory standards.

Motor-operated roller conveyor

- Solution used for handling large sized products/containers.
- The motor-operated roller conveyors are suitable for product storage at the end of the line.
- In this application the pneumatic actuator installed for transferring the containers from one roller conveyor to another is highlighted.

Idle roller conveyor with adjustable side panels

- Solution used for storing filled containers at the end of the conveyor line.
- The standard roller conveyor consists of idle rollers (diameter 30/50/78 mm) with galvanized sheet shell.
- The choice of diameter and pitch of the rollers depends on the dimensions and weight of the container to be conveyed.

PA conveyor complete with final roller conveyor for storage of filled containers

- System for storing filled containers at the end of the conveyor line using a roller conveyor.
- In this application rollers made of plastic material arranged in four longitudinal lanes are used.
- The centre distance and number of roller ways depend on the dimensions and weight of the containers to be stored.

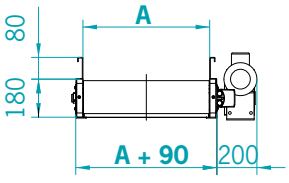
Conveyor unit consisting of PA conveyors + roller conveyors

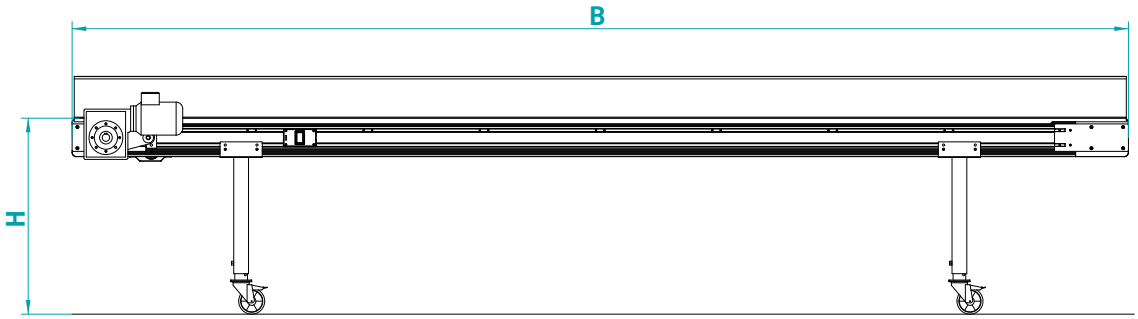
- System consisting of PA conveyors with orthogonal passage and a final roller conveyor.
- In this application the function of the roller conveyor is to receive the product and store it before it is picked up by the operator.
- In this solution the rollers comprising the roller conveyor are made of galvanized steel, diameter 30 mm.

PA 180 flat conveyor

- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation average thickness 15 micron.
- Standard cut-proof, oil-proof belt, with black Polyurethane covering; vulcanised belt joint.
- Minimum and maximum temperature resistance of belt: -30°C to +90°C.
- Standard transmission group consisting of a three-phase asynchronous motor having power appropriate for the dimensions and required capacities, coupled with worm reduction unit with permanent lubrication.
- Fixed standard conveyor speed 5 m/min.
- Conveyor complete with Siemens Start and Stop switch/motor cut-out, with 5 m cable and 4P CE plug (3 phases+ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES





A	B	H
min 200 mm	min 1000 mm	min 350 mm
max 2000 mm	max 60 mt	max 5000 mm

PA 180 Conveyor for shredded material

• The photo alongside shows a conveyor to be used for receiving and conveying shredded material to a granulator

• For the containment of the shredded product, the conveyor belt is equipped with lateral h=55 mm Sponda Flex and h=40 mm slats, pitch 500 mm

PA 180 Conveyor for granulator load

• The photo alongside shows a conveyor to be used for receiving products to be recovered and conveying them into the granulator

• For the containment of the product the lateral edges are protected with plastic strips leaning on the belt.

PA 180 - Conveyor for shredded material

• The photo alongside shows a conveyor to be used for receiving and conveying the material leaving the shredder.

• For containment of the product, the conveyor belt is equipped with lateral 55 mm.h Sponda Flex and h=40 mm slats, pitch 250 mm.

PA 180 - Conveyor for shredder load

• The choice of using the PA 180 section instead of welded painted sheet metal depends on the operating conditions, which may be heavy duty but not extreme.

• Note the special shape of the front leg.

• The transmission group is positioned in thrust instead of in drive to:
- prevent the motor dimensions from creating problems at the shredder inlet opening;
- prevent possible lubricant leakage from the transmission group from entering the shredder chamber.

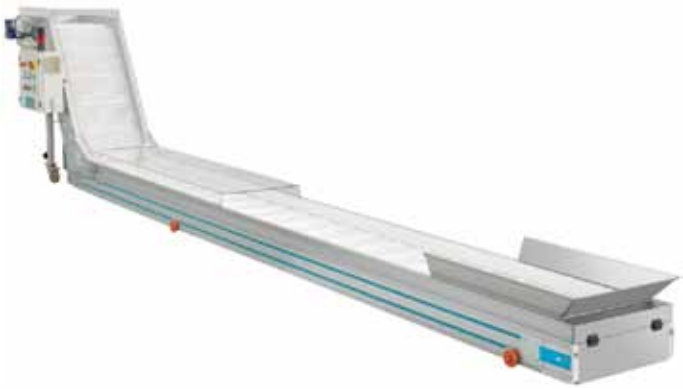
PA 180 - CPT conveyor

• The photo alongside shows the PA 180 section used for setting up a CPT conveyor with plastic belt.

• Note the sturdiness of the conveyor, the adjustable legs, the 125 mm diameter heavy-duty series Vulcolan wheels equipped with brake.

• The transmission group is fitted on the side by means of a supporting bracket and is provided with a torque limiter for reasons of safety.

• Unless otherwise specified, each conveyor is fitted with its own switch/motor cut-out.



PA 180 - CPT conveyor/cooler

• The photo alongside shows a conveyor to be used for receiving, conveying and cooling plastic products.

• The PA 180 section is particularly suitable for receiving a perforated plastic belt conveyor to allow the air flow created by the centrifugal electric fan installed under the inclined section.

PA 180 - CPT conveyor/cooler

• The photo alongside shows the plastic belt installed on the CPT model conveyor/cooler.

• The plastic belt has a special shape which allows passage of a constant quantity of air along the entire surface of the conveyor.

• The Polyzene side panel is necessary for containment of the product and/or to avoid its contamination in contact with standard aluminium side panels.

PA 180 - Cooling conveyors unit

• The photo alongside shows the great flexibility of the PA 180 section.
This unit is made up of two Flat conveyors and a CPT conveyor, all made with plastic belt and electric fans for cooling.

Conveyor with 180° bend with tapered rollers

• The conveyor with bend allows the product a U-turn during the conveying phase.

• The most important feature of the conveyor with bend is the conveying quality: the conveyor receives the incoming product and delivers it at the outlet in the same position.

• The photo shows the taper of the drive rollers and driven rollers. The minimum and maximum diameter of the rollers depends on the conveyor width and the inner curve radius.

Conveyor with 90° bend with tapered rollers

• Minimum possible inner radius of bend = 300 mm.

• Maximum possible working width of bend = 2500 mm.

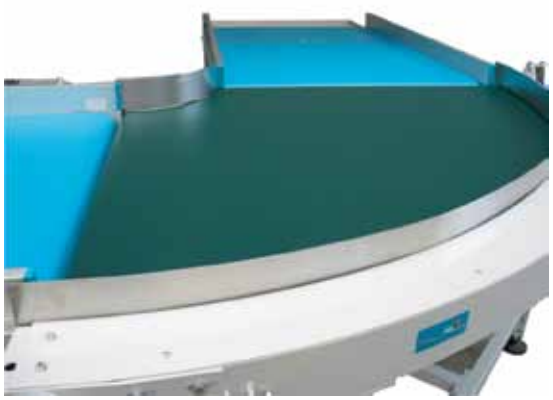
• There is a direct relation, equal to 1/2, between the minimum bend radius and its working width (for example with inner bend radius of 300 mm (1), the maximum possible width will be 600 mm. (2))

90° bend conveyor with "knife-edge end assembly" rollers

• Conveyor with 90° bend with 20 mm diameter drive roller and driven roller.

• This solution is useful when it is necessary to have head rollers with very small diameter to facilitate the passage from one conveyor to another.

• The product to be conveyed is usually very small.



Conveyor with 90° bend positioned in the conveyor line

• The photo shows a conveyor with 90° bend positioned between the incoming and outgoing conveyors.

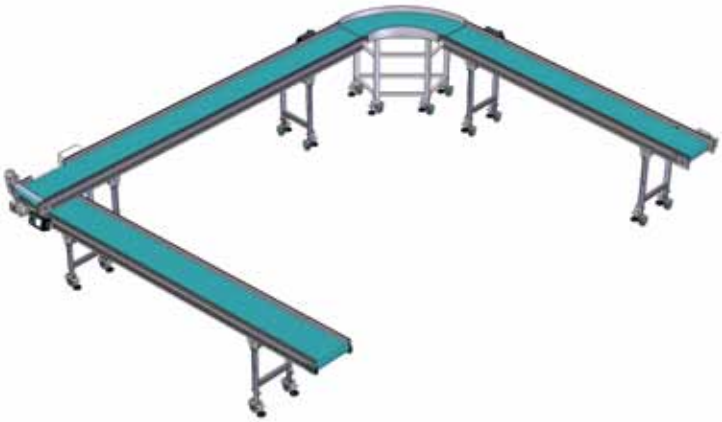
• To “insert” a conveyor with bend in a conveyor line, it is important to know the exact shape of the product to be conveyed to prevent problems during the passage from one conveyor to another.

• The photo shows the precision of the connection between the flat sections and the curved sections.

90° bend conveyor with "knife-edge end assembly" rollers

• The photo alongside shows the system used for “holding” the belt in the correct movement lane.

• The belt retainer and tightener springs are always installed on the outer sider of the conveyor and are integral with the drive chain.



Conveying line with 90° bend

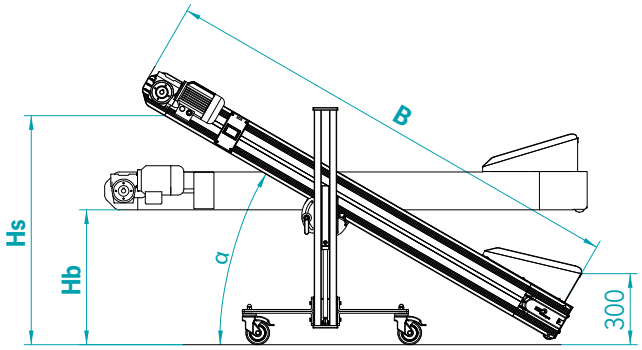
• The picture alongside shows a collecting and conveying line of two plastic components coming from two moulding units, which need to be then assembled together.
Therefore, the need to create a path/itinerary for the two different components to be conveyed to an assembly point, whose position has to be strategic not only for the assembly but for the respect of the company layout as well.

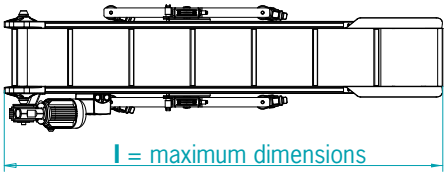
Elevated conveyor line with 90 ° bend

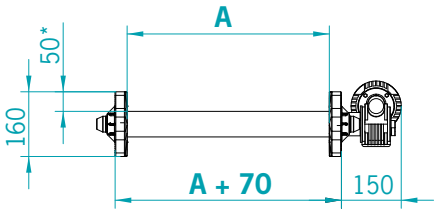
• The picture alongside shows a collecting line transporting moulded plastic components loaded by a robot, which have to be conveyed to the assembly or sorting point, avoiding the non-removable obstacles on the floor.
Hence, the necessity to create an elevated path/itinerary to lift and then lower the product, including an orthogonal change in the conveyor line.

- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation treatment thickness 15 micron.
- Standard cut-proof, oil-proof belt, with smooth green Polyurethane covering (ref. Pantone 320); with heat-welded slats h=30mm pitch 400 mm; vulcanised belt joint.
- Minimum and maximum temperature resistance of belt -10°C to +90°C.
- Standard transmission group consisting of 0.12 kW three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication.
- Fixed standard conveyor speed 3 m/min.
- Conveyor complete with Siemens Start and Stop switch/motor cut-out with 5 m cable and 4P CE plug (3 phases+ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES







*Standard side panels 50 mm h that are not removable

	A	B	α	Hb	Hs
N-TR 3/15	340 mm	1500 mm	0°- 45°	650 mm	850 mm
N-TR 3/20	340 mm	2000 mm	0°- 40°	750 mm	1000 mm
N-TR 3/25	340 mm	2500 mm	0°- 35°	750 mm	1000 mm
N-TR 4/15	440 mm	1500 mm	0°- 45°	650 mm	850 mm
N-TR 4/20	440 mm	2000 mm	0°- 40°	750 mm	1000 mm
N-TR 4/25	440 mm	2500 mm	0°- 35°	750 mm	1000 mm
N-TR 5/20	540 mm	2000 mm	0°- 40°	750 mm	1000 mm
N-TR 5/25	540 mm	2500 mm	0°- 35°	750 mm	1000 mm
N-TR 5/30	540 mm	3000 mm	0°- 30°	750 mm	1100 mm

Hs - height at maximum inclination

TR complete with loading hopper

- TR conveyor used for feeding an assembly line.
- The product is stored in a hopper made of AISI 304, before it is gradually conveyed to the assembly line.
- Usually, for these purposes, MB stops at the transmission group, leaving the TR conveyor control to the assembly line control panel.

Tr complete with lateral Sponda Flex

- The photo alongside shows a conveyor equipped with a white bel in compliance with F.D.A laws.
- Complete with slats and lateral Sponda Flex. The side panels are not needed as the product is contained by the Sponda Flex.

TR complete with hopper and flow regulator

- TR conveyor used for collecting incoming product from another conveyor positioned at right angles to it (see the hopper structure).
- In the conveying phase, the two cross-pieces arranged in a cusp regulate the quantity and quality of the conveying, pushing away excess material beyond the strip and distributing the material along the conveyor belt width.

TR complete with loading hopper

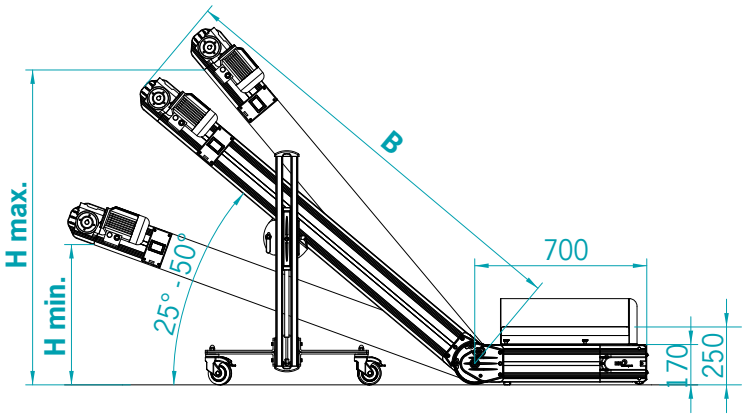
- The loading hopper, complete with cover, is filled manually with product by the operator.
The conveyor receives a constant flow of product from the loading hopper thanks to an adjustable gate valve on the hopper.
- In this case it is indispensable to have the quantity of product necessary to fill the hopper.

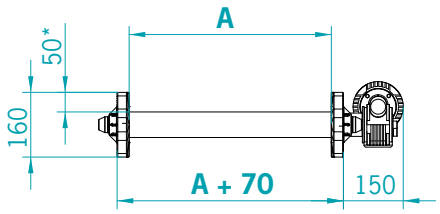
EASY LINE

On demand, an "Easy Line" version is available, with simplified supporting legs which allow a reduction of 15% on the final price of the conveyor.

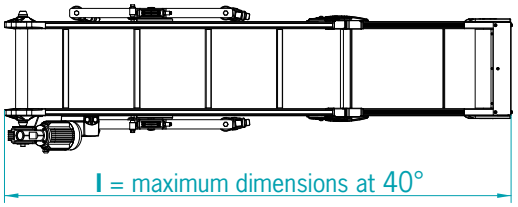
- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation treatment thickness 15 micron.
- Standard cut-proof, oil-proof belt, with smooth green Polyurethane covering (ref. Pantone 320); with heat-welded slats h=30mm with pitch 400 mm; vulcanised belt joint.
- Minimum and maximum temperature resistance of belt -10°C to +90°C.
- Standard transmission group consisting of 0.12 kW three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication.
- Fixed standard conveyor speed 3 m/min.
- Conveyor complete with Siemens Start and Stop switch/motor cut-out, with 5 m cable and 4P CE plug (3 phases+ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES





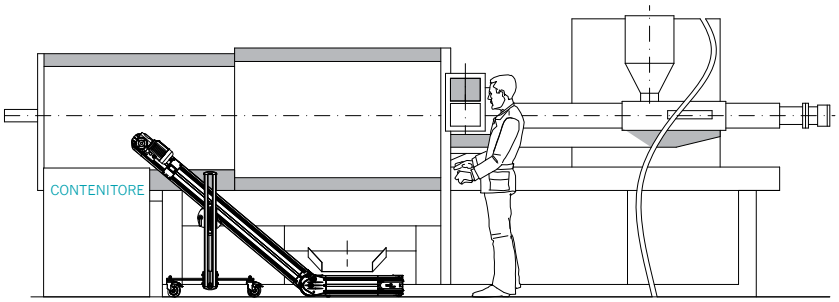
*Standard side panels 50 mm h that are not removable



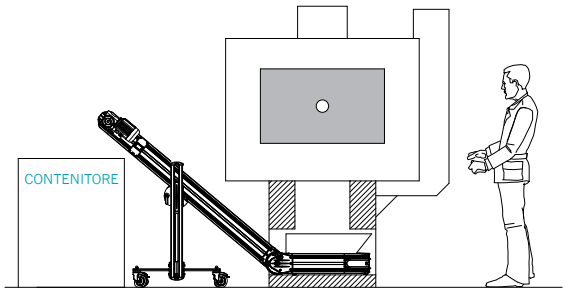
	A	B	H min	H max	I a 40°
N-CPR.0	140 mm	1500 mm	650 mm	1150 mm	2000 mm
N-CPR.1	240 mm	1500 mm	650 mm	1150 mm	2000 mm
N-CPR.2	340 mm	1800 mm	800 mm	1400 mm	2250 mm
N-CPR.3	440 mm	2000 mm	850 mm	1550 mm	2400 mm
N-CPR.4	540 mm	2000 mm	850 mm	1550 mm	2400 mm

EXAMPLES OF POSITIONING BESIDE THE IMM

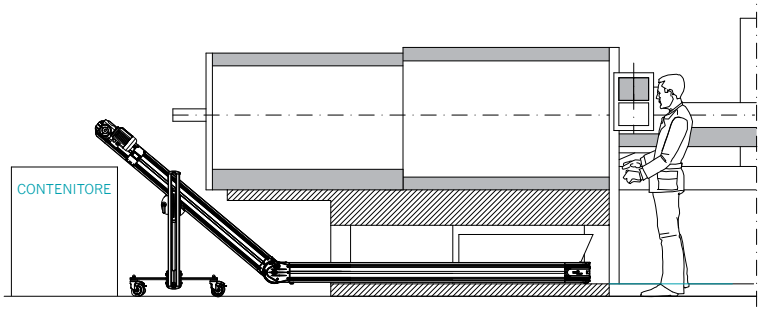
P1 - Standard lateral positioning

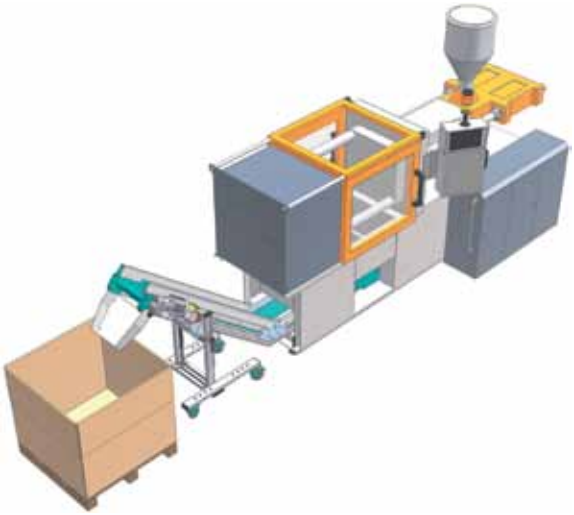


P2 - Orthogonal positioning under the IMM



P3 - Longitudinal positioning under the IMM





N-CPR with belt complete with Sponda Flex

• Solution used for conveying very small products and such as to require absolutely reliable lateral containment.

• The standard height of the Sponda Flex is 25/35 mm and is usually more than that of the slats.

• In this case sampling of the products to be conveyed is absolutely indispensable.

N-CPR - Sponda Flex detail

• The photo alongside shows the conveying “lane” created by a belt provided with Sponda Flex.

• There is no possibility of the product collected inside the belt coming out and getting trapped under the side panels.

• Two different Sponda Flex heights are available:

- 25 mm
- 35 mm.

CP complete with central partition

• The photo alongside shows the loading hopper complete with partition installed in the lower part of the conveyor.

• In this solution we used a clearance brush with antistatic bristles on the belt as the partition.

• As an alternative to this solution, we propose a central partition made of plastic material (such as Polyzene) or tubular aluminium with outer Teflon coating.

CP complete with unloading chute with central partition

• The photo alongside shows the end chute of the conveyor complete with central partition.

• The central partition is used mainly when the products transported are output from multiple-cavity moulds, with right and left products and these must not be allowed to mix.

CP Conveyor system with back-lighting

• The photo alongside shows a very articulated system which makes it possible to collect the product, convey it and distribute it uniformly on the flat back-lighted conveyor in such a way that an anthropomorphous Robot, equipped with videocamera, can pick up the product even if it is scattered.

• This solution also includes the conveyor for recovering the products which the Robot was unable to pick up and then reintroduce it in circulation.

CP conveyor with PA

• The drawing alongside shows an application which involves the insertion of the CP conveyor inside the IMM, collection of the product, conveying and unloading it on the PA, positioned orthogonally, which makes it possible to fill two separate containers.

• This application is usually adapted for the dimensions of the IMM compartment and the areas available outside the IMM.

• In this case there is no control panel because the control is built-into the IMM control panel.

CPR conveyors installed under the IMM

• The photo alongside shows a group of CPR series conveyors inserted longitudinally inside the IMM.

• Each IMM is provided with its own conveyor and this gives the section very high functionality.

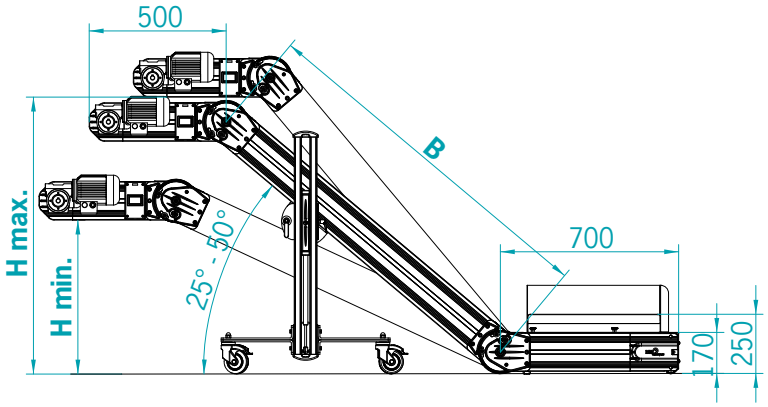
• In a subsequent phase, this section was completed by installing a horizontal carousel for product storage beside each IMM.

