inpal

Palletizing Systems

INPAL 100

Palletizing Speed : Up to 3 layers / minute

INPAL 150

Palletizing Speed : Up to 5 layers / minute

Palletized Package Types

Inpal Palletizing Systems can handle various types of packages easily and produces slick and sturdy pallets regardless of product variety and unstable product types.

Tetra Pak

Cardboard Box

Shrink

Tin

Kraft Bag

Carboy

Shrink with Tray

Plastic Box

Why Inpal ?

- FLEXIBLE PALLETIZING
- HIGH QUALITY
- SIMPLE & SAFE DESIGN
- USER FRIENDLY
- HIGH CAPACITY
- SMALL FOOTPRINT
- LOW RUNNING COSTS
- RELIABLE AND EFFICENT
- COST EFFECTIVE

Fast and flexible palletizing ability compared to other palletizing system concepts.

Small footprint, allows manufacturers to use their existing space more efficently.

Able to palletize **50 different package size and type**. Also allows to program new packages by the operator using the colored touch-screen.

Fast, low cost maintanence services and low running costs due to non-complex structure and in-house manufacturing.

Electrical and mechanical equipments used in the system are mainly **EU brands**.
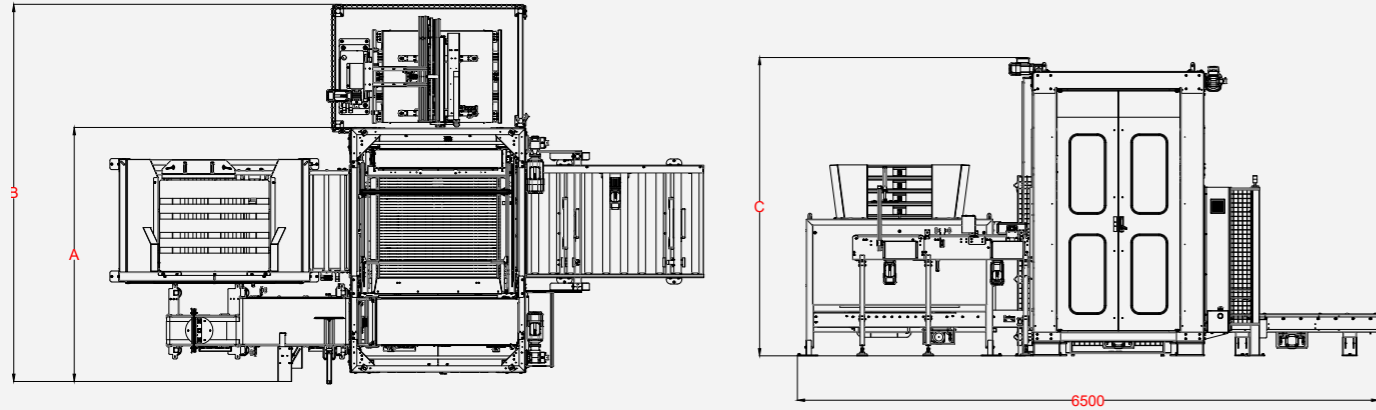
Able to palletize **complex layer formings** and builds **slick and sturdy pallets,** thanks to its **centering** and **gently squeezing** the layer from four sides.

The **clever** and **simple design** allows **easy mechanical maintenance**, control and ensures palletizing **reliable and highly efficent.**

Allows operation through **remote access features.**

Touch Screen

Specifications

Color Display Touch Screen

INPAL Layer Forming Program

Extensive error alert messages and easy resetting option

Teleservice option with remote access

Technical Data

Pallet Features		Technical Features
Pallet Sizes	(mm) Euro Pallet	800 x 1200
	Euro 3 Pallet	1000 x 1200
	Düsseldorf Pallet	600 x 800
Full Pallet Footprint - max (mm)		1050 x 1250
Full Pallet Footprint - min (mm)		600 x 800
Full Pallet Height - max (mm)		2150 *
Pallet Leading on Conveyor		Transversely
Pallet Conveyor Height (mm)		400 - 500
Forklifting		Front - Two Sides
Package Dimension - max (mm)		1200 x 500 x 400

* Higher than 2150 mm is manufactured upon request

Pallet Features		Technical Features
Palletizing Capacity - max (layer / min)		3 / inpal 100 *
		5 / inpal 150
Layer Weight - max (kg)		400
Pallet Weight - max (mm)		2000
Power Consumption (kW)		1
Installed Power (kW)		10
Power Requirements		3P + N + PE 380 V, 50 / 60 Hz
Air Pressure (Bar)		6
Air Consumption (liter / minute)		20 / 80 (with sheet dispener)
Memory		50 programming locations available

* The difference between inpal 100 and 150 is their capacity

INPAL 100

Palletizer System Dimensions

Pallet Types		A (w/o Sheet Dispenser) (mm)	B (w Sheet Dispenser) (mm)
Euro	(800 x 1200 mm)	2580	3650
Euro 3	(1000 x 1200 mm)	2780	4050
Euro and Euro 3		2780	4050

Full Pallet Height max. (mm)	C (w/o Sheet Dispenser) (mm)	C (w Sheet Dispenser) (mm)
1550	2640	2740
1850	2940	3040
2150	3240	3340

