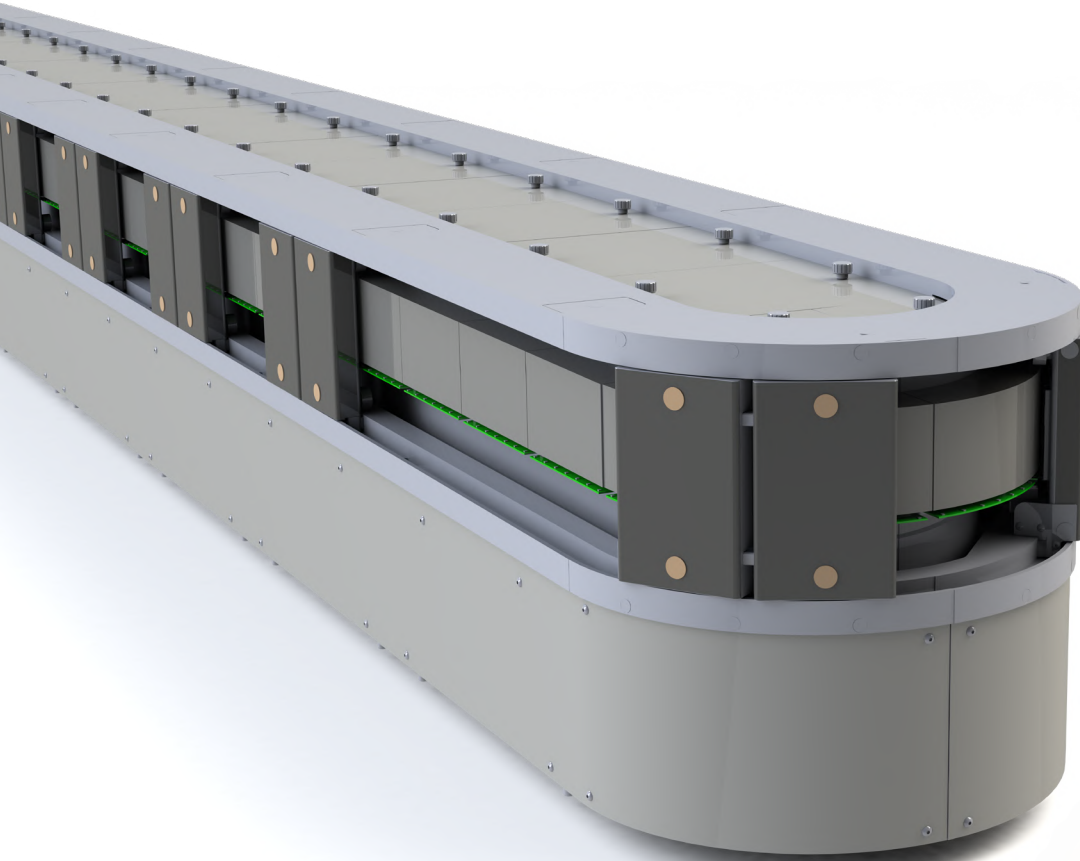




ITALPLANT

PRECISION TRANSFER SYSTEMS



P TRAK

Precision Trak Conveyor

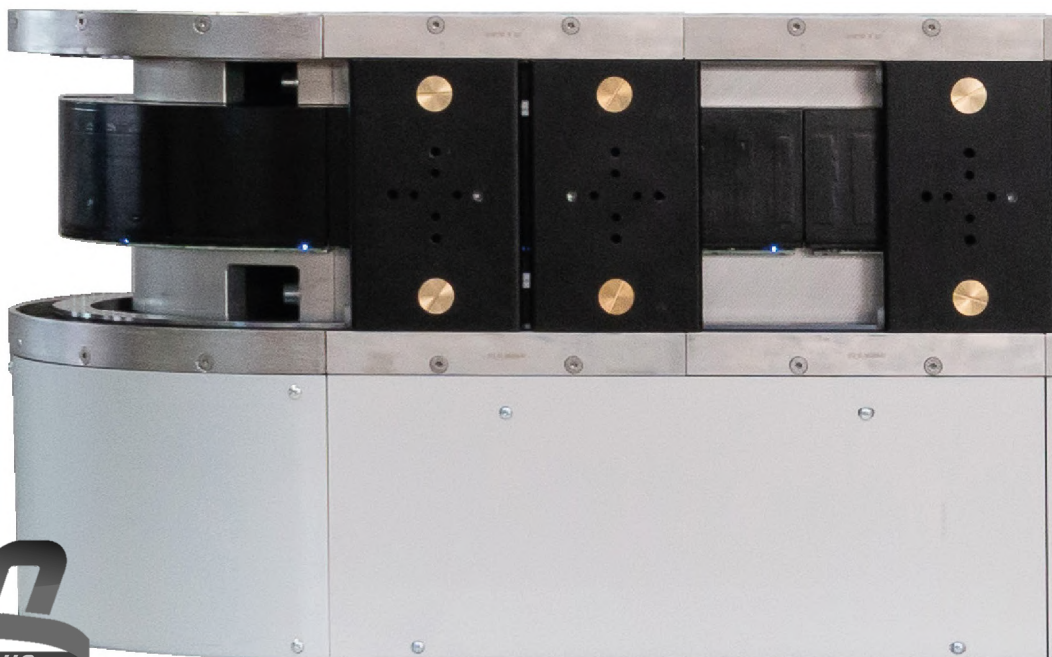
Catalogue **2023**

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INTRODUCTION

Introduction

ITALPLANT synchronous conveyors are the state-of-the-art of linear motion for every kind of industry: mechanical, manufacturing, assembling, packaging and every genre of applications: medical, cosmetic, electronic, and so on. The synchronous conveyors combines excellent accuracy, high speed, smooth movement, high load capacity and customizable length.

Near to this historical solution, ITALPLANT, with the collaboration of HDQ Group - an Italian partner specialized into the production of mechatronic components - can give to his customers another linear solution, a free pallet system based on ILSM - Independent Linear Synchronous Motors system. With this new product, the customer is able to choose between a synchronous or asynchronous solution and get for the first time exactly what he need. In fact, for every specific application, ITALPLANT technicians are able to make a detailed comparison between the two systems and show the advantages of the use of one over the other, in terms of productivity, accuracy and maximum capacity.

The **Precision Trak Conveyor** is an heavy duty magnetic linear system, with unique features that merges the **high capacity** in terms of load, typical of a Precision Link Conveyor plus the **flexibility** of a linear motor, that allows to archive independent, flexible and settable movement of every pallet.

Here the advantages of this system:

- **Customizable length and shape** - The Precision Trak Conveyor can be provided in straight trak, squared trak or ring shape one
- **Rise in productivity without affecting machine footprint** - The machine can accumulate the pallets and avoid time waste
- **Maximization of efficiency in productivity** - The independent motion allows to save time in case of defect on one piece, that can directly be positioned after the next station, in order to allow to the following pallet to arrive earlier in position, without loss of time
