LINE FOR THE SECONDARY PACKAGING OF FLAT BOTTOMED BAGS INTO PLATEAU-BOXES

⇒ **OUTPUT CAPACITY**: Up to 10 boxes/minute (60 bags/minute coming to each packaging cell)

⇒ **VERSATILITY**: 2 different size of bags, 7 different weights, 8 different types of plateau-boxes, 52 production recipes

⇒ **USER-FRIENDLINESS**: Fast and controlled production changeover

⇒ **RELIABILITY**: Designed and built to operate continuously. 3 working shifts per day
DESCRIPTION AND TECHNICAL SPECIFICATIONS

⇒ Handling of the product through plastic chain conveyors
⇒ Each section of the line can pack into the plateau-boxes the flat bottomed bags coming from two primary packaging cells (30 + 30 bags/min, output capacity up to 10 boxes/min)
⇒ Automatic system to merge the flow of the bags “3 in 2”
⇒ Possibility to direct the flow of the bags towards manual packaging stations along the line
⇒ n.2 FSC - plateau-boxes forming machines in special execution (one for each section of the line)
⇒ Handling of the plateau-boxes between the forming machines and the packaging cells by means of plastic chain conveyors
⇒ n.2 R1R2 - pick & place robotic cells, Abrigo MRS, with n.2 6-axis anthropomorphic industrial robots (one cell for each section of the line); robot mounted on the top side of the cell, for maximum compactness, accessibility and ease of cleanliness of the cell
⇒ Handling gripper equipped with sensor to detect the presence/absence of the bags and recognize incomplete boxes
⇒ Adjustable handling gripper, to manage different formats (no replacement of the gripper requested for the production changeover)
⇒ “1 in 2” flow divider at the inlet of each pick & place cell to suit the two robots
⇒ Bags tilting system at the inlet of each pick & place cell
⇒ Handling system for the plateau-boxes with 3 shuttles (equipped with suction cups) on an single linear axis module
⇒ Vacuum group integrated in each pick & place cell
⇒ Roller conveyor for the unloading of the incomplete boxes, with automatic pusher
⇒ n.2 CS - plateau-boxes closing machines in special execution (one for each section of the line)

WAY OF PACKAGING

Stacking of the bags. The bags are tilted at the inlet of the pick and place cell. The bags are put into the boxes in horizontal position, taking advantage of the articulated wrist of the robot. The bags can be rotated in the horizontal plane, thanks to the rotation of the handling gripper.

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>3f + n, 400V, 50Hz</th>
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<tbody>
<tr>
<td>Installed Power</td>
<td>51kW</td>
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<tr>
<td>Packaging cell dimensions (L x W x h)</td>
<td>4,500 x 2,100 x 2,500mm</td>
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<tr>
<td>Compressed Air</td>
<td>5bar, 2,400NL/min</td>
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