Palletizing Speed : Up to 3 layers / minute

Feeding and Output Directions
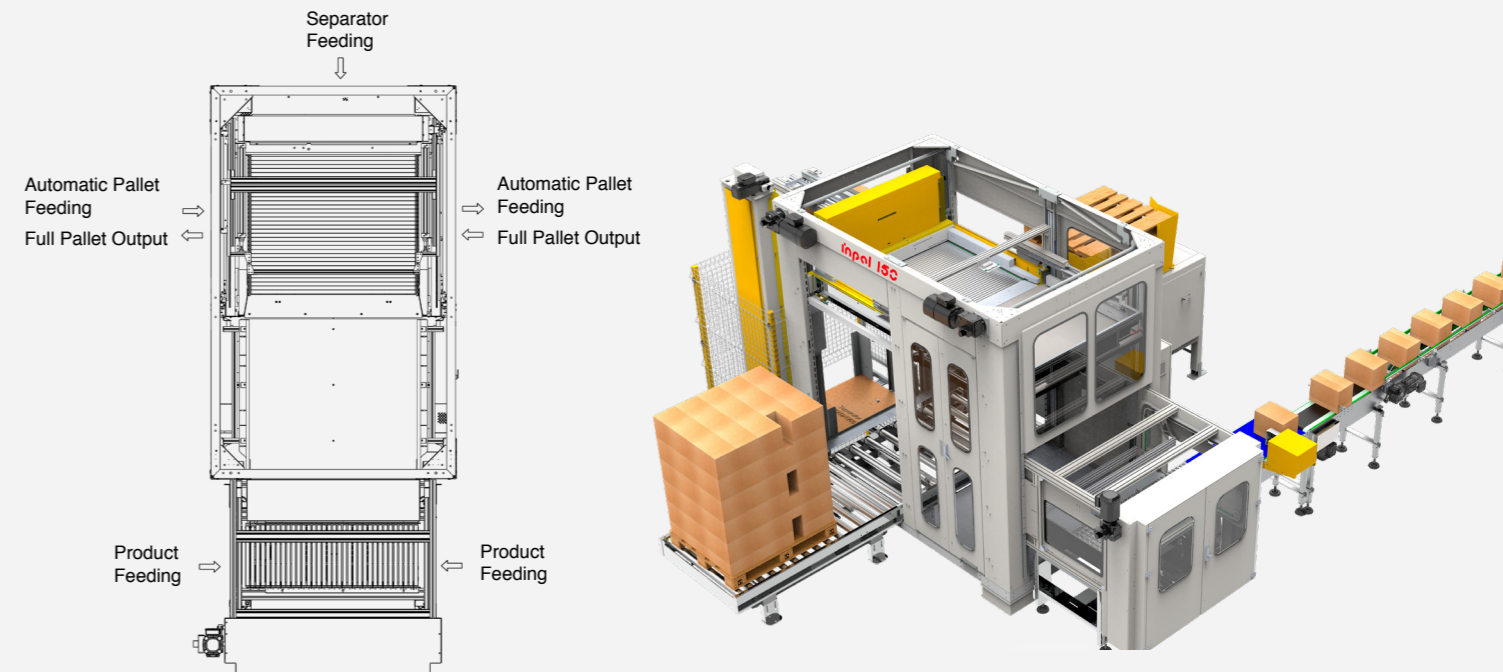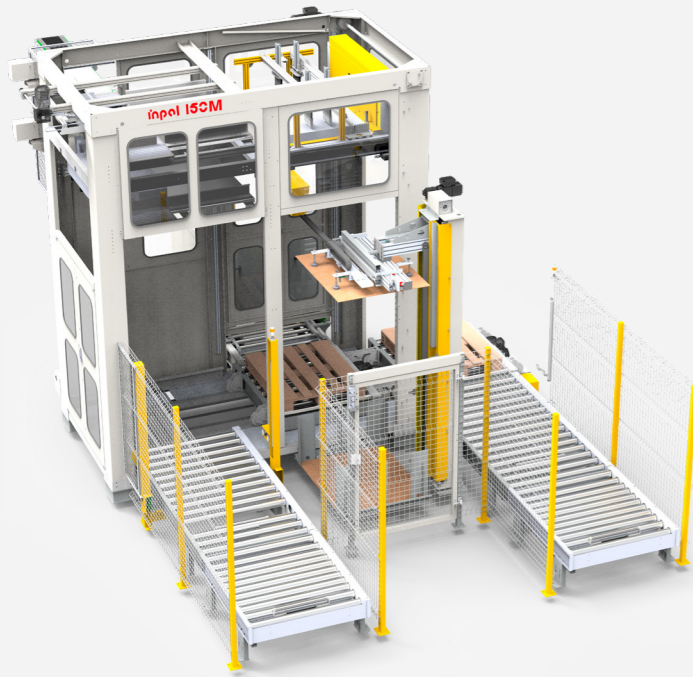

INPAL 150

Palletizer System Dimensions
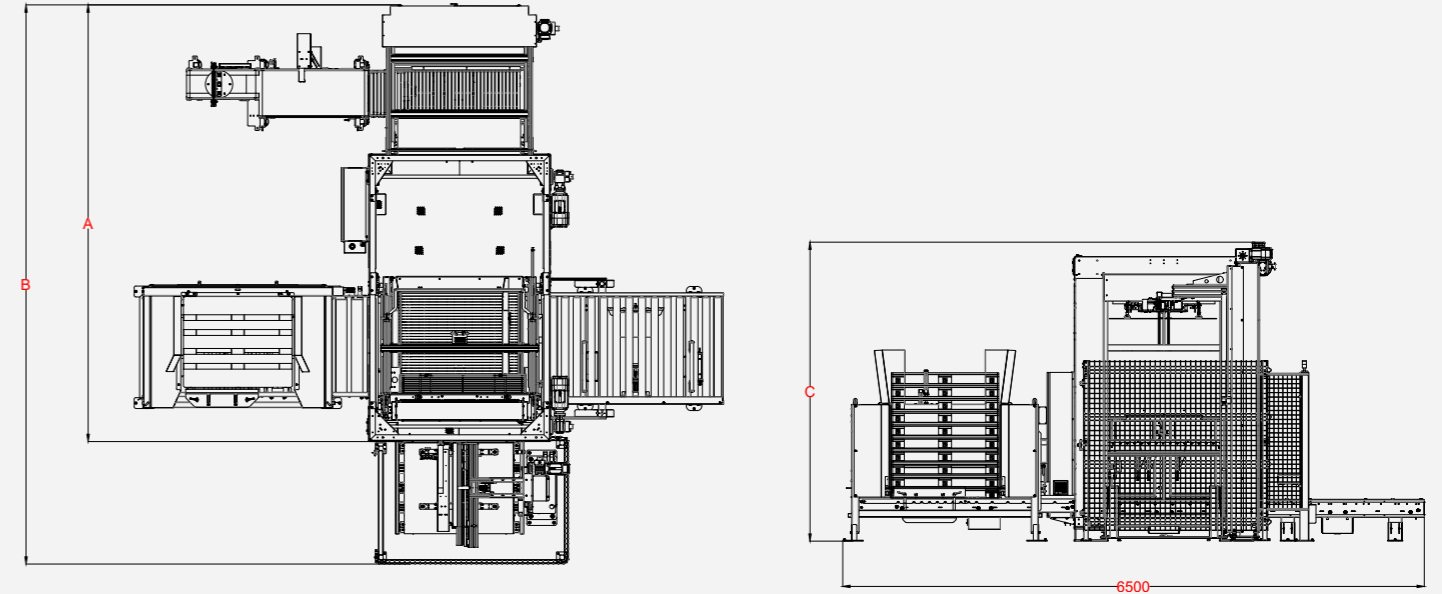
Pallet Types		A (w/o Sheet Dispenser) (mm)	B (w Sheet Dispenser) (mm)
Euro	(800 x 1200 mm)	4400	5765
Euro 3	(1000 x 1200 mm)	4800	6165
Euro and Euro 3		4800	6165

Full Pallet Height max. (mm)	C (w/o Sheet Dispenser) (mm)	C (w Sheet Dispenser) (mm)
1550	2640	2740
1850	2940	3040
2150	3240	3340

Palletizing Speed : Up to 5 layers / minute

Feeding and Output Directions

Why Inpal 150M?

The palletizing method of 150M is the same as the single layer type palletizer, but it palletizes more than one line.

