MB Conveyors

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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 25 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, 1985-2010: 25 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.

1986 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.

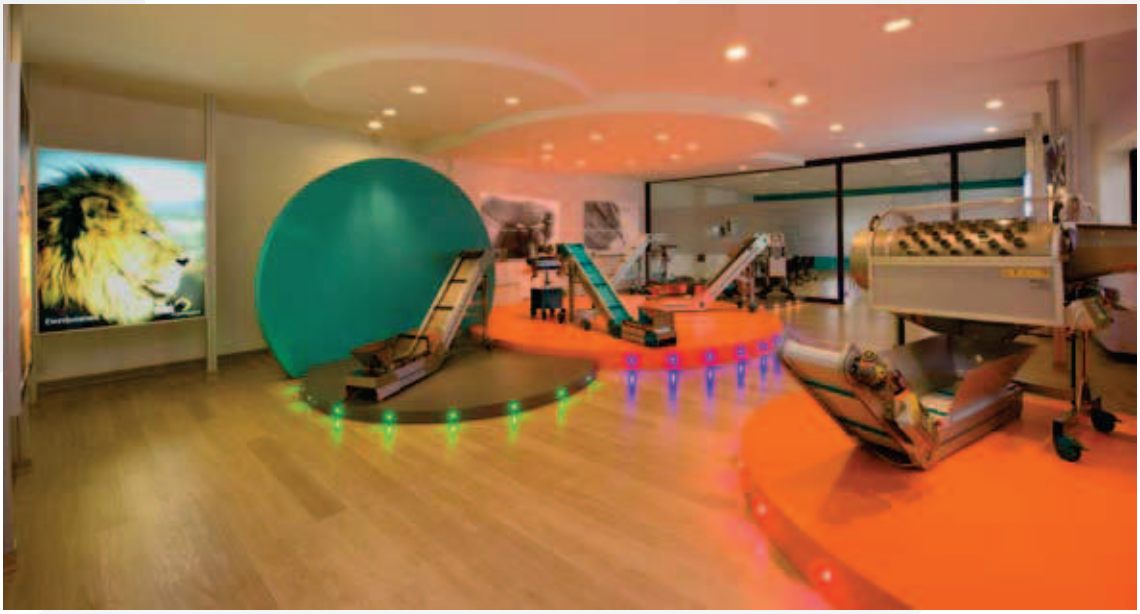
Every year our 5,600 sqm production plant manufactures over 4,000 conveyor belts for a wide range of applications:
- plastics
- PET
- foodstuffs/pharmaceuticals
- medical
- mechanical.

MISSION

Experience. Determination. Enthusiasm.

The spirit of MB Conveyors in three words. 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.



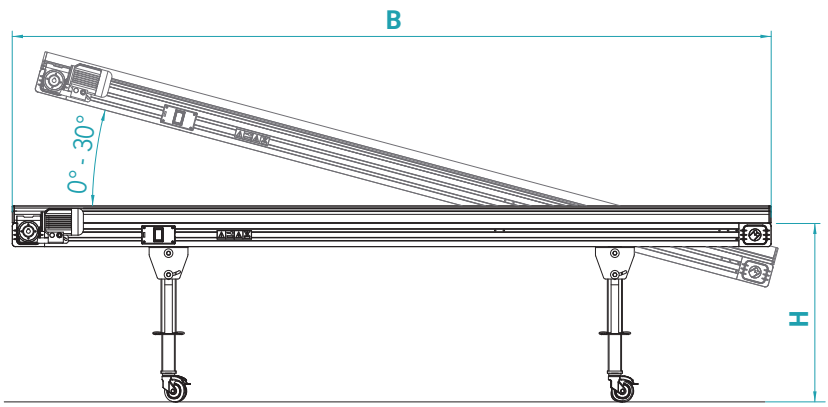
MB Conveyors

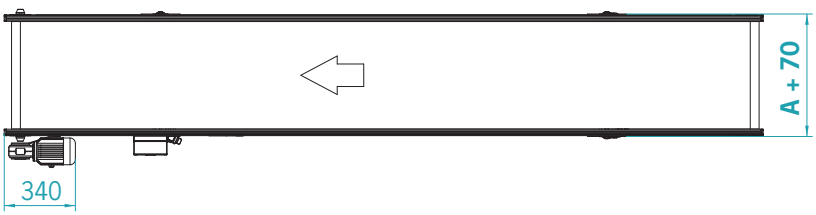
PLASTIC MATERIAL

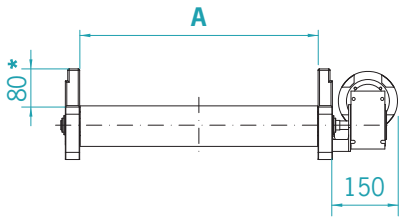
PA standard flat conveyor

- 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





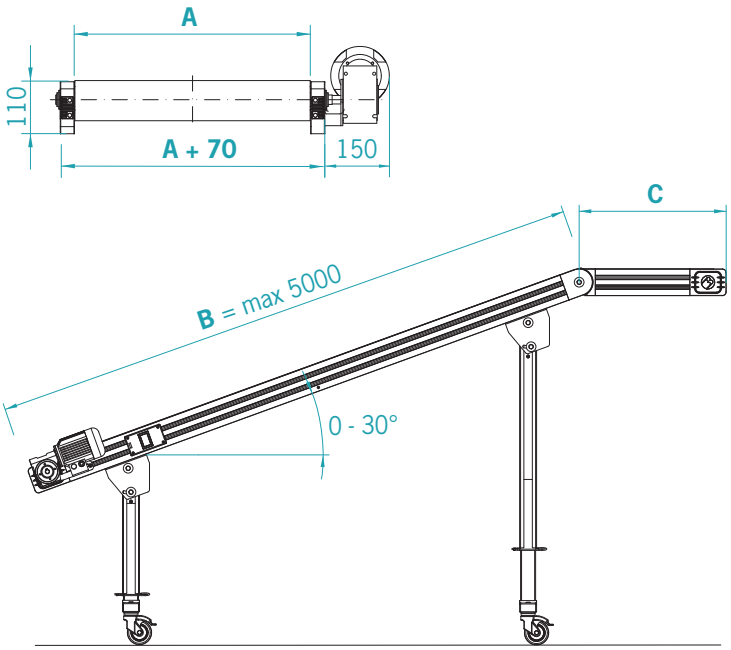


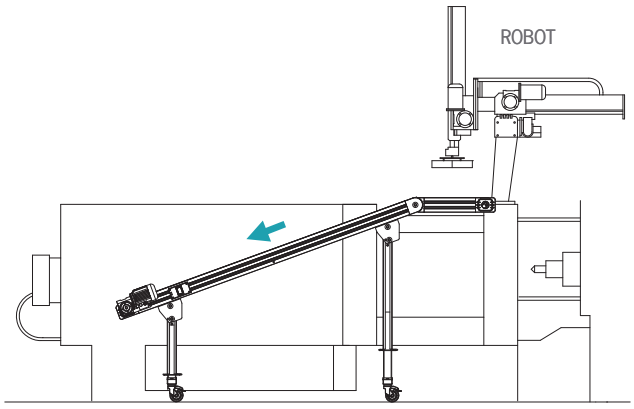
*Standard removable side panels 80 mm h

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 (110x30 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.

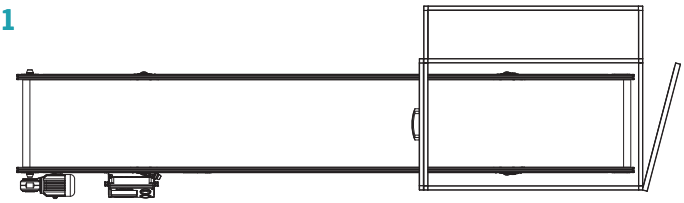
• The inspection door is protected by means of microswitches which permit Robot descent only if it is closed perfectly.
The connection of the microswitch to the robot is up to the customer.

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

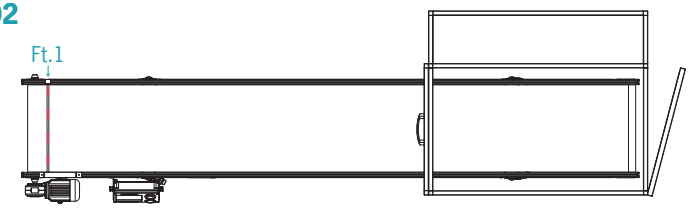
• MB Top Control panel installed for control of the conveyor to work with Robot.
The panel controls:
- A/C voltage-free signal coming from the Robot;
- photocells, if any (max 3) for controlling the conveyor;
- safety microswitch positioned on the openable door of the guard.

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

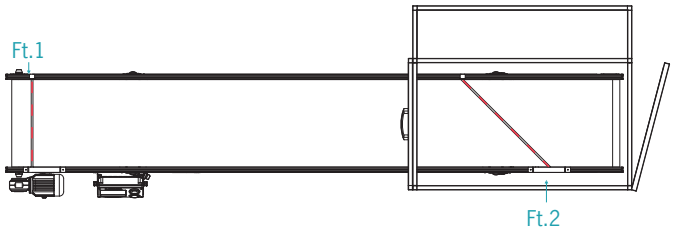
01



02



03



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

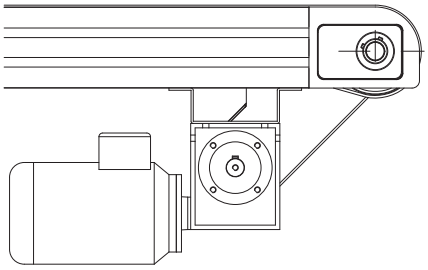
• The photo alongside shows the installation of a PA conveyor on a IMM connected to two Robots.

• 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

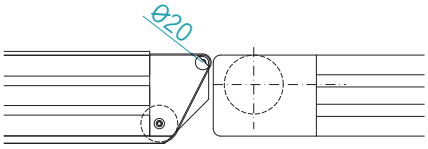
T1

• 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.



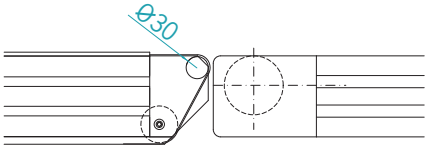
T2

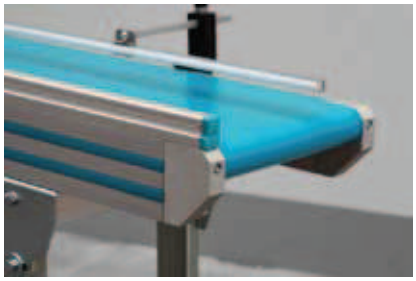
• Head roller diameter 20 mm.
• This solution facilitates the passage of small products from one conveyor to another.



