

Packaging Industry

Robot-based packaging automation





Picking, Packing, Palletizing

There comes a point in the production process when practically all products are picked, packed and palletized. That is why we are committed to providing the best possible robots for the packaging process – always with an eye to creating an efficient and flexible production flow.

Why robot-based automation?

Robot-based automation ensures the kind of flexibility you need to meet ever shorter product life cycles, new packaging designs, product variants and batch manufacturing. Compared to dedicated hard automation, robot lines are shorter and allow far better utilization of floor space. Robot-based automation is an excellent alternative to manual operation. In addition to

increased up-time and total throughput, fewer accidents and increasingly demanding workplace legislation are compelling reasons to make the shift to robotics. Robots are usually associated with handling repetitive tasks in a process – either in high volume production roles or where flexible handling systems are needed for frequent changes. In the packag-

ing industry, robots generally fall into three main arenas: pick and place applications (where products are packed into trays or secondary packages) feed placement (where products are prearranged on a conveyor to ease future packaging procedures) and palletizing (pallet loading and unloading).

Partner network

With ABB comes access to the best players on the market. To ensure you receive optimum service and complete satisfaction in every aspect of your robot automation programme, ABB has established a global network of approved partner companies, including

system integrators machine builders and consultants. They not only have long experience of integrating ABB products into production processes but also share our values and focus on your satisfaction above all else. As our partners, they benefit from our training and access to our knowledge

and information resources, making them as well-equipped to work with ABB products and systems as we are ourselves.



Global Service support

With almost 1500 service professionals in over 40 countries around the world, it is clear that ABB is always right there, at your service, 24/7. ABB's objective is to provide a

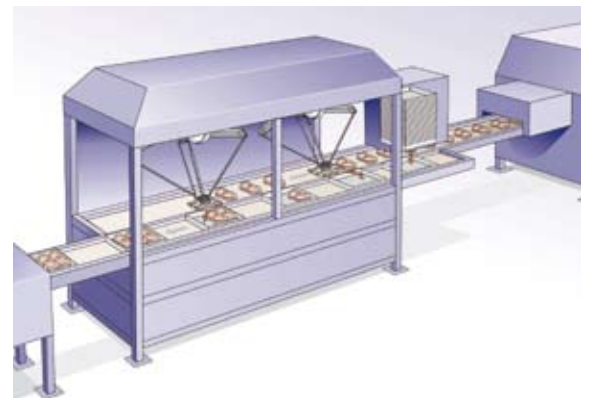
complete portfolio of solutions to install, optimize, support and maintain your robot-based automation equipment at peak operating performance and efficiency.



Picking

This is an area in which ABB services a multitude of products, applications and packaging line set-ups. Frozen food, bakery and confectionary, ice cream, meat and fish, cheese, pet food, medical products, shampoo and perfume bottles are a few examples. Our IRB 360 is the first 2nd generation delta robot – FlexPicker™. The new robot family will initially see three models available. Stainless steel versions

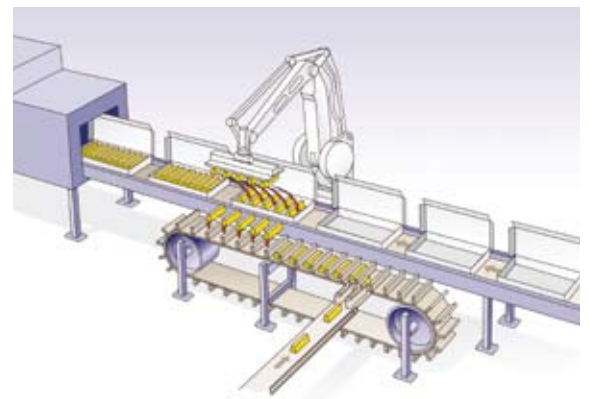
are available for wash down duties such as in meat and dairy handling applications. Apart from even greater performance, the new delta robot has a significantly increased payload of up to 3 kg – opening up further application possibilities, especially at the end of line. For full 6-axis flexibility, less demanding cycle times and payloads of up to 5 kg, we recommend the IRB 140.