- **Process flow optimization** - Due to the different station dwell times, the P-Trak allows to optimize the pallet flow
- **Flexibility for future implementations on the machine** - This system allows to the customer to add stations in future, simply asking to a new programming the process flow
- **Settable acceleration and deceleration rates ideal for fragile products** - To avoid damages or liquid leaks during the motion
- **Fast change of setup** - The system is fully programmable and allows to set different function parameters in reference to the pieces batch
- **Easy-low maintenance** - The Precision Trak Conveyor doesn't require specific maintenance, just routine controls during the machine programmed production stops
- **Compatibility with every PLC** - The P-Trak can be fully integrated with every PLC and doesn't oblige to follow a specific architecture



**MOTOR
POWER**
COMPANY

Equipped with
Motor Power Company
LSM - Linear Synchronous
Motors system

CHOOSE THE MOUNTING POSITION

CAROUSEL mounting position

Carousel conveyors show the links on right and left side. For this peculiarity that gives the possibility to work on both sides, it is possible to use for the stations the total length of the conveyor. This type of conveyor does not permit, anyway, to load directly on links but only by fixtures mounted laterally on itself to carry a load that rollers could bear: indispensable then to calculate every time the overturning torque on links and fixtures that are generally out of the centre.

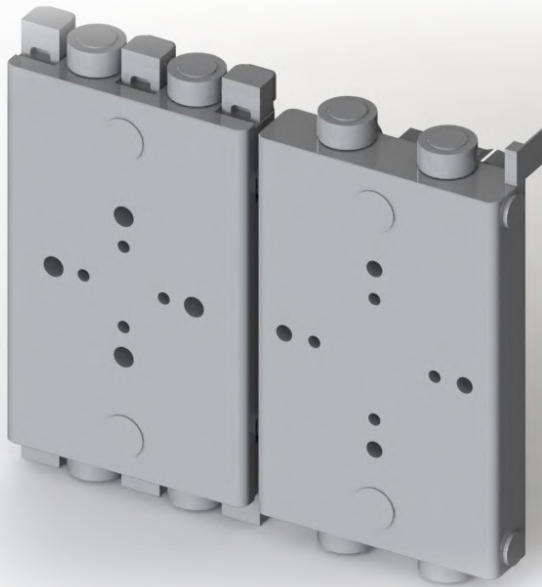


OVER-UNDER mounting position

Over-Under conveyors are imagined to work usually on the upper side, on the open view, but in comparison to the preceding ones are more suitable to be carried by a pick and place or robots, and they are able to bear loads or external forces directly on the links. Otherwise, with the same number of fixtures, you have to provide a double length than Carousel.