T3

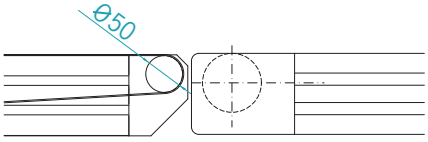
• Head roller diameter 30 mm.
• This solution facilitates the passage of small products from one conveyor to another.

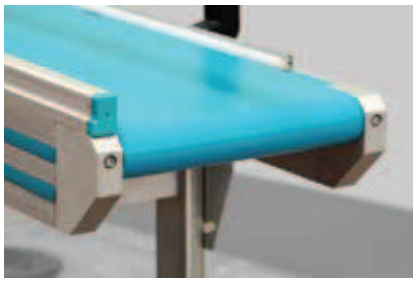




T4

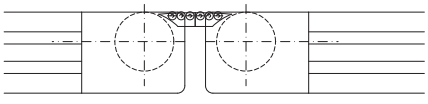
• Head roller diameter 50 mm.
• This solution facilitates the passage of small products from one conveyor to another.





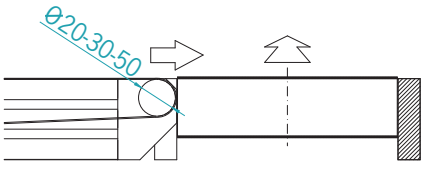
T5

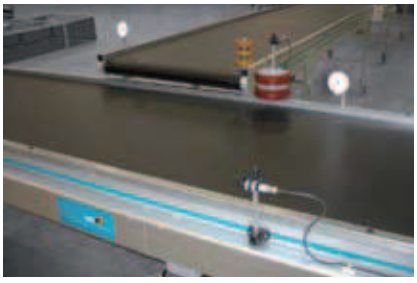
• Head roller complete with roller inserts.
• This solution facilitates the passage of small products from one conveyor to another as long as the surface of the product resting on the conveyor is perfectly flat.



T6

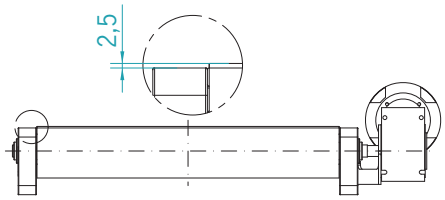
• Example of orthogonal passage between two conveyors.
• To optimize this solution it is important to view the shape of the product to be conveyed.





S1

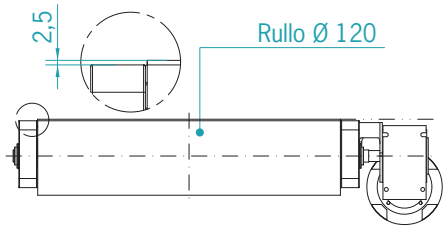
- PA without side panels.
- In the presence of workers working directly above the conveyor.
- When the product width is greater than that of the conveyor and it is picked up before it reaches the height of the transmission group.



PA	PA-180
yes	no

S2

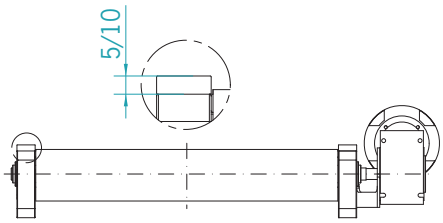
- PA without side panels and with motor under the belt.
- For conveying products with dimensions greater than the conveyor width.



PA	PA-180
yes	no

S3

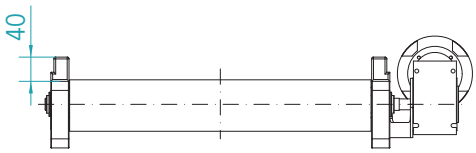
- PA with side panels made of 5/10 mm thick Polyzene plate
- Solution proposed on request, a conveyor without side panels, large size and high speed, which therefore needs a minimum containment of the belt.



PA	PA-180
yes	no

S4

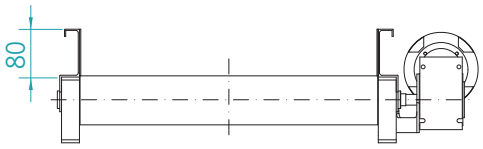
- PA with h. 40 mm. side panels
- Solution proposed when side panels are required, limiting the height of the conveyor.



PA	PA-180
yes	yes

S5

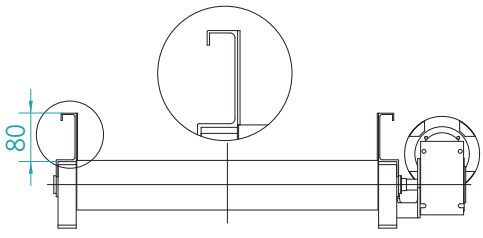
- PA with h.80 mm. side panels
- Solution which allows installation on top of these of:
- protective polycarbonate or aluminium sheet guards
- tunnel for cooling the product.



PA	PA-180
yes	no

S6

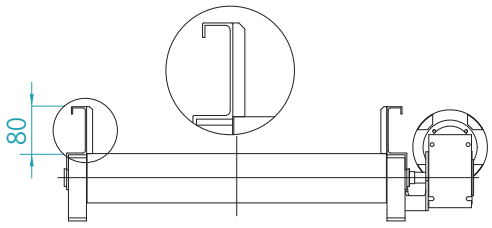
- PA with h.80 mm Teflon-coated side panels.
- Solution proposed when the product is particularly “delicate” and even the slightest contact with the aluminium side panels can damage it.



PA	PA-180
yes	no

S7

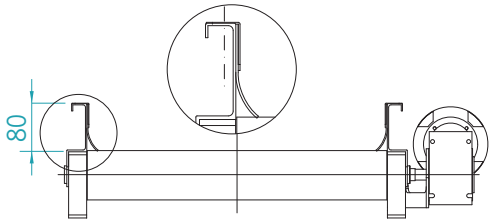
• 80 mm h. side panels with polyzene inner cladding.
• Solution to be proposed when the food/ pharmaceutical product must not come in contact with non-FDA surfaces.



PA	PA-180
yes	no

S8

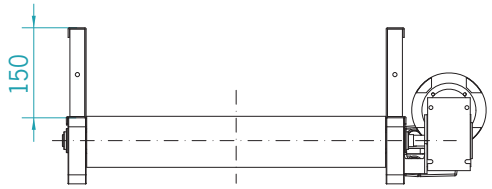
• Side panels made of AISI 304 stainless steel
h.80 mm complete with shim strip.
• Solution to be proposed when the food/ pharmaceutical product must not come in contact with non-FDA surfaces.
• The shim strips ensure side sealing between the sides and the belt.



PA	PA-180
yes	yes

S9

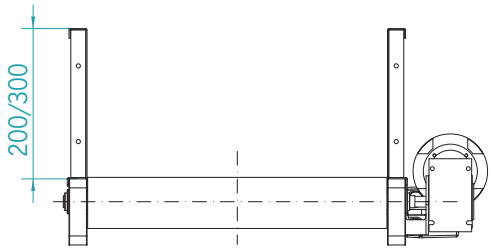
• Side panels made of AISI 430 stainless steel h. 150mm.
• For conveying products in large sizes and/ or quantities.



PA	PA-180
yes	yes

S10

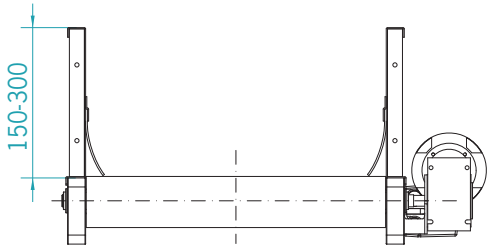
• Side panels made of AISI 430 stainless steel h. 200/300 mm.
• For conveying products in large sizes and/ or quantities.



PA	PA-180
yes	yes

S11

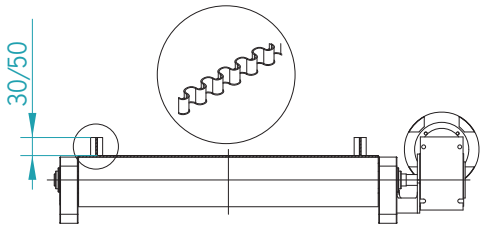
• Sides made of AISI 430 stainless steel h.150/200/300 mm complete with shim strips.
• For conveying products in large sizes and/ or quantities.
• The shim strips ensure side sealing between the sides and the belt.



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

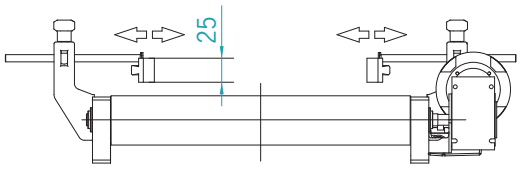
S13

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

PA	PA-180
yes	no

S14

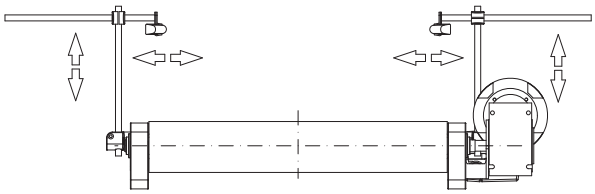
• Polyzene side panels adjustable for width.
• For conveying and guiding containers and/or products of different dimensions.



PA	PA-180
yes	no

S15

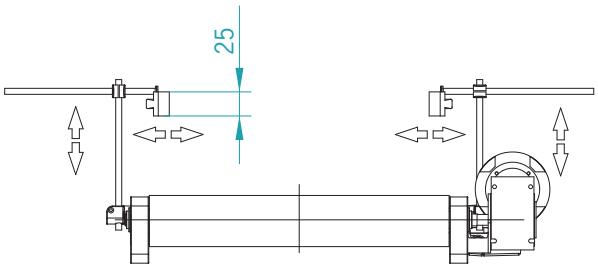
• Polyzene side panels which can be adjusted for width and height.
• For conveying and guiding containers and/or products of different dimensions.



PA	PA-180
yes	no

S16

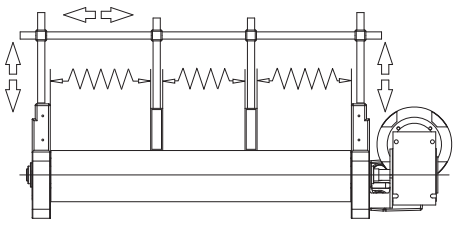
• Polyzene side panels which can be adjusted for width and height.
• For conveying and guiding loose medium and large sized products.



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.