It can place different products onto different pallets at the same time. **This creates a cost-effective and space-efficient solution for businesses with lower capacity lines.**

Unlike other multi-systems, it accumulates each product as layer on different trays which reduces time losses and makes a system **with higher capacity and efficiency.**

The system can palletize two or more lines with different capacities.

In addition, Inpal 150M offers all the advantages of 100 and 150.
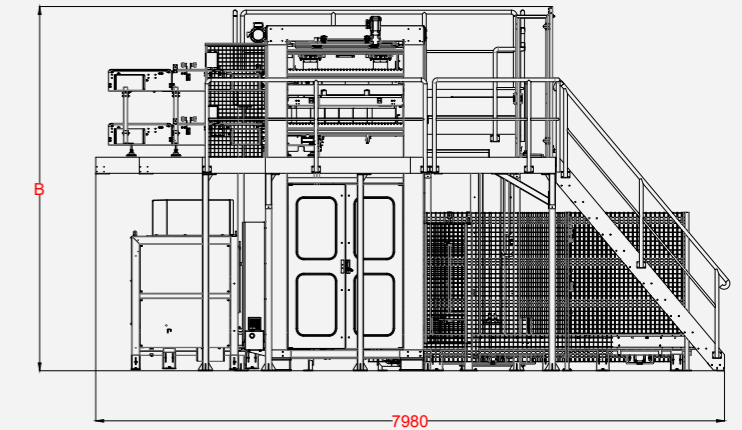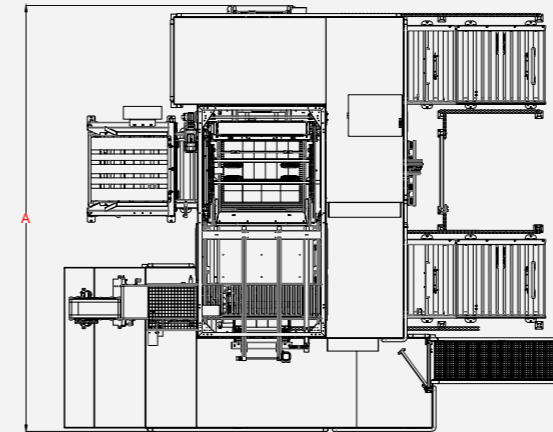
Pallet Types		A (mm)
Euro	(800 x 1200 mm)	5450
Euro 3	(1000 x 1200 mm)	6250
Euro and Euro 3		6250

Full Pallet Height max. (mm)	B (w/o Sheet Dispenser) (mm)	B (w Sheet Dispenser) (mm)
1550	3870	3970
1850	4170	4270
2150	4470	4570

Technical Data

Pallet Features		Technical Features
Pallet Sizes (mm)	Euro Pallet	800 x 1200
	Euro 3 Pallet	1000 x 1200
	Düsseldorf Pallet	600 x 800
Full Pallet Footprint - max (mm)		1050 x 1250
Full Pallet Footprint - min (mm)		600 x 800
Full Pallet Height - max (mm)		2150
Pallet Leading on Conveyor		Transversely
Pallet Conveyor Height (mm)		400 - 500
Forklifting		Front - Two Sides
Package Dimension - max (mm)		1200 x 500 x 400

Pallet Features		Technical Features
Palletizing Capacity - max (layer / min)		5
Layer Weight - max (kg)		400
Pallet Weight - max (mm)		2000
Power Consumption (kW)		1
Installed Power (kW)		13
Power Requirements		3P + N + PE 380 V, 50 / 60 Hz
Air Pressure (Bar)		6
Air Consumption (liter / minute)		20 / 80 (with sheet dispener)
Memory		50 programming locations available

Feeding and Output Directions

Product Feeding
Full Pallet Output
Pallet Stack Feeding
Sheet Feeding
Full Pallet Output

Product Feeding
Full Pallet Output
Pallet Stack Feeding
Sheet Feeding
Full Pallet Output
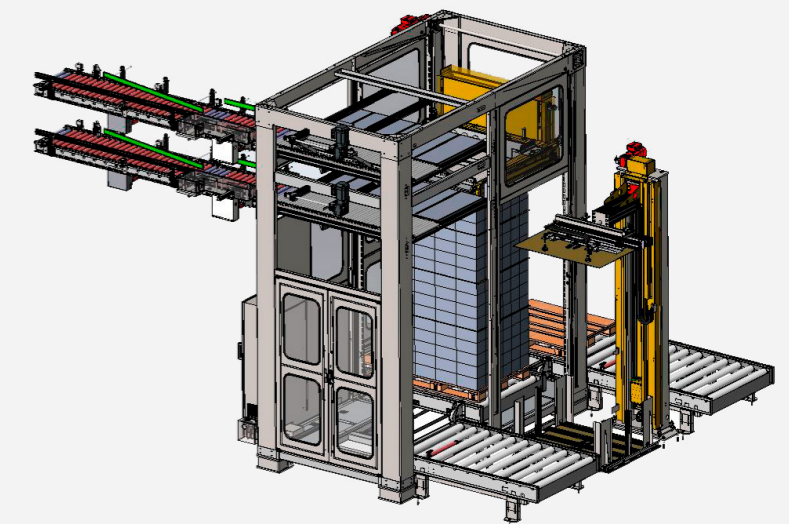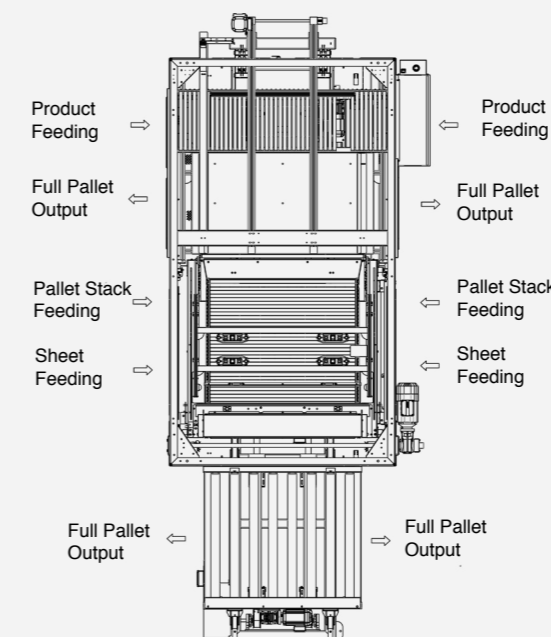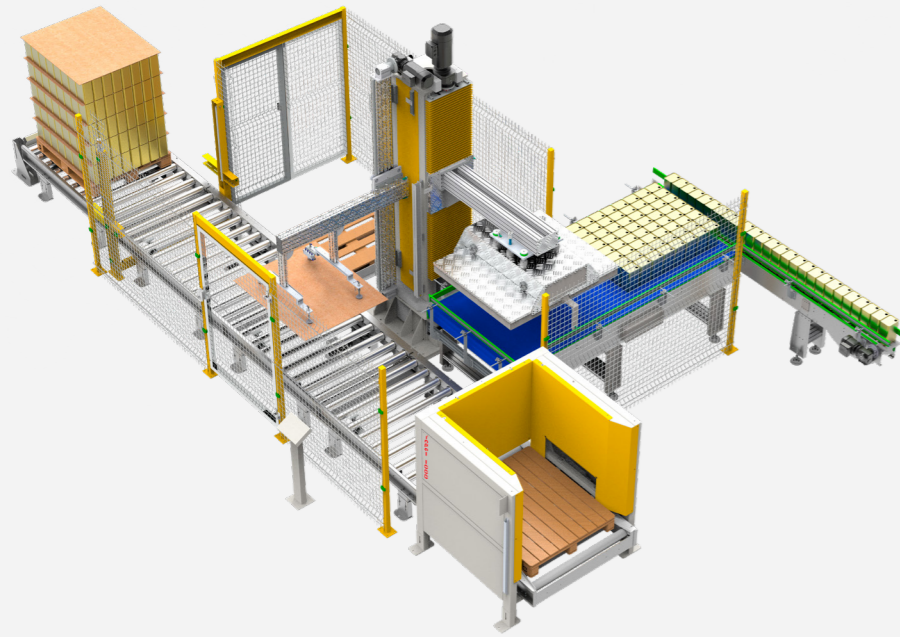
Why Inpal 1000?