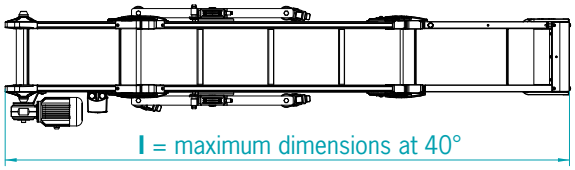
EASY LINE

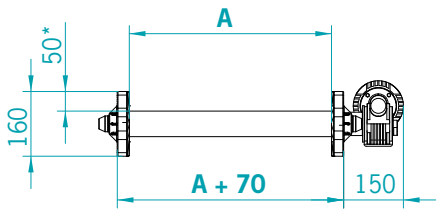
On demand, an "Easy Line" version is available, with simplified supporting legs which allow a reduction of 15% on the final price of the conveyor.

- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation treatment thickness 15 micron.
- Standard cut-proof, oil-proof belt, with smooth green Polyurethane covering (ref. Pantone 320); with heat-welded slats h=30 mm with pitch 400 mm; vulcanised belt joint.
- Minimum and maximum temperature resistance of belt -10°C to +90°C.
- Standard transmission group consisting of 0.12 kW three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication.
- Fixed standard conveyor speed 3 m/min.
- Conveyor complete with Siemens Start and Stop switch/motor cut-out with 5 m cable and 4P CE plug (3 phases+ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES





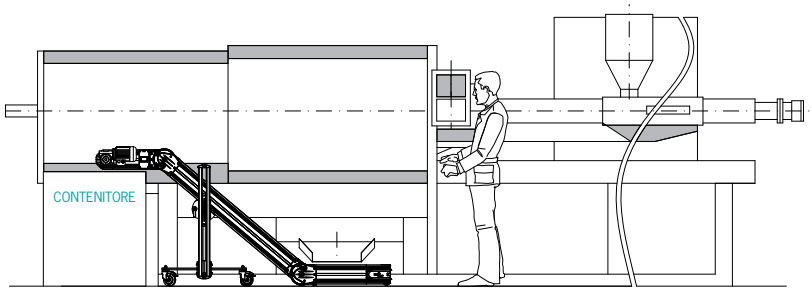


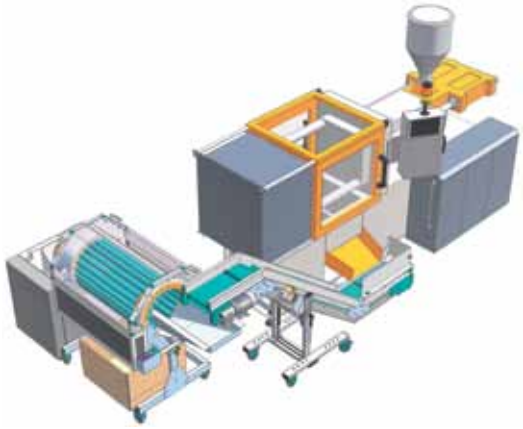
*Standard non-removable side panels 50 mm h

	A	B	H min	H max	l a 40°
N-CPTR.0	140 mm	1500 mm	650 mm	1150 mm	2500 mm
N-CPTR.1	240 mm	1500 mm	650 mm	1150 mm	2500 mm
N-CPTR.2	340 mm	1800 mm	800 mm	1400 mm	2750 mm
N-CPTR.3	440 mm	2000 mm	850 mm	1550 mm	2900 mm
N-CPTR.4	540 mm	2000 mm	850 mm	1550 mm	2900 mm

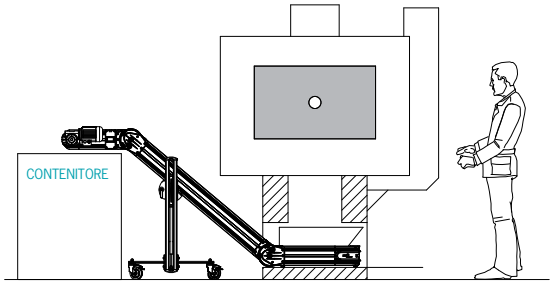
EXAMPLES OF POSITIONING BESIDE THE IMM

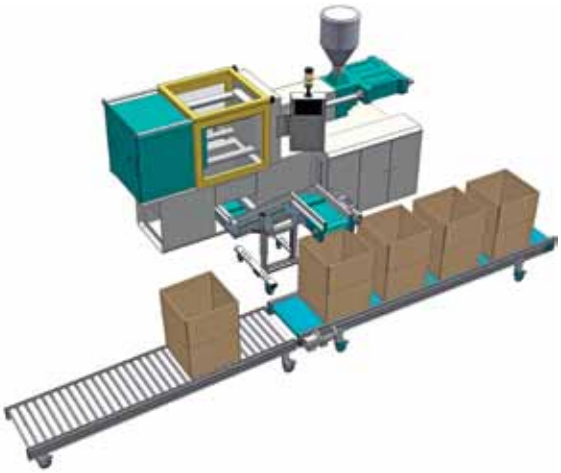
P1 - Standard lateral positioning



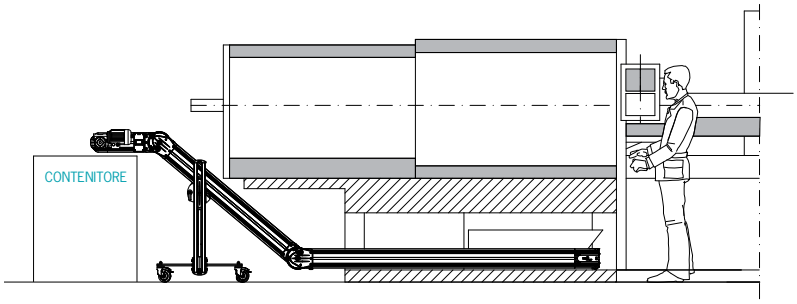


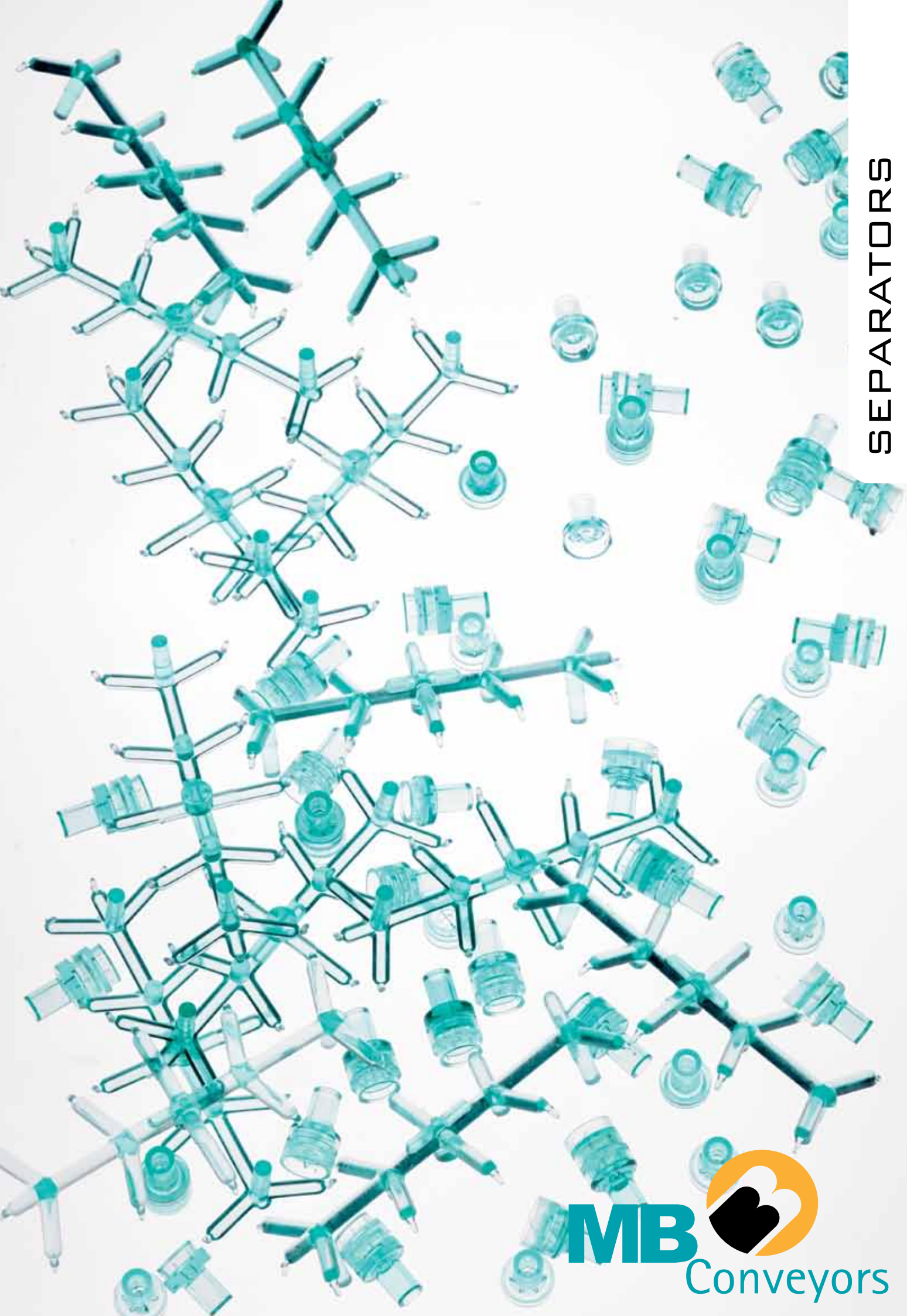
P2 - Orthogonal positioning under the IMM





P3 - Longitudinal positioning under the IMM





SEPARATORS

MB Conveyors

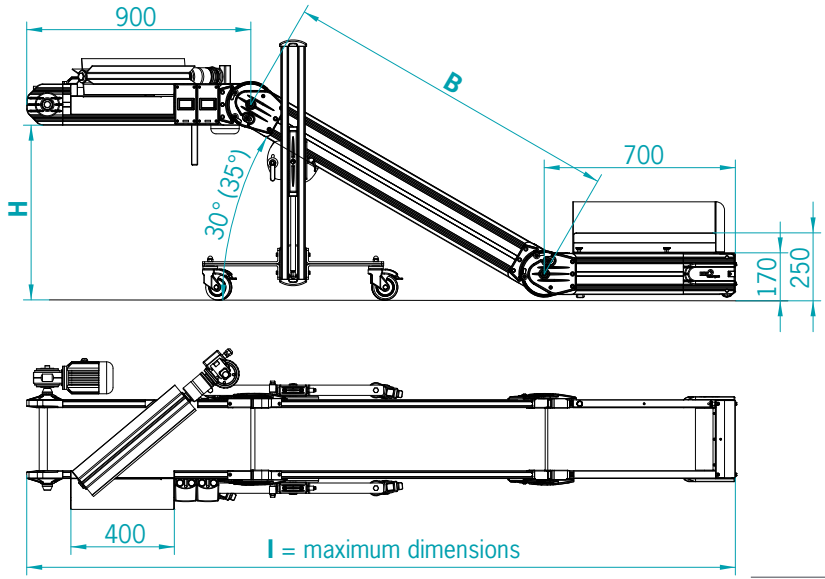
N-CPST conveyor with paddle separator

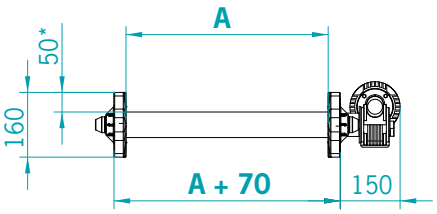
EASY LINE

On demand, an "Easy Line" version is available, with simplified supporting legs which allow a reduction of 15% on the final price of the conveyor.

- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation treatment thickness 15 micron.
- Standard cut-proof, oil-proof belt, with high grip green PVC covering (ref. Pantone 320); vulcanised belt joint.
- Minimum and maximum temperature resistance of belt -10°C to +60°C.
- Standard transmission group of the conveyor consisting of 0.12 kW three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication.
- Standard transmission group of the separator consisting of 0.09 kW three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication and torque limiter.
- Fixed standard conveyor speed 3 m/min.
- Conveyor complete with Siemens Start and Stop double switch/motor cut-out (one for the conveyor and one for the separator), with 5 m cable and 4P CE plug (3 phases + ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES



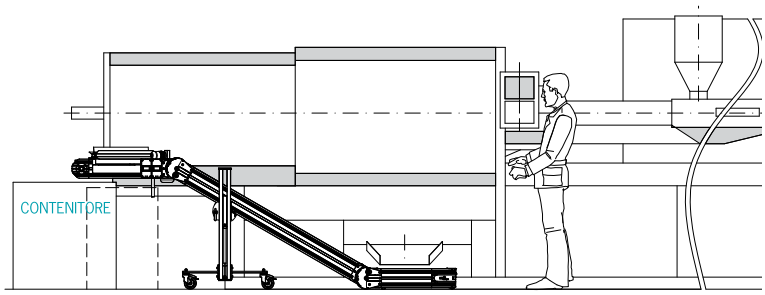


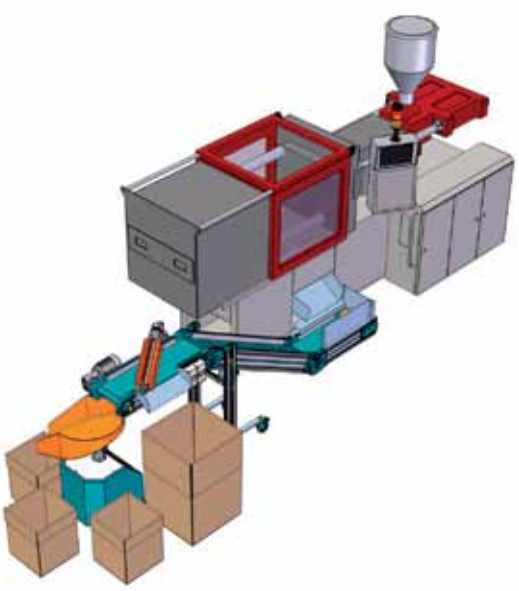
*Standard side panels 50 mm h that are not removable

	A	B	H min	H max	I a 30°
N-CPST.0	140 mm	1300 mm	650 mm	750 mm	2800 mm
N-CPST.1	240 mm	1300 mm	650 mm	750 mm	2800 mm
N-CPST.2	340 mm	1800 mm	900 mm	1030 mm	3250 mm
N-CPST.3	440 mm	1800 mm	900 mm	1030 mm	3250 mm

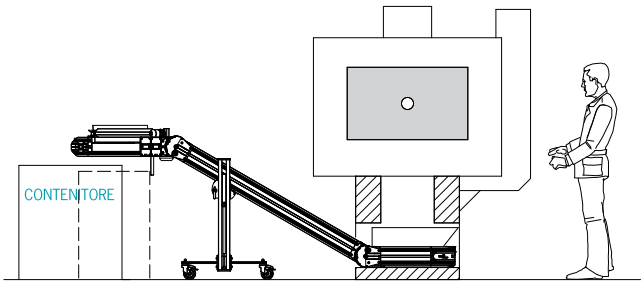
EXAMPLES OF POSITIONING BESIDE THE IMM

P1 - Standard lateral positioning

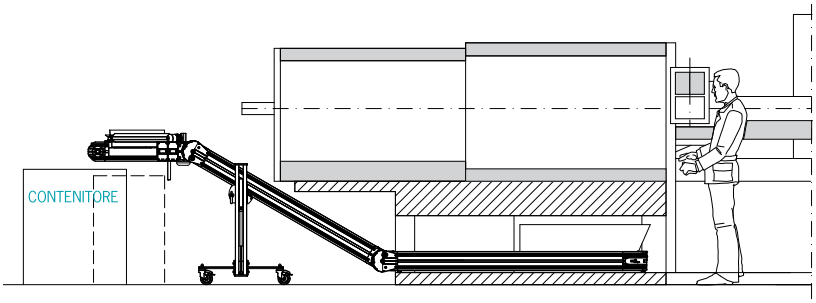


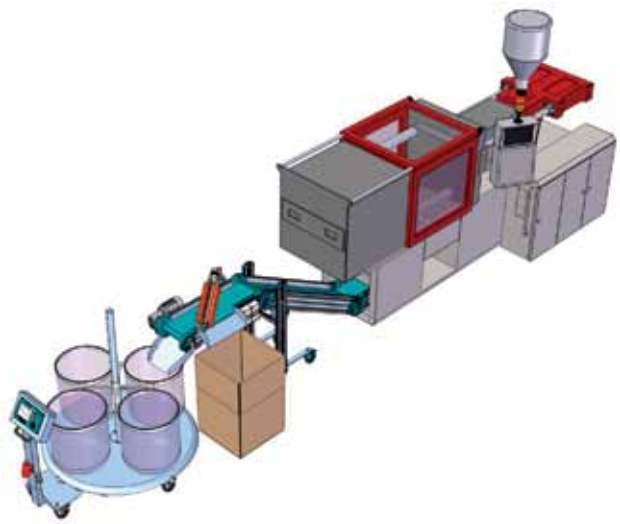


P2 - Orthogonal positioning under the IMM



P3 - Longitudinal positioning under the IMM





Paddle Separator installed on N-CPST

• The separator consists of 6 PVC paddles fixed to an aluminium shaft which is, in turn, splined to the transmission group for rotation.

• The transmission group of the separator is provided with torque limiter, for safety reasons.

• The minimum length of the flat section of the conveyor where the paddle separator is installed is 900 mm.

Paddle Separator installed on PA

• Solution proposed when:

- the quality of the separation must be optimum;

- for reasons of space, it is not possible to install a CPST conveyor and, as an alternative, we propose a CP conveyor and a PA conveyor with a paddle separator installed orthogonally to the loading conveyor.

N-CPST complete with double paddle separators

• The photo alongside shows a solution proposed when the mould is multi-cavity and therefore, apart from the sprue, products of the same mould with different dimensions are to be separated.

• The flat upper section of the N-CPST conveyor with double paddle separator has a minimum length of 1100 mm.

• For optimum working of the conveyor it is advisable to carry out a separation pre-supply test of the product to be conveyed.

Product conveying and orientation line

• The drawing alongside shows the alternative use of the paddle separator.

• In this application, the two separators have the function of rationalizing and ordering the flow of incoming product, an operation necessary to obtain its correct alignment.

• The second separator is installed for reasons of safety since the first allows correct rationalisation of the flow therefore the action of the second one is rarely necessary.

Product conveyor and pick-up line

• The drawing alongside shows the use of the paddle separator for distributing the product on the conveyor surface preventing overlapping.

• The anthropomorphic robot, positioned above the back-lighted part of the conveyor, identifies and picks up the product at any point, as long as there is no overlapping.

MB conveyor complete with flow regulator

• The drawing alongside shows another application of the paddle separator.

• This application is proposed when a continuous constant flow of product is necessary, so excess product must be removed from the conveyor slat.

• The paddle separator performs this operation efficiently and functionally.

• NOTE: in some cases, because of the features of the product the flaps of the separator will have to be replaced with a Nylon brush.

SR - SM separators

The SR – SM rotary drum separators are the most functional means for separating the product from the sprue.

SR Separator

- Separator with rotary drum consisting of 24 PVC rollers having 50 mm diameter and 800 mm length (the distance between the rollers can be adjusted MANUALLY).

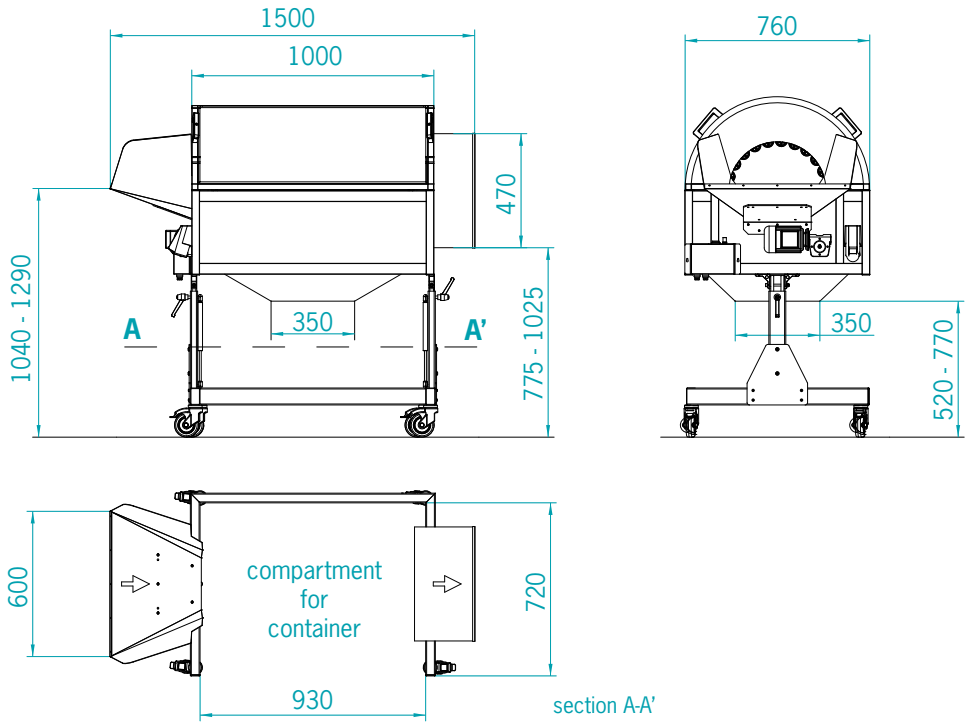
SM Separator

- Separator with perforated rotary drum made of AISI 304 sheet usually complete with small sprues anti-grip tubes.

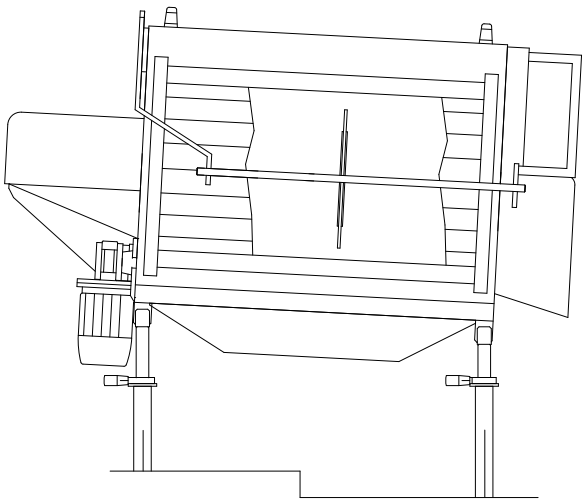
SR-SM TECHNICAL CONSTRUCTIONAL FEATURES

- Each separator has its own Inverter for regulating the drum rotation speed; possible adjustment range: minimum 4 rotations/minute, maximum 20 rotations/minute.
- In the SR separator the adjustment of the distance between the rollers is manual.
- In the SM separator the diameter of the holes and the need for welding the anti-grip tubes depends on the shape of the product and the sprue.
- The drum frame is supported by two threaded rods which make it possible to adjust the inclination of the drum on both sides.
- Finding the correct ratio between the drum rotation speed and a slight counter-slope allows for effective separation of the product from the sprue.
- In standard separators the roller drum can be exchanged with the perforated drum.
- Motor connection voltage: 220 Volts/50 Hz, single-phase.

TECHNICAL-DIMENSIONAL FEATURES (standard SR - SM)



- Each separator has safety protection for the rotation of the rotary drum. If required, this protection can be set in safety condition by installing a special limit switch connected to the MB TOP CONTROL panel which has this function.
- Adjustment of the height of the upper frame which supports the rotary drum is facilitated by two gas pumps installed on the lower base.
- Each SR – SM separator is provided with an inlet and outlet chute made of stainless steel AISI 304 sheet. Sometimes the separator is not positioned in line with the loading conveyor, but is rotated at 90° in relation to it: in this case a suitable inlet chute will be provided.
- Separators base resting on swivel wheels with 100 mm diameter complete with locking brake.