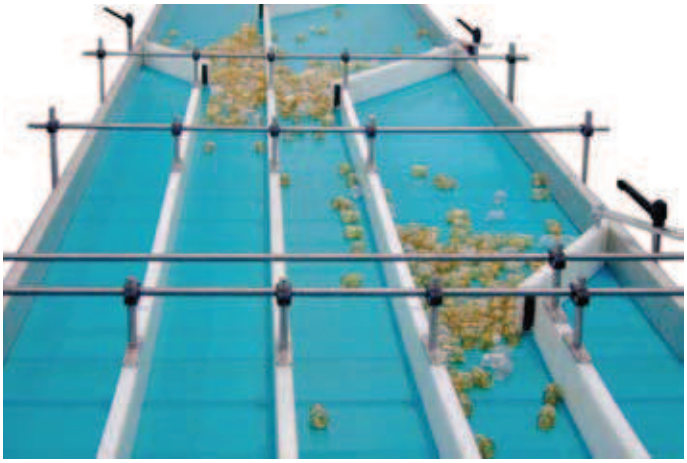
PA	PA-180
yes	yes

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:

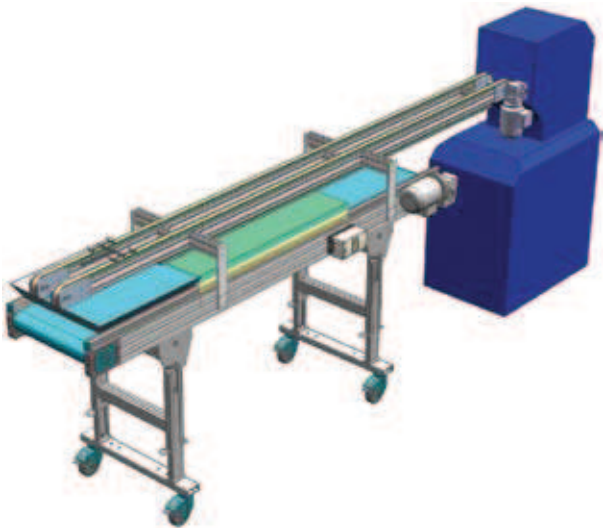
- when the product can come in contact with other products;
- when the product must not come in contact with other products.

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 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.

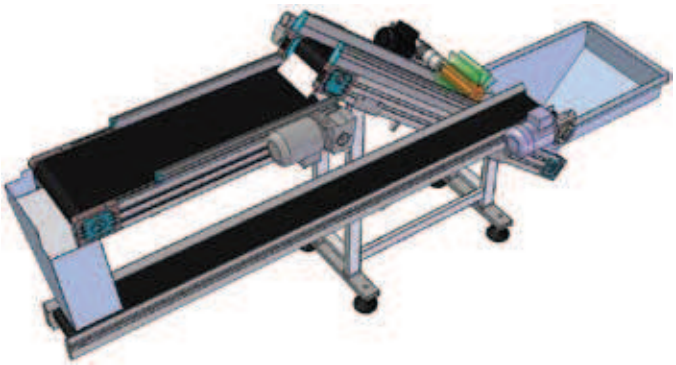
• In this application the product is a thermo-setting substance with a temperature of approx. 110°C and this is why a belt with elastomer covering heat-resistant up to 140°C is fitted on the PA.

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.

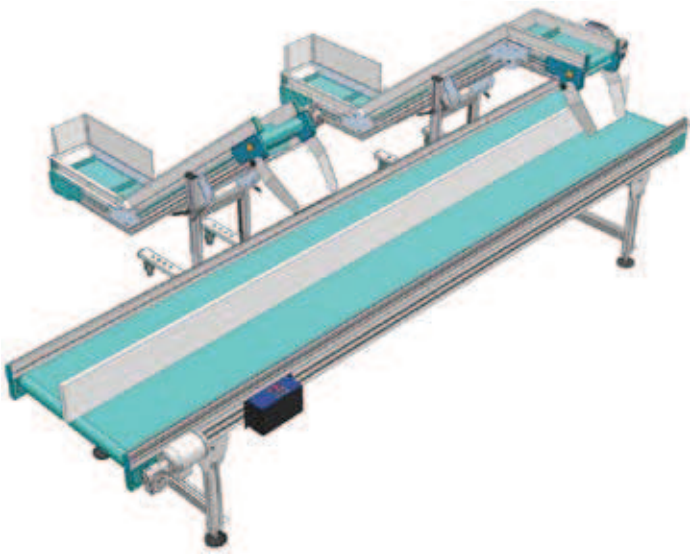
Conveying line for food products

• 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.

Belt conveyor

• Solution used for picking up and conveying products having a special shape (for example, car bumpers).

• The belts comprising the highly wear-resistant and heat-resistant conveyor are in contact only with a part of the product.

• The centre distance and number of belts to be installed on the conveyor depend on the shape and weight of the product to be conveyed.

• If necessary, the transmission group can be installed under the section of the belts.

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

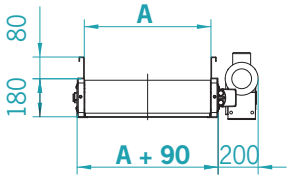
• System consisting of PA conveyors with orthogonal passage and a final roller conveyor.

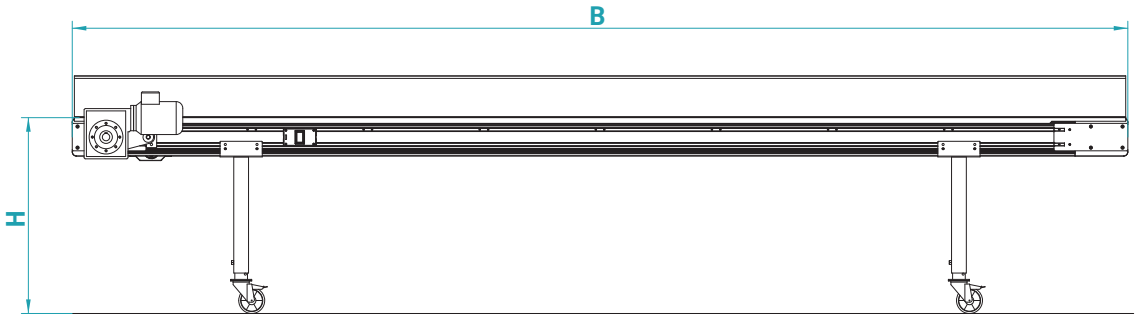
• In this application the function of the roller conveyor is to receive the product and store it before it is picked up by the operator.

• In this solution the rollers comprising the roller conveyor are made of galvanized steel, diameter 30 mm.

- 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 meant for loading a granulator complete with Plate Metal Detector

• The photo alongside shows a very interesting, simple, functional application for the PA 180.

• The sturdiness of the structure makes it possible to install the Plate Metal Detector to detect any metal impurities.

• The side panels may be 200/300 mm high, depending on the product to be conveyed.

PA 180 meant for loading a granulator complete with Tunnel Metal Detector

• The photo alongside shows the completion of the application of the PA 180 in the field of metallic impurities detection.

• The Tunnel Metal Detector is the best solution for the detection of metals in transit on the conveyor, because of the quality of the control.

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 loading shredder

• 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 dimesions from creating problems at the shredder inlet opening;

- prevent possible lubricant leakage from the transmission group from entering the shredder chamber.

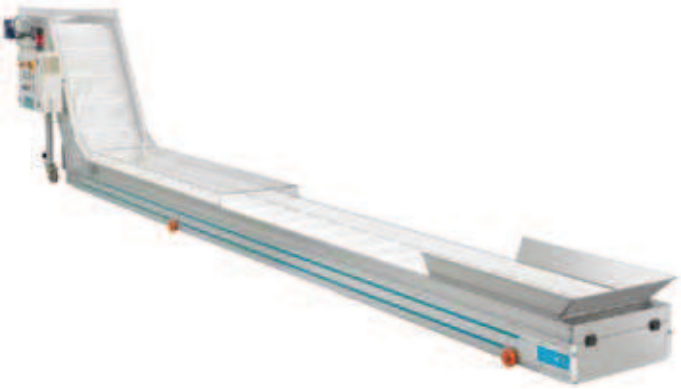
PA 180 - CPT conveyor

• 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.

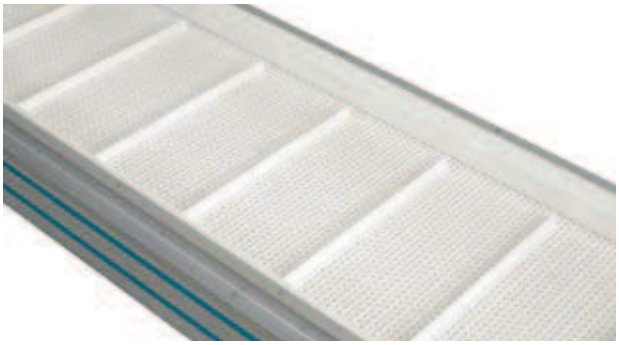
• Unless otherwise specified, each conveyor is fitted with its own switch/motor cut-out.



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.



PA180 - 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.

CURVES

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.

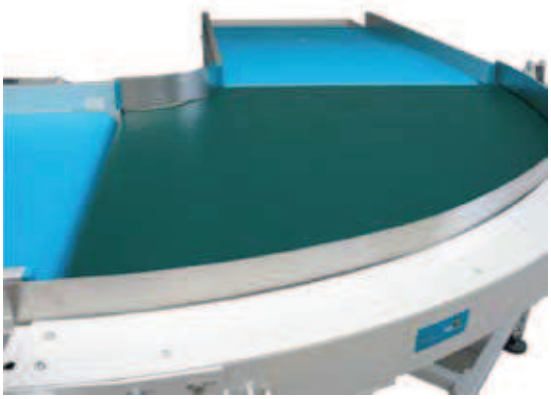
• There is a direct relation, equal to 1/2, between the minimum bend radius and its working width (for example with inner bend radius of 300 mm (1), the maximum possible width will be 600 mm. (2))

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.

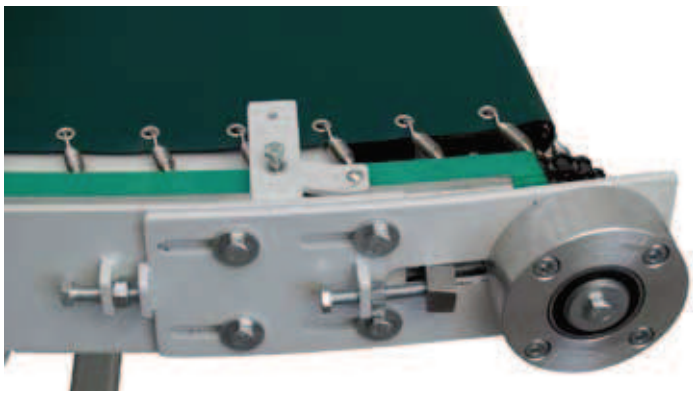


Conveyor with 90° bend positioned in the conveyor line

• 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.

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

• The photo alongside shows the F.D.A. version of the conveyor with 90° bend with parallel rollers.