OPTIONAL FEATURES



CUSTOM PALLETS

For the support of the customer's component, it's possible to get also a fully customizable version of the pallets.

It allow to save time and reduce the disalignment between the pieces produced by the customer and the Precision Trak Conveyors ones.

It's also possible to ask for additional test reports of the components mounted directly on the pallet's gigs, before the shipment of the conveyor.

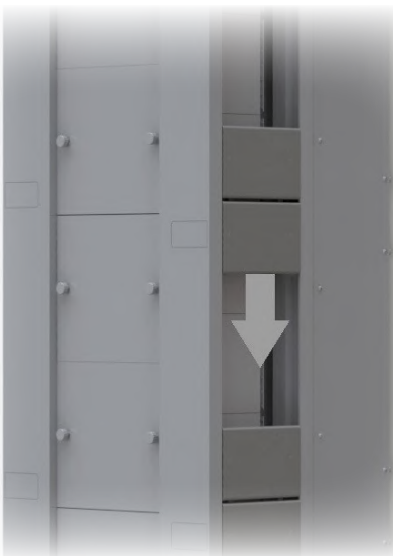
BASE FRAME

Italplant provides a wide range of base frame for the support of the Precision Trak Conveyor.

These option has got several advantages:

- To guarantee the perfect alignment of the linear and curve sections
- Major rigidity for the shipping of the conveyor
- To save money for the mounting and adapting of the conveyor to its support structure

Every base frame can be provided for carousel or Over-Under mounting position.