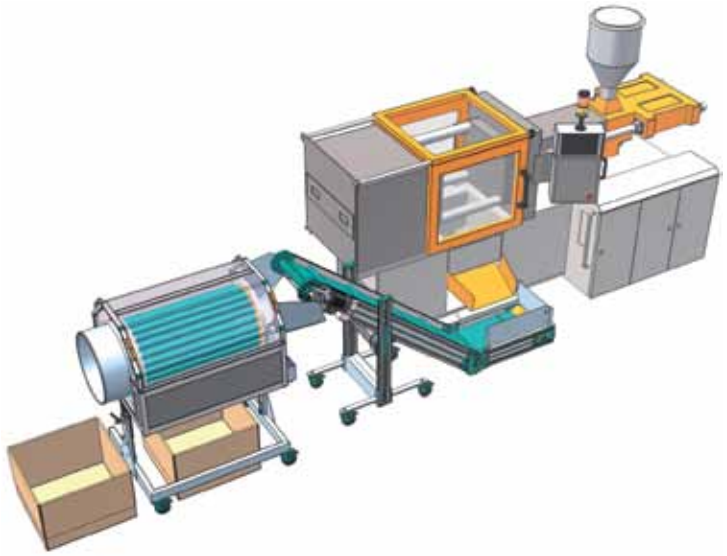


Flow regulator for SR Separators

- The drawing alongside shows the flow regulator which we usually install to "brake" the speed with which the product/ sprues sometimes pass through the roller drum, thereby escaping separation.

- On other occasions it has the function of creating a product/ sprues block to give greater separation time, and thereby normalizing the flow.

EXAMPLES OF POSITIONING Beside THE IMM

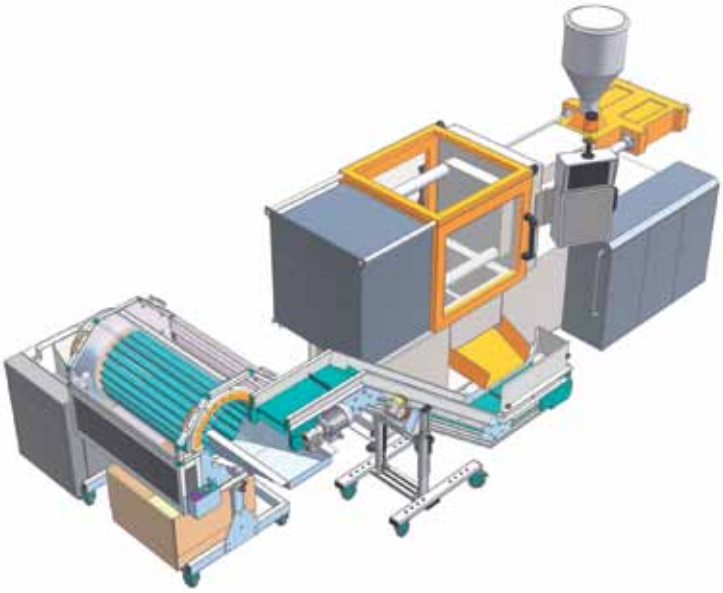


P1 - Positioning in line with the conveyor

• A conveyor is positioned in front of the IMM chute to collect the product output from the mould and convey it into the SR2 separator.

• Separation between the product and the sprues takes place inside the rotary drum.

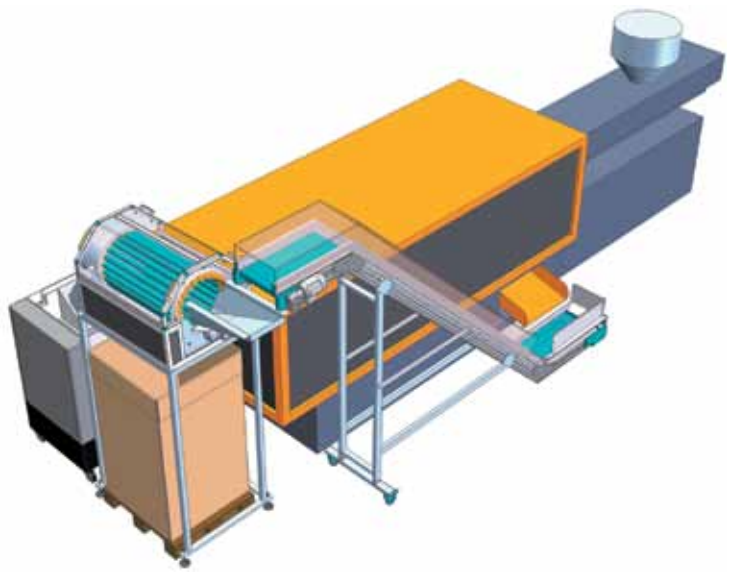
• The different dimensions determine the passage between the rollers of the smaller component of the moulded item (usually the product) which drops into the container below, while the larger parts (usually the sprues) are routed outside the separator.



P2 - Orthogonal positioning to the conveyor

• Solution where, because of the dimension, the separator is positioned orthogonally to the loading conveyor.
It is thus possible to limit the non-standard dimensions to a considerable extent.

• This solution is completed by the installation of a sprues recovery granulator positioned at the separator outlet.



P3 - Orthogonal positioning to the conveyor

• Solution similar to the previous one but with certain features depending on the product storage container dimensions:
800 x 1200 x h. 1200 mm.

• A granulator placed in front of the outlet shute of the separator completes this system.

• Loading conveyor and separator complete with polycarbonate guards.

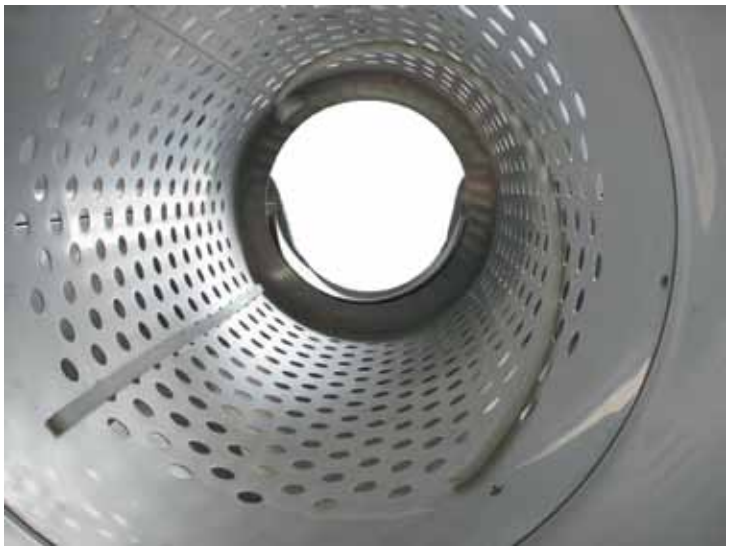
SR - Interior detail of roller drum

• The photo alongside shows the inside of a roller drum made of yellow coloured plastic material, diameter 50 mm.

• The product, complete with sprue, enters the drum through the chute.

• The roller drum rotation, together with the counter-rotation of the rollers, provides optimum conditions for separation of the sprue from the product.

• The distance between the rollers must be adjusted manually.
If this operation is frequent, it is advisable to purchase a number of special rotary drums and replace these as required.



SM - Interior detail of perforated drum

• The photo alongside shows the inside of a perforated drum made of AISI 304 stainless steel sheet complete with linear and spiral insert for internal movement of the product.

• The perforated drum cannot be adjusted but it is found to be specially effective for separation and is recommended for large production batches.

• In all the SR - SM separator series, the roller drum and perforated drum are interchangeable.

• Note the internal spiral applied on the drum, in counter-rotation, to brake the speed of the product passing through.

SR with special base

• The photo alongside shows a SR separator equipped with a product unloading hopper complete with a tilting device to convey the product in two different containers.

• This special application allows to sequentially fill two containers with the possibility to alert the operator when the first one is full. The operator then replaces the full container with an empty one and reset the system for the following cycles.

Conveying, separating and storage line

• The photo alongside shows a group composed of a conveyor for the collection of the product from the production unit, its transport to the SM separator, separation from the sprue and the controlled storage into two containers by moulds counting.

• Note the structured polycarbonate dust-guard installed on the system.

SR - Detail of rotary drum with steel rollers

• The photo alongside shows the inside of a separator with metallic rollers.

• This solution finds application when:

- a separator drum longer than 1000 mm is required, therefore the PVC rollers cannot guarantee the necessary parallelism between them;

- the product temperature is higher than 50/60°C;

- the product to be separated is made of metallic and/or thermo-setting alloy.

SR with metal roller drum with sound-proofing

• The photo alongside shows an SR separator with mechanical rollers complete with chute for orthogonal entry and sound-proofing cover.

• The fixing blocks for the metal rollers are made of aluminium instead of plastic.

• The 1200 mm long, 50 mm diameter rollers comprising the rotary drum are made of galvanized steel, but can be made of AISI 304 tubes if necessary.

• The supporting base is made of painted steel tubing with the possibility of adjustment of the inclination on all four supporting points.

Conveyor and separation system for metallic products

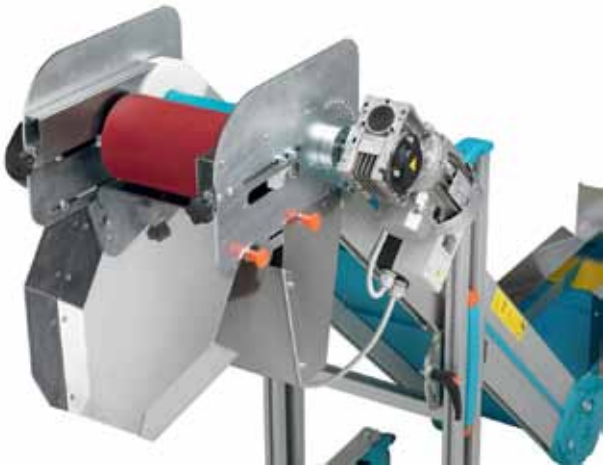
• The photo alongside shows the SR separator with 1200 mm rollers complete with loading conveyor.

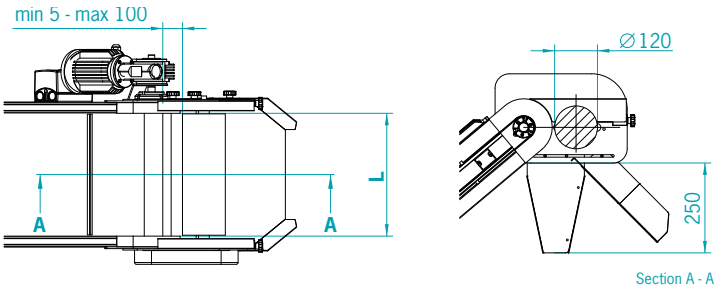
• These systems are mainly used in the die-casting (zamak/alluminium alloys) or thermo-setting field.

• To ensure the functionality of the system, the product coming out of the mould must already be separated from the sprue.

N-SRS and N-FSRV separators installed on conveyor

MB Conveyors

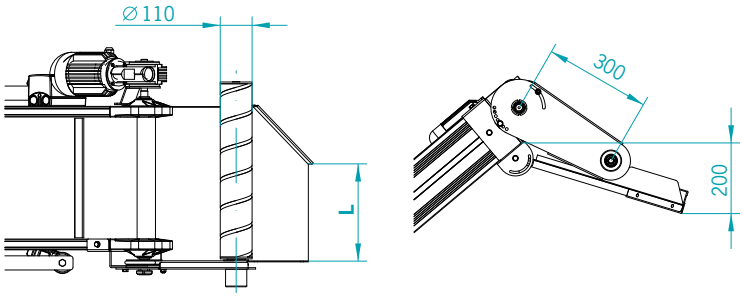




- Three N-SRS separator models are available:

1. N-SRS 1 model for conveyor with working width 240 mm
2. N-SRS 2 model for conveyor with working width 340 mm
3. N-SRS 3 model for conveyor with working width 440 mm

- This separator is designed for installation on N-CPR and N-CPTR conveyors.
- Transmission of movement from the conveyor to the single separator roller is brought about by means of Pu belt.
- Thanks to the elasticity of the belt, the distance between the separator roller and the conveyor can be adjusted from a minimum of 5 mm to a maximum of 20 mm.
- The conveyor on which the N-SRS separator is installed must have a belt with slats having maximum height 20 mm.



- Three N-FSRV separator models are available:

1. N-FSRV 1 model for conveyor with working width 240 mm
2. N-FSRV 2 model for conveyor with working width 340 mm
3. N-FSRV 3 model for conveyor with working width 440 mm

- The N–FSRV sprues separator is installed directly on the conveyor from which the spiral gets its rotation movement.
- Transmission of movement from the conveyor to the spiral roller is brought about by means of Pu belt. For safety reasons, the belt is tightened enough for the rotation. Whenever there is even the slightest obstruction, the spiral roller stops.

PACKAGING

MB Conveyors

T50 compact flat conveyor

T50 A01

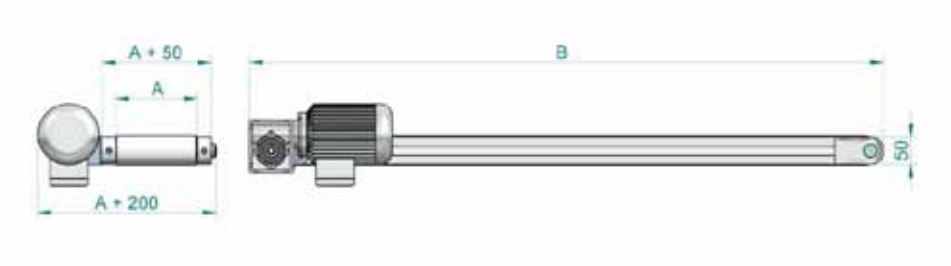
T50 B01

T50 B02

- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation average thickness 15 micron.
- Standard cut-proof, oil-proof belt, with smooth green Polyurethane covering (ref. Pantone 320); vulcanised belt joint.
- Minimum and maximum temperature resistance of belt: -10°C to +90°C.
- Standard transmission group consisting of 0,12 kW, three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication.
- Fixed standard conveyor speed 3 m/min.
- Standard solution without electrical system and supporting legs. Legs and side panels available as optionals

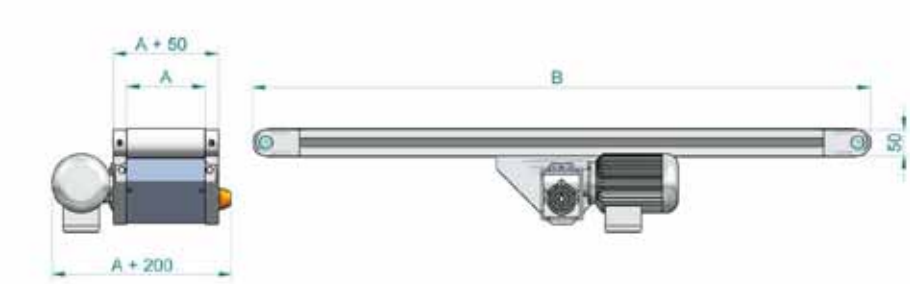
A01

A	B
min 50 mm	min 300 mm
max 500 mm	max 3000 mm



B01 central transmission group configuration B01

A	B
min 50 mm	min 400 mm
max 500 mm	max 3000 mm



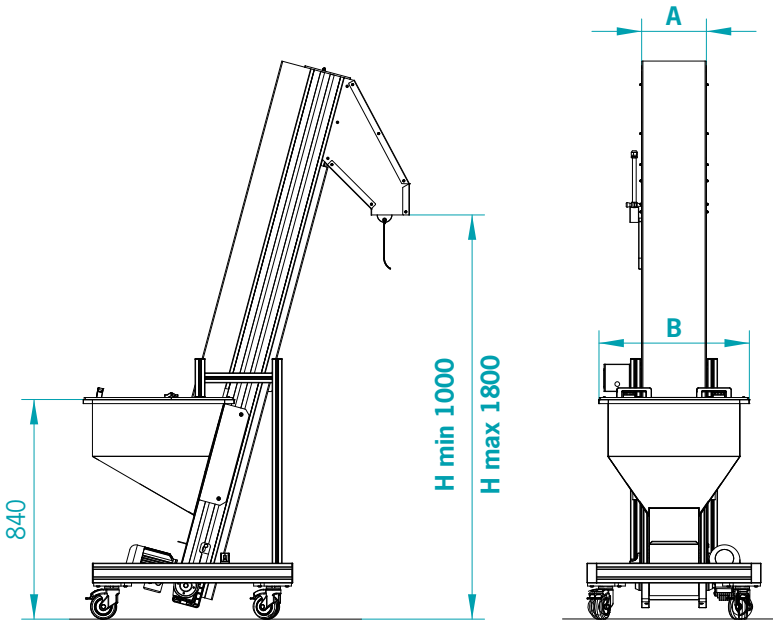
B02 central transmission group configuration B02

A	B
min 50 mm	min 400 mm
max 500 mm	max 3000 mm

EV 600 elevator

- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation treatment thickness 15 micron.
- Standard cut-proof, oil-proof belt, with smooth green Polyurethane covering (ref. Pantone 320); with heat-welded slats h=30 mm pitch 150 mm; vulcanised belt joint.
- Minimum and maximum temperature resistance of belt -10°C to +90°C.
- Standard transmission group consisting of 0.18 kW three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication.
- Fixed standard conveyor speed 12 m/min.
- Conveyor complete with Siemens Start and Stop switch/motor cut-out with 5 m cable and 4P CE plug (3 phases+ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES



- Elevator hopper made of 2 mm thick AISI 304.

- Elevator unloading chute made of 2 mm thick AISI 304 stainless steel complete with inner coating applied on the surface in contact with the product.

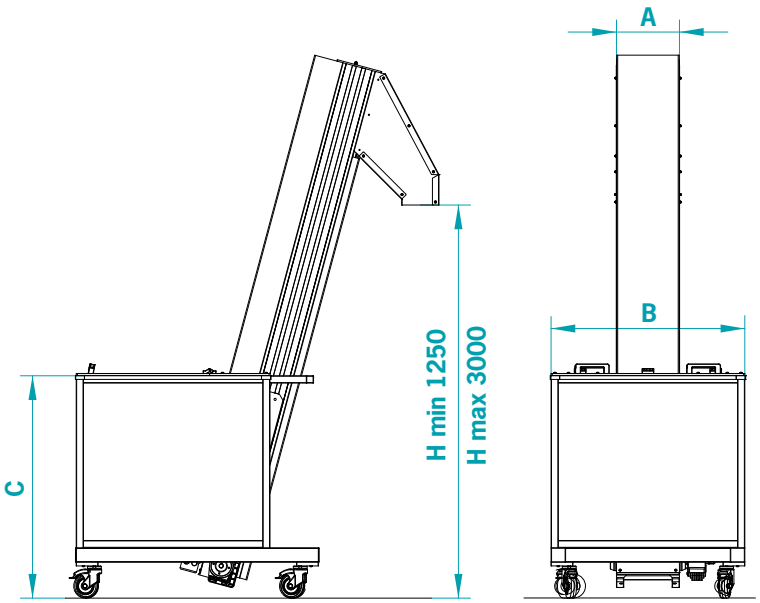
A	B	HOPPER CAPACITY
200 mm	600 mm	80 liters

EV 800 - EV 1000 elevators

MB Conveyors

- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation treatment thickness 15 micron.
- Standard cut-proof, oil-proof belt, with smooth green Polyurethane covering (ref. Pantone 320); with heat-welded slats h=30/50 mm pitch 150 mm; vulcanised belt joint.
- Minimum and maximum temperature resistance of belt -10°C to +90°C.
- Standard transmission group consisting of 0.18 kW three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication.
- Fixed standard conveyor speed 12 m/min.
- Conveyor complete with Siemens Start and Stop switch/motor cut-out with 5 m cable and 4P CE plug (3 phases+ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES



- Elevator hopper consisting of an outer frame made of aluminium sections with walls made of painted sheet metal and inner cladding made of 2 mm thick AISI 304 stainless steel sheet.

	A	B	C	HOPPER CAPACITY
EV 800	200 mm	800 mm	930 mm	185 liters
EV 801	300 mm	800 mm	930 mm	185 liters
EV 1000	300 mm	1000 mm	1130 mm	410 liters

EV - Detail of hopper covering

• The photo alongside shows the polycarbonate lid of the loading hopper.
The lid is included in the standard supply only on elevators for food products and pharmaceuticals; it is optional on traditional elevators.

• The lid covering may be provided complete with fastened hinges and/or gas springs to ensure its safety whatever its position.

• The lid may be stiffened by a tubular aluminium frame (recommended when the hopper size is considerable 1000/1200 mm).

EV - Accessories

• The photo alongside shows the level sensor complete with MB Top Control panel.

• The MB Top Control panel together with the sensor has the following standard functions:

- the sensor rod in the vertical position (see photo) indicates to the panel the absence of product downline: the panel sends the Start signal to the elevator;

- the sensor rod in the horizontal position indicates to the panel the abundance of product downline: the panel sends the Stop signal to the elevator;

- the Start and Stop signals are sent by the MB control panel only after the necessary time to ascertain the actual need.

EV complete with double unload

• The photo alongside shows a double unload installed on an elevator complete with flat upper section.
The flat upper section is recommended for installing the double chute.

• The standard centre distances proposed between one outlet route and another are: L= 600 or L=800 mm.
For different centre distances the feasibility and the necessary dimensions must be taken into consideration.

• The double unload has a vertical dimension of about 550 mm.

EV complete with loading CP

• The photo alongside shows a conveyor unit constructed for pharmaceutical products and consisting of a CP conveyor to be inserted inside the IMM in the longitudinal position for collecting and conveying the product to the vertical elevator provided with the double chute.

• The operating logic involves the count of the moulded items to be stored inside two separate containers.

• The control panel is placed on a stand, specially constructed for the operator concerned.

EV complete with loading CP

• The photo alongside shows a conveyor unit constructed for pharmaceutical products.

• The logic of this unit is the same as the previous one but with two substantial differences:

- The outlet is single, not double;

- the CP conveyor is complete with chute for collecting the product that drops from the mould and box for Quality Control.

• The control panel installed controls the entire conveyor unit.

EV with vertical section and flat upper section

• This photo shows a solution that can be proposed when there is not much room for the elevator.

• The degree of functionaity achieved by the elevator in this configuration depends on the type of product in question (the product must be examined before this solution can be proposed).

• The photo shows the funnel-shaped unloading chute that accurately channels the product within the assembling unit.

EV - product elevator/positioner

• An elevator complete with a product (bottom plates) positioning unit is shown in the photo alongside.

• This solution can only be proposed when the product possesses certain technical-dimensional characteristics.

• Functionality tests must be performed on a certain number of products before the proposal can be submitted.

EV – elevator with double elevating canal

• The picture alongside shows an elevator that can convey the product, collected from the same hopper, to two different assembly lines or two different points in the same assembly line.

• This special application can be used, when the requirements are fulfilled, with a very positive quality-price ratio.

EV - product elevator/positioner

• This photo shows the special hopper with which the elevator/positioner is equipped.

• In this application, it is vitally important to ensure a constant flow of product in moderate quantities.

• This photo depicts the first hopper (lateral), which collects the product and the door (adjustable) that controls the product flow.

EV complete with batching hopper

• Solution ideal for small plastic or metallic products (as in this case).

• The product is unloaded into a hopper and it is unloaded in a constant flow on the elevator by means of a vibrating channel.

• The batcher hopper makes it possible to use a small elevator and guarantees excellent quality of conveying to the elevator.

• In the offer phase it is important to be able to view the product.

EV for products made of plastic

• Solution for elevating plastic products whose shape does not allow the use of a standard elevator.