Packing

In the packing stage of the packaging process, robot automation offers easy integration, increased flexibility and high reliability. Top loading of boxes, unloading and mixing, and feeding of products to end loaders or film wrappers is easily handled by ABB's compact 4-axis IRB 260. A robot, designed and optimized for

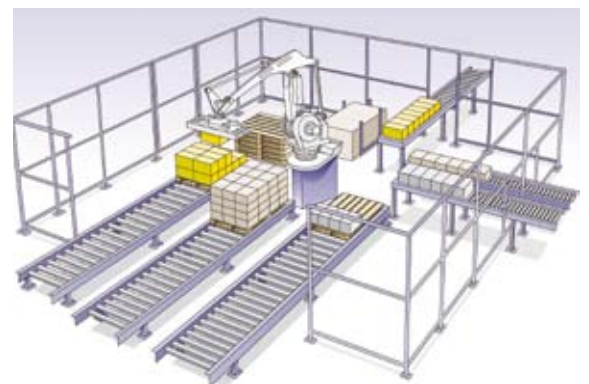
packing applications with a payload of up to 30 kg. With a comprehensive range of robots, controller equipment, vision technology and software, ABB can help you optimize all kinds of packing applications, including race track packing and tracking of moving conveyors.



Palletizing

Placing boxes, trays, bags, bottles or other items on a pallet seems easy enough. But, when you're dealing with the rigorous demands of multiple feeder lines, quick box-pattern changes and high up-time, nothing compares to robot-based automation. IRB 660 has the versatility, reach

and handling capacity needed for most palletizing applications. And for even greater payload requirements, we recommend our standard 6-axis robots, the largest built to handle as much as 650 kg.





Tailor made robots for demanding industries

ABB's packaging offer

ABB has the market's broadest offer of robot-based packaging automation, including specialized robots for picking, packing and palletizing. In addition, we provide a wide range of standard 6-axis robots which

allows us to meet the demands of most packaging industry applications. What's more, ABB's unique packaging software, including vision technology and conveyor tracking, facilitates continuous production flows and

packing on-the-fly. Just what you need for efficient handling of food and beverages, pharmaceuticals, cosmetics, electronics or personal care products.

IRB 360 – high-speed primary packing

A unique parallel-arm robot designed for the most exacting high-speed picking and packing applications. The new robot succeeds ABB's widely used FlexPicker™ IRB 340 system and is the result of 10 years' experience and research and development combined with proven packaging technology. ABB has over 2000 delta robots installed

globally and is the leader in this state of the art picking and packing technology. Called the FlexPicker™ IRB 360, the new robot family will initially see three models available. Stainless steel versions, IP69K certified, are available for wash down duties such as meat and dairy handling applications.



IRB 360, Improved cycle time - up to 20%, Payload 3 kg - up 50%, Reduced footprint - 35% smaller



IRB 260, cost-efficient four axes packing robot

IRB 260 – cost-efficient packing

The 4-axis IRB 260 houses all the necessary features for placing items in boxes, tray handling and more. Optimized for packing applications this robot can work closely to its own base, allowing very compact packing cells and integration into tight packing machines. IRB 260

features a 30 kg payload capacity and short cycle times to meet the packing industry requirements. Like all ABB robots, the IRB 260 is compatible with PickMaster, our dedicated software for packaging applications, including vision guidance and easy programming.



IRB 660 – palletizing made easy

The IRB 660 is a refinement of our proven IRB 640 palletizer, with more than 1,800 installations worldwide. The new robot blends speed, reach and payload like no other. Exceptionally fast, this 4-axis performer combines a 3.15 meter reach with a 250 kg payload, making it ideal for palletizing bags, boxes, crates, bottles and more. The new palletizer comes in two

versions; a high throughput version designed for 250 kg and a high-speed version built to handle 180 kg payloads at full speed. The IRB 660 has the versatility, reach and handling capacity to meet the demands of just about any palletizing application. And it's robust enough to perform steadily in even the toughest environments.



IRB 660, blending speed, reach and payload for the most demanding palletizing applications



Food safety

At ABB we build our robots to meet the most demanding work conditions – as well as the highest hygiene standards. In addition, all our robots are IP67 certified, ensuring tightly sealed joints and