The Inpal 1000 performs palletizing with **pick and place** principle. It has **high capacity** as it handles the **products as layer** whereas it has a small footprint.

The palletizing machine basically consists of a tower rotating 90º and two linearly mounted, vertically moving arms connected to this tower.

Its **simple construction** compared to palletizing robots makes it a **better solution for initial investment**, **maintenance costs and reliability**.
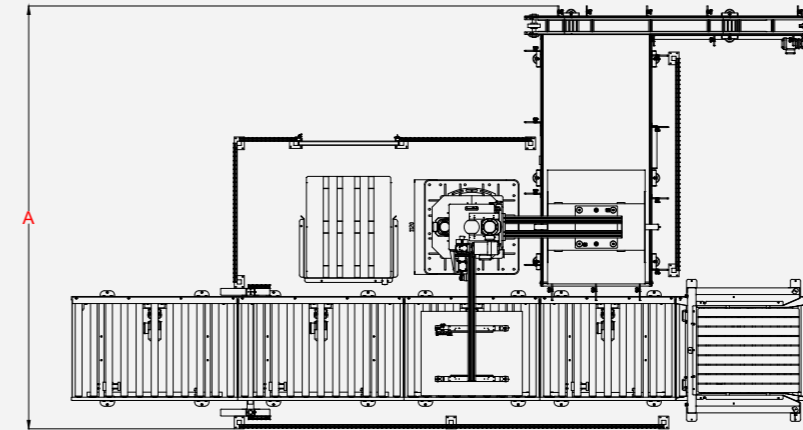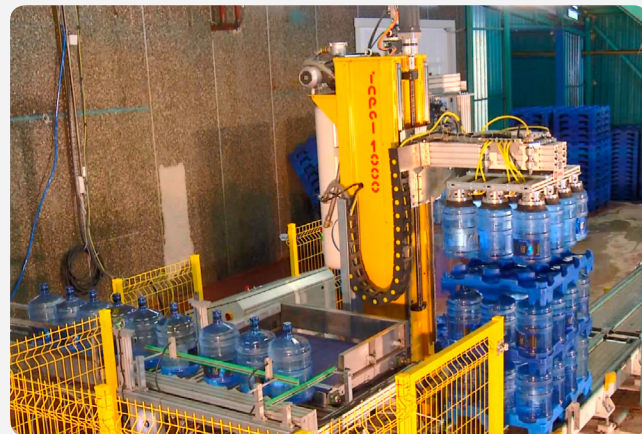
Pallet Types		A (mm)
Euro	(800 x 1200 mm)	4800
Euro 3	(1000 x 1200 mm)	5000
Euro and Euro 3		5000
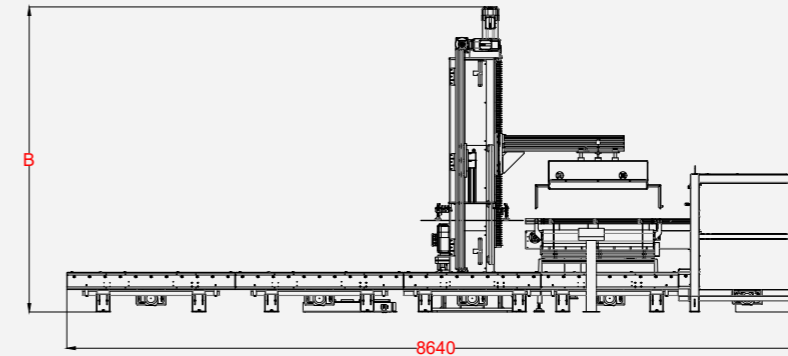
Full Pallet Height max. (mm)	B (mm)
1550	3500
1850	3850
2150	4150

Feeding and Output Directions

Technical Data

Pallet Features		Technical Features
Pallet Sizes	(mm)	Euro Pallet 800 x 1200
		Euro 3 Pallet 1000 x 1200
		Viol Pallet -
Full Pallet Footprint - max (mm)		1050 x 1250
Full Pallet Footprint - min (mm)		600 x 800
Full Pallet Height - max (mm)		2150
Pallet Leading on Conveyor		Transversely
Pallet Conveyor Height	(mm)	400 - 500
Forklifting		Front - Two Sides
Package Dimension - max (mm)		1200 x 1000 x 500

Pallet Features		Technical Features
Palletizing Capacity - max (layer / min)		5
Layer Weight - max (kg)		400
Pallet Weight - max (mm)		2000
Power Consumption	(kW)	1,2
Installed Power	(kW)	13
Power Requirements		3P + N + PE 380 V, 50 / 60 Hz
Air Pressure	(Bar)	6
Air Consumption	(liter / minute)	80
Memory		50 programming locations available