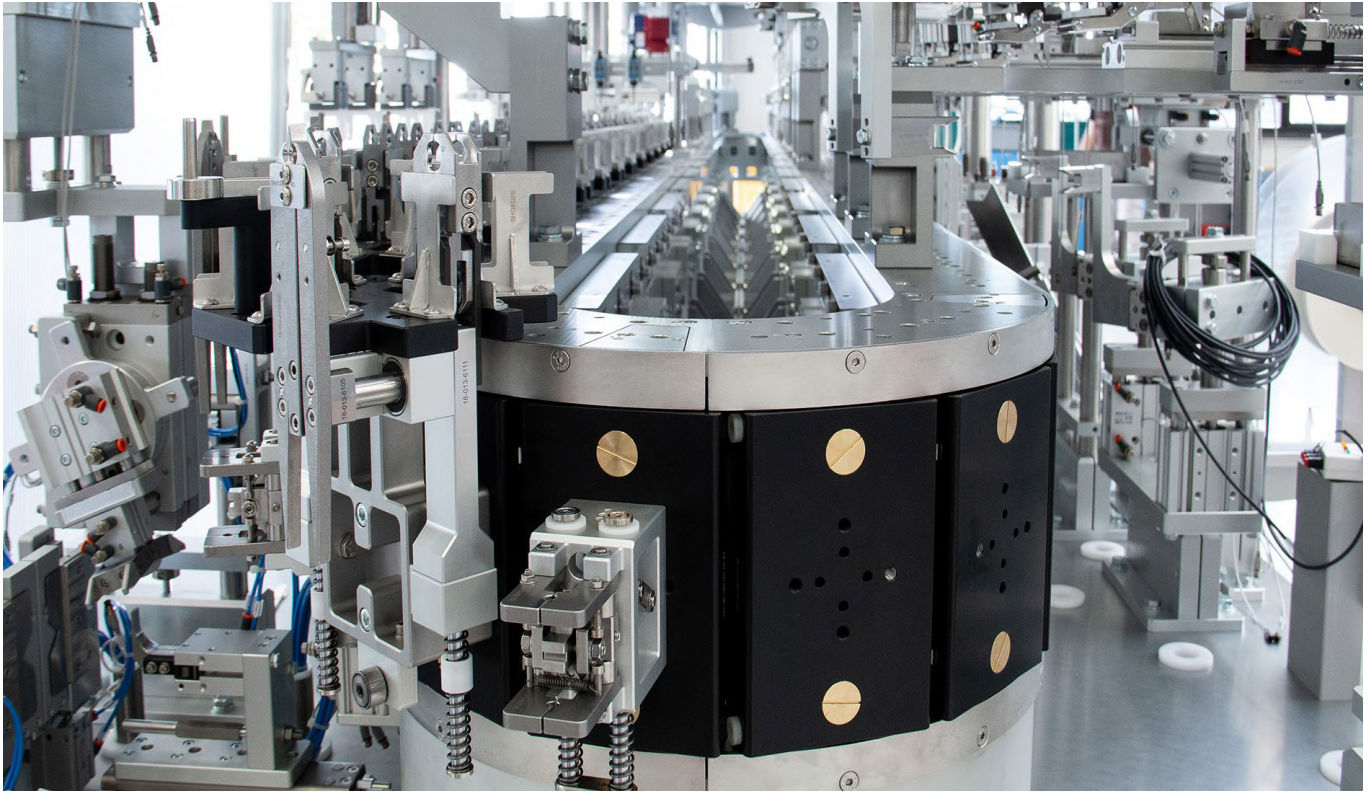
BRAKE SYSTEM ANTICOLLISION

This system protects the Precision Trak Conveyor's pallets and guides in case of Over-Under mounting, when a current drop occurs. In fact, due to the gravity force, in case of current loss, without this safety system, it can happen that the pallet on the top position accelerates and damages itself and the pallets below.

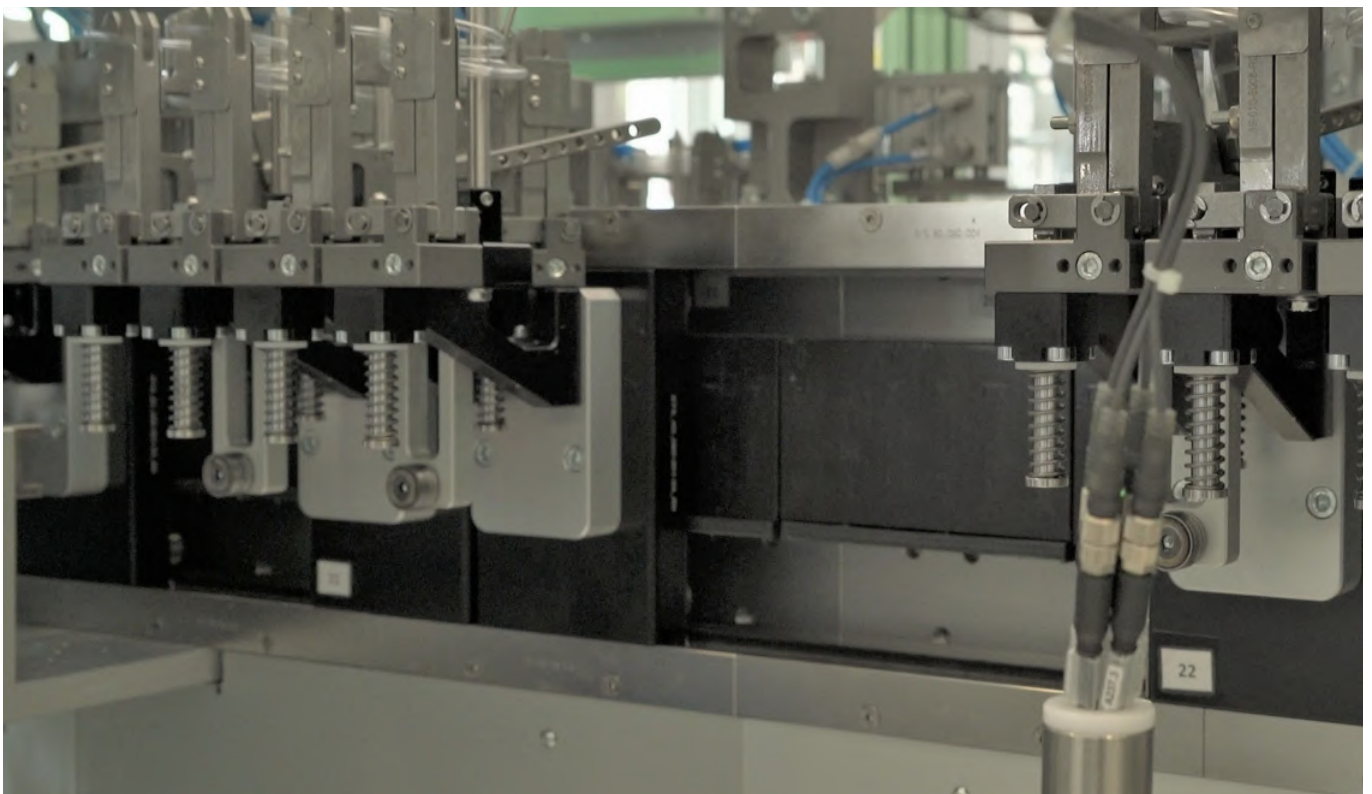
This strategic component can prevent a serious loss of production, in case of instant machine stops.