• In this solution all the structural framework parts of the conveyor are made of 304 AISI stainless steel.

• Conveyor suitable for conveying food and pharmaceutical products.

• The conveyor belt, blue in this case according to the customer's request, is completely compatible with the FDA standards.

Conveyor made of plastic slats with 90° final section bend

• The photo alongside shows a slat conveyor which makes it possible to have a linear section and a 90°, 120° or 180° curved section without interruption of the continuity.

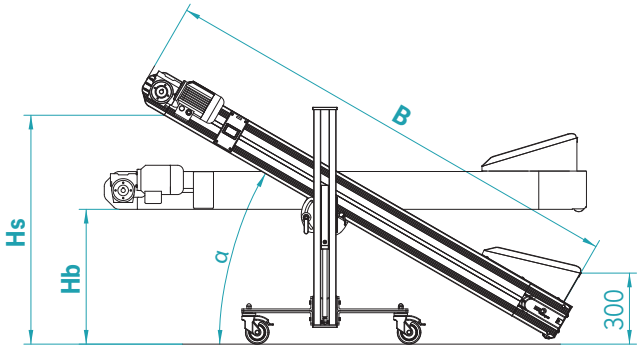
• Various slat models are available which can work on the flat section or curved section, depending on the product to be conveyed.

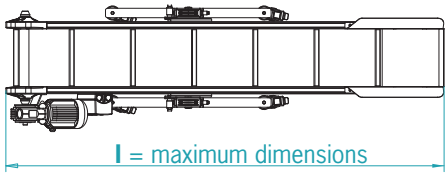
• The frame and side ribs are made of 304 Stainless steel.

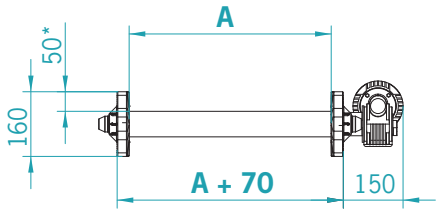
N-TR conveyor

- 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 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 loading hopper

• The photo alongside shows another solution used for feeding an assembly line.

• The type of loading hopper depends on the shape of the product (in this case, small metal items).

• The loading hopper may have different shapes. There is no universal hopper; there are different types, depending on the product to be conveyed.

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

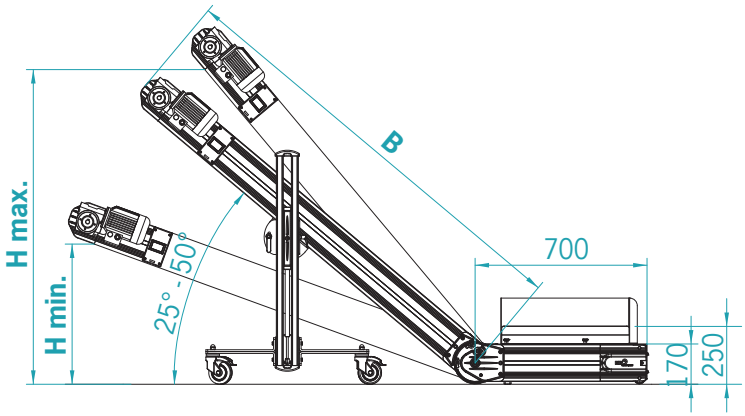
• The loading hopper, complete with cover, is filled manually with product by the operator.
The conveyor receives a constant flow of product from the loading hopper thanks to an adjustable gate valve on the hopper.

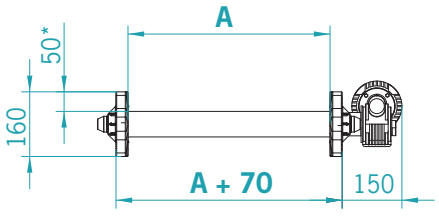
• In this case it is indispensable to have the quantity of product necessary to fill the hopper.

N-CPR conveyor

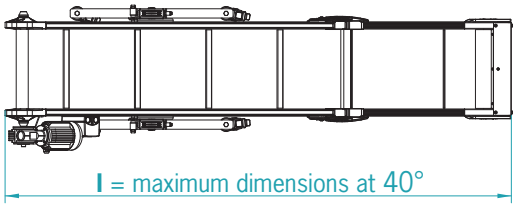
- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation treatment thickness 15 micron.
- Standard cut-proof, oil-proof belt, with smooth green Polyurethane covering (ref. Pantone 320); with heat-welded slats h = 30mm with pitch 400 mm; vulcanised belt joint.
- 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





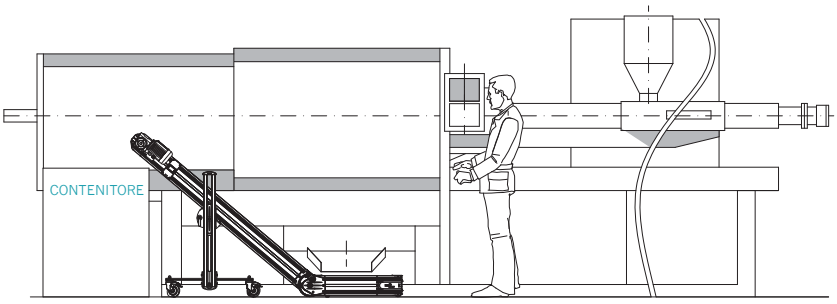
*Standard side panels 50 mm h that are not removable



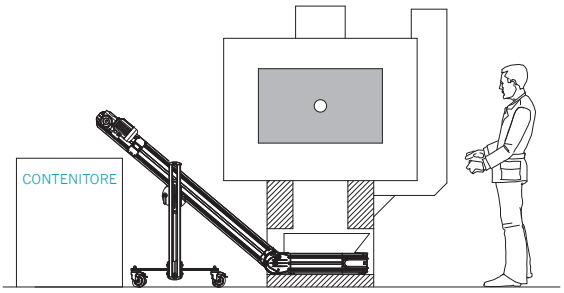
	A	B	H min	H max	l a 40°
N-CPR.0	140 mm	1500 mm	650 mm	1150 mm	2000 mm
N-CPR.1	240 mm	1500 mm	650 mm	1150 mm	2000 mm
N-CPR.2	340 mm	1800 mm	800 mm	1400 mm	2250 mm
N-CPR.3	440 mm	2000 mm	850 mm	1550 mm	2400 mm
N-CPR.4	540 mm	2000 mm	850 mm	1550 mm	2400 mm

EXAMPLES OF POSITIONING BESIDE THE IMM

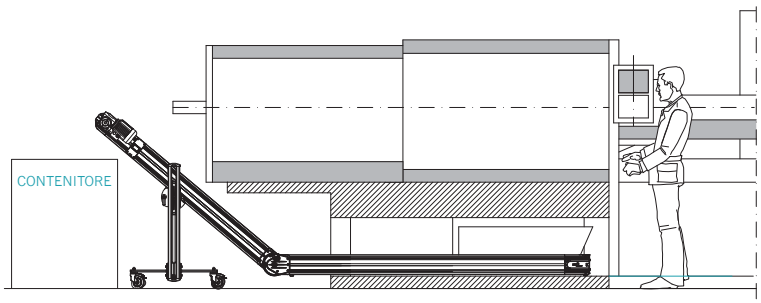
P1 - Standard lateral positioning



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 with belt complete with Sponda Flex

• 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

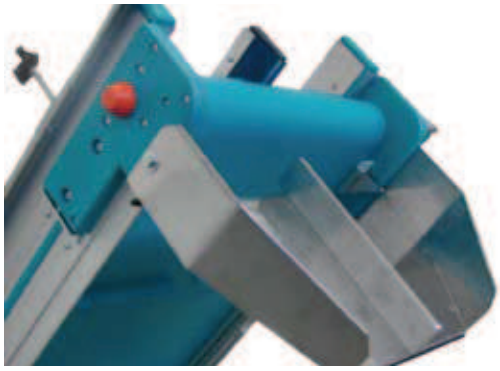
- 35 mm.

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.

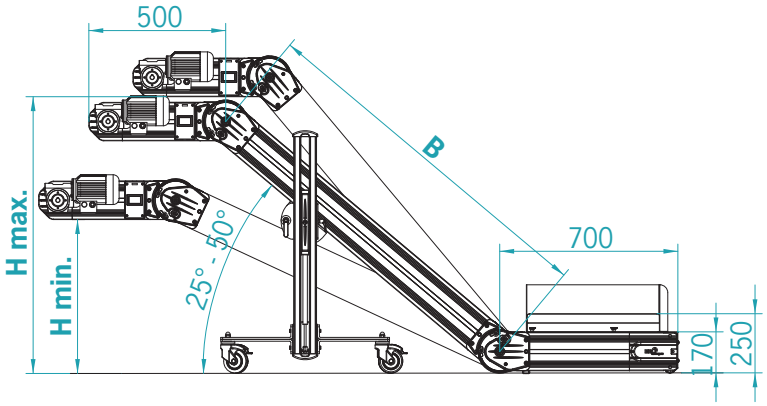
• Each IMM is provided with its own conveyor and this gives the section very high functionality.

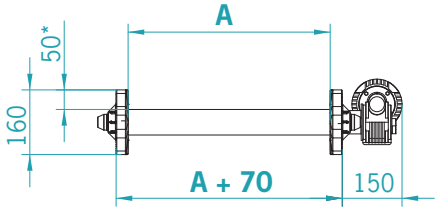
• In a subsequent phase, this section was completed by installing a horizontal carousel for product storage beside each IMM.