• The working width of the elevator, the inclination of the upward section, together with the shape and dimensions of the hopper are elements determined by:

- the shape of the product to be lifted;
- flow rate required;
- quantity of product to be stored in the hopper.

EV for products made of plastic

• The photo alongside shows an elevator with hopper and sides made of AISI 304.
This solution does not create problems of contamination “by contact” of the product during the conveying phase.

• This elevator has the possibility of modifying the inclination. The special base makes it possible to carry out this operation, which is fundamental in case the product to be elevated has different dimensional features.

EV for products made of plastic

• The photo alongside shows an elevator with hopper coated externally with sound-proofing material.

• This solution makes it possible to reduce the elevator noise caused by handling the product inside the hopper to a considerable extent.

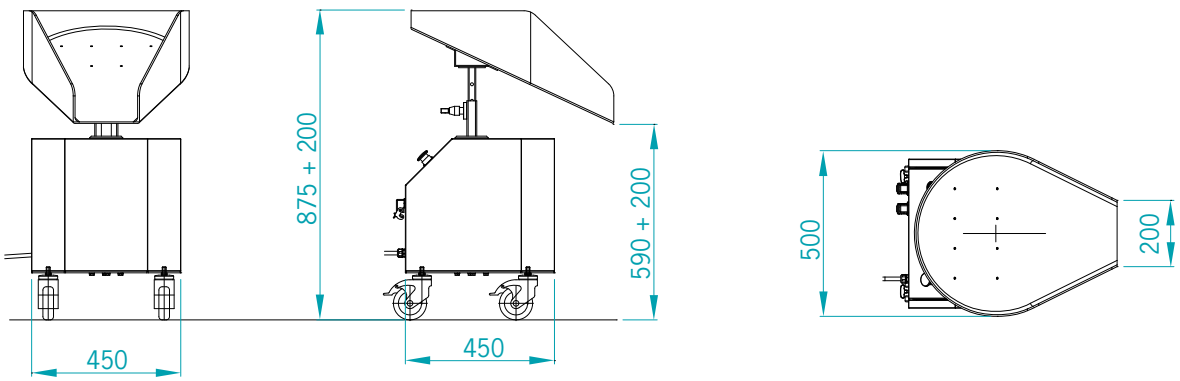
STORAGE SYSTEMS

MB Conveyors

DUCK dispenser

- Duck dispenser can work with two different methods not compatible with one another:
  - using an A/C voltage-free signal, coming from the IMM at each moulding cycle
  - setting the filling time for each container.
- The chute of the DUCK can rotate through 360° and can conduct the product to any point of the route.
- Capacity: do not exceed 2 kg for each product.
- Installed power of motor for chute rotation: 0.06 kW.
- Standard motor supply voltage: 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES



NOTE: When set as required, the DUCK can convey the product in a number of points inside the same container, avoiding pyramid accumulation of the product.

EXAMPLES OF POSITIONING Beside THE IMM

Duck Dispenser used beside the IMM

- This is the most common solution: the collection conveyor is inserted inside the IMM in the longitudinal position.
- The quantity of containers to be filled depends on its dimensions and the space available.
- The Duck control panel, set correctly, memorizes the conveying times from the opening of the mould to arrival in the container.

Duck Dispenser used beside the IMM

- This solution is different from the previous one because the conveyor is placed laterally to the IMM.
- The Duck dispenser is positioned under the conveyor and distributes the product to three different containers.
- The operating logic of the Duck involves counting the IMM cycles (voltage-free A/C signal from the IMM).
- For each container the quantity of IMM-cycles to be stored is set.

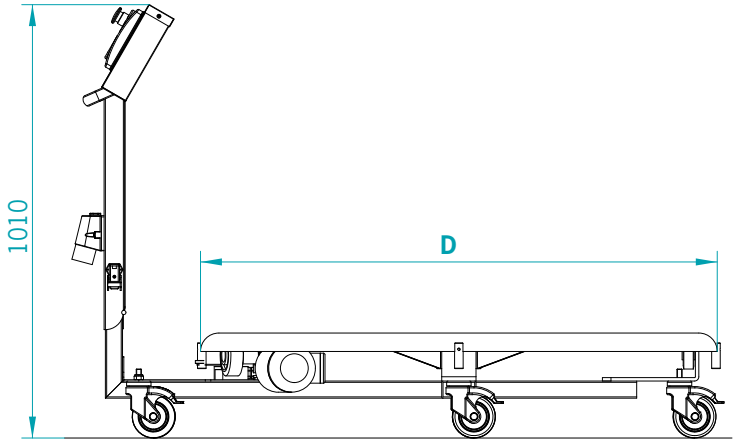
Duck Dispenser used beside the IMM

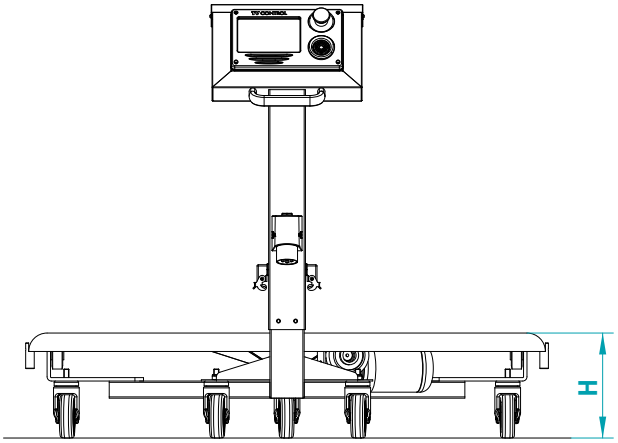
- The drawing alongside completes the standard application fields of the Duck dispenser.
- Compared to the previous solutions, the collection and loading conveyor is positioned orthogonally to the IMM.
- The loading conveyor may be supplied by other manufacturers, but must be connected to the Duck control panel (by means of the 4 phases + ground plug) so that it can be stopped during the rotation of the chute.
- The Duck control panel, positioned correctly, can conduct the product unloading into the container in a number of unloading points, thereby preventing central accumulation.

TVC - TVS turntables

The turntables start from a basic model called the TV and then, depending on their use, are characterized as:
- turntables for containers which are the TVC model
- turntables for bags which are the TVS model.

- Technical features of basic turntable model called the TV:
  - disc made of 4 mm thick AISI 430 on which tables rest.
- The features of the TVC (turntable for containers) and TVS (turntable for bags) are defined during the commercial offer. Model and features depending on the type and dimensions of the container.
- Standard tables motor supply voltage 400 Volts/50 Hz.





	D	H	CAPACITY	ROTATION SPEED
TV.2	1200 mm	250 mm	120 Kg	2,2 rpm
TV.3	1450 mm	250 mm	140 Kg	1,7 rpm

TVC - Turntable for containers

• Customisation of turntable for filling containers.

• The photo shows the supporting brackets mounted on the rotary disk for correct positioning of the containers.

• The filling logic involves two methods:

- with IMM cycles count;

- setting a filling time for container.

• In the table rotation phase the control panel stops the loading conveyor.

TVC - Turntable for containers

• The photo alongside shows an application where four plastic containers are filled.

• The quantity of containers to be positioned on the table surface depends on their dimension and the table dimension (diameter 1200/1450 mm).

TVS - Turntable for bags

• Customisation of turntable for filling bags.

• The quantity of bags to be positioned on the table surface depends on their dimension and the table dimension (diameter 1200/1450 mm).

• The bag-holder frame is supported by a central rod fixed on the rotating disk of the table.

• The heights of the bags to be positioned on the table may be a minimum of 240 mm and maximum 1200 mm.

TVS - Turntable for bags

• Customization of turntable for filling plastic bags.

• The bags are fixed to the bag-holder frame using the clips supplied.

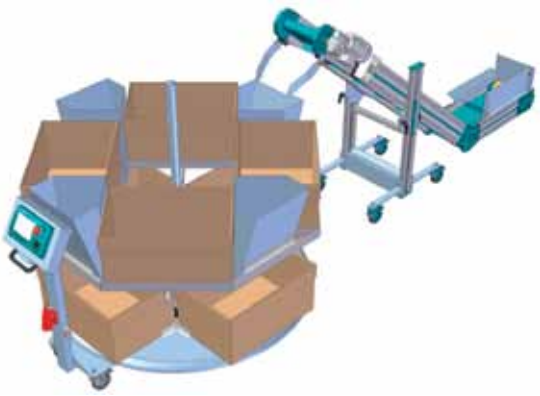
• The bag-holder frame is constructed for the specific purpose according to the diameter of the bags used.

TVC - Turntable with two filling levels

• Application which optimizes the quantity of containers to be filled in relation to the space occupied.

• The image alongside shows the filling phase of containers placed on the upper level.

• The product is conveyed to the lower level by means of four chutes made of AISI 304 stainless steel.



• The image alongside shows the filling phase of containers placed on the lower level.

• The containers can be filled in a sequential manner: first the containers placed on the upper level then those on the lower level, or the other way around.

• This is an example of how a turntable can become an important contribution in the industrialization of the moulding sector.

TVS Turntable complete with dust-guards

• The picture alongside shows a special turntable, fitted for two overlapped filling levels.

• In addition to the two-level filling solution, this system shows the structured polycarbonate dust-guards with anodized aluminium frame.

TVS Turntable complete with loading conveyor

• The photo alongside shows a group composed of a conveyor for the collection and conveying of the product and a turntable for its storage into containers placed on two different levels.

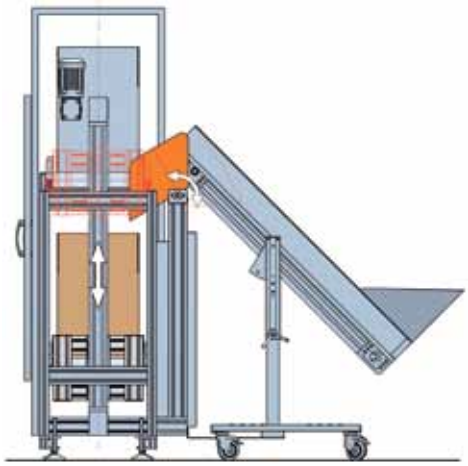
• Particularly interesting are the structured polycarbonate dust guards.

CAV - Vertical carousel

• The drawing alongside shows a vertical carousel with two floors with side lift.

• The upper conveyor is filled of empty containers. As a container is filled a lift transfers it to the bottom conveyor.

• The area of vertical movement of the lift is complete with a special protection device.



CAV - Vertical carousel

• The drawing alongside shows the loading conveyor: in this case, the MB model.

• Note the tilting chute necessary to avoid blocking the vertical travel of the container placed on the lift.

• Rotation of the chute is done using a rotary actuator with controlled travel.

CAV - Vertical carousel

• The drawing alongside shows the filling of the container using an EV 1000 elevator.

• The drawing alongside, together with the previous and subsequent ones, shows the numerous possibilities of the vertical carousel and the range of conveyors it can use for filling containers.

Vertical Warehouse for die-casting products

• The photo alongside shows a vertical system for the storage of die-cast products which need a certain cooling time before being processed and stored.

• An anthropomorphic robot picks up the product from the production unit and deposits it onto a tray in the loading area of the warehouse.

• Once the product is received, the system turns one step, waiting for the next one.
Note the anodized and galvanized mesh guards.

• A control panel with PLC manages the whole system.

CAR - Horizontal carousel

• The photo alongside shows a CAR horizontal carousel.

• The logic involves counting the IMM moulded items to be stored in each container.
On reaching the preset quantity, the carousel rotates the containers so that an empty one is placed in the loading area.

• The CAR carousel is controlled by means of the MB control panel.

CAR - Horizontal carousel

• The image alongside shows the application of the CAR indicated above.

• The empty containers are positioned on the mobile frames of the CAR and are moved by a chain mechanism.

CAR - Horizontal carousel with two floors

• The photo alongside shows a special solution realized for a situation which required large storage capacity together with the greatest possible space limitations.

• The logic involves counting the IMM moulded items to be stored inside the container (in this case, taking into account the two different floors).

CAR - Horizontal carousel with two floors

• The image alongside shows the application of the CAR indicated above.

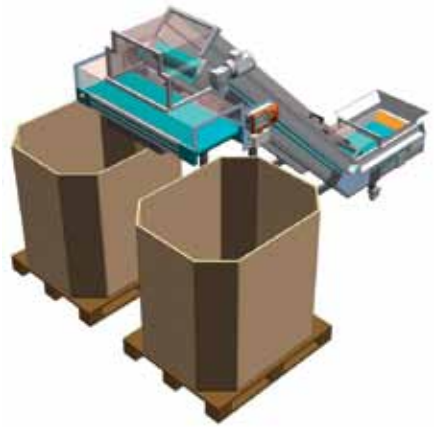
• Note the EV loading conveyor which unloads the product inside the chute. The pneumatic diverter, installed inside the chute, routes the product into a container placed on the lower or upper floor.

T-Conveyor

• Solution mainly used for storing product in two separate containers.

• The filling involves counting the moulded items to be stored inside the containers.

• When the first container is full, the distributor PA conveyor inverts the direction of movement and starts filling the second container, while a visual/acoustic alarm informs the operator of the need to replace the filled container with an empty one.



T-Conveyor

• The image alongside shows the application of the T-Conveyor indicated above.

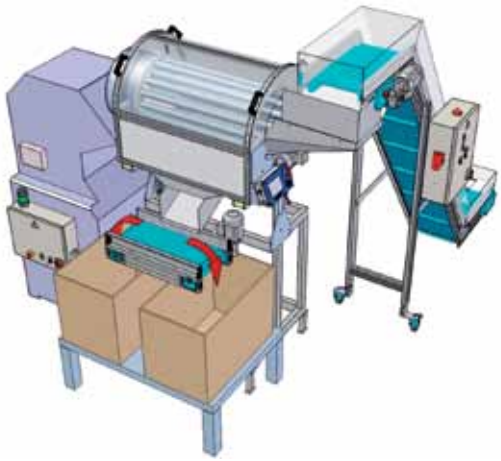
• This application is used especially in the PET sector for collecting and storing preforms.

• Currently it is also being proposed again in the moulding sector, adapting the dimensions as necessary.

Work station

• Solution wich includes the collection and conveying of the product, the separation from the sprue and storage in two separate containers.

• For reasons of space, the SR separator is installed orthogonal to the loading conveyor.



Work station

• The image alongside shows the system indicated above.

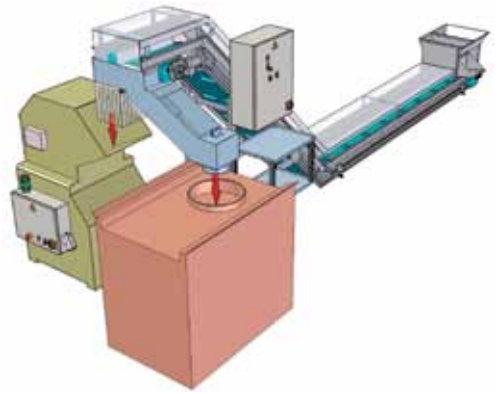
• The filling involves counting the IMM cycles to be stored inside the containers.

• Note the direct routing of the sprue into the granulator.

CPT with chute for lateral unload

• The photo alongside shows a CPT conveyor complete with double chute for lateral conveying of product into the container and for direct unloading of the sprues into the granulator.

• This system is used when the product and the sprue come out of the mould separately and must be kept separate also on the conveyor (provided with a partition in the middle).



CPT with chute for lateral unload

• The image alongside shows the application indicated above.

• The conveyor inserted in the longitudinal position inside the IMM is complete with hopper for collecting the product coming out of the mould.

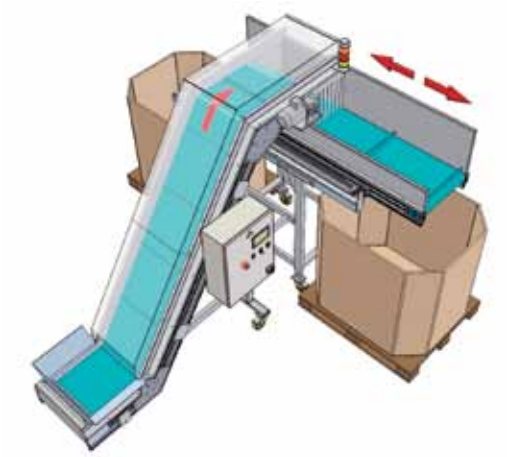
• This conveyor is provided with a partition in the middle to separate the product from the sprue.

System for filling two containers

• The photo shows a CPT conveyor for collecting and conveying product to a PA conveyor-distributor for storage in two containers.

• The operating logic involves the count of the moulded items to be stored inside the container.

• The technical-dimensional features of the system are defined from time to time, depending on the needs.



System for filling two containers

• The image alongside shows the application indicated above.

• The characteristic of this system is the constant movement of the PA conveyor-distributor along its longitudinal axis.

• This particoular function allows uniform filling of the container, avoiding central accumulation.

CPT complete with rotary chute

• The photo alongside shows a CPT conveyor complete with rotary chute for the distribution and filling of 4 containers.

• The chute can rotate through 360°.

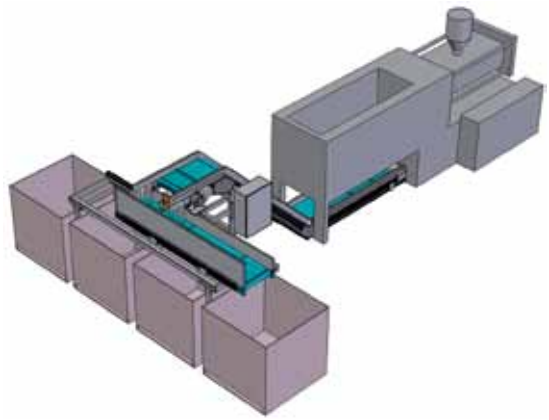
• The operating logic involves counting the moulded items to be stored inside each container.

Horizontal product storage system

• The photo alongside shows a system for storing products in containers on a structure with two flat conveyors and a lateral traverser.

• The system is completed by a dust guard in shaped aluminium section metal with polycarbonate panels.

• Note the loading conveyor which, by operating in synchrony with the system, conveys and unloads the product into the containers.



System for filling four containers

• The image alongside shows a system beside the IMM to fill 4 containers.

• The filling system involves counting moulded items.

• In this application, the filling of each container can be separated into a number of unload points, avoiding central accumulation.

• The technical-dimensional features of the system are defined from time to time, as necessary.

Filling system with transfer device

• Simple solution which makes it possible to store the product in a number of containers, occupying the minimum possible space.

• The operating logic involves counting the moulded items.

• Lateral movement of the containers is done by means of a pneumatic actuator.

Filling system with transfer device

• The drawing alongside shows a system for filling N number of containers consisting of two PA conveyors in a pair and complete with transfer device.

• The operating logic involves counting the moulded items to be stored inside the container.

• In this application too, lateral movement of the containers is brought about by means of a pneumatic actuator.

Filling system with traverser

•This photo shows a square traverser installed in the system.

• The container (usually empty) is moved by a stem-less pneumatic actuator with controlled travel.

• The photocells visible in the photo complete and control the system.

Filling system on the ground

• Product storage system which uses only PA conveyors.

• The operating logic involves counting the moulded items to be stored inside the container.

• The mechanical devices allow the orthogonal passage from one conveyor to another.

Orthogonal filling system

• The image alongside shows a product storage system to be positioned beside the IMM.

• The operating logic involves counting the moulded items to be stored inside the container.

Conveying andstorage group

• The photo alongside shows a group composed of a conveyor for the collection and conveying of the product, a weighing hopper for its storage in the containers with a high counting precision and a turntable for the sequential filling of no. 7 boxes.

• This system allows a very precise product storage in the containers and a considerable filling autonomy besides the IMM.

Storage system with product count by weighing

• The image alongside shows the system indicated above.

• Note the weighing hopper complete with weighing cell and the PA conveyor installed underneath for collecting the weighed product and unloading it into the container.

• Note the independent base where the weighing hopper is installed: this solution is necessary to avoid dangerous vibrations during the weighing.

• This system is characterised by the elevated weighing precision which provides the exact quantity of product to be stored in the container.

Storage system with weighing function and containers positioned on a turntable

• The solution shown in this photo combines precise counting with containers positioned on one of our mod. TVC.3 standard turntables.

• The quality of the process depends on the absolute stability of the weighing cells. In this application, the weighing hopper has its own base to absorb the vibrations created by other components in the system.

Storage system with product count by weighing

• System consisting of: moulded items collection conveyor, weighing hopper, carousel on the ground for containers to be filled.

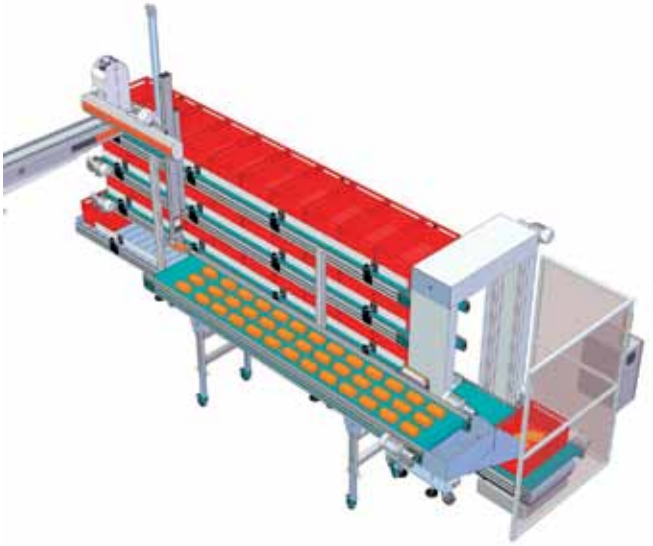
• The polycarbonate dust-guard completes the system.

• These systems are custom-made according to requirements.

• The characteristic elements of this system are:

- counting accuracy;

- reliability.



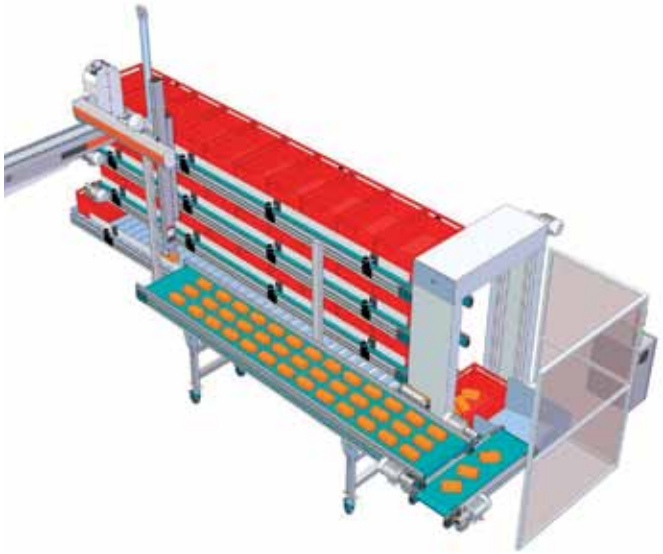
CAV - Vertical carousel with product count by weighing

• The product is deposited by the Robot on the PA conveyor, outside the system.

• The lateral chute guides the product into the container placed on the conveyor provided with weighing cell.

• When filled, the container is sent by the lift for storage on the overlapped PA conveyors.

• The system, managed by the Siemens PLC, allows easy, versatile management.



CAV - Vertical carousel with product count by weighing

• In the image alongside, the carousel differs from that indicated above in the orthogonal passage of the product where a flat PA conveyor is used in place of the lateral chute.

• These systems are custom-made.

- The MI vertical mixer is a solution that has always been used for mixing plastic material granules.