Product Output (Depalletizer)
Product Feeding (Palletizer)
Separator Stack Feeding (Palletizer)
Separator Stack Output (Depalletizer)
Full Pallet Feeding (Depalletizer)
Full Pallet Output (Palletizer)
Pallet Stack Output (Depalletizer)
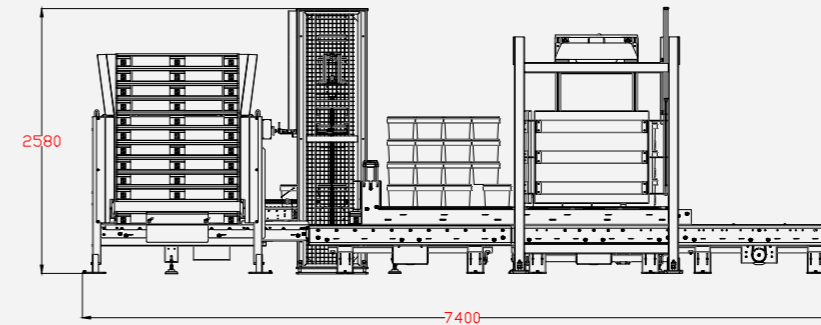Pallet Stack Feeding (Palletizer)
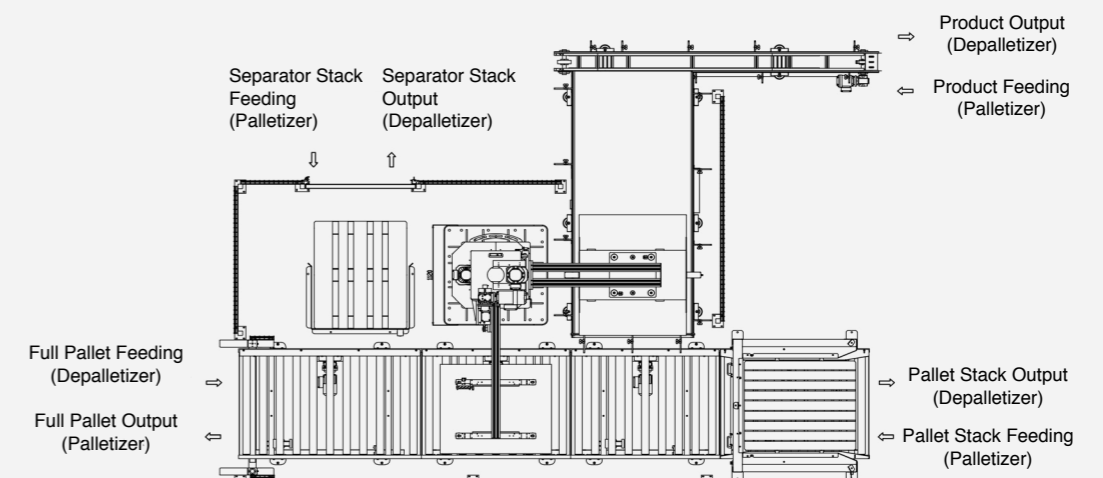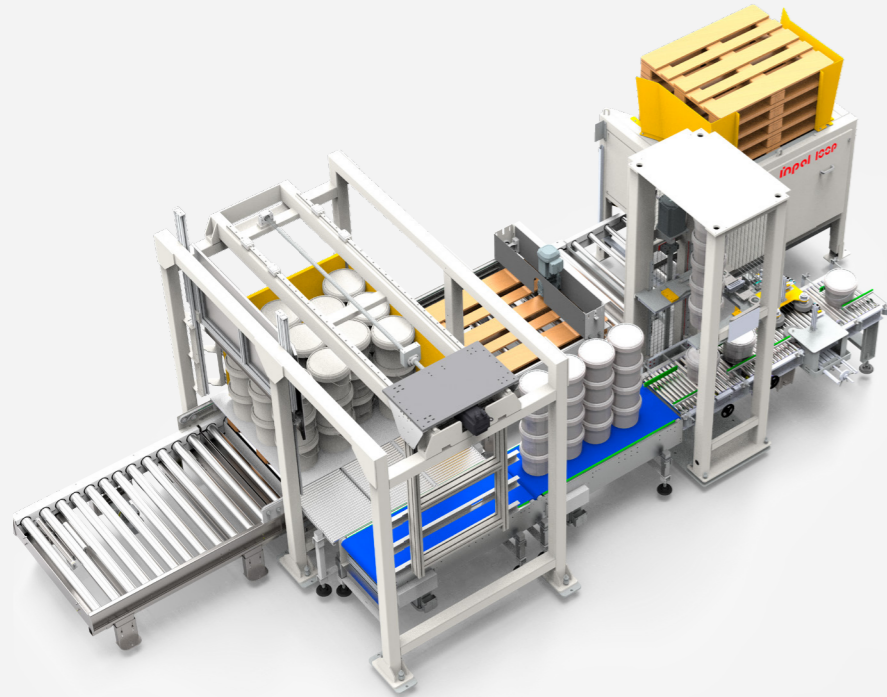
Why 100P?

Palletizing systems of different concepts often have problems piling the pails precisely. This means loss of productivity and the need for external labor in automatic palletizing. As a result, it leads to additional costs.

To solve this problem, Inpal 100P aligns the handles of the pails in the same direction and piles them as column before placing on the pallet. **This ensures high efficiency palletizing**.
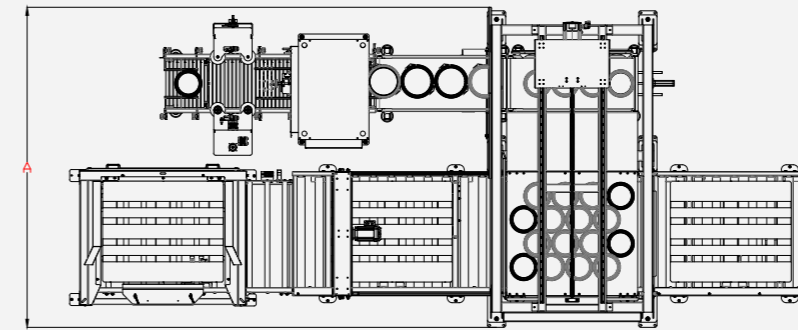
Pallet Types		A (mm)
Euro	(800 x 1200 mm)	2975
Euro 3	(1000 x 1200 mm)	3175
Euro and Euro 3		2780

Feeding and Output Directions

Technical Data

Pallet Features		Technical Features
Pallet Sizes	(mm)	Euro Pallet 800 x 1200
		Euro 3 Pallet 1000 x 1200
Full Pallet Footprint - max (mm)		1050 x 1250
Full Pallet Footprint - min (mm)		600 x 800
Full Pallet Height - max (mm)		2150
Pallet Leading on Conveyor		Transversely
Pallet Conveyor Height (mm)		400 - 500
Forklifting		Front - Two Sides
Bucket Weight Max (kg)		30

Pallet Features		Technical Features
Palletizing Capacity - max (layer / min)		5
Layer Weight - max (kg)		-
Pallet Weight - max (mm)		2000
Power Consumption (kW)		2
Installed Power (kW)		10
Power Requirements		3P + N + PE 380 V, 50 / 60 Hz
Air Pressure (Bar)		6
Air Consumption (liter / minute)		50
Memory		50 programming locations available

Product Feeding

Product Feeding

Automatic Pallet Feeding
Full Pallet Output

Automatic Pallet Feeding
Full Pallet Output

Piling Palletizing System

Why Piling System?

Piling type palletizer offers a good solution for products where **quantity and layer weight of the product is less than usual**.

