

# DELFI D3 FEED PLACER.

CROSS-BELT ROBOTIC FEED PLACING FOR PRIMARY PACKAGING APPLICATIONS.

## APPLICATION INFORMATION

The Delfi D3 utilizes a high performance vision system to enable the picking and placing of products from a disordered flow directly into the infeed chain of a flow wrapper with high-speed Delta robots. The feature that differentiates the Delfi from the other Syntegon robots is that it places the products that it picks into a stream running perpendicular to the incoming flow of product. Products can be placed individually or in groups depending on the application.

## MAXIMUM FLEXIBILITY

The modular design of the Delfi D3 allows for easy integration between manufacturing equipment and primary packaging machines. The 90 degree arrangement of the outlet makes for a compact machine and helps to optimize space in the layout. The GD series Delta robots can utilize our complete portfolio of end effectors (+2,000 designs) ranging from designs for mono, multi and reflex-picking. End effectors can be based on vacuum, mechanical, or Bernoulli or Venturi principles. Change parts are produced locally for quick delivery and can be swapped on the machine without the use of any tools in under five minutes.

## EXPERIENCE

Syntegon has over two decades of experience in robotic packaging with hundreds of robotic top loading applications for both food and non-food products, and over 700 robot arms in production. PMMI training programs are available along with extensive training and technical support provided by Syntegon to assure faster return on your investment.

## GEMINI 4.0

Our Gemini 4.0 hardware and software platform incorporates a virtual machine displayed on the HMI (Human Machine Interface), promoting a user-friendly experience and lowering the TCO (Total Cost of Ownership). In emulation mode, this tool displays a 3D view of the machine movement and motion cycle in real time allowing operators to optimize pick and place patterns and zones in an easy, intuitive way. In simulation mode, the machine performance and processes can be simulated offline without the need for physical product. This reduces product waste, decreases set-up and installation times, and increases efficiency.

## RELIABLE, LOW MAINTENANCE LABOR ALTERNATIVE

The Delfi D3 robot arms are collapsible and remountable in two minutes, for quick, easy maintenance. Designed for 3 shift per day operation, the Delfi D3 is a reliable, cost-effective alternative to manual labor.

### Your benefits

- Fast changeovers to meet changing market needs
- Modular design for easy integration with up & downstream equipment
- Minimum amount of components for reduced maintenance and lower holding costs for spare parts inventory



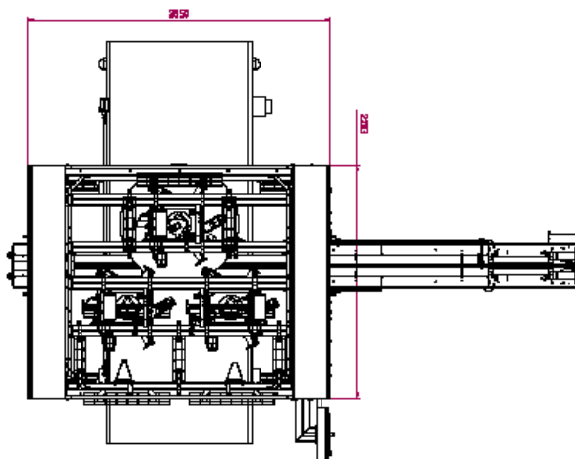
# Packaging Line Structure.

Product Handling			Primary Packaging			Secondary Packaging		
Pick & Place	Distribution	Feeding	Flow Wrapping	Vertical Bagging	Bag Sealing	Forming	Closing	Loading

## Features

- GD series Delta robot with payload up to 3 kg
- Typical cycle of up to 300 products per minute for a 3 robot machine
- Standard cells include between 1 - 4 Delta robots, all managed by one Gemini 4.0 controller
- Open frame design giving access from both the front and rear, shortening change over and cleaning times
- Recipe storage and recall of all individual parameters
- Tool-less end effector changeovers
- Hygienic design with sloped surfaces for proper cleaning and drainage
- Optional vision guidance for quality inspection and picking non-aligned products with precision
- Optional 4th robot axis can be added for product rotation
- Optional 5th robot axis can be added allowing use of rotate and tilt handling elements

## Delfi D3 with 3 Delta Robots



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Subject Delfi D3

Date 05.2020

Department PAUD/MKT

## Technical Specifications

Product Range Dimension (mm)	min.	max.
Product length	20	150
Product width	10	120
Product height	1	100
Output Types		
Flowpack / side loader	Optional	
Simple belt conveyor	Optional	
GD Series Delta Robot		
Payload	3 kg	
Forearm length	(670) (770) 870 mm	
Working volume	1118   190/395	
(Diameter   Height)	861   235/360 - option	
	990   210/390 - option	
Air		
Pressure	0.6 MPa nominal (6 bar)	
Air consumption	4cfm (4 robots in single pick, blowing 50ms)	
Electrical Specifications		
Voltage	3 x 400 V 50 Hz (other power optional)	
Power	14 kVA (3 or 4 robot cell, 1 vacuum pump)	
Frame Specifications		
Ingress protection	IP54	
Machine frame	Stainless steel	
Cadences and Speed		
Speed with 3-4 robots	300 - 400 ppm (Mono-pick) 390 - 520 ppm (Multi-pick)	

Cycle rates can vary depending on the application. Our technical team can advise you of the optimum rate for your application.