N-CPTR conveyor

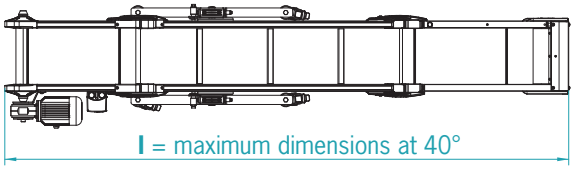
- Sturdy frame made of primary extrusion aluminium section, Alloy 6060, protected by anodisation treatment thickness 15 micron.
- Standard cut-proof, oil-proof belt, with smooth green Polyurethane covering (ref. Pantone 320); with heat-welded slats h=30 mm with pitch 400 mm; vulcanised belt joint.
- 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





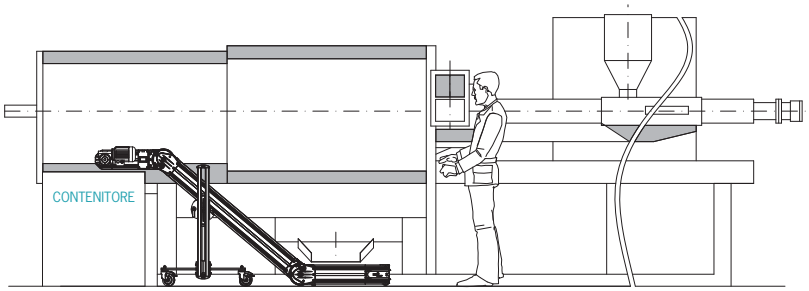
*Standard removable side panels 50 mm h

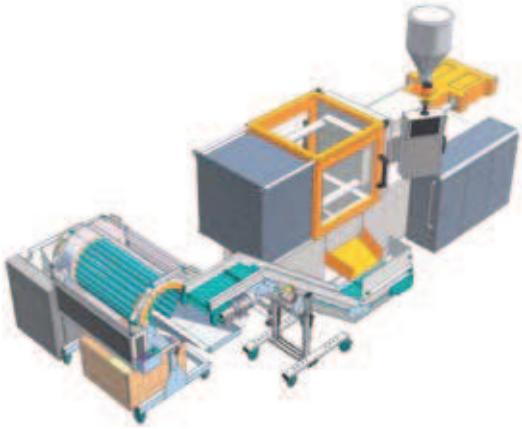


	A	B	H min	H max	l a 40°
N-CPTR.0	140 mm	1500 mm	650 mm	1150 mm	2500 mm
N-CPTR.1	240 mm	1500 mm	650 mm	1150 mm	2500 mm
N-CPTR.2	340 mm	1800 mm	800 mm	1400 mm	2750 mm
N-CPTR.3	440 mm	2000 mm	850 mm	1550 mm	2900 mm
N-CPTR.4	540 mm	2000 mm	850 mm	1550 mm	2900 mm

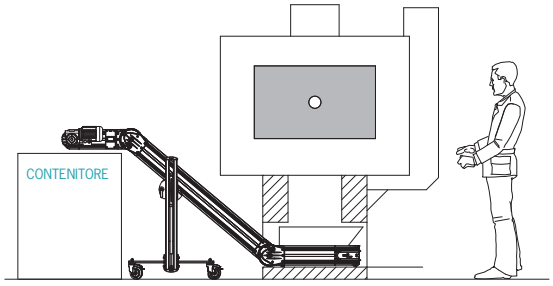
EXAMPLES OF POSITIONING BESIDE THE IMM

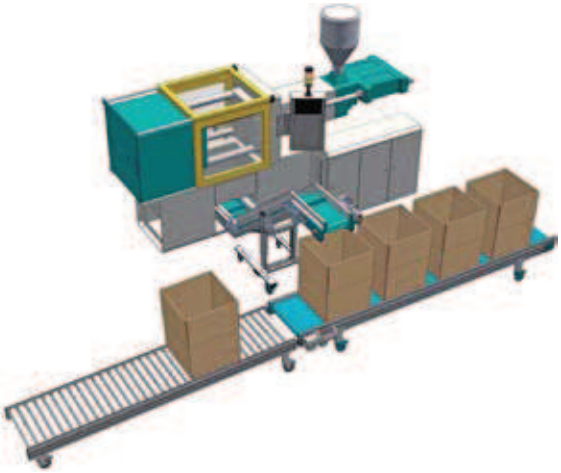
P1 - Standard lateral positioning



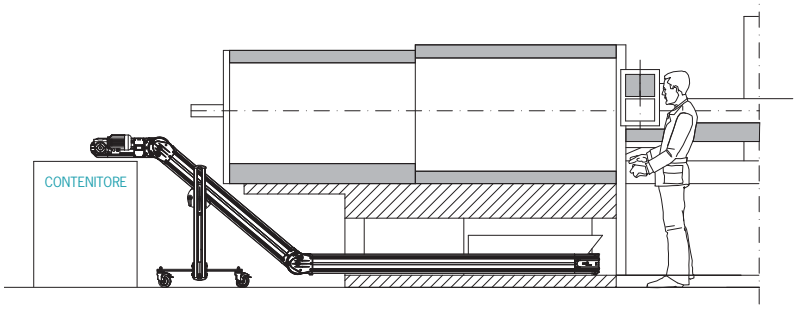


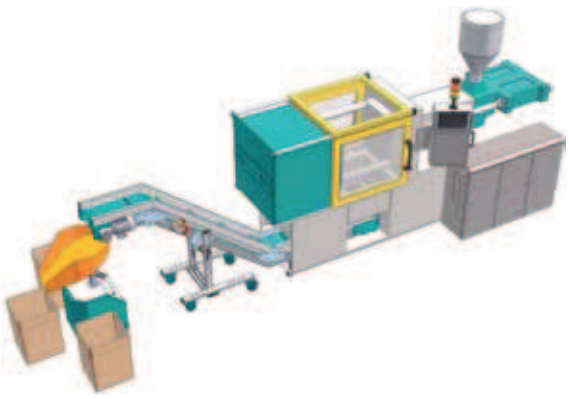
P2 - Orthogonal positioning under the IMM





P3 - Longitudinal positioning under the IMM

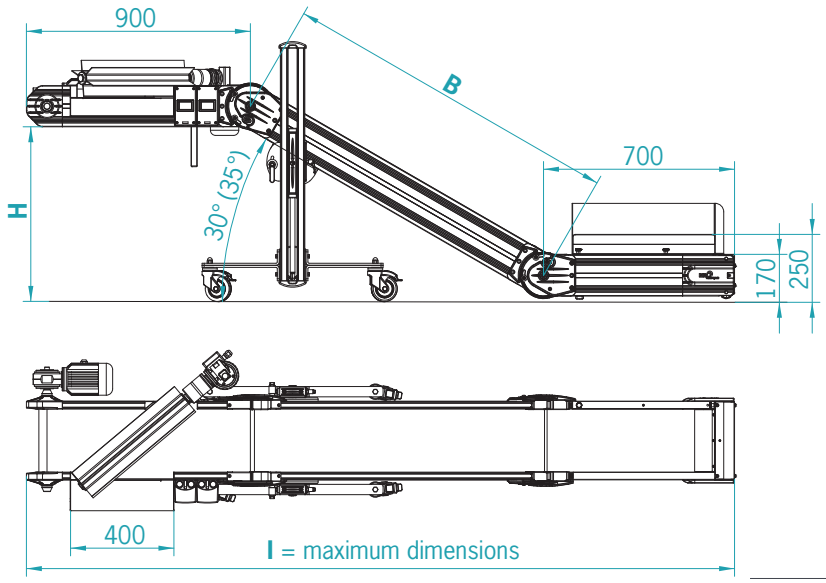


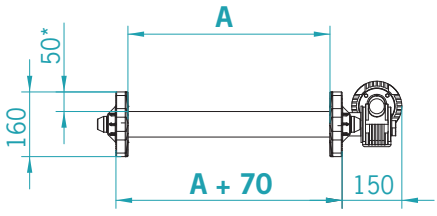


N-CPST conveyor with paddle separator

- 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



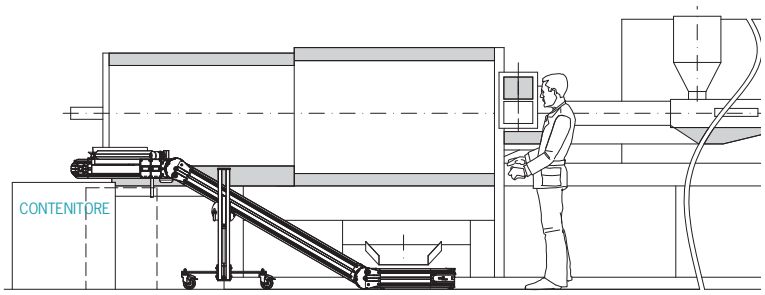


*Standard side panels 50 mm h that are not removable

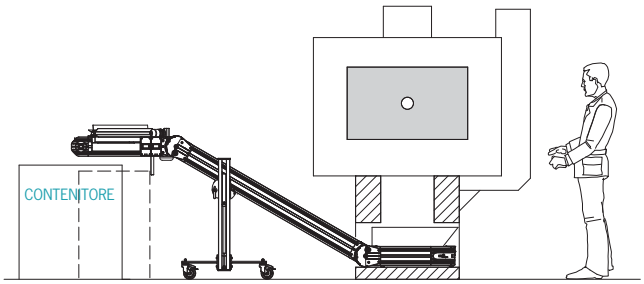
	A	B	H min	H max	I a 30°
N-CPST.0	140 mm	1300 mm	650 mm	750 mm	2800 mm
N-CPST.1	240 mm	1300 mm	650 mm	750 mm	2800 mm
N-CPST.2	340 mm	1800 mm	900 mm	1030 mm	3250 mm
N-CPST.3	440 mm	1800 mm	900 mm	1030 mm	3250 mm

EXAMPLES OF POSITIONING BESIDE THE IMM

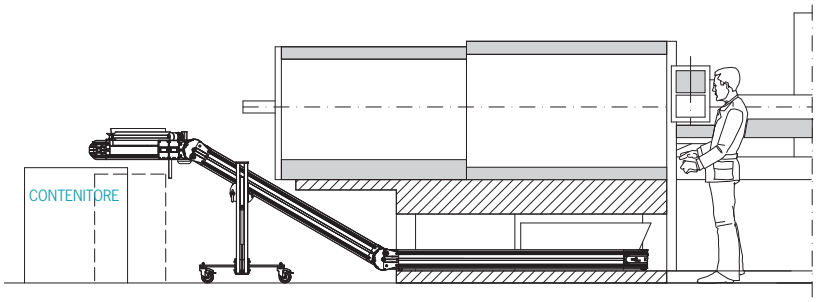
P1 - Standard lateral positioning

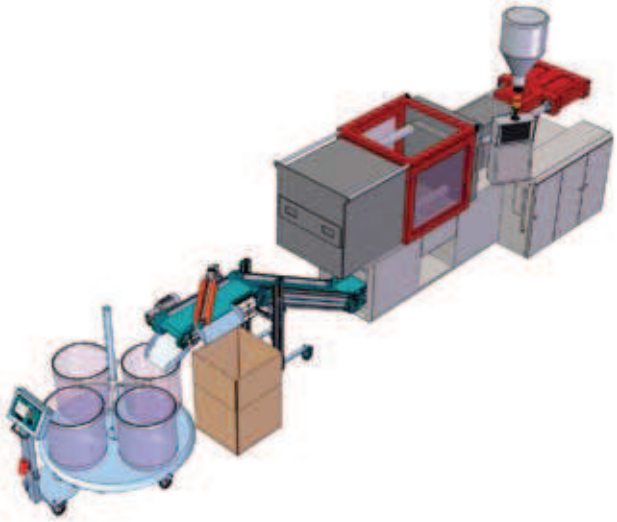


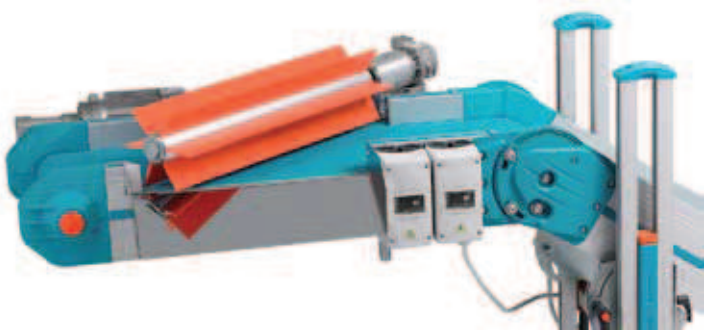
P2 - Orthogonal positioning under the IMM



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).