In addition to that, the system is always equipped with Safe Torque Off system (STO SIL3).

EXAMPLES OF APPLICATIONS



Precision Trak Conveyor 120 - Curve accumulation detail

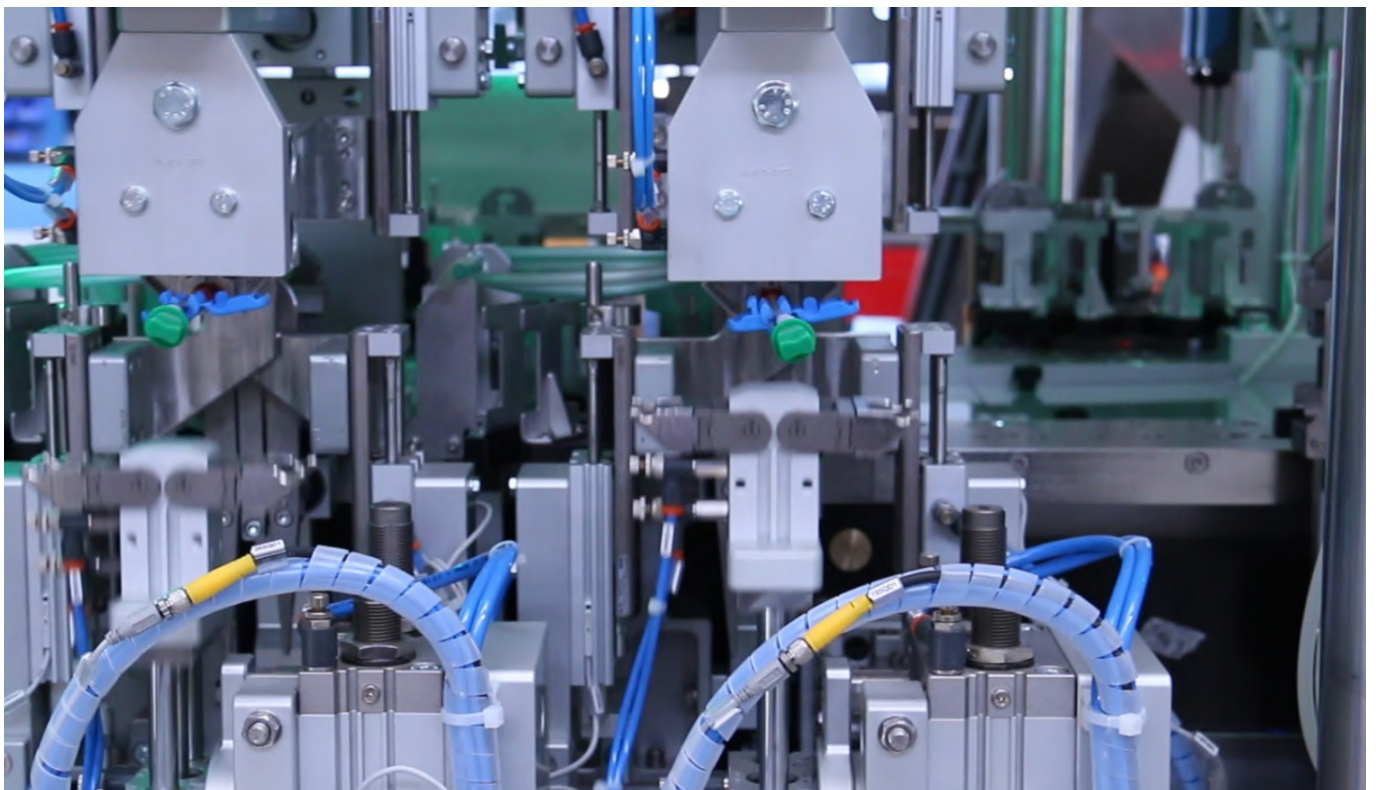


Precision Trak Conveyor 120 - Pallets accumulation phase

EXAMPLES OF APPLICATIONS



Precision Trak Conveyor 120 - Machine general overview



Precision Trak Conveyor 120 - Mounting phase in machine's assembly station

P-TRAK 120

Pallet length: 120 mm

Module length: 500 mm

Curve radius: 212 mm

Load capacity:

- Every two pallets: 30 kg
- Every pallet in pair: 15 kg

Force straight:

- Maximum force: 240 Nm
- Continuous force: 120 Nm

Maximum speed: 3 m/s

Maximum acceleration: 15 m/s²

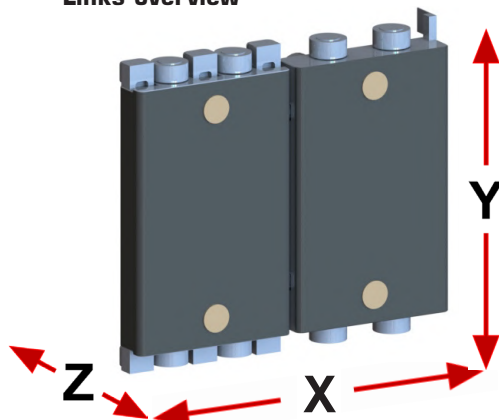
Accuracy: < 0.1 mm

Repeatability: < 0.1 mm

Optionals on request

- Custom pallets
- Base Frame
- Brake System Anticollision

Links overview

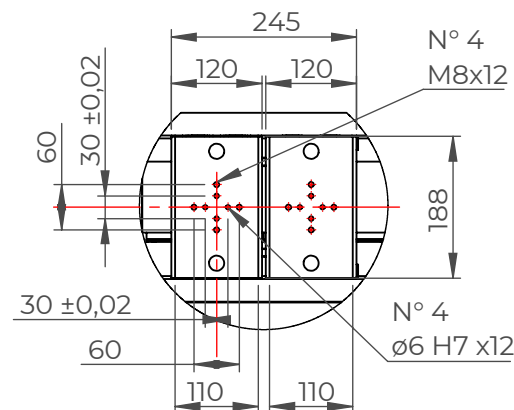


Functional features

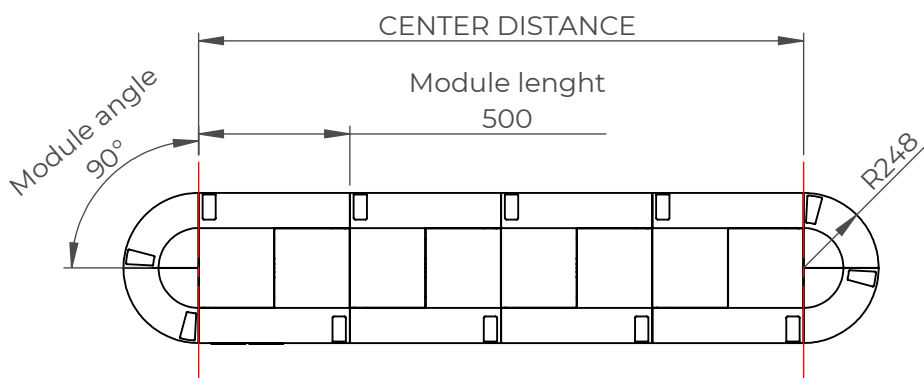
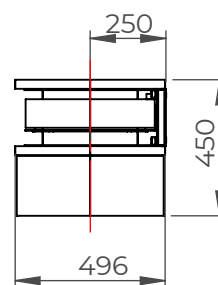
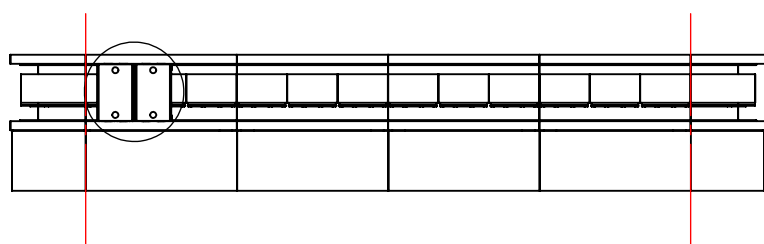
- Up to two linked pallet for a total payload of 30 kg
- Arbitrary system length/carriers number
- Individual and synchronized carriers movement
- Acceleration/deceleration, positioning and constant force over the entire conveyor system
- Material transport and processing on curves

Technical features

- RFID technology in any position
- Feedback: Unique carriers positioning with absolute magnetic encoder
- ILSM Motion Library by Motor Power Company
- STO SIL3 system