The principle of palletizing is different in this system. The first layer that is formed is placed at the top of the pallet, and the following layers are located below this layer in order.

It offers a simplier and therefore more cost-effective solution than other palletizing systems. It has a very small footprint and high capacity.

Palletizer System Dimensions and Feeding and Output Directions

Pallet Stack Feeding

Product Feeding

Full Pallet Output

A

Technical Data

Pallet Features		Technical Features
Pallet Sizes (mm)	Euro Pallet 800 x 1200	
	Euro 3 Pallet 1000 x 1200	
Full Pallet Footprint - max (mm)		1050 x 1250
Full Pallet Footprint - min (mm)		600 x 800
Full Pallet Height - max (mm)		2150
Pallet Leading on Conveyor		Transversely
Pallet Conveyor Height (mm)		400 - 500
Forklifting		Front - Two Sides
Package Dimension - max (mm)		1200 x 1000 x 500

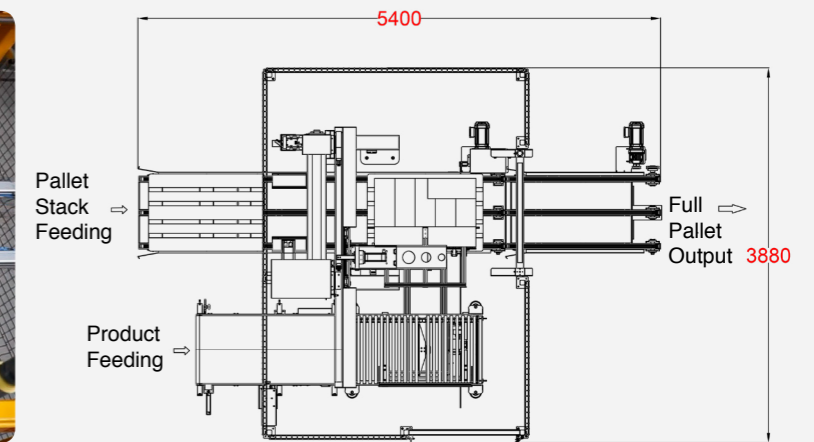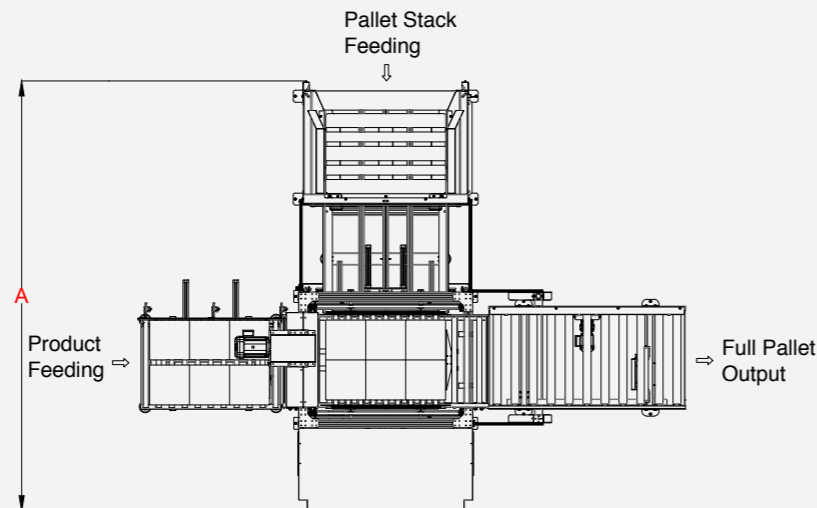| Pallet Features	Technical Features
Palletizing Capacity - max (layer / min)	5
Layer Weight - max (kg)	400
Pallet Weight - max (mm)	2000
Power Consumption (kW)	1,5
Installed Power (kW)	9
Power Requirements	3P + N + PE 380 V, 50 / 60 Hz
Air Pressure (Bar)	6
Air Consumption (liter / minute)	50
Memory	50 programming locations available

Cartesian Palletizing System

Why Cartesian System?

It is a system consisting of a gripper operating on X, Y, Z axes and a rigid body carrying it.

It uses **pick and place principle** for palletizing. For lower product flows and multiple lines, cartesian system can be the right option.

It provides low budget solution for businesses.

Palletizer System Dimensions and Feeding and Output Directions

5400

Pallet Stack Feeding

Full Pallet Output 3880

Product Feeding

Technical Data

Pallet Features		Technical Features
Pallet Sizes (mm)	Euro Pallet 800 x 1200	
	Euro 3 Pallet 1000 x 1200	
Full Pallet Footprint - max (mm)		1050 x 1250
Full Pallet Footprint - min (mm)		600 x 800
Full Pallet Height - max (mm)		1850
Pallet Leading on Conveyor		Transversely
Pallet Conveyor Height (mm)		400 - 500
Forklifting		Front - Two Sides
Package Dimension - max (mm)		1200 x 1000 x 500

| Pallet Features	Technical Features
Palletizing Capacity - max (layer / min)	5
Layer Weight - max (kg)	400
Pallet Weight - max (mm)	2000
Power Consumption (kW)	2
Installed Power (kW)	12
Power Requirements	3P + N + PE 380 V, 50 / 60 Hz
Air Pressure (Bar)	6
Air Consumption (liter / minute)	80
Memory	50 programming locations available