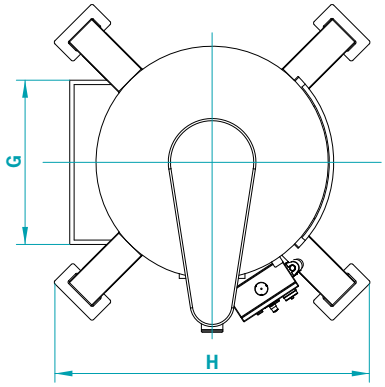
- The vertical mixer consists of an outer frame made of painted sheet metal and an internal screw inside a tube for mixing the contents (standard for mod. M5 and bigger; internal screw available as an option for mod. M2, M3 and M4).

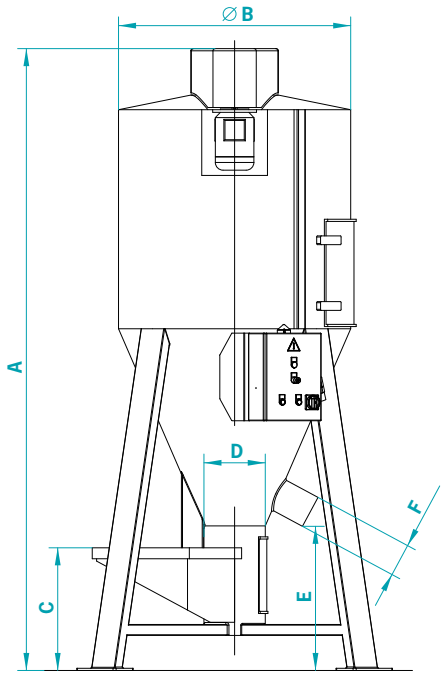
- The material to be mixed is fed into the loading hopper, the screw receives it from below and carries it upwards releasing it on top, spreading it inside the mixer body with a radius of 360°. After about 15/20 minutes, the material is perfectly mixed.

- The mixer supply includes the control panel constructed in compliance with EEC standards, with the Start and Stop functions and time settings for Run and Hold.

- The inspection hatches for the screw conveyor and mixer are protected by safety microswitches.

STANDARD DIMENSIONAL FEATURES





	Lt	A	B	C	D	E	F	G	H
MI 2/3	500	2550 mm	850 mm	600 mm	200 mm	800 mm	150 mm	850 mm	1150 mm
MI 4	1000	3050 mm	1060 mm	650 mm	280 mm	800 mm	200 mm	750 mm	1250 mm
MI 5	1800	3200 mm	1400 mm	700 mm	320 mm	800 mm	230 mm	950 mm	1400 mm
MI 6	2500	3500 mm	1500 mm	700 mm	320 mm	800 mm	230 mm	950 mm	1450 mm
MI 7	3500	3900 mm	1600 mm	700 mm	320 mm	800 mm	230 mm	950 mm	1500 mm
MI 8	5000	4200 mm	1900 mm	750 mm	320 mm	800 mm	230 mm	1000 mm	1800 mm
MI 9	8000	4600 mm	2350 mm	750 mm	320 mm	800 mm	230 mm	1000 mm	1950 mm
MI 10	10000	5100 mm	2350 mm	750 mm	320 mm	800 mm	230 mm	1000 mm	1950 mm
MI 11	14000	5600 mm	2450 mm	750 mm	320 mm	800 mm	230 mm	1100 mm	2150 mm

MI vertical mixer

• The photo alongside shows the loading hopper for the material to be mixed.

• Note the safety grille fitted on the mixer (light grey) and just above it, on the right, the rectangular tube complete with gate valve for recirculation of the material.

• The round central knob regulates the cross-section of the passage of material towards the mixing screw conveyor.

• The photo alongside shows the rear part of the mixer where you can see:

a) the mixed material outlet tube complete with gate valve;

b) the door, open for the photo, through which the mixing screw is visible. Note that the screw is enclosed in a tube along its entire length;

c) the safety microswitch of the screw inspection hatch. When the inspection hatch is open, the mixer will not run;

d) the material level window (just above the material outlet tube).

• The photo alongside shows the rear part of the mixer where the inspection hatches are located.

• The hatches are intentionally shown in a different colour to highlight the position and make them clearly visible if they remain open.

• Both doors have a pair of safety latches and microswitches for protection.

• Note the mixer transmission group positioned at the top and the V-belt transmission.

• The power cable and cables of the micro switches are protected in a cable duct.

MI 1 mixer

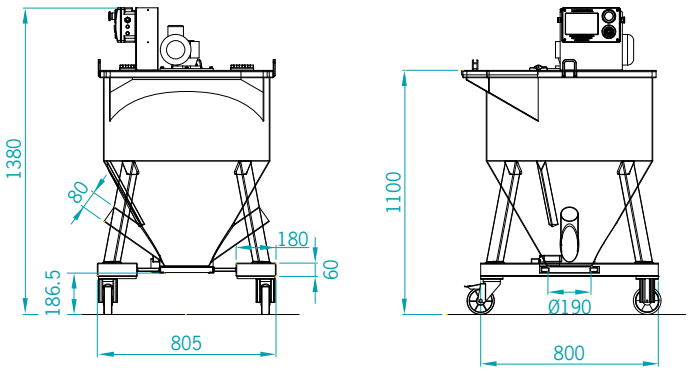
• The photo alongside shows a vertical mixer for mixing small quantities of product or, as is often the case, for moulding tests or materials test.

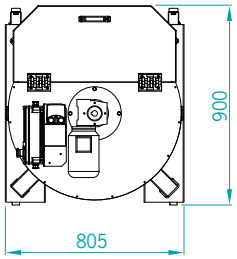
• It is therefore suitable when the product batches are not very large.

• The mixing principle remains unchanged: on request, the screw is enclosed in a tube, the material is fed from the top. The mixed product is usually taken by means of a suction nozzle and fed into one of the two cone-shaped side tubes of the container.

• The gate valve for rapid unloading and/or cleaning inside the mixer hopper and the hopper lid are protected by micro switches.

STANDARD DIMENSIONAL FEATURES





• Mixer hopper capacity 240 litres.

• Mixer screw rotation speed 200 rpm.

• Motor power 0.75 kW.

• Standard mixer complete with Base Control panel:
- manual operation: Start/Stop pushbutton;
- automatic operation: programmable Start/Stop.

MI 1 Mixer inlet opening

• The photo alongside shows the inlet opening for the material to be mixed.

• Note the safety grille installed for operator protection and for easily placing 25 kg plastic bags usually containing the material to be mixed on top of the grille.

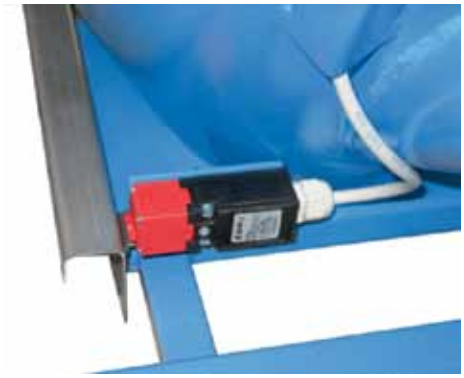
MI 1 Mixer safety microswitch

• The photo alongside shows the safety microswitch provided in the inlet opening lid.

• When the lid is opened, the microswitch stops the mixer.

• When the lid is closed, the mixer automatically resumes operation.

• The above-mentioned microswitch is installed in such a manner that it cannot be deactivated easily by the operator.



MI 1 Mixer safety microswitch

• The photo alongside shows the safety microswitch provided on the material outlet gate valve.

• When the gate valve is opened, the microswitch stops the mixer.

• When the gate valve is closed, the mixer automatically resumes operation.

• Note the connecting cable to the control panel positioned inside a special protection made of sheet metal.

MI 1 Mixer made of 304 Stainless steel

• All the metallic parts of this mixer in contact with the material are made of 304 stainless steel, including the mixing screw and the screw container tube.

• This solution is usually proposed when the material to be mixed is used for making food and/or pharmaceutical products, therefore risk of contamination must be avoided.

• All the functions and dimensions of the mixer are standard except for the hopper capacity, which may be sized ad hoc up to a minimum of 100 litres.

Conveyor with heating tunnel

- The photo alongside shows a conveyor equipped with a heating tunnel complete with heating elements.

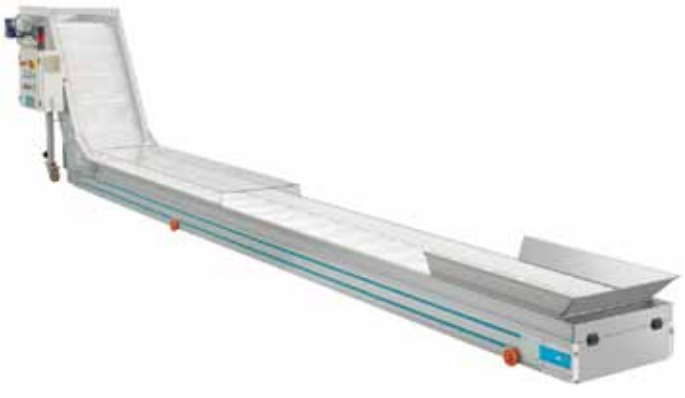
- This solution is used when the product, just leaving the mould, needs to remain for a certain period hotter than the room temperature (40 – 50 °C).

- Temperature is controlled by two minimum and maximum thermostats.

Water bath conveyor + SR Separator complete with cooling/drying system

- The photo alongside shows a system which uses water contained in a RA.2 water bath conveyor as the cooling element and an SR separator complete with helicoidal electric fans for drying

- The continuous movement of the product, created by the rotating drum, together with the air flow, provides ideal conditions for correct drying of the product.



CPT conveyor with centrifugal fan cooling system

- The photo alongside shows a CPT conveyor made of PA 180 aluminium profile and with plastic belt.

- The special shape of the inner structure creates an air flow with constant flow rate and pressure head which strikes against the product throughout its movement along the conveyor.

- Note the polycarbonate tunnel installed for protection of the conveyed product.

- The photo alongside shows the same conveyor seen from the front to show the cooling unit complete with control panel.

- Note that the centrifugal fan dimension does not exceed the conveyor supporting legs.

- The control system includes the regulation of the conveyor speed and fan speed.

PA with product cooling system

• This photo shows a very large flat conveyor with a perforated slatted plastic belt and cooling system.

• Forced air produced by a fan is channeled into the area protected by a polycarbonate tunnel, thus creating a "cooling chamber" where the temperature of the product is lowered.

CPT with centrifugal fan cooling system

• The photo alongside shows the special shape of the plastic belt installed on the conveyor in the passage from the lower flat section to the upper section.

• This type of plastic belt allows passage of air through the mesh in order to allow cooling of the conveyed product

• This type of conveyor belt is provided with slats for moving the product. The slats may have a maximum height of 60mm and minimum pitch 100 mm.

• NOTE: the white food-grade polyzene inserts on the sides for containing the plastic belt and preventing impurities and dirt from getting trapped between the slat belt and the sides.

CPT with product cooling system

• The photo alongside shows a mod. CPT conveyor that collects products from a machine, conveys them with a cooling action and unloads them into a large storage container.

• Note the polycarbonate tunnel that protects the product and creates a "cooling chamber" where the temperature of the product is lowered.

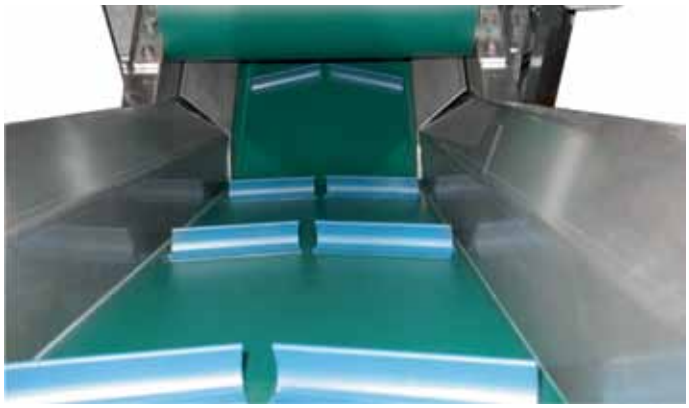
RAT water bath conveyor

• The photo alongside shows a system in which water is the cooling element.

• The product is conveyed immersed in water along the entire length of the tank from the upper PA conveyor.

• At the end of the course, the product is picked up by the upward section of the CP conveyor and taken out of the tank.

• The speeds of the flat conveyor and CP are adjustable (see MB control panels).



Detail

• The photo alongside shows the internal part of the tank in which the CP conveyor, fitted with a belt with open slats is inserted to allow the water to return to the tank.

• The tank dimensions, the length and width of the conveyor are determined by the features of the product and output temperature from the mould.

• An important optional is the recirculation pump for circulating the water to improve the cooling.

RA water bath conveyor

• The photo alongside shows a tank useful for cooling products with a specific weight greater than that of water.

• The product, heavier than water, is received at the bottom of the internal CP conveyor and conveyed by immersion along the entire length of the tank and a part of the upward section.

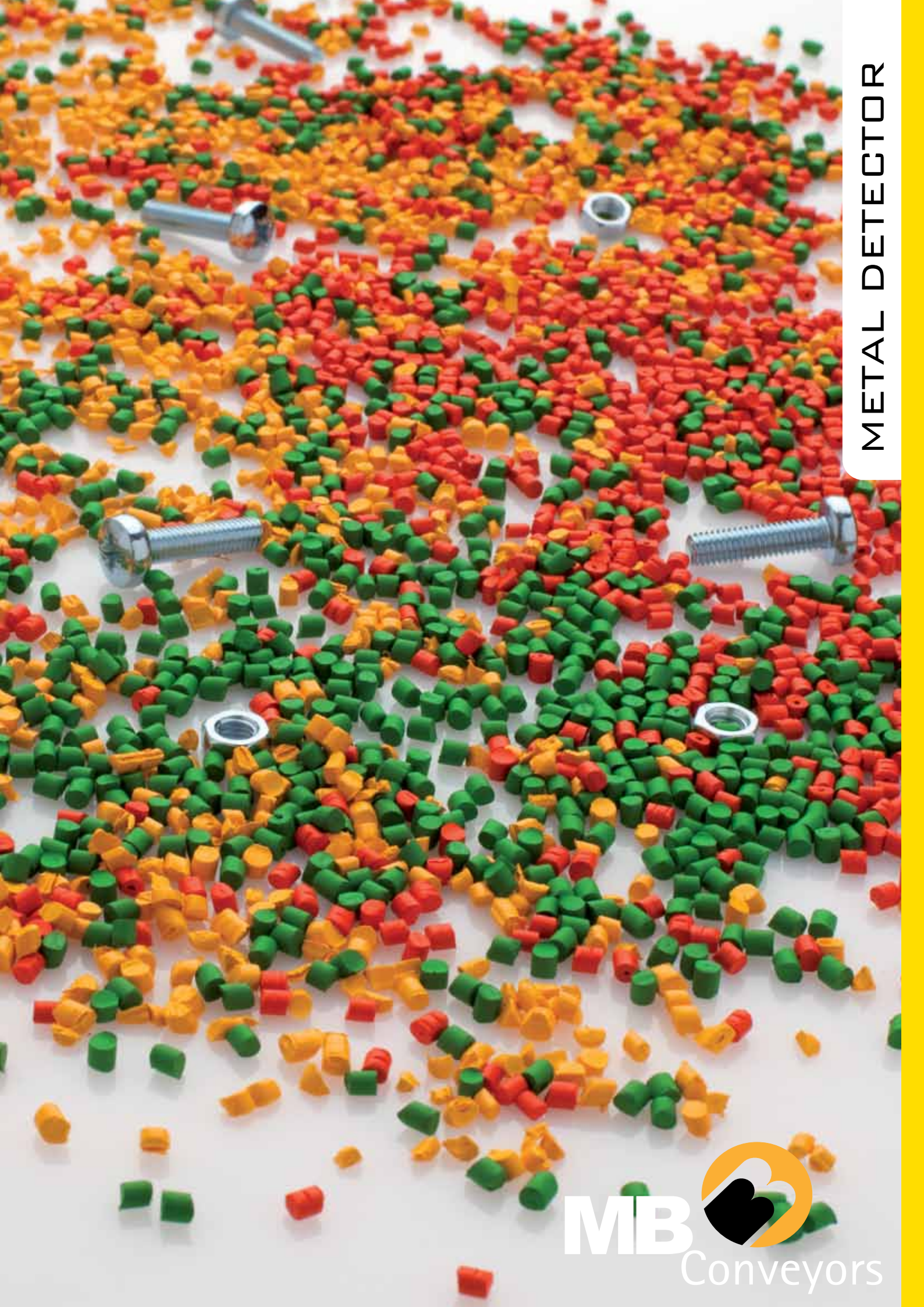
• The control panel with conveyor speed changer completes the standard supply of the RA tank.

RA water bath conveyor

• The photo alongside shows a solution meant for the footwear sector of heels and platforms.

• In addition to the conveyor, the tank is provided with two helicoidal electric fans which have the function of cooling the product, in addition to and mainly removing the maximum possible amount of water from it.

• In this application, the tank is placed directly under the IMM in such a manner that the product coming out of the mould drops directly into the tank.



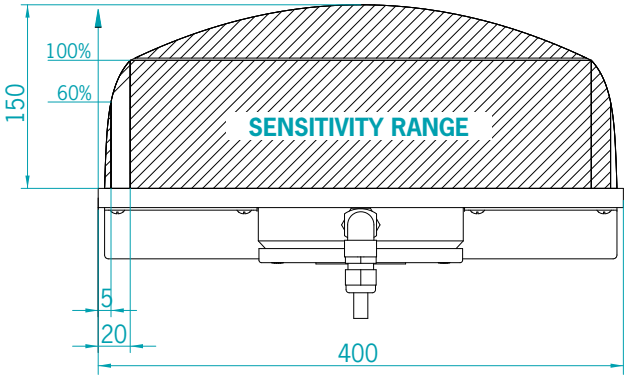
METAL DETECTOR

MB Conveyors

PLATE METAL DETECTOR

The drawing below shows the Plate Metal Detector inserted inside an N-CPR conveyor, to detect metallic impurities when the material is being conveyed from the moulding unit to the recovery granulator.

The ideal use of the Plate Metal Detector is beside the IMM as there is an almost constant passage of material which usually is well distributed on the conveyor.

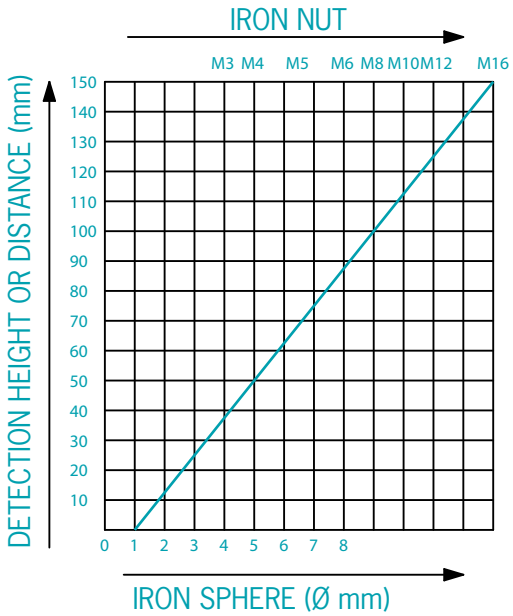


Sensitivity in %
in relation to the values shown in the diagram

EXAMPLE (Detection height or distance 20 mm)

100% = Fe Ø 3 mm sphere (see sensitivity diagram)

(Ø 3 mm : 100) x (100 - 67) + Ø 3 mm = Ø 4 mm



The detection sensitivity depends on the distance between the metallic part and the sensitive surface of the probe coil. The lesser the distance, the greater the sensitivity.

Typical sensitivity diameter for a 400 mm wide probe coil, in operating conditions, examining plastic rejects.

Sensitivity for other non-ferrous metals:

- VA = INOX (stainless steel)
- NON ferrous metals (Cu, Al, Brass)

It is possible to obtain:
- Fe sphere x factor 2

CP complete with Plate Metal Detector

• The photo alongside shows a CP conveyor to be positioned beside the IMM-blow moulding machine for collection of the sprues and conveying into the recovery granulator.

• The position in which the Metal Detector is installed on the conveyor is indicated by the yellow/black sticker.

• Note on the control panel the visual alarm consisting of a red light which flashes in case of activation of the Metal detector, while the conveyor is stopped.

CP with plastic belt complete with Metal Detector

• This photo shows how a plate-type Metal Detector can be installed on the entire range of conveyors with plastic belts.

• All the belt components are made of plastic material. There are no metal or alloy parts, thus the Metal Detector can function in a fully reliable way.

• Here again, the conveyor and Metal Detector are controlled by the MB control panel.

PA 110 complete with Plate Metal Detector

• In this application the PA receives the material from an MB conveyor and carries it into the granulator inlet opening.

• This solution is necessary when the granulator mouth is fitted with sound-proof protection.

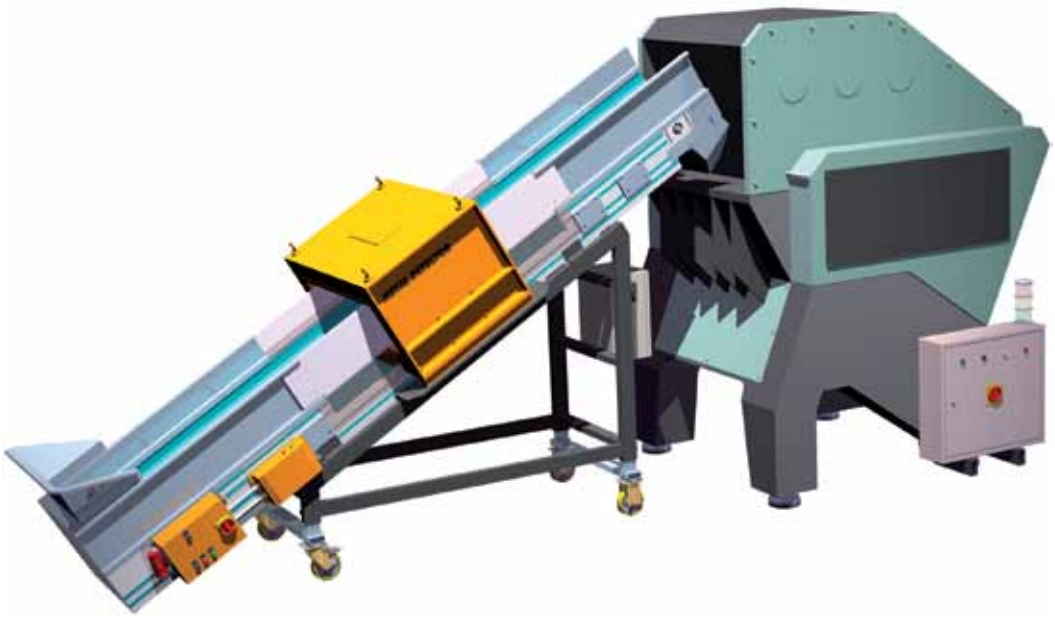
MB 180 complete with Plate Metal Detector

• The photo alongside shows the application of the Plate Metal Detector on an MB conveyor which differs from the previous one as it has larger dimensions and 250 mm high sides made of AISI 304 stainless steel.

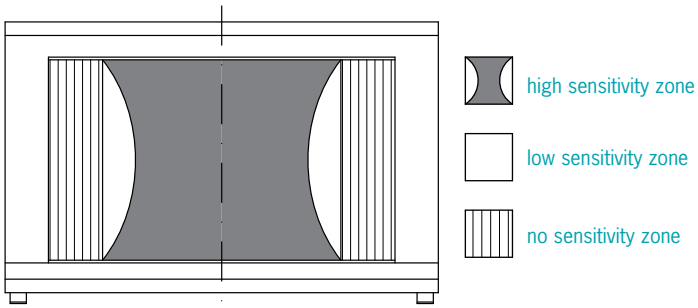
• In this solution the material to be granulated having considerable size, is unloaded manually into the hopper.