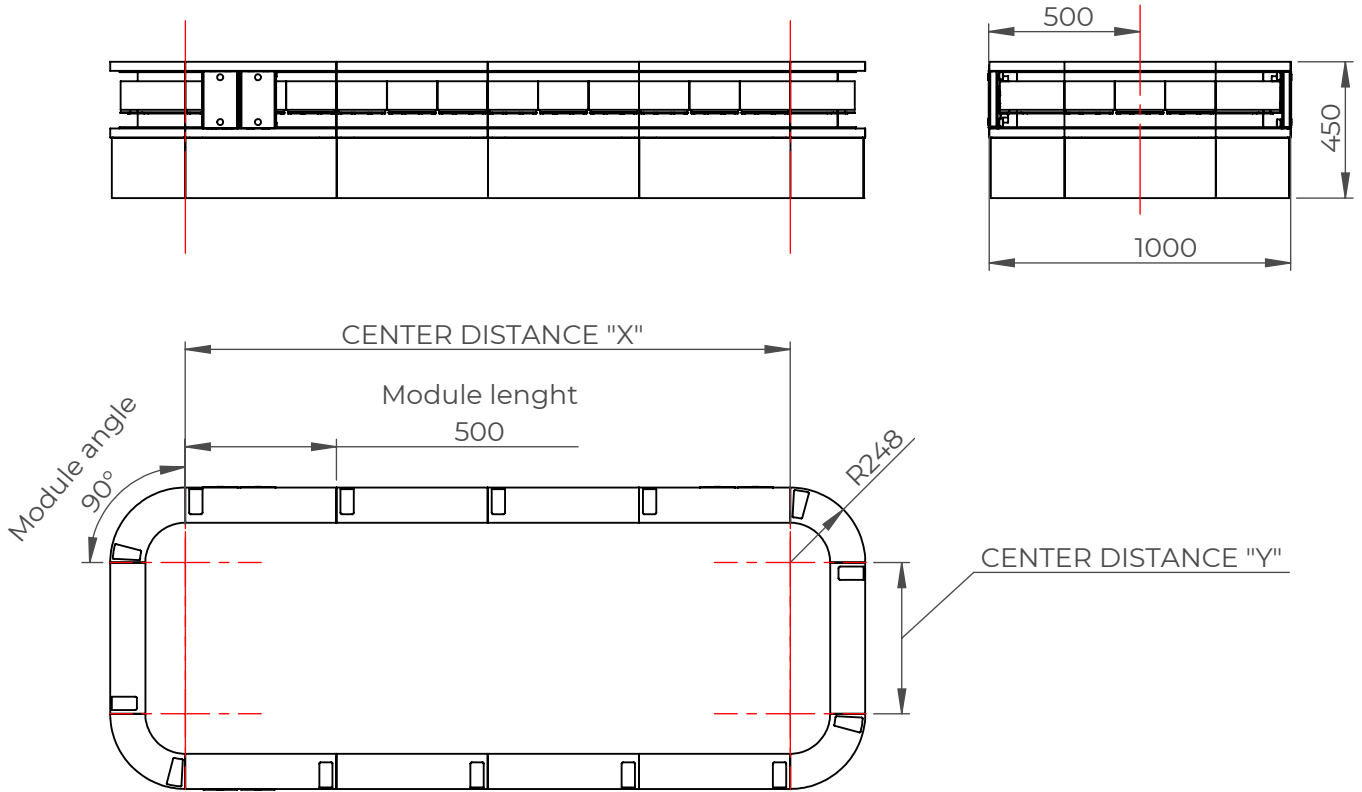


A - Straigh Trak shape

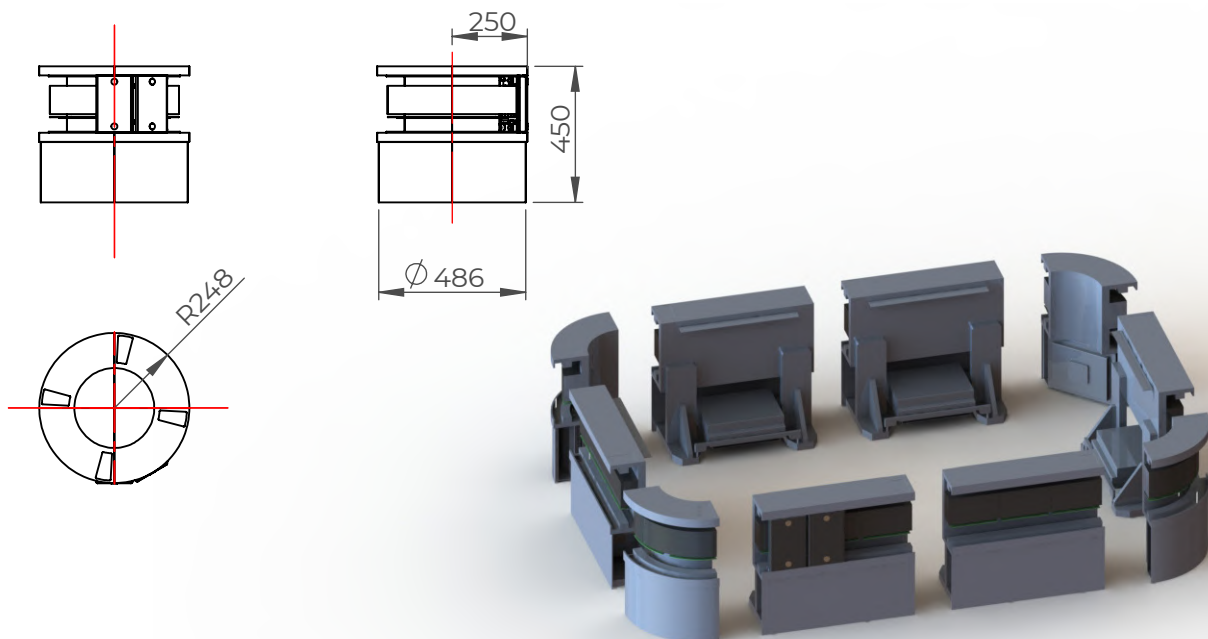


Available shapes	Centre distance	Denomination
Straight - Squared - Ring OTHER SHAPES AVAILABLE ON REQUEST	500 mm module length	P-TRAK 120

B - Squared Trak shape



C - Ring Trak shape



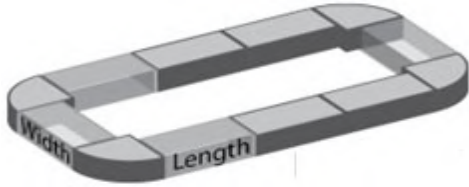
Pallet variants

SINGLE - DOUBLE (MASTER + SLAVE)

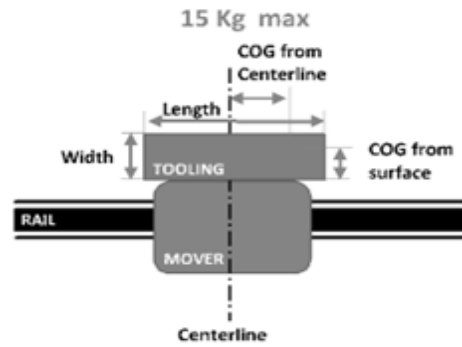
Munting types variants

CAROUSEL - OVER-UNDER (page 4)

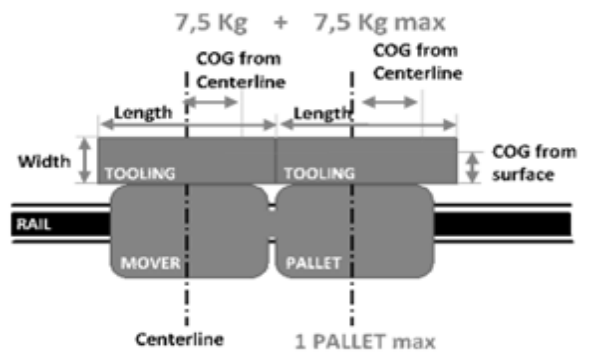
DATA SHEET



CAROUSEL mounting position



OVER-UNDER mounting position



Length, multiple of 500 [mm]	L =
Width / Height, multiple of 500 [mm]	H =
Tooling + Payload	
Number of tooling	
Length [mm]	
Width [mm]	
Mass [mm]	
Center of Gravity from Surface [mm]	
Center of Gravity from Centerline [mm]	
Mounting position	
Carousel	
Over Under	

Direction of rotation	
Clockwise	
Counter clockwise	
t. index [s]	
ti =	
t. dwell [s]	
td =	
t. cycle [s]	
tc =	
Frequency of cycle	
Cyc/min =	
Repeatability [mm]	
R =	
Accuracy [mm]	
A =	
Temperature [°C]	
T =	
Application field	

Notes for the loads

Notes for the cycle

Name	Company	Rif.	
Address			
Email (in capital letters)			

ITALPLANT IN THE WORLD



ITALPLANT

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