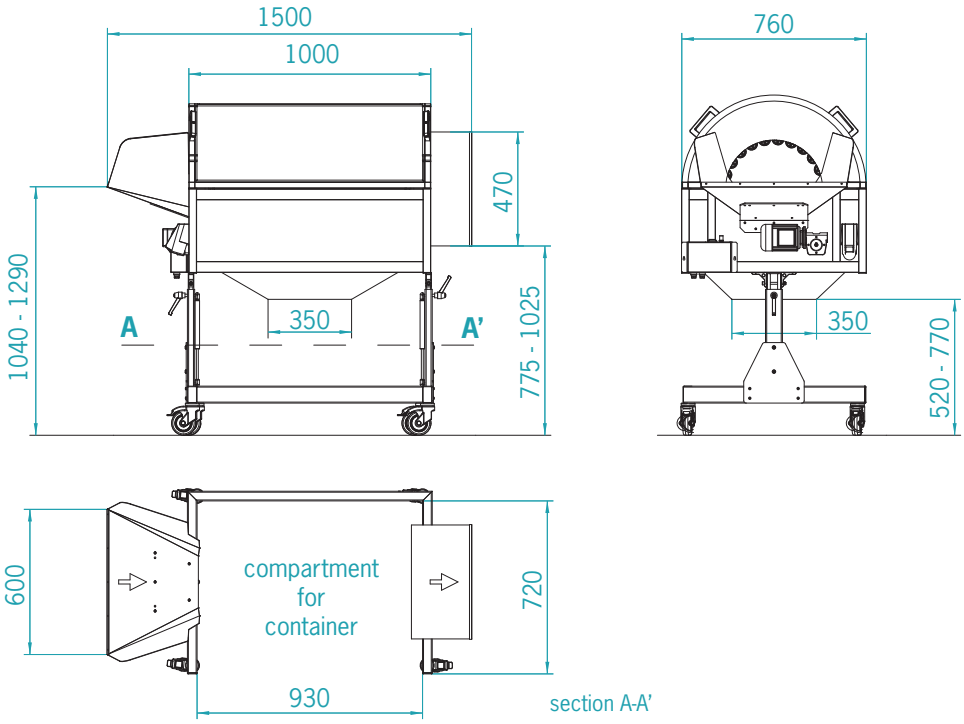
SM Separator

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

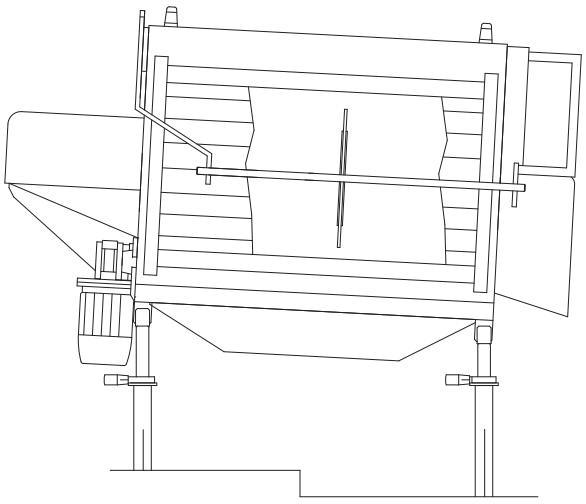
SR-SM TECHNICAL CONSTRUCTIONAL FEATURES

- 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.

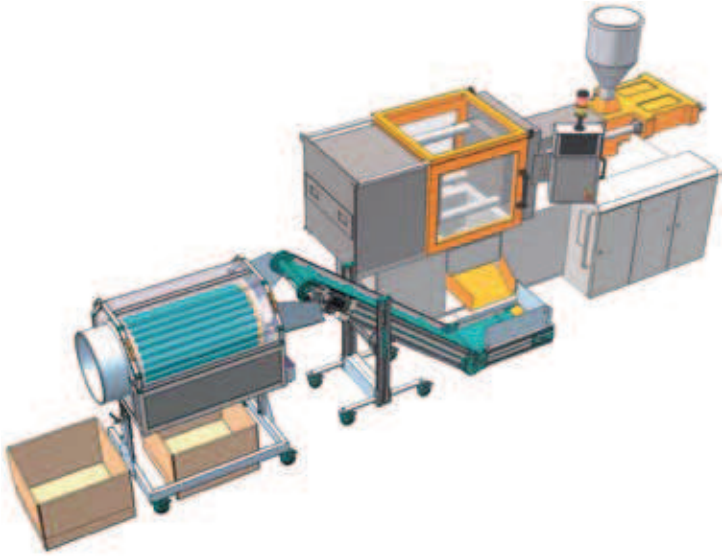


Flow regulator for SR Separators

- 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

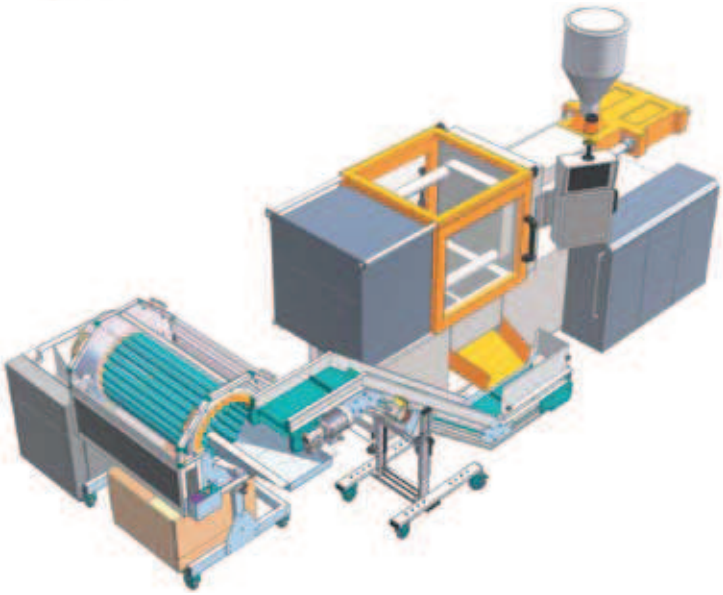


P1 - Positioning in line with the conveyor

• 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.

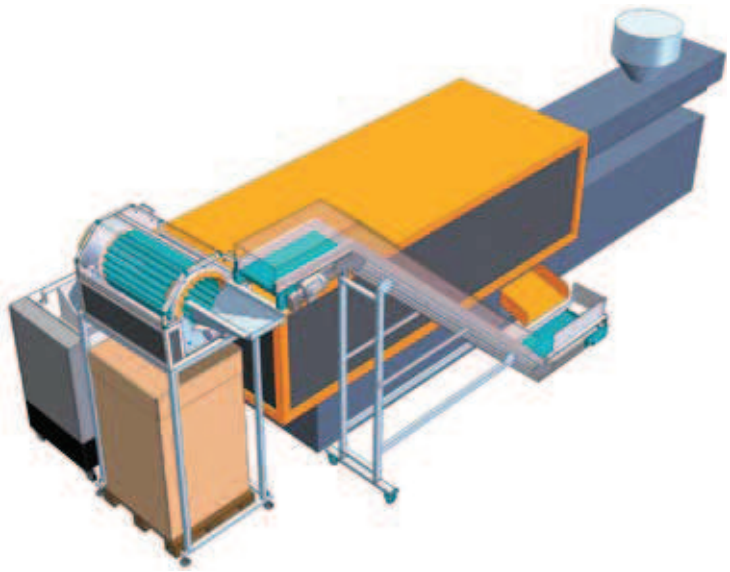
• The different dimensions determine the passage between the rollers of the smaller component of the moulded item (usually the product) which drops into the container below, while the larger parts (usually the sprues) are routed outside the separator.



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.

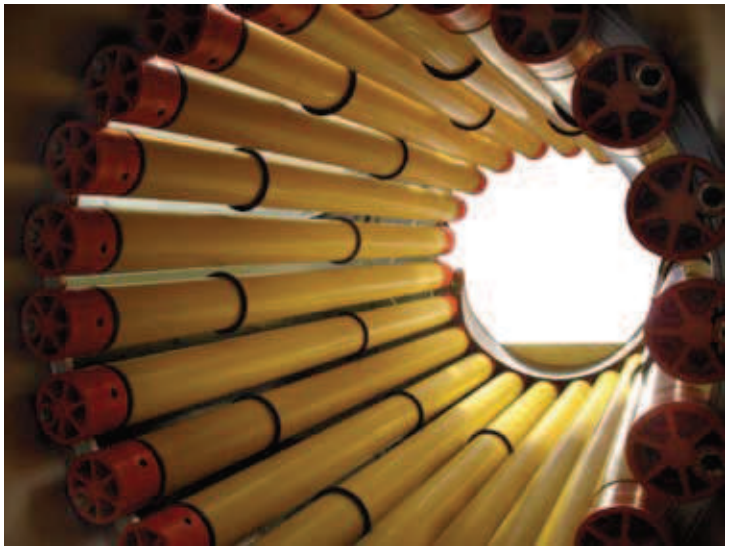


P3 - Orthogonal positioning to the conveyor

• 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.



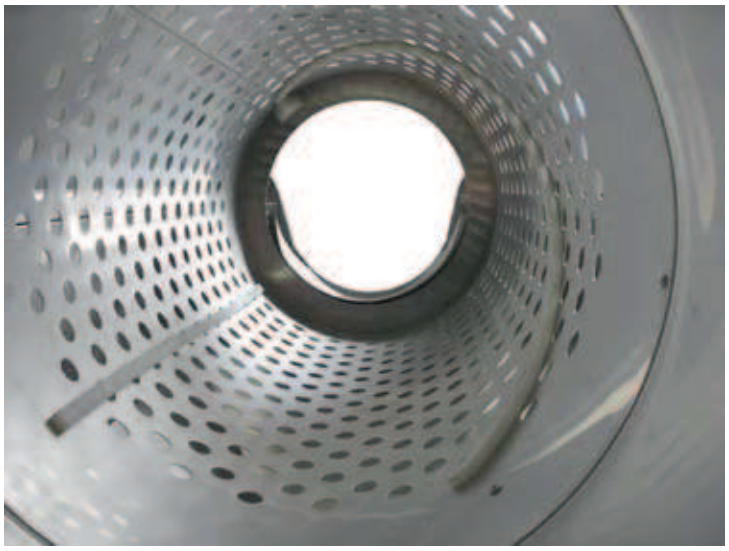
SR - Inner detail of roller drum

• 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 inserted in a conveyor system with cooling and drying

• The photo alongside shows a water bath conveyor which collects, cools, conveys, and releases the wet product to the roller separator installed orthogonally.