TUNNEL METAL DETECTOR

The drawing below shows the Tunnel Metal Detector installed on an MB conveyor for the detection of metallic impurities contained in large masses of material and/or in large sized products. These solutions are usually proposed in the field of recovery of plastic materials.

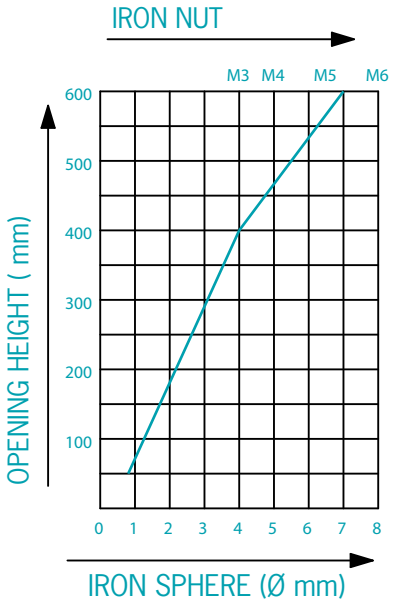


DISTRIBUTION OF SENSITIVITY



SENSITIVITY SPECIFICATIONS

It is necessary to consider that the coil does not produce a uniform electromagnetic field: there are sensitivity differences inside the passage compartment.
The most sensitive area is in the centre of the passage compartment.



The detection sensitivity depends on the height of the opening of the Metal detector: the lesser the height the greater the sensitivity.

SENSITIVITY DIAGRAM
depending on the height of the opening
(at the centre of the height considered)

Sensitivity for other non-ferrous metals:

- VA = INOX (stainless steel)
- NON ferrous metals (Cu, Al, Brass)

It is possible to obtain:
- Fe sphere x factor 2

MB 180 complete with Tunnel Metal Detector

• The photo alongside shows a Tunnel Metal Detector installed on an MB conveyor for picking up and conveying plastic material for pharmaceutical products.

• Note the hopper and 250 mm high sides made of AISI 304 stainless steel.

• This solution is proposed when it is necessary to feed medium sized granulators with large inlet opening between 400 and 600 mm and a high quality detection of metallic impurities is required.

• The product is unloaded manually inside the hopper.

PAR complete with Tunnel Metal Detector

• The photo alongside shows a conveyor complete with flat upper section necessary to be able to enter the granulator inlet opening.

• Note the reduced thickness of the upper section because of the need to subtract the least possible amount of space from the working height of the granulator inlet opening.

• In this application the product is unloaded manually inside the conveyor.

MB complete with Tunnel Metal Detector

• The photo alongside shows a Tunnel Metal Detector installed on an MB conveyor made of sturdy welded painted steel sheet.

• To install a Tunnel Metal Detector on a conveyor, compliance with certain constructional rules is necessary:

- there must be at least a minimum distance between the drive roller, the Metal Detector and the driven roller;

- there must be no energy sources or important control panels in the vicinity of the Metal Detector;

- the conveyor structure must be solid enough to prevent vibrations which can disturb the working of the Metal detector.

MB complete with Tunnel Metal Detector

• This solution is proposed when working in the field of recovery of plastic material and a large quantity of material and/or large sized products are to be conveyed and checked.

• The conveyor, made of 3 mm thick welded sheet metal, is exceptionally sturdy and firm.

• In this application the material is unloaded in the hopper by means of a forklift truck.

MB complete with Tubolar Metal Detector TSM

• The photo alongside shows an application where the presence of a Metal Detector is necessary, but does not require the services of the tunnel model indicated above.

• The TSM model is suitable when the metallic impurities are inside the plastic components to be conveyed.

• The photo alongside shows the route the material deposited on the conveyor follows to reach the granulator.

• Note: the black cut-proof polyurethane belt with slats 60 mm high, the side containment strips, and the two side sections made of non-metallic material near the Metal Detector.

• When the conveyor feeds a granulator it is preferable to install the transmission group in the lower part of the conveyor. This solution is seen on all the conveyors shown here. Two main reasons:

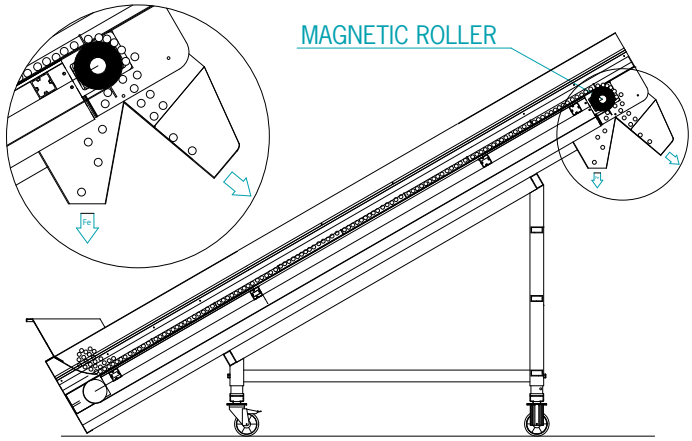
- to avoid obstructions outside the granulator inlet opening;

- it must be possible to act on the transmission group, if necessary, without removing or dismantling the conveyor.

METAL DETECTOR with magnetic roller

MB Conveyors

The magnetic roller is only proposed when the metallic impurities to be detected are ferrous and therefore sensitive to a magnetic field.
The roller consists of a series of circular sector magnets, fixed to one another, and is installed as drive roller.
The ferrous impurities captured by the magnetic field do not fall into the granulator mouth but are carried outside and unloaded into the chute meant for the purpose.



CP complete with magnetic drive roller

- Note in this application:

- the standard product outlet front chute;

- the rear chute for collecting and unloading ferrous impurities outside the granulator inlet opening.

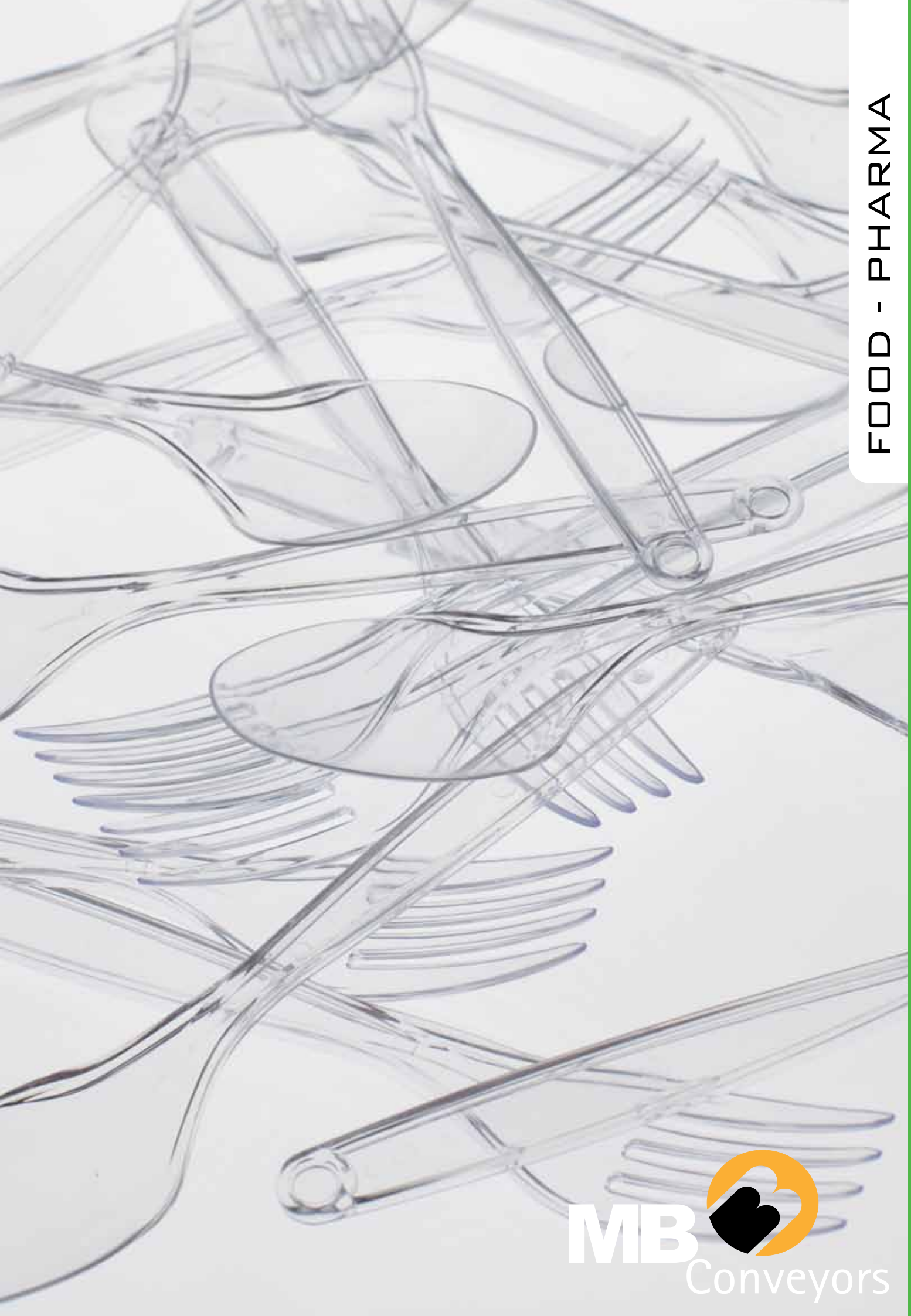
- Installation of the magnetic roller requires lateral supporting metal housings and conveyor belt complete with slats.

- The magnetic roller detects only ferrous impurities.

MB complete with magnetic drive roller

- The photo alongside shows a 600 mm wide MB conveyor designed for loading a granulator and is made of welded painted sheet metal.

- The application of a magnetic roller is studied depending on the capacity and quality of detection necessary, the granulator dimensions and the metallic impurities to be detected.



FOOD - PHARMA

MB Conveyors

F.D.A. food - pharmaceutic

F.D.A. customised N-PA

• The photo alongside shows the F.D.A.version of the N-PA conveyor.

• This conveyor is used for conveying plastic components which will then be used in the food and/or pharmaceutical sector.

• All the plastic components and the conveyor belt conform to F.D.A. standards.

F.D.A. customised N-PA - detail of drive side

• The photo alonside shows the care and quality of the components used in the making of this type of conveyor.

• Note: in particular, the transmission group, with special USDA approved special white epoxy painted surface and, mainly, UHI class synthetic oil lubricant compatible for contact with food substances.

F.D.A. customised N-CPR

• The photo alongside shows an F.D.A. customised N-CPR conveyor.

• The belts of all the F.D.A. customised conveyors have a covering, and when necessary slats, made of white food-grade PU. An technical sheet is available if requested, with the manufacturer's certificate of conformity of the belt.

F.D.A. customised N-CPR - detail of lower flat section

• The photo alongside shows the area of the conveyor where the product from the production unit or another conveyor arrives.

F.D.A. customised special CP

- The photo alongside shows a conveyor made for insertion in the longitudinal position inside a IMM.
- The product collection hopper at the mould outlet is made of AISI 304 stainless steel and is provided with a box for quality control.
- The entire tract along which the product moves on the conveyor is protected by a polycarbonate cover.

F.D.A. customised N-CPTR

- In this version, the inclination of the upward section can be adjusted between 25° and 50° (like the standard N-CPTR conveyors).
- The F.D.A. series of conveyors has a great impact when inserted inside a production area because it gives an immediate image of the quality and the degree of cleanliness of the section.

F.D.A. customised CPT

- The photo alongside shows a newly conceived CPT conveyor equipped with structured polycarbonate dust guards.
- Note the special loading hopper where a compartment was obtained so that the conveyor, usually flat and located inside the IMM, can access and unload the product on the CPT without external contamination
- This solution is offered in F.D.A. -compatible environments

F.D.A. customised EV

• The photo alongside shows an F.D.A. customised elevator for the collection and elevation of components for food and/or pharmaceutical products.

• This is the F.D.A. version of the EV 600 - EV 800 - EV1000 model standard elevators.

• The F.D.A. customised elevators have the following standard features:

- loading hopper complete with openable polycarbonate lid;
- internal side panels with AISI 304 stainless steel coating.

• The level sensor and MB control panel complete the elevator.

F.D.A. customised EV

• The photo alongside shows an EV conveyor complete with a large hopper made of AISI 304 stainless steel and provided with a flat upper section.

• The solution of the upper section is proposed when the unloading point is too distant.

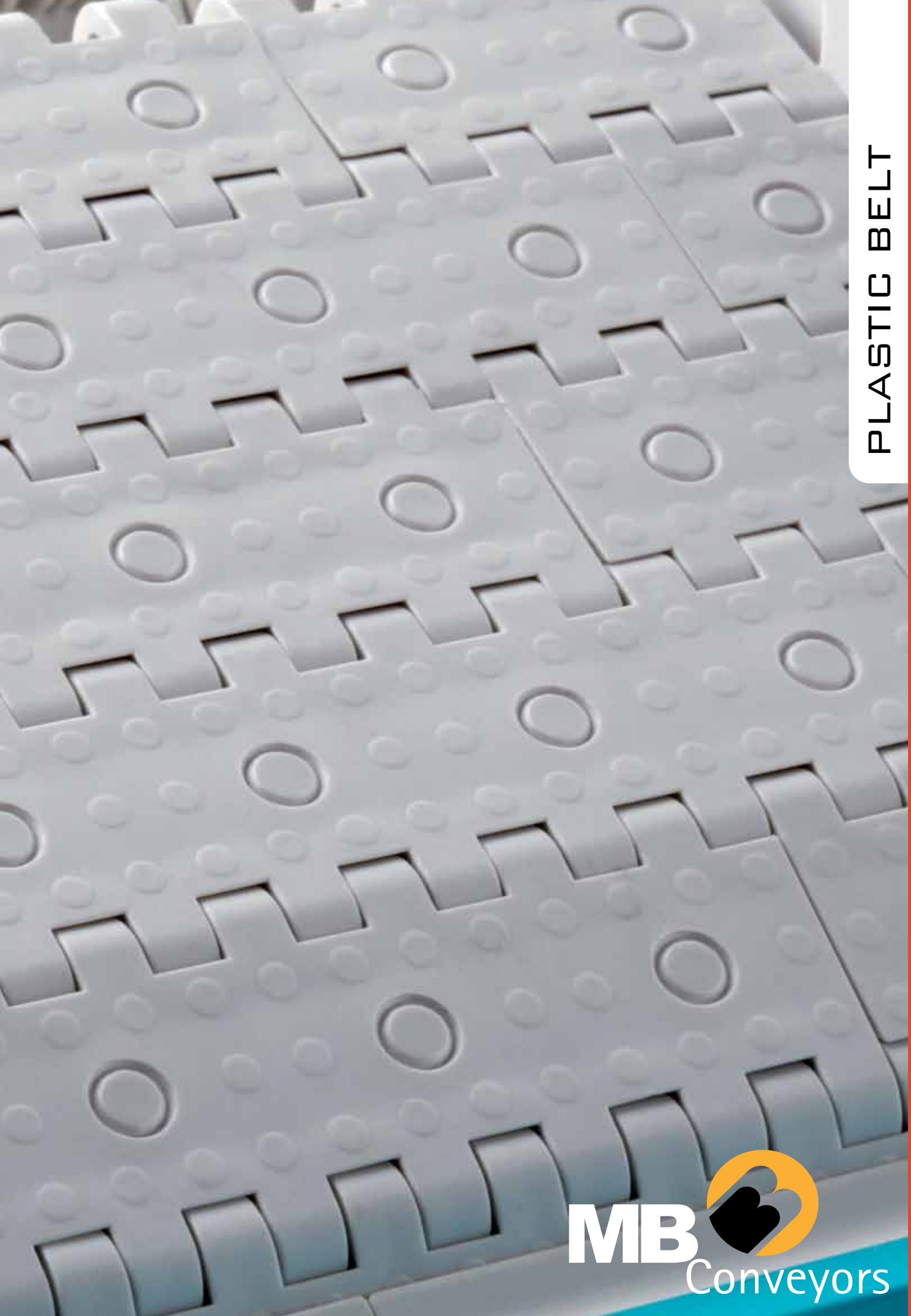
• Note the polycarbonate lid on the hopper complete with inspection door.

F.D.A. customised EV

• The photo alongside shows a system consisting of an EV conveyor with a small PA conveyor applied under the outlet to act as a distributor.

• This solution is proposed when the product is to be discharged at two different points far away from one another (may be two containers, two orienting hoppers, etc.).

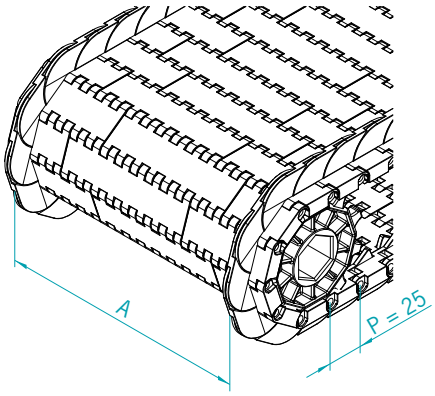
• An F.D.A. compatible belt must be cleaned using alkaline products and with temperatures not exceeding 55°C.
The use of denatured alcohol is recommended for all metallic parts.



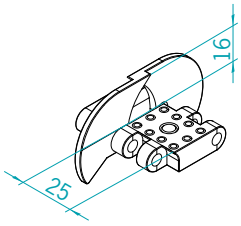
PLASTIC BELT

MB Conveyors

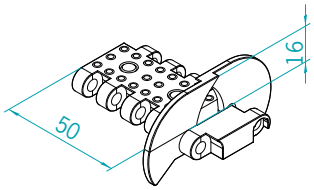
PLASTIC BELT conveyors



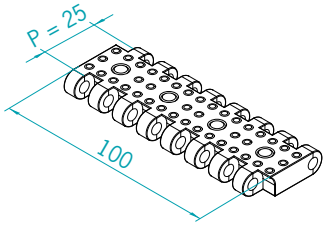
- The containment side edge does not open even during the rotation of the slat belt on the drive sprockets.
- The contact surface of the plastic belt is slightly high grip.
- Reinforced PP plastic belt.
- Operating temperatures +1°C to about 130°C.
- Standard slat: h=35 mm modular, pitch min. 25 mm.
- Possibility of applying special slats depending on the customer's requirements.
- A = 75 to 775 mm (pitch 100 mm).



Module 25



Module 50



Module 100

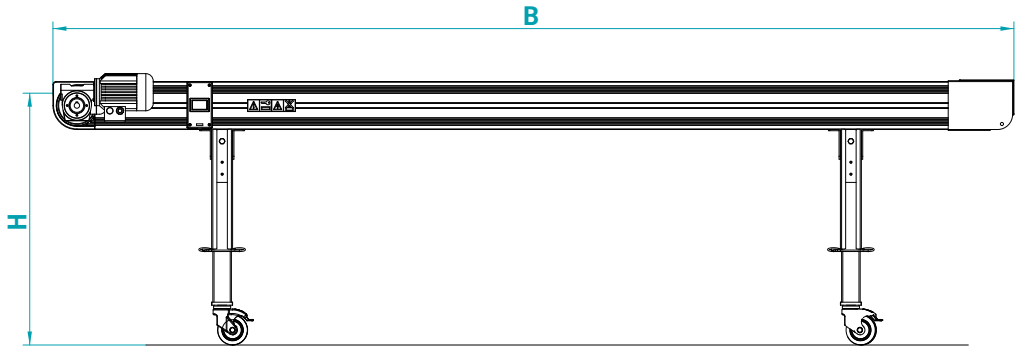
Patented Plastic Belt

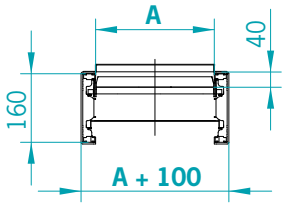
We introduce our new patented perforated plastic belt, designed for cooling systems. As you can see in the photo above, this kind of plastic belt allows the passage of the air so that during its transport the product is cooled down.

PA tp

- Sturdy structure in 6060 aluminium alloy section metal of primary extrusion protected by a 15-micron anodizing treatment.
- MB standard plastic belt without slats.
- Standard drive unit comprising a 0.18 kW three-phase asynchronous motor coupled to a permanently lubricated worm screw reduction unit. For safety reasons, the geared motor assembly is always equipped with a safety limiter.
- Fixed standard speed of conveyor 4 m/min.
- Standard voltage rating for the motors 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES



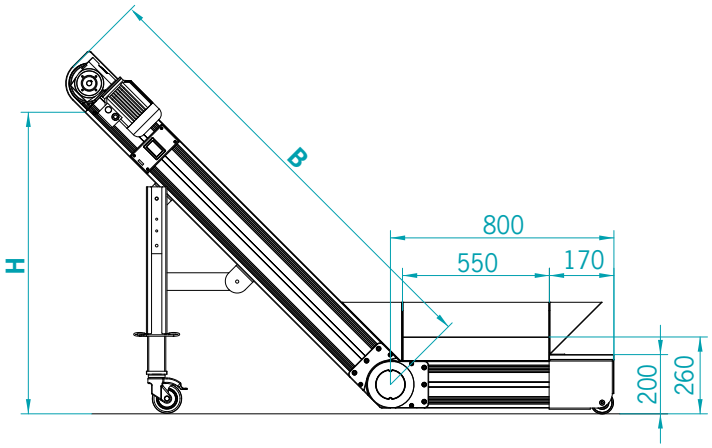


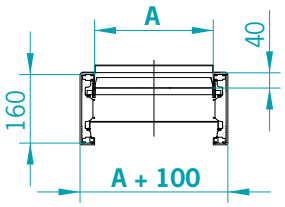
A	B	H
min 175 mm	min 1000 mm	min 300 mm
max 775 mm	max 5000 mm	max 2000 mm

CP tp

- Sturdy structure in 6060 aluminium alloy section metal of primary extrusion protected by a 15-micron anodizing treatment.
- MB standard plastic belt with slats h=35 mm, pitch=400 mm.
- Standard drive unit comprising a 0.18 kW three-phase asynchronous motor coupled to a permanently lubricated worm screw reduction unit. For safety reasons, the geared motor assembly is always equipped with a safety limiter.
- Fixed standard speed of conveyor 4 m/min.
- Standard voltage rating for the motors 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES



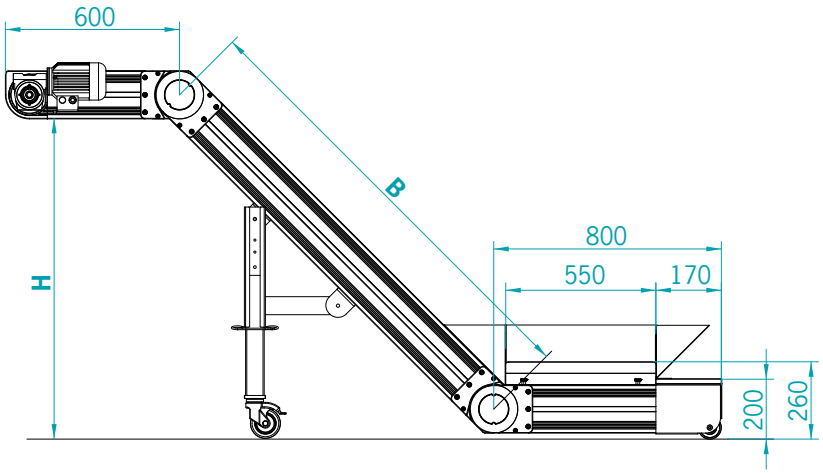


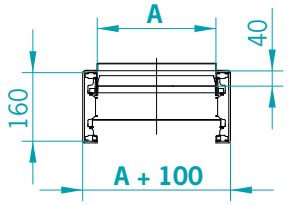
	A	B	H a 30°	H a 40°	H a 50°	H a 60°
CP-tp 1	275 mm	1500 mm	700 mm	950 mm	1100 mm	1250 mm
CP-tp 2	375 mm	1800 mm	850 mm	1150 mm	1350 mm	1500 mm
CP-tp 3	475 mm	2000 mm	950 mm	1250 mm	1500 mm	1700 mm
CP-tp 4	575 mm	2000 mm	950 mm	1250 mm	1500 mm	1700 mm

CPT tp

- Sturdy structure in 6060 aluminium alloy section metal of primary extrusion protected by a 15-micron anodizing treatment.
- MB standard plastic belt with slats h=35 mm, pitch=400 mm.
- Standard drive unit comprising a 0.18 kW three-phase asynchronous motor coupled to a permanently lubricated worm screw reduction unit. For safety reasons, the geared motor assembly is always equipped with a safety limiter.
- Fixed standard speed of conveyor 4 m/min.
- Standard voltage rating for the motors 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES





	A	B	H a 30°	H a 40°	H a 50°	H a 60°
CPT-tp 1	275 mm	1500 mm	700 mm	950 mm	1100 mm	1250 mm
CPT-tp 2	375 mm	1800 mm	850 mm	1150 mm	1350 mm	1500 mm
CPT-tp 3	475 mm	2000 mm	950 mm	1250 mm	1500 mm	1700 mm
CPT-tp 4	575 mm	2000 mm	950 mm	1250 mm	1500 mm	1700 mm

PAR with plastic belt

• The photo alongside shows a conveyor for collecting stacked plastic plates from the production unit outfeed and conveying these to the packaging unit.