Inline Palletizing System Projects

Several palletizing machines linked together and create an inline palletizing system.
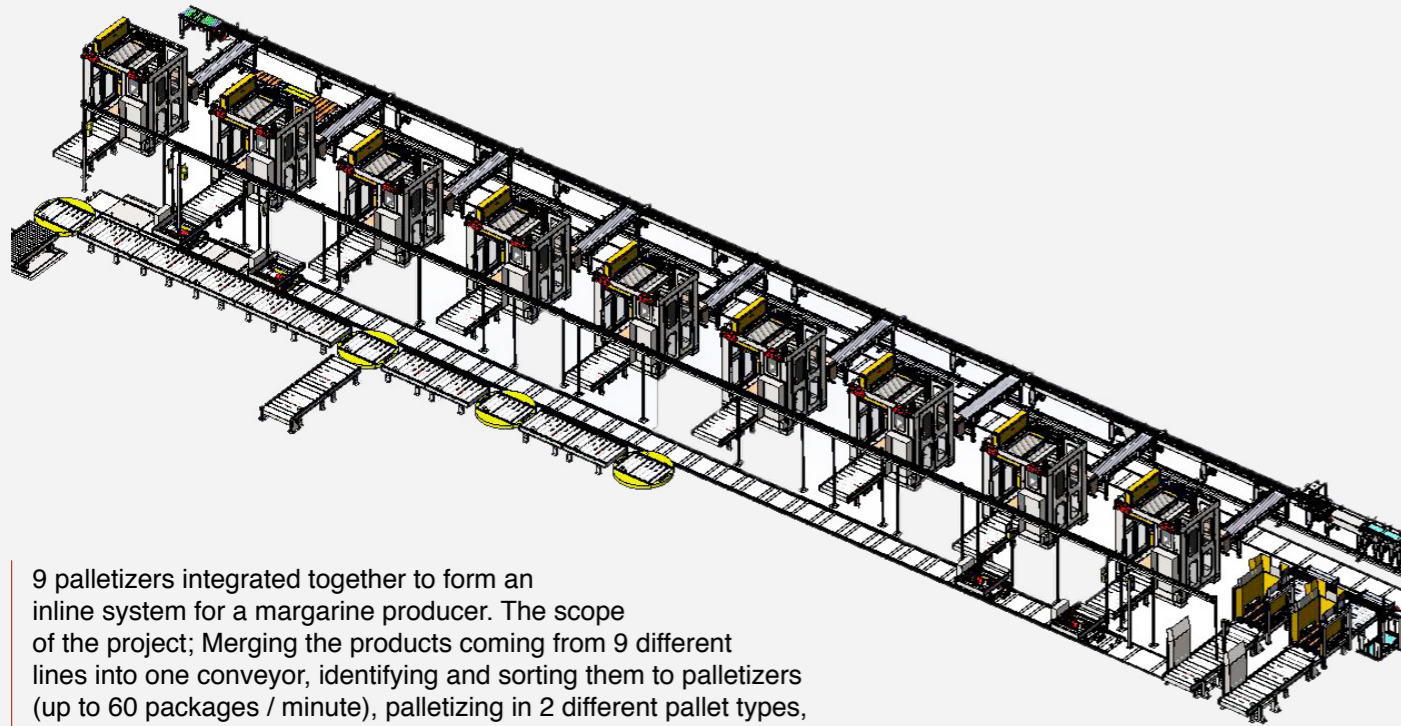

