PalletPack 460
Palletizing Function Package
A complete pre-engineered solution for palletizing cells with up to 2 in-feeds & 2 out-feeds. Includes:

- IRB 460 robot with choice of FlexGripper (Claw or Clamp)
- 2 x PLCs - safety controller and cell controller
- Graphical HMI on FlexPendant with PalletWare application wizard
The PalletPack 460
Concept based on 4 flexible modules

- PalletPack 460 makes it possible for PLC programmers to program the robot with little or no knowledge of ABB robot RAPID programming.

- PalletPack 460 can decrease integration time by up to 65%.

- Savings are achieved in the areas of:
  - Gripper design
  - Safety design
  - Robot to PLC communication
  - Robot programming
The robot - IRB 460 high speed palletizer
Overview and main features

- Fastest palletizing robot in the world
- Compact design
- Integrated process cabling
- Fully supported by ABB palletizing software
- 4-axis design optimized for palletizing
  - Shorter cycle times
  - Lower weight of robot arm
  - Higher payload (110 kg)
  - Lower complexity
The robot - IRB 460 performance

Key data

- Payload: 110 kg
- Reach: 2,400 mm
- Axis 1 max speed: 145 °/s
- Repeatability: 0.2 mm
- Weight: 925 kg
- Protection: IP67
The robot - IRB 460 performance
The world’s FASTEST palletizer

A well defined cycle - the industry benchmark.

From A to B and back to A

<table>
<thead>
<tr>
<th>Payload</th>
<th>60 kg</th>
<th>110 kg</th>
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<tbody>
<tr>
<td>Cycles per hour</td>
<td>2,190</td>
<td>2,040</td>
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</table>
The robot - IRB 460 performance
The compact robot

Pallet Height Capacity 2,400 m
The software & graphical HMI
PalletWare WIZARD

Designed to minimizing learning, setup and programming time.

Modular structure - program wizard and the graphical production window - together decrease the time for training.

Easy & efficient to use during installation, production set-up, programming and optimizing of the robot cycle.
The software & graphical HMI
PalletWare WIZARD

Main menu PalletPack wizard

Part Edition

Common Movements
The software & graphical HMI
Palletware WIZARD

Pallet & Pick Setup

Movement Edition

Pallet Pattern Setup

Path Profile Edition
The PLCs

Cell Control via the ABB AC500 PLC

- Flexibility
- Modularity / Scalability
- High communications possibilities
- High process speed
- One common software platform for all PLCs
The PLCs
Cell safety via the JOKAB Safety PLC

- Flexibility
- Modularity / Scalability
- High communications possibilities
- Easy to use software platform
- All-Masters system
- Economic solution
- Certified function blocks
The gripper
Two FlexGripper options - Claw or Clamp

- Reduced engineering, cost saving
- Easy to integrate, easy to use
- Lean configuration, lightweight
- Graphical User Interface (GUI) provided on robot FlexPendant for easy gripper setup, tuning, and production monitoring.
- Shorter cycle times
FlexGripper – Claw Key features

- For heavy duty bag palletizing to 50 kg
- Pneumatically actuated mechanism to clamp the bag from sides
- Bag centering plates provided with 200 mm adjusting stroke for different bag size
- Clamp pads provided that contact the top of the bag to hold it in position
- Stroke of clamp pads :130mm
- It has replaceable stainless steel fingers
### FlexGripper - Claw

#### Key data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Data</th>
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<tbody>
<tr>
<td>Handled product</td>
<td>1</td>
</tr>
<tr>
<td>Max. weight/lift</td>
<td>50 kg</td>
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<tr>
<td>Gripper weight</td>
<td>60 kg</td>
</tr>
<tr>
<td>Finger interval</td>
<td>80 mm</td>
</tr>
<tr>
<td>Bag height range</td>
<td>120 – 250 mm</td>
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<tr>
<td>Bag length range</td>
<td>300 – 750 mm</td>
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<tr>
<td>Bag width range</td>
<td>250 – 450 mm</td>
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<tr>
<td>Cable rotation range</td>
<td>+/-180 °</td>
</tr>
<tr>
<td>Air pressure (bar)</td>
<td>4-6 bar</td>
</tr>
</tbody>
</table>
FlexGripper – Clamp, Single Zone

Key features

- Wide clamping stroke adapts to different case width
- Rubber pad to increase friction force
- Sensors to verify presence / absence of case provided
- Hook unit provided as standard to ensure case clamping with high speed movements
### FlexGripper – Clamp, Single Zone

#### Key data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Data 1 - Zone</th>
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<tbody>
<tr>
<td>Optimize</td>
<td>IRB460</td>
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<td>Handled product</td>
<td>1-2</td>
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<tr>
<td>Max. weight/lift</td>
<td>40 kg</td>
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<tr>
<td>Gripper weight</td>
<td>45 kg</td>
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<tr>
<td>Bag height range</td>
<td>150 - 330 mm</td>
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<tr>
<td>Bag length range</td>
<td>200 - 650 mm</td>
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<tr>
<td>Bag width range</td>
<td>200 - 500 mm</td>
</tr>
<tr>
<td>Cable rotation range</td>
<td>+-180 °</td>
</tr>
<tr>
<td>Air pressure (bar)</td>
<td>4-6 bar</td>
</tr>
</tbody>
</table>
PalletPack 460 system control
Architecture diagram
PalletPack 460 system control
Architecture for internal / external connectivity

IRC5 Control Cabinet

M12 5 pin
M12 5 pin
M12 5 pin
M12 8 pin
M12 5 pin

External Connect
(SCADA, PLCs...)

Cell Push Buttons

Sensors

Cell Lights

In-feeders & Out-feeders

Doors

E-Stops

Hard-wired
FieldBus
PalletPack 460 Palletizing Function Package Summary

A complete pre-engineered solution for palletizing cells with up to 2 in-feeds & 2 out-feeds. Benefits incl.

- Easy to specify, easy to integrate, easy to use
- Modular design based on “well proven” ABB products
- PLC style “wizard” programming. Robot knowledge not needed
- Greatly reduces engineering time in cell design & build