• The two operating units have different work levels, therefore it is necessary to make the product “descend” to the level of the second unit.

• The plastic belt is functional to change in direction.

Double conveyor with 90° bend with plastic belt

• The photo alongside shows a conveyor which completes a 90° bend without interrupting the continuity.

• Note the two different conveying lanes, each with its own adjustable polyzene side panels.

Conveyor line with plastic belt

• The photo alongside shows a conveyor line from various product collection points to the collection centre.

• The peculiarity of the plastic belt used for these lines consists in the possibility of going through 90° bends without interrupting the continuity, thereby guaranteeing excellent quality conveying.

• Note the adjustable side panels with polyzene insert installed along the entire route.

• These lines are usually proposed for conveying small plastic containers.

Linear conveyor with plastic belt and built-in 90° bend

• The photo alongside shows a conveyor line used in the packaging sector.

• In this application small plastic trays are conveyed to receive a metallic product deposited by the assembly line Robot.

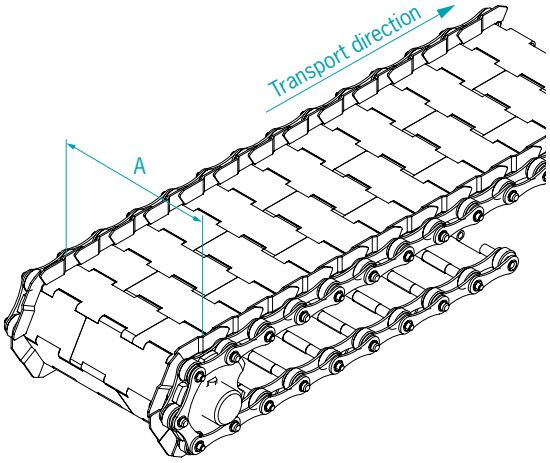
• The photo also shows the line frame made of AISI 304 stainless steel.

• The slats comprising the belt are fitted with a skid-proof insert.

METAL BELT

MB Conveyors

METAL BELT conveyors

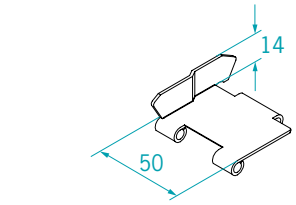


- Metal belts with different surfaces:

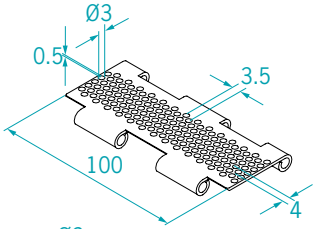
1. Smooth - suitable for welding/screwing drive slats.
2. High grip - avoid complete contact of the product on the surface.
3. High grip and perforated - in the presence of liquids to be decanted. Standard solution.
4. In mesh - in the presence of large quantities of liquids to be decanted.

- A = min 150 mm and max 750 mm, pitch 100 mm.
- Temperature up to 200°C

STANDARD DIMENSIONAL FEATURES



1



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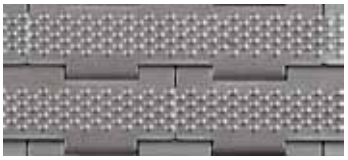

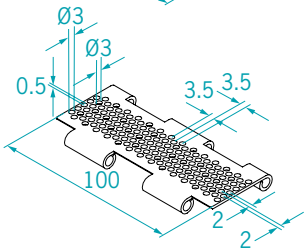

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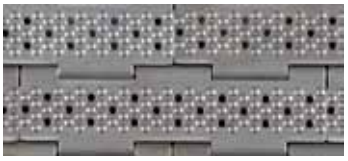
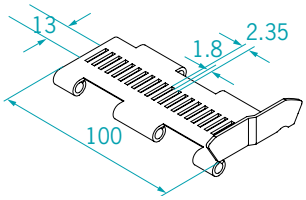


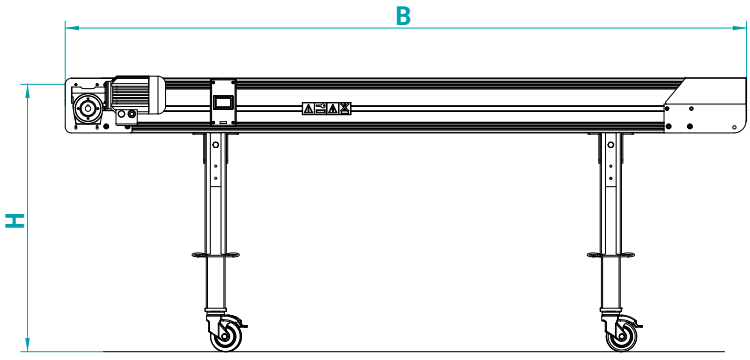


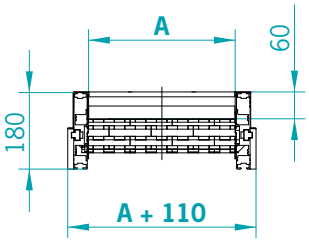
4

PA tm

- Sturdy structure in 6060 aluminium alloy section metal of primary extrusion protected by a 15-micron anodizing treatment.
- MB metal belt without slats.
- Standard drive unit comprising a 0.37 kW three-phase asynchronous motor coupled to a permanently lubricated worm screw reduction unit. For safety reasons, the geared motor assembly is always equipped with a safety limiter.
- Fixed standard speed of conveyor 4 m/min.
- Standard voltage rating for the motors 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES



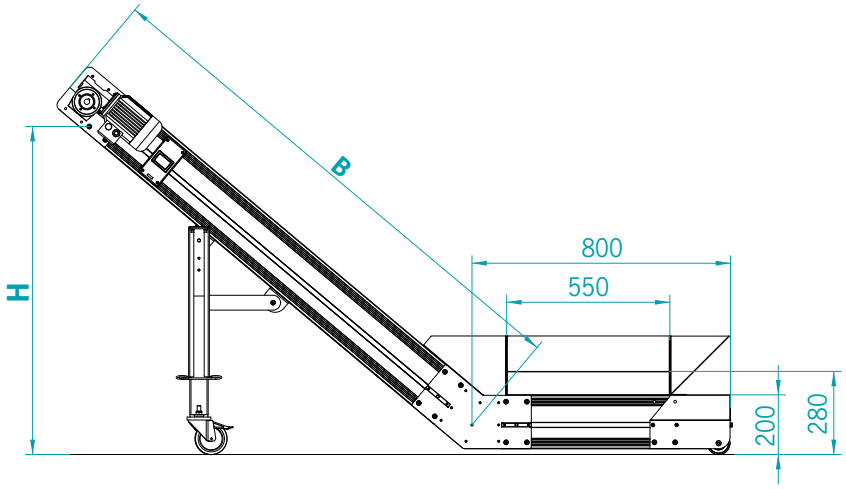


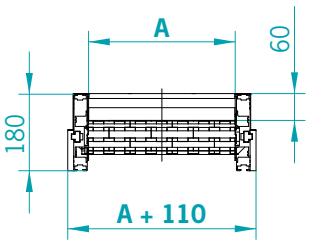
A	B	H
min 150 mm	min 1000 mm	min 300 mm
max 750 mm	max 5000 mm	max 2000 mm

CP tm

- Sturdy structure in 6060 aluminium alloy section metal of primary extrusion protected by a 15-micron anodizing treatment.
- Standard MB metal belt with slats, h=20/30 mm, pitch 400 mm.
- Standard drive unit comprising a 0.37 kW three-phase asynchronous motor coupled to a permanently lubricated worm screw reduction unit. For safety reasons, the geared motor assembly is always equipped with a safety limiter.
- Fixed standard speed of conveyor 4 m/min.
- Standard voltage rating for the motors 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES





	A	B	H a 30°	H a 40°	H a 50°	H a 60°
CP-tm 1	250 mm	1500 mm	700 mm	950 mm	1100 mm	1250 mm
CP-tm 2	350 mm	1800 mm	850 mm	1150 mm	1350 mm	1500 mm
CP-tm 3	450 mm	2000 mm	950 mm	1250 mm	1500 mm	1700 mm
CP-tm 4	550 mm	2000 mm	950 mm	1250 mm	1500 mm	1700 mm

CPT tm

- Sturdy structure in 6060 aluminium alloy section metal of primary extrusion protected by a 15-micron anodizing treatment.
- Standard MB metal belt with slats, h=20/30 mm, pitch 400 mm.
- Standard drive unit comprising a 0.37 kW three-phase asynchronous motor coupled to a permanently lubricated worm screw reduction unit. For safety reasons, the geared motor assembly is always equipped with a safety limiter.
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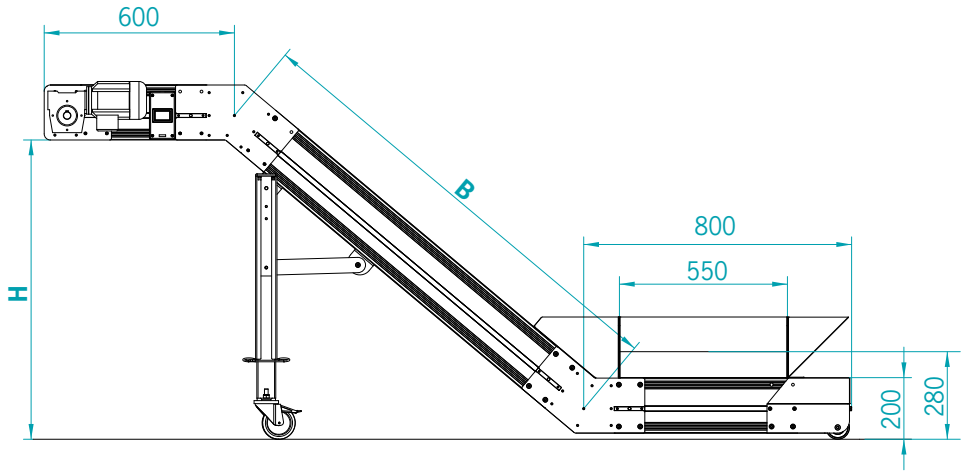
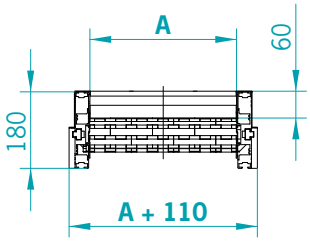
STANDARD DIMENSIONAL FEATURES





	A	B	H a 30°	H a 40°	H a 50°	H a 60°
CPT-tm 1	250 mm	1500 mm	700 mm	950 mm	1100 mm	1250 mm
CPT-tm 2	350 mm	1800 mm	850 mm	1150 mm	1350 mm	1500 mm
CPT-tm 3	450 mm	2000 mm	950 mm	1250 mm	1500 mm	1700 mm
CPT-tm 4	550 mm	2000 mm	950 mm	1250 mm	1500 mm	1700 mm

PA with heavy-duty metal belt

• The photo alongside shows a PA conveyor fitted with heavy-duty metal belt used for conveying plastic or metallic material in heavy-duty environments, such as foundries, cutting, etc.

MB with heavy-duty metal belt

• The photo alongside shows an MB tm conveyor fitted with heavy-duty metal belt.

• Note: the conveyor slats that have been welded to the belt.

• The structural framework of the conveyors on which the heavy-duty metal belt is fitted is made of 3mm thick sturdy welded painted sheet metal.

EV with heavy-duty metal belt

• The photo alongside shows an EV conveyor fitted with a heavy-duty metal belt used for lifting metallic products (screws, rivets, inserts, etc.).

• The product is unloaded into a hopper and lifted according to the needs of the assembly line located downline.

• The hopper alongside is small but is available in larger size if necessary.

EV - Detail of interior of hopper

• The photo alongside shows a special shape of the slats welded on the belt. The concave shape gives the slat greater capacity for conveying the product.

• The slat pitch is defined according to the dimensional features of the product to be lifted and the capacity required.

MB with heavy-duty metal belt

• The photo alongside shows an MB conveyor fitted with a heavy-duty metal belt with a 400-litre loading hopper.

• A conveyor with heavy-duty metal belt is usually equipped with a transmission group having motor 0.75 kW and provided with a torque limiter.

• Note: the sturdy base of the conveyor fitted with 150 mm diameter pivoting wheels with brake in this application.

• The special paint was requested by the user.

System for receiving and conveying PVC connectors

• The photo alongside shows a system consisting of an MB conveyor with metal belt complete with hopper in which the PVC connectors are deposited.

• The product is lifted and unloaded on a PA conveyor installed in the orthogonal position. This solution allows orthogonal alignment of the product.

• The height and pitch of the slats welded to the belt together with the conveyor speed determine a flow of connectors to be sent to the assembly unit by means of an orthogonal PA conveyor.

System for receiving, conveying and separating products made of Zamak

• The photo alongside shows a system to be positioned beside the production unit to receive the product, conveying it into a separator, recovering the separated product and conveying it into a container.

• These systems are customized on the basis of the dimensions of the operating unit and the space available.

• Note: the product must reach the separator with the sprues already detached.

CP with heavy-duty metal belt

• The photo alongside shows an application widely used in various production sectors ranging from plastic materials, die-casting of products made of alloy, plastic material recovery sector, foundries for alloy and cast-iron, to carpentry.

• The lower flat section allows the installation of this conveyor inside the operating machine compartment where the unloading chute is present or in front of the conveyor provided in most production units.

• These conveyors are very sturdy and rarely require repair or maintenance.

Separator with metallic rollers drum

• The photo alongside shows a version of the SR separator which we recommend for separating sprues/product made of zamak/alluminium or metallic material.

• This solution is widely used in the field of die-casting. The rollers comprising the drum are made of stainless steel tube, if necessary, or galvanized steel tube. In this solution, the rollers are fixed and don't rotate around their own axis during the drum rotation.

• The distance between the rollers is adjusted manually.

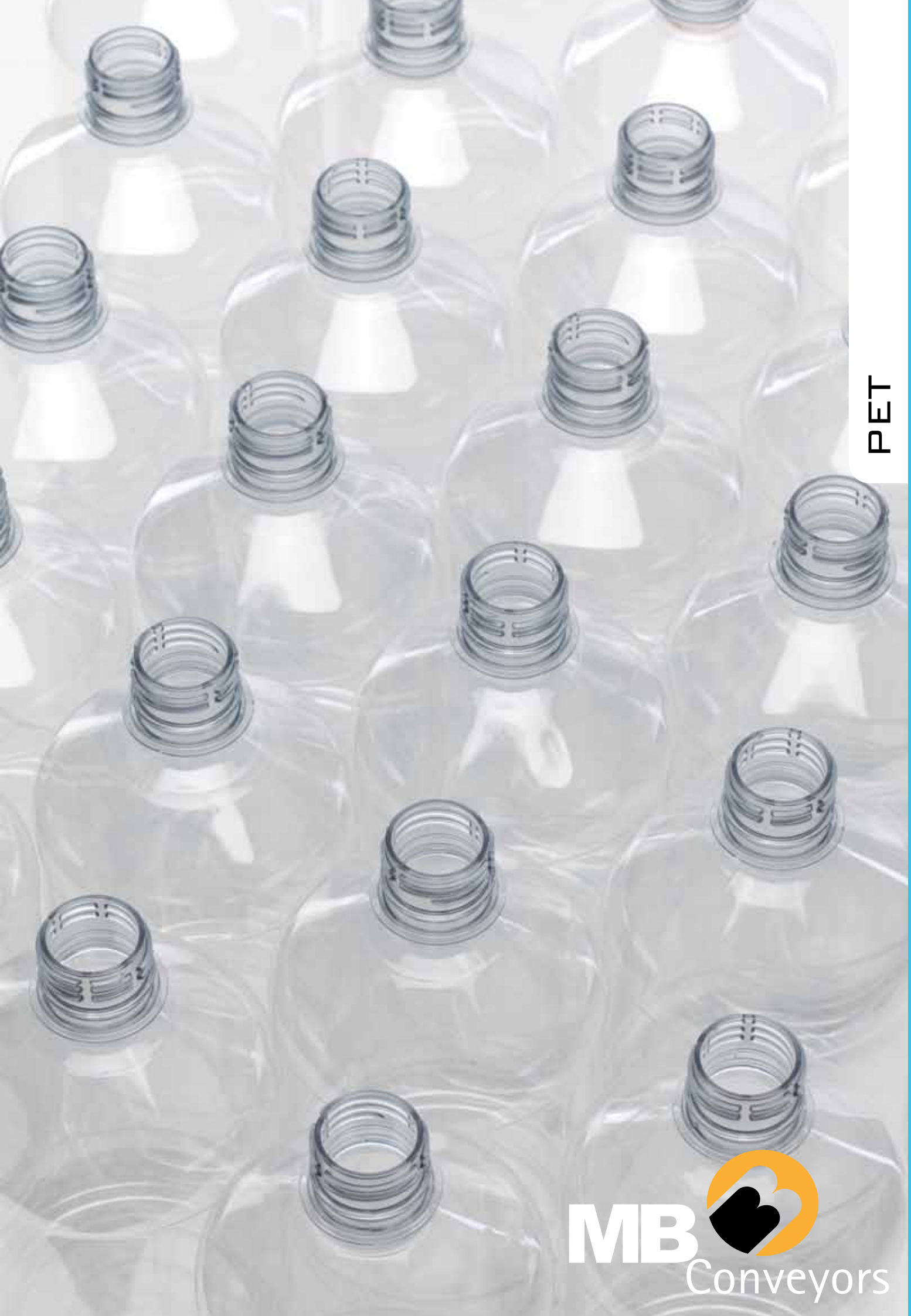
• Note the insulation of the separator necessary for reducing noise to the minimum.

System for receiving, conveying and separating products made of alloy

• The photo alongside shows a typical system for receiving and conveying products, separating them from the sprues and storing the separated product in the container.

• This system is usually placed beside the production unit and is custom-made on the basis of the space available.

• It is useful to be able to view the product and the sprues for a separation test before making the commercial offer.



PET

MB Conveyors

PET SOFT DROP device

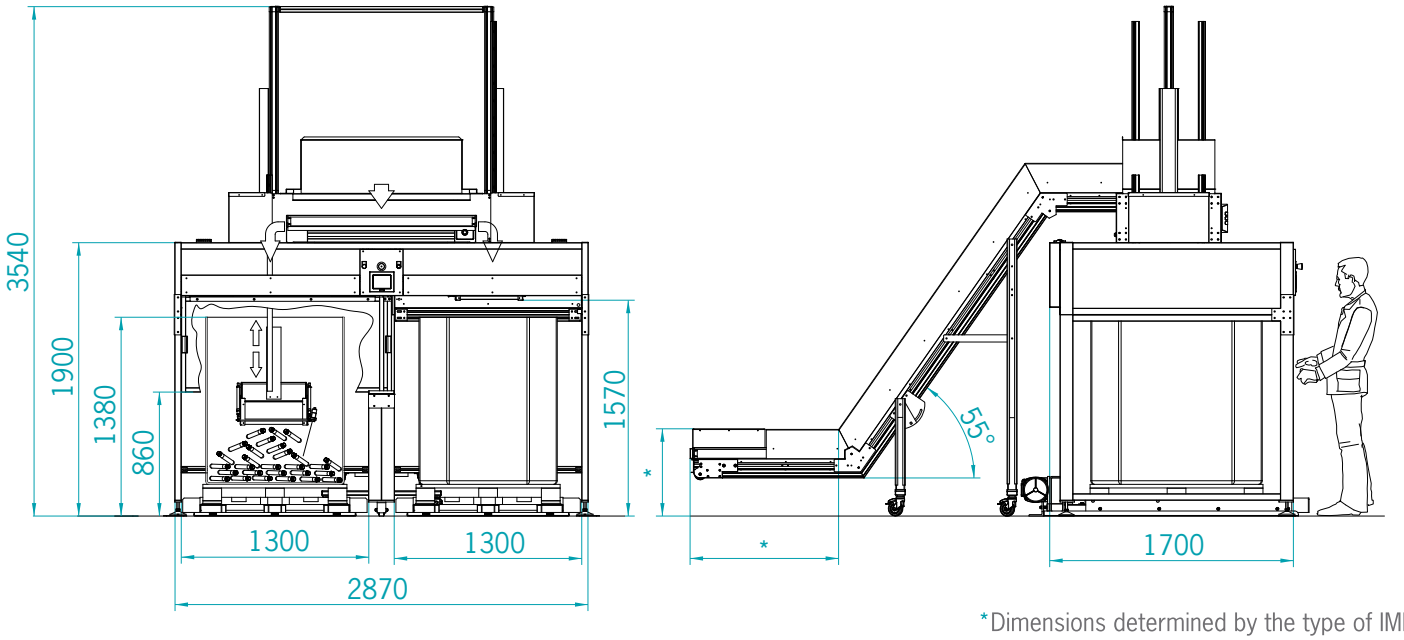
Since 1991, MB Conveyors has produced a very efficient system to eliminate damage caused to PET preforms during storage inside the container. The operating principle of the Soft Drop: the moulding cycle is received from the IMM and conveyed by means of a CPT conveyor to the PA conveyor/distributor installed for the programmed filling of hoppers/lowerators.
When the loading phase ends, the hopper descends into the storage container and, using an ultrasound sensor, releases the preforms at a minimum predefined height. This release height remains constant throughout the container filling phase. When the first container is filled, filling of the second container begins, while an acoustic-visual alarm warns the operator that the filled container must be replaced with an empty one.

MAIN TECHNICAL FEATURES

• Dimensions of containers for which the standard Soft Drop is designed: base 1000 x 1200 x h. 1200 mm.

• Standard Soft Drop complete with control panel. The main functions are:
- operating process control by means of PLC;
- display of work cycles and parameters set on Touch panel;
- checking the quantity of preforms to be stored inside the container counting the moulding cycles of the production unit.