9 palletizers integrated together to form an inline system for a margarine producer. The scope of the project; Merging the products coming from 9 different lines into one conveyor, identifying and sorting them to palletizers (up to 60 packages / minute), palletizing in 2 different pallet types, transferring, labeling and stretching the full pallets. All patterns of 470 different SKUs are uploaded to each palletizer so that they can back up each other.
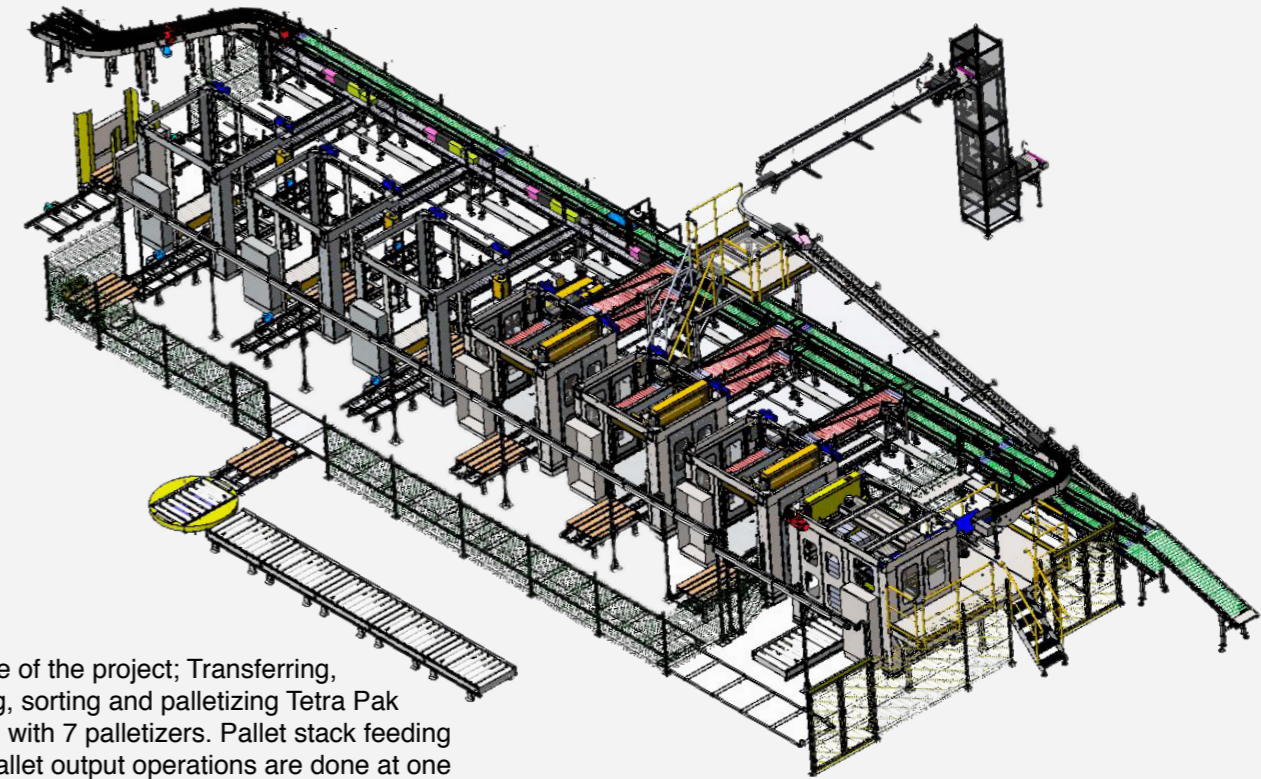
The scope of the project; Transferring, identifying, sorting and palletizing Tetra Pak packages with 7 palletizers. Pallet stack feeding and full pallet output operations are done at one point through pallet shuttles.
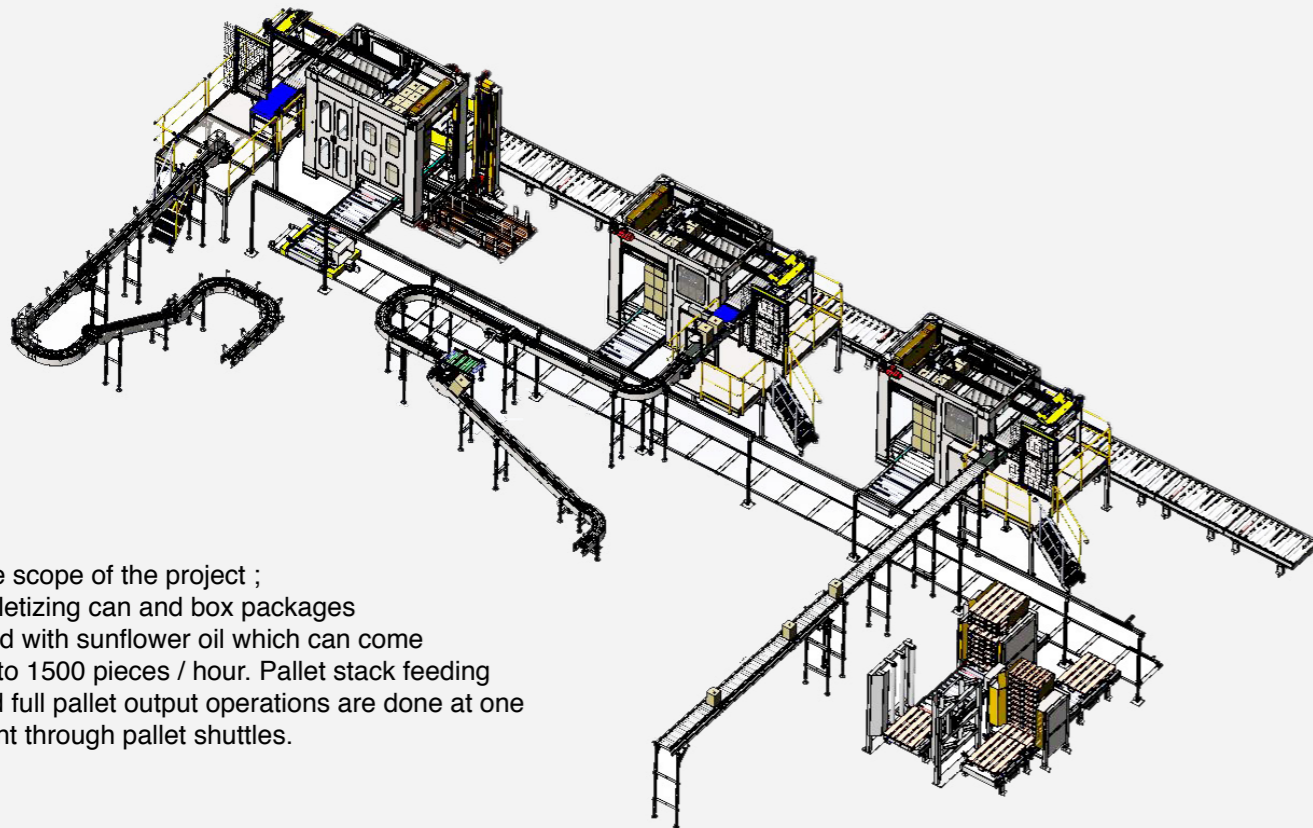
The scope of the project ; Palletizing can and box packages filled with sunflower oil which can come up to 1500 pieces / hour. Pallet stack feeding and full pallet output operations are done at one point through pallet shuttles.
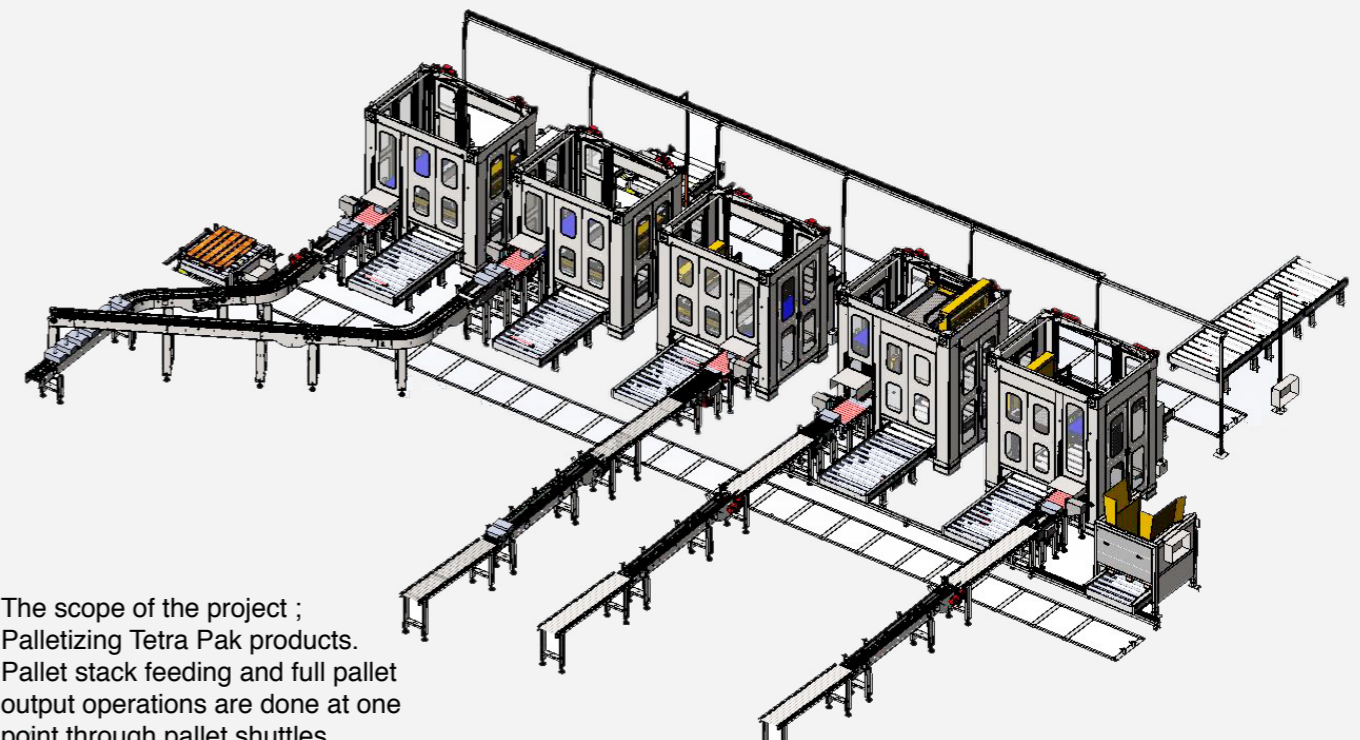
The scope of the project ; Palletizing Tetra Pak products. Pallet stack feeding and full pallet output operations are done at one point through pallet shuttles.

inpal

Palletizing Systems

İNKA, founded in 1987, has broken grounds in giant projects and has fully serviced in many different sectors such as aviation, construction, white goods, automotive and food industry in domestic and international companies especially in European countries with its accumulative experience and expert staff.

İNKA, which made its first export with automatic EPS block cutting line made to Austria in 1990, had started to work with Airbus, one of the biggest aviation companies in the world, in France in 1998, it has become a solution partner of the company until the year of 2010 in comprehensive and high capacity projects for airplane manufacturers and subsidiary companies.

In 2011, İNKA headed towards the Palletizing Systems, Depalletizing Systems, Conveyor and Transfer Systems areas in the subject of "End of Line Systems", and focused on R&D activities with its versatile accumulation of knowledge. Production process had started after a wide scale R&D study.

Today there are hundreds of palletizing systems operating in different places of the world. In the near future, Inka aims to be one of the major companies in the world in "End of Line Field".

İNKA®