• The water inside the tank cools the product, while the helicoid electric fans installed on the tank and on the SR separator “dry” it.

• In this application, the SR separator does not separate but moves the product to make the drying action more effective.

SR inserted in a conveyor system

• The photo alongside shows a solution for separating the product from the sprue and storing it in large containers.

• Consequently, the separator is installed on top of the special base and the product with sprue is conveyed by a EV model elevator.

• The photo also shows the CP conveyor to be installed inside the IMM in the longitudinal position.

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

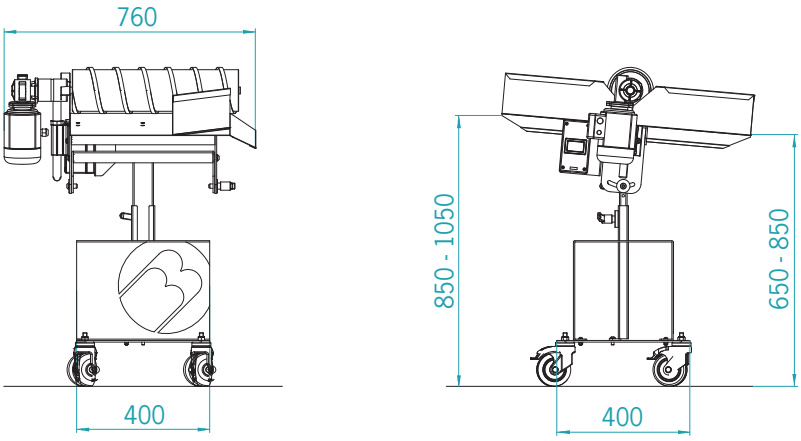
• The photo alongside shows the SR separator with 1200 mm rollers complete with loading conveyor.

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

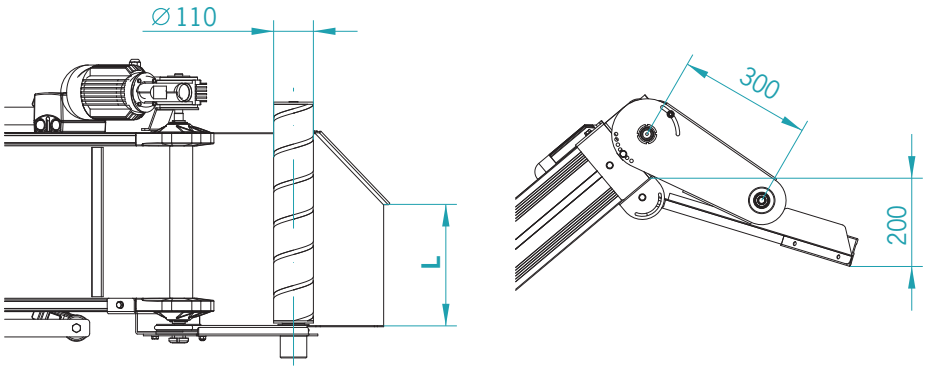
• To ensure the functionality of the system, the product coming out of the mould must already be separated from the sprue.

- Separator unit with independent base on the ground (for positioning in front of the conveyor only when required).
- Separator chute made of mirror-polished AISI 304.
- Transmission group positioned on the right side, power 0.09 kW, complete with torque limiter.
- Separator roller rotation speed: 70 rpm.
- Separator Start/Stop by means of Siemens switch/motor cut-out.
- Standard motor supply voltage 400 Volts/50 Hz.

STANDARD DIMENSIONAL FEATURES



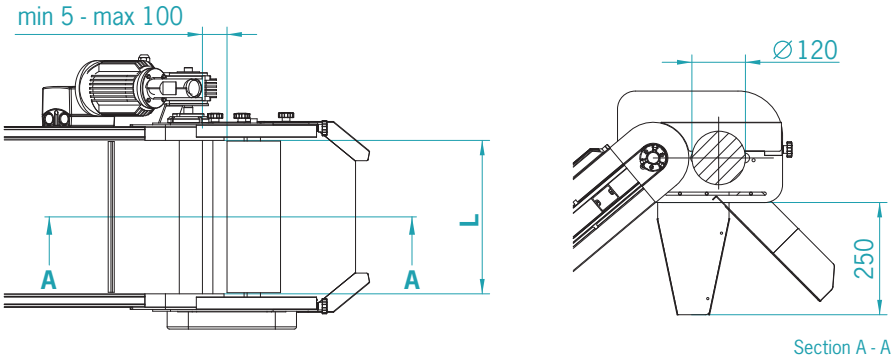
N-FSRV spiral separator installed on conveyor



- 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

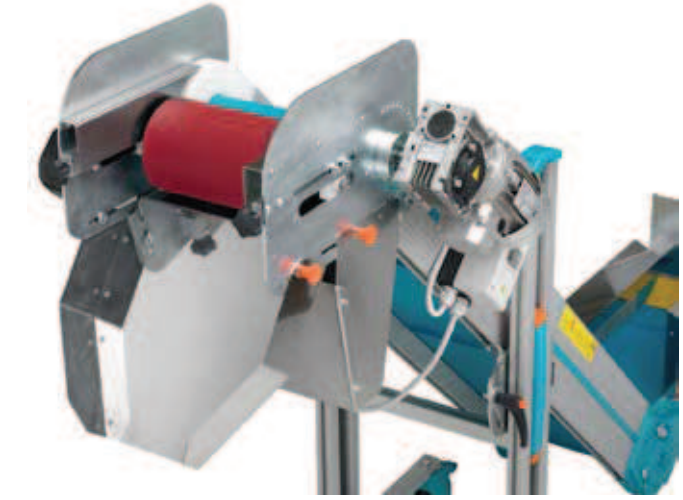
- This image shows the FSRV separator with independent base positioned in front of a N-CPR conveyor.
- In the operating logic of this separator the bigger component, usually the sprue, comes out on the left side, while the smaller component, usually the product, comes out of the front chute.
- Before making the commercial offer, a separation test must be carried out at our factory for this separator model.

- 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.



- Three 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

- The image alongside shows a N-SRS model single roller separator installed on a N-CPR conveyor.
- Note the two head handwheels useful for adjusting the distance of the separator roller from the conveyor drive roller.
- It is necessary to carry out a separation test at MB before making the commercial offer, for this separator model.

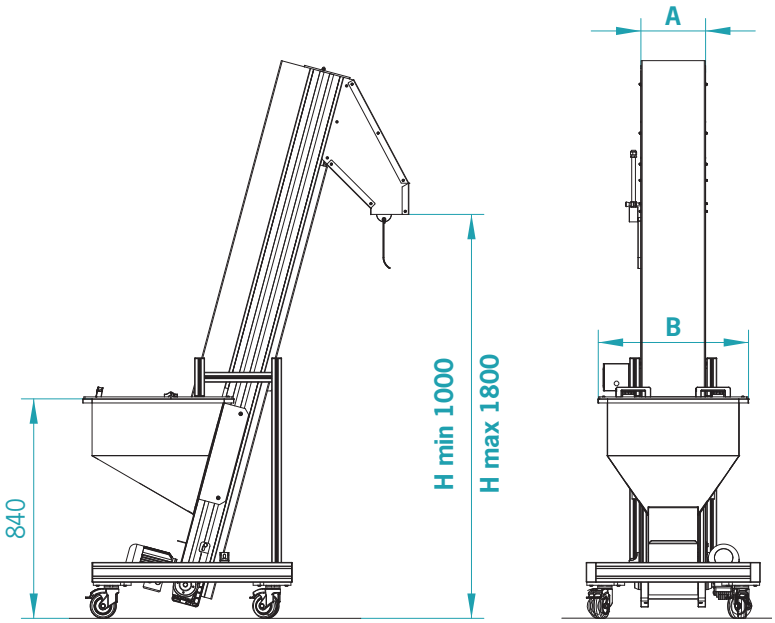


- This separator is designed for installation on N-CPR and N-CPTR conveyors.
- Transmission of movement from the conveyor to the single separator roller is brought about by means of Pu belt.
- Thanks to the elasticity of the belt, the distance between the separator roller and the conveyor can be adjusted 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.

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.

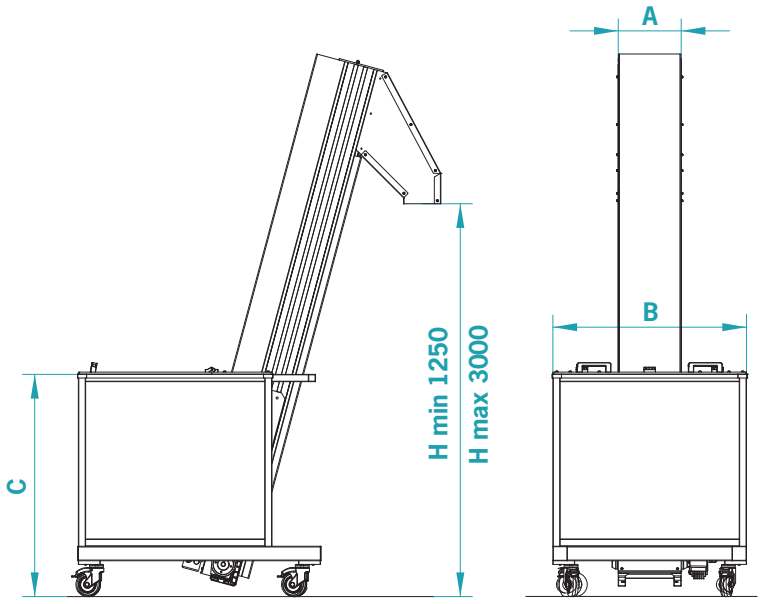
A	B	HOPPER CAPACITY
200 mm	600 mm	80 liters

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 304stainless 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 control panel and level sensor

• The photo alongside shows the multiple solutions MB can offer in the field of conveying and lifting of the product.

• This solution becomes necessary for the type of product to be lifted (metallic, therefore elevator with belt made of Steel slats) and because of the weight on the hopper once it is full.

• This elevator is made of steel sheet welded and painted with two coats of green epoxy paint RAL 6011. Painted surface finish: high grip.

• The loading height and hopper dimensions, the useful unloading height and the shape of the chute and the supporting base are technical-dimensionsl features developed on the basis of the type of product to be conveyed and the space available.

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.