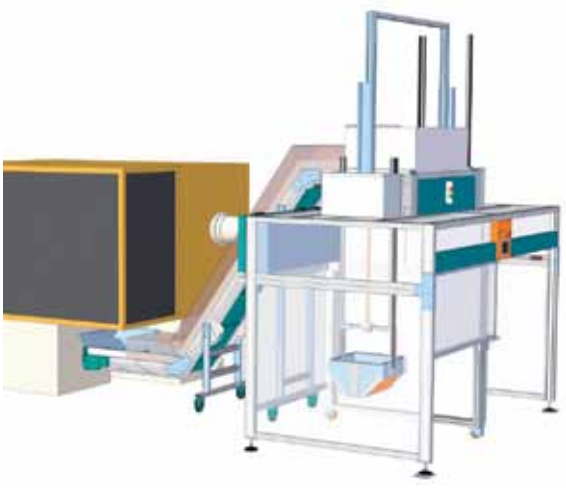
• Main implementations of Soft Drop:
- quality control by weighing with a tolerance from 0 to +2% with reference to the weight of the full container;
- installation of vibrating platforms;
- construction of loading conveyor complete with cooling device.



*Dimensions determined by the type of IMM

Technical data for using Soft Drop

- Power required for operation, including CPT loading conveyor: 1 kW.
- Standard supply voltage: 400 Volts/50 Hz.
- Air flow necessary for supplying the Soft Drop: 16 litres/minute (0.96 m3/h).
- Air pressure necessary for the working of the Soft Drop: 600/800 KPA (6 Bar).



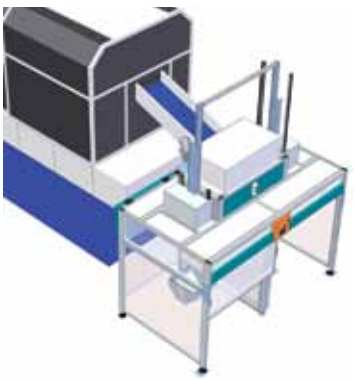
Soft Drop Application with collection conveyor

- The drawing alongside shows the unit consisting of the IMM, collection conveyor and the Soft Drop.

- In this application, the preforms are received by the conveyor inside the IMM positioned under the mould opening.

- The dimensional features of the collection conveyor depend on:

1. IMM model
2. IMM production capacity
3. dimension of preforms.



Soft Drop Application without collection conveyor

- The drawing alongside shows the Soft Drop receiving the preforms directly from the conveyor provided for the IMM.

- The dimensional and functional features of the Soft Drop are standard, except for the guard installed on the distributor conveyor which receives the preforms.

- The control panel and operating system are standard.

Standard Soft Drop – rear view

• The photo alongside shows the rear part of the Soft Drop where the control panel and the electro-pneumatic part, protected by painted panels (ref. Pantone 320), are situated.

• Standard CPT loading conveyor:

- receives the preforms from the production unit outlet and conveys these to the PA conveyor/distributor installed on the Soft Drop;
- belt made of Pu green color (ref. Pantone 320) complete with h=50 mm slats pitch 300 mm. Vulcanised belt joint;
- Fixed conveyor speed 17 m/min;
- inclination of upward section 55°;
- polycarbonate guard on the entire length of the conveyor.

Detail of collecting, descending and unloading hopper

• The photo alongside shows the hopper which receives the preforms from the PA conveyor/distributor.

• The hopper is provided with a pneumatic system for vertical descent into the container.

• The hopper bottom consists of two bulkheads which open when the release height is reached. Note the two small pistons which bring about the opening and closure of the hopper bulkheads.

Detail of hopper with bulkheads open

• The opening of the bulkheads can be set with different logics:

- simultaneous opening of bulkheads;
- opening of the right bulkhead in first descent and of the left bulkhead in second descent;
- opening of both bulkheads, but at different times.

• Note the ultrasound proximity sensor which determines the opening of the bulkheads.

Soft Drop complete with quality control system

• The photo alongside shows a very important function for the Soft Drop: the quantity of preforms to be stored in the container controlled by weighing.

• Thanks to the quality of the components of the weighing system and the preset control logic, it is possible to obtain a degree of precision between 0 to +2% with reference to the weight of the full container.

Soft Drop with four load positions

• The photo alongside shows a special solution designed for storage of the preforms in four different containers instead of the usual two.

• In this application, the quantity of preforms to be stored in the container is checked by weighing.

• The vibrating platforms controlled by the main control panel complete the system.

Soft Drop with four unload positions

• The photo alongside shows the CPT conveyor for receiving preforms from the production unit and the conveying to the Soft Drop.

• Note the control panel installed on the conveyor, necessary for the quality control of the preforms.

• If set correctly, the program allows 100% control of the preforms comprising the moulding cycle.

Vibrating platforms

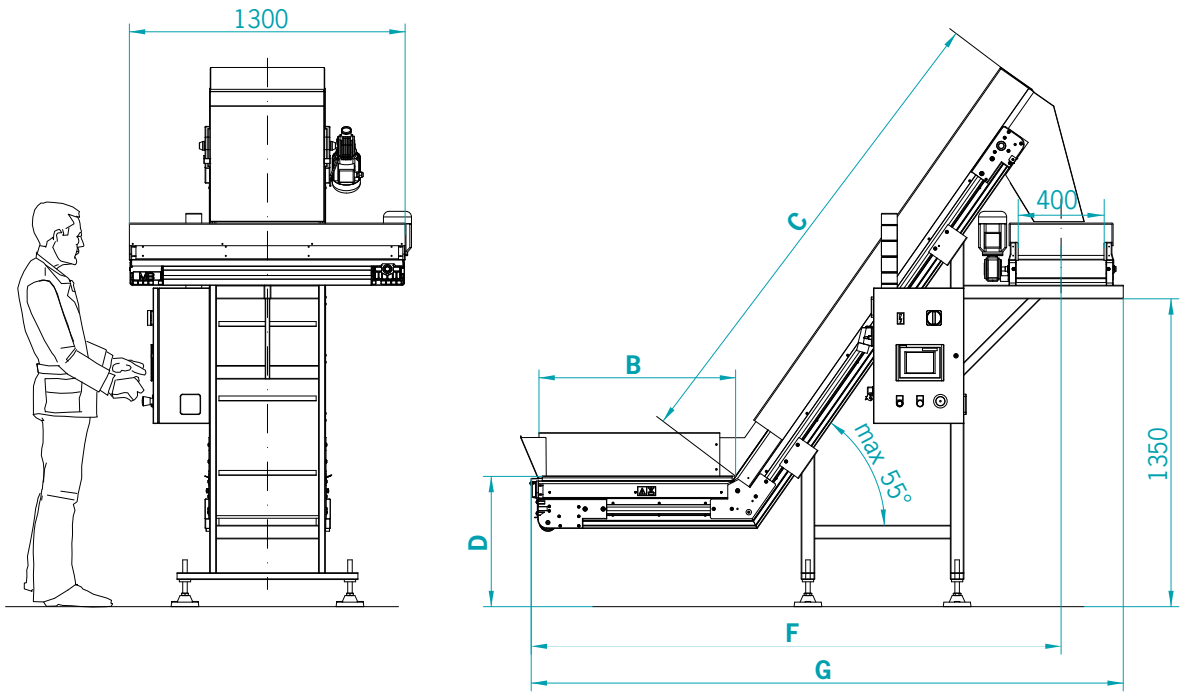
• The photo alongside shows a very interesting solution to optimize the filling quality of the preforms storage container.

• Use of vibrating platforms allows recovery of the container capacity from a minimum of 7% to a maximum of 15-16%.

T-CONVEYOR conveyor

The T-Conveyor is a widely used solution in the PET sector for the storage of preforms in containers. Compared to the Soft Drop, this solution does not include the hoppers descending into the container and is therefore proposed when it is sure that there is no possibility of damage to the preforms as they drop from the PA conveyor into the container.
The CP conveyor receives the preforms from the production unit outlet and conveys these to the PA distributor which unloads these according to a predefined logic into two storage containers.
The control panel, if requested complete with PLC, controls the filling logic.

STANDARD DIMENSIONAL FEATURES



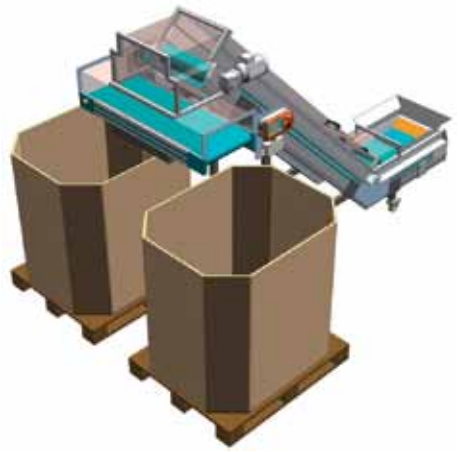
Dimensions not indiacated are determined by the type of IMM

T-Conveyor - control panel

• The photo alongside shows the control panel to control the storage of preforms in the containers meant for the purpose.

• The quantity of preforms to be stored is defined by the moulding cycle count and therefore a voltage-free A/C signal is required from the IMM at each cycle.

• When the first container is filled, the PA conveyor inverts the direction of movement and starts filling the second container. In parallel, an acoustic-visual alarm warns the operator that the filled container must be removed and replaced.



T-Conveyor

• The image alongside shows a standard application of the T-Conveyor.

• The T-Conveyor is used for storing the product in two separate containers.
In the PET sector Octabin containers are the standards, except in cases where cages made of galvanized mesh are used.

• The image alongside shows the polycarbonate guard on the entire section of the conveyor, including the passage from the CP conveyor to the PA conveyor.

T-Conveyor complete with vibrating platforms

• The image alongside shows the vibrating platforms mentioned above on which the storage containers are placed.

• The control panel has a series of programs for the activation of the vibrating platforms depending on the technical-dimensional features of the preforms and the container model used.

T-Conveyor complete with weighing system

• The image alongside shows the two weighing cells mentioned above on which the storage containers are placed.

• Thanks to the quality of the components of the weighing system and the preset control logic, it is possible to obtain a degree of precision between 0 and +12 preforms per container.

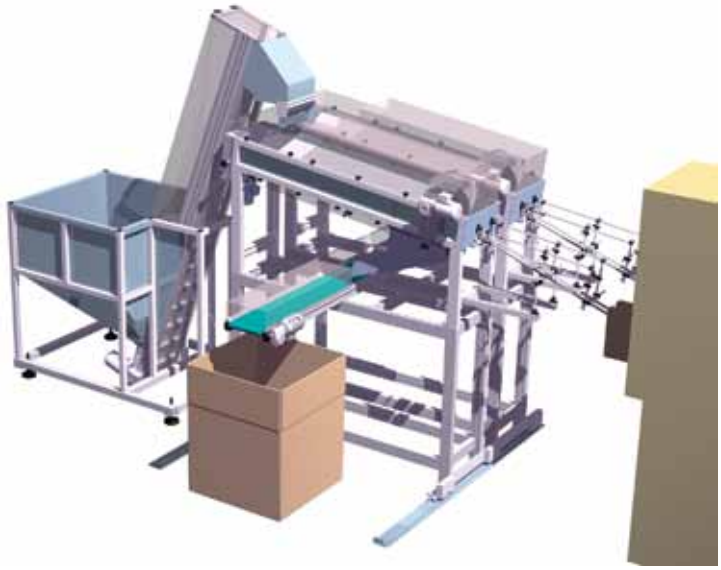
• Any type of container can be used in this application.

Preforms Orientation device

• The image alongside shows a system to orient the preforms before they enter the blower unit.

• The hopper capacity, the quantity of preforms to be oriented and the loading and unloading heights are adapted according to the production requirements.

• Before preparing the commercial offer, it is necessary to analyze the samples of the preforms to be oriented.



Double preforms Orientation device

• The image alongside shows a very special application: the orientation device supplies two independent blower units.

• Note the flat conveyor positioned under the orientation device for recovery of the preforms that are not oriented.

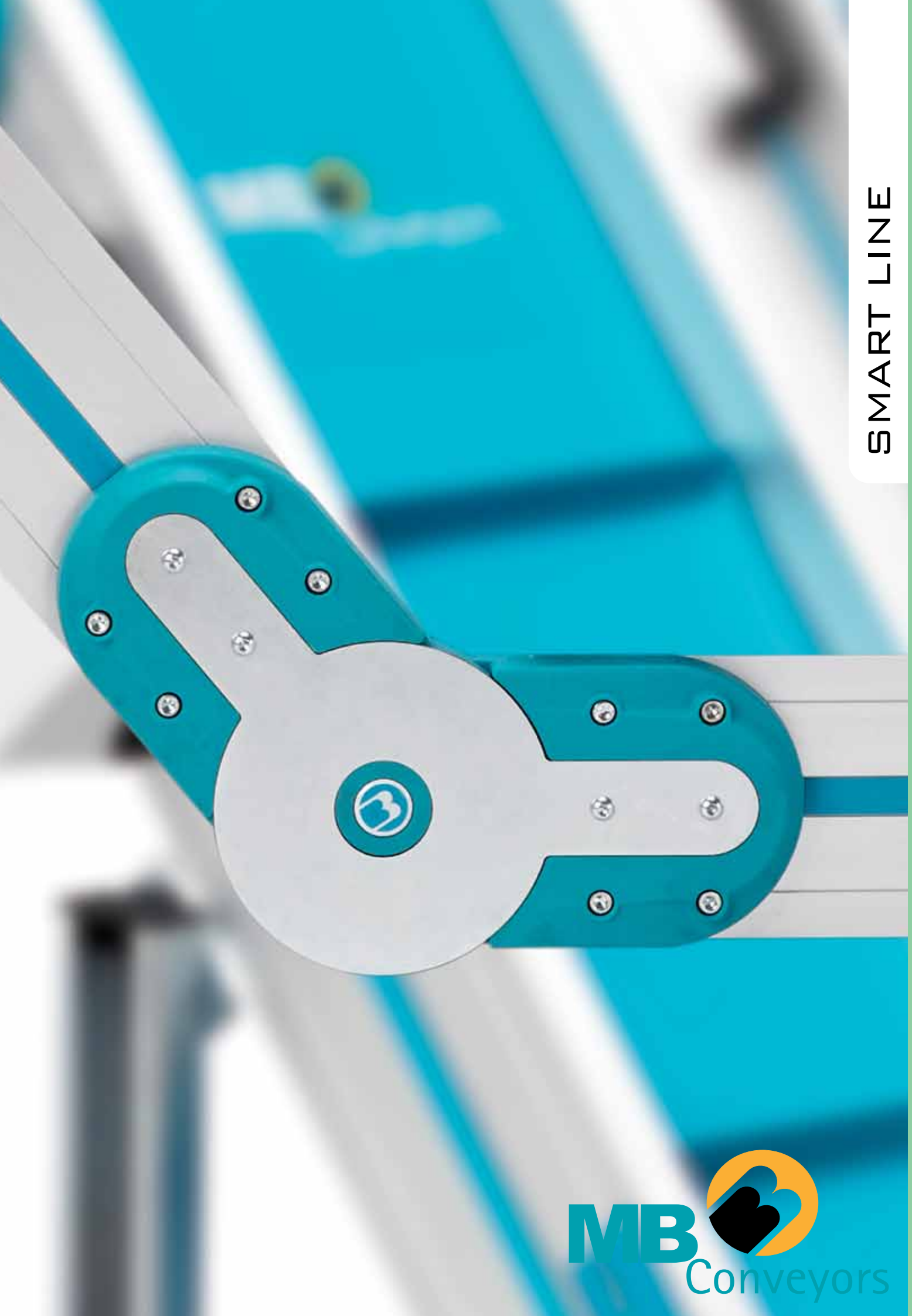
Preforms orientation device for small production quantities

• The image alongisde shows a small orientation device which is used to supply the control unit.

• Usually the preforms which comprise a moulding cycle of the production unit are picked up and conveyed into the elevator hopper which collects these and conveys them to the orientation device.

• Downline of the orientation device is the quality control unit.

• In this application it is not the feeding capacity but the conveying quality and the orientation that is of strategic importance.



SMART LINE

MB Conveyors

SMART LINE conveyors

NEW!

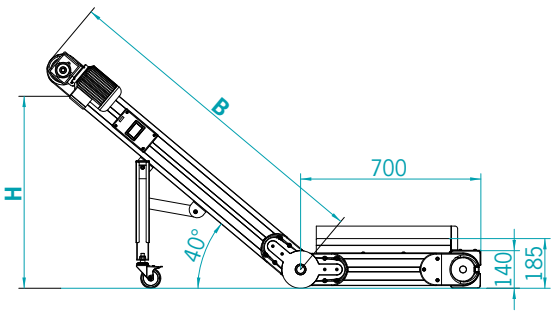
Smart-CP

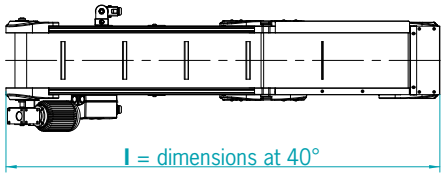
Reduction of packing and transport costs

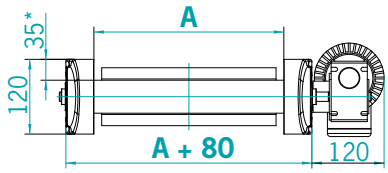
The Smart Line series has removable housings that allow to flatten the conveyors, leading to a reduction of volume and thus a considerable reduction in packing and transport costs.

- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation treatment thickness 15 micron.
- Standard cut-proof, oil-proof belt, with smooth green Polyurethane covering (ref. Pantone 320); with heat-welded slats h=30mm with pitch 400 mm; vulcanised belt joint.
- Minimum and maximum temperature resistance of belt -10°C to +90°C.
- Standard transmission group consisting of 0.09 kW three-phase, asynchronous motor coupled with worm reduction unit with permanent lubrication.
- Fixed standard conveyor speed 3 m/min.
- Conveyor complete with Siemens Start and Stop switch/motor cut-out, with 5 m cable and 4P CE plug (3 phases+ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES







*Standard non-removable side panels 35 mm h

	A	B	H (40°)	l (40°)
Smart CPT 0	155 mm	1500 mm	850 mm	1950 mm
Smart CPT 1	255 mm	1500 mm	850 mm	1950 mm
Smart CPT 2	355 mm	1800 mm	1000 mm	2150 mm

Smart-CPT

Reduction of packing and transport costs

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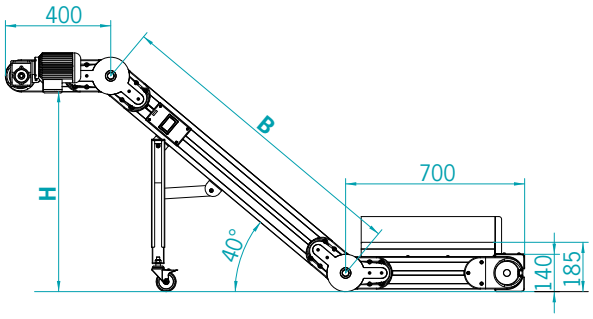
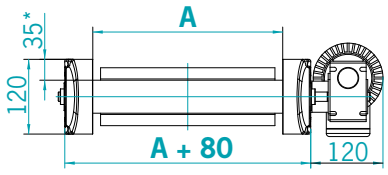
- Fixed standard conveyor speed 3 m/min.
- Conveyor complete with Siemens Start and Stop switch/motor cut-out, with 5 m cable and 4P CE plug (3 phases+ground).
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES





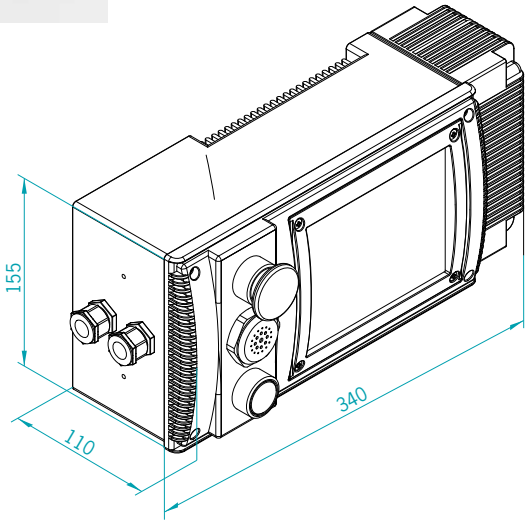
*Standard non-removable side panels 35 mm h

	A	B	H (40°)	I (40°)
Smart CPT 0	155 mm	1500 mm	900 mm	2300 mm
Smart CPT 1	255 mm	1500 mm	900 mm	2300 mm
Smart CPT 2	355 mm	1800 mm	1100 mm	2500 mm


TOP CONTROL
MB
Conveyors

MB TOP CONTROL PANEL

- The maximum power the MB control panel can withstand: 0.75 kW.
- Control panel connection voltage: three-phase 400 Volts/50 Hz.
- MB Control Panel complete with three-phase Inverter.
- MB Control Panel protection degree: IP 65.
- MB Control panel dimensions: 110 x 340 x 155 mm.
- Wt. of MB Control panel: 1.7 kg.



Standard programs installed in the control panel

a) ON/OFF Manual Program
b) Pause/Work Program
c) Robot/Pulse Program
d) Sensor/Feeder Program
e) TV series turntables control Program
f) CAR horizontal carousel Program
g) Control programs for Metal Detectors installed on conveyor (Plate/Tunnel)
h) MI 1 mixer control Program

Standard equipment of MB Control Panel

- Acoustic alarm.
- Mushroom-shaped emergency button.
- Complete M/F ILME plug for connecting external incoming signal (A/C voltage free).

MB Control panel installed on PAR Conveyor

• The photo alongside shows a Robot/Pulse programmed MB control panel installed on a PAR conveyor positioned beside the IMM for collecting and conveying the product deposited by the Robot.

• The functions of the MB control panel are:

- the Robot deposits the product on the conveyor and sends a signal (voltage-free A/C) to the PAR panel;

- the MB panel activates the conveyor Start for a preset time which can be regulated. When the run time ends, the MB panel awaits the next signal from the Robot.

MB Control panel installed on PA Conveyor

• The photo alongside shows an MB control panel installed on a PA conveyor, fitted with protection devices, positioned beside the IMM for collecting and conveying the product deposited by the Robot.

• The operating logic of this application is similar to the application on the PAR with the addition of control of the safety micro switch on the openable rear door of the guard.

• With the door open, the panel inhibits the Robot descent.

MB Control panel installed on SR Separator

• The photo alongside shows an MB control panel installed on an SR Separator to adjust the roller drum rotation speed.

• This function makes it possible to calibrate the separation capacity of the separator in the best possible manner, according to the quantity and shape of the product to be separated.

MB Control panel installed on EV Elevator

• The photo alongside shows the MB control panel installed on an elevator for control of the level sensor.

• It is activated or stops depending on the product level downline of the elevator.

• The incoming signal from the sensor (A/C voltage free) is duly filtered.

MB Control panel installed on TVC turntable

• The photo alongside shows the MB control panel installed on a TVC model turntable.

• At each moulding cycle, the IMM sends a signal to the MB control panel (A/C voltage free).

• The signals are counted by the panel and on reaching the preset number of moulded items for the container, the control panel activates container change.

MB Control panel installed on TVS turntable

• The photo alongside shows the MB control panel installed on a TVS model turntable.

• At each moulding cycle, the IMM sends a signal to the MB control panel (A/C voltage free).

• The signals are counted by the panel and on reaching the preset number of moulded items for the container, the control panel activates container change.

MB control panel installed on a CAR carousel

• The photo alongside shows the control panel installed on an horizontal CAR.

• The MB control panel functions are the same of the turntables. What changes is the necessity to manage a larger number of containers (64 containers maximum).

MB control panel installed on a MI 1 mixer

• The photo alongside shows the control panel installed on a MI 1 mixer.

• The MB Control panel main functions are:

- mixer functioning in Start/Stop;
- screw speed adjustment.

MB control panel installed on conveyor with Metal Detector

• The photo alongside shows the control panel installed on the MB conveyor complete with Plate Metal Detector.

• When the alarm signal is received from the Metal Detector, the control panel stops the conveyor and activates the alarm.

• To restart, the operator must remove the metallic impurities and IMM the Reset button.

NOTES

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09 - 2011

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