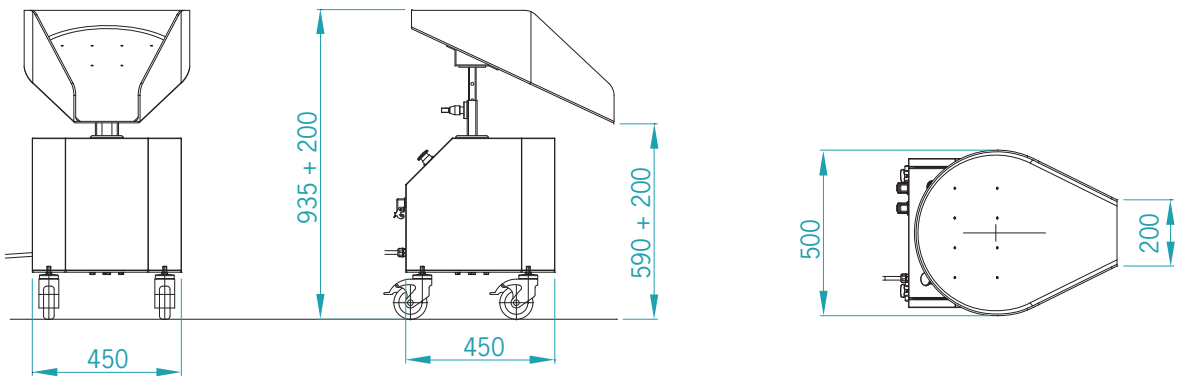
EV for products made of plastic

• 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.

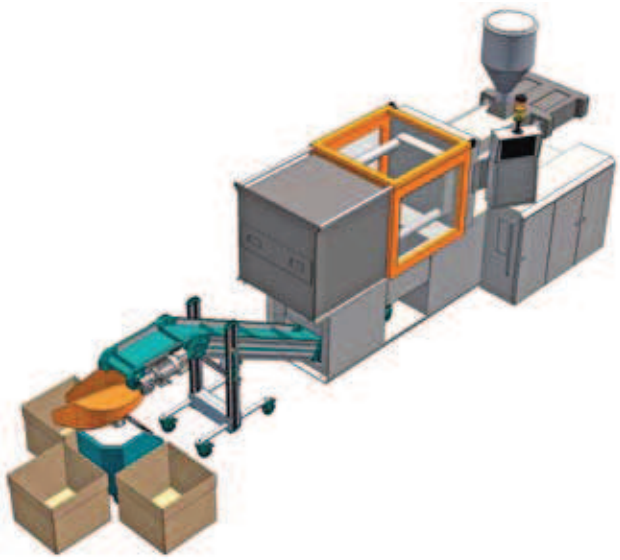
- Duck dispenser can work with two different methods not compatible with one another:
  - using an A/C voltage-free signal, coming from the IMM at each moulding cycle
  - setting the filling time for each container.
- The chute of the DUCK can rotate through 360° and can conduct the product to any point 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.

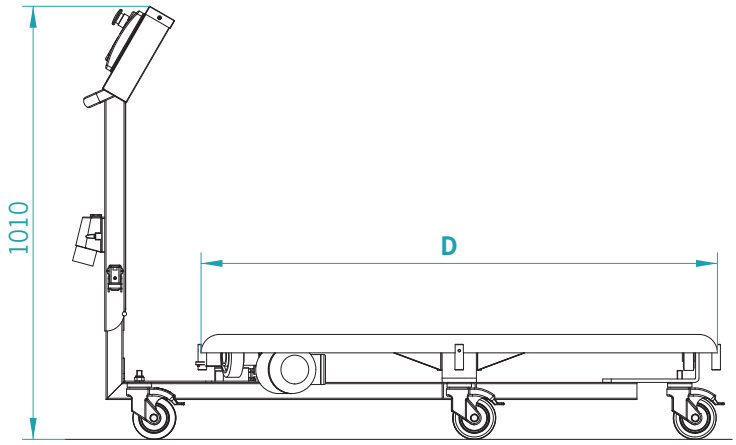
• The loading conveyor may be supplied by other manufacturers, but must be connected to the Duck control panel (by means of the 4 phases + ground plug) so that it can be stopped during the rotation of the chute.

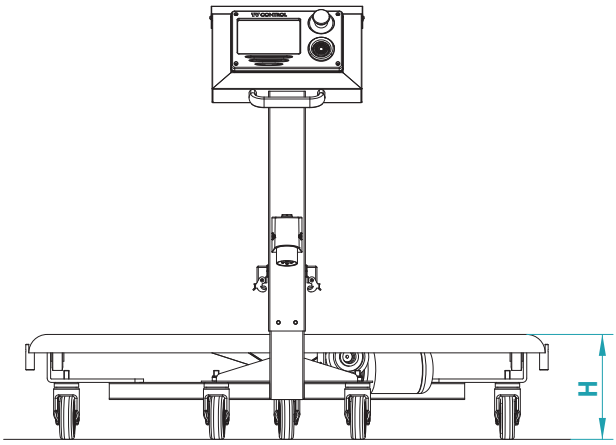
• The Duck control panel, positioned correctly, can conduct the product unloading into the container in a number of unloading points, thereby preventing central accumulation.

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 4mm 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.1	1200 mm	250 mm	120 Kg	2,2 rpm
TV.2	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.

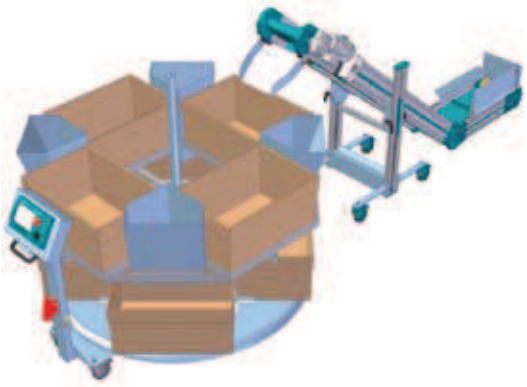
• The heights of the bags to be positioned on the table may be a minimum of 240 mm and maximum 1200 mm.

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.

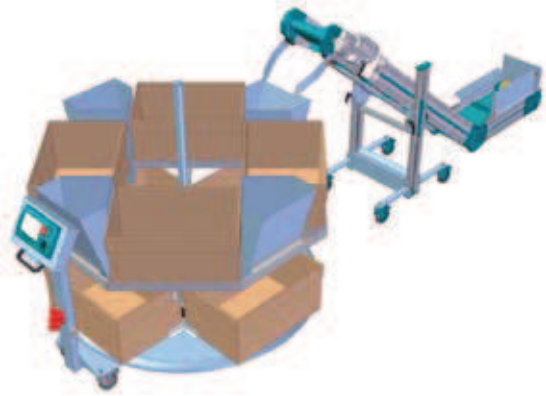


TVC - Turntable with two filling levels

• 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 placed beside the IMM

• The image alongside shows a standard application of turntables.

• The product is collected by the conveyor and conveyed into the bag placed on the turntable.

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

TVC - Turntable placed beside the IMM

• The image alongside shows another standard application of the turntable, in this case a TVC.

• The element added to this application is the paddle separator installed on the product collection conveyor to separate the product from the sprue.

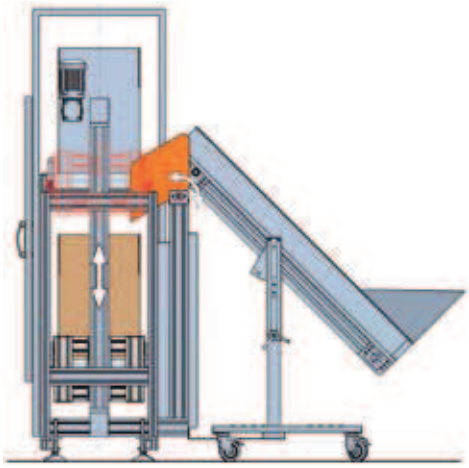
STORAGE SYSTEMS

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.

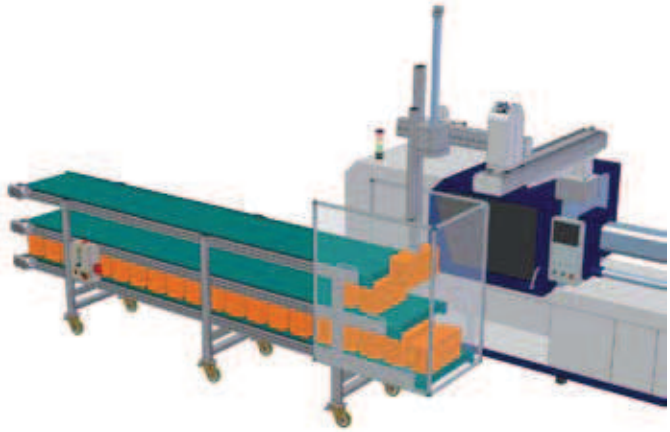
• Note the tilting chute necessary to avoid blocking the vertical travel of the container placed on the lift.

• Rotation of the chute is done using a Festo 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.



CAV - Vertical carousel

• The drawing alongside shows the application of the vertical carousel positioned beside the IMM with container filling by means of the Robot.

• The Robot, duly programmed, releases the product into the containers positioned on each of the three overlapping conveyors.

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.

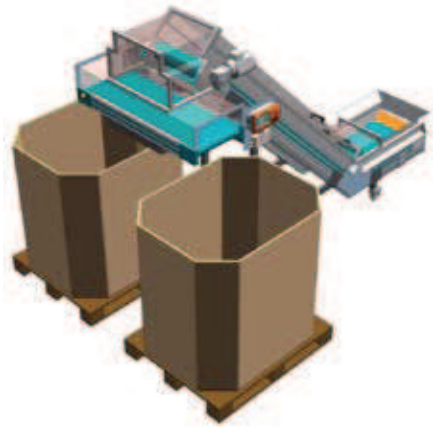
• Note the EV loading conveyor which unloads the product inside the chute. The pneumatic diverter, installed inside the chute, routes the product into a container placed on the lower or upper floor.

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.

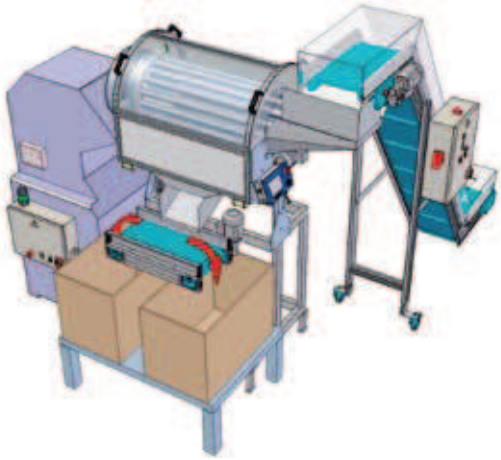
• This application is used especially in the PET sector for collecting and storing preforms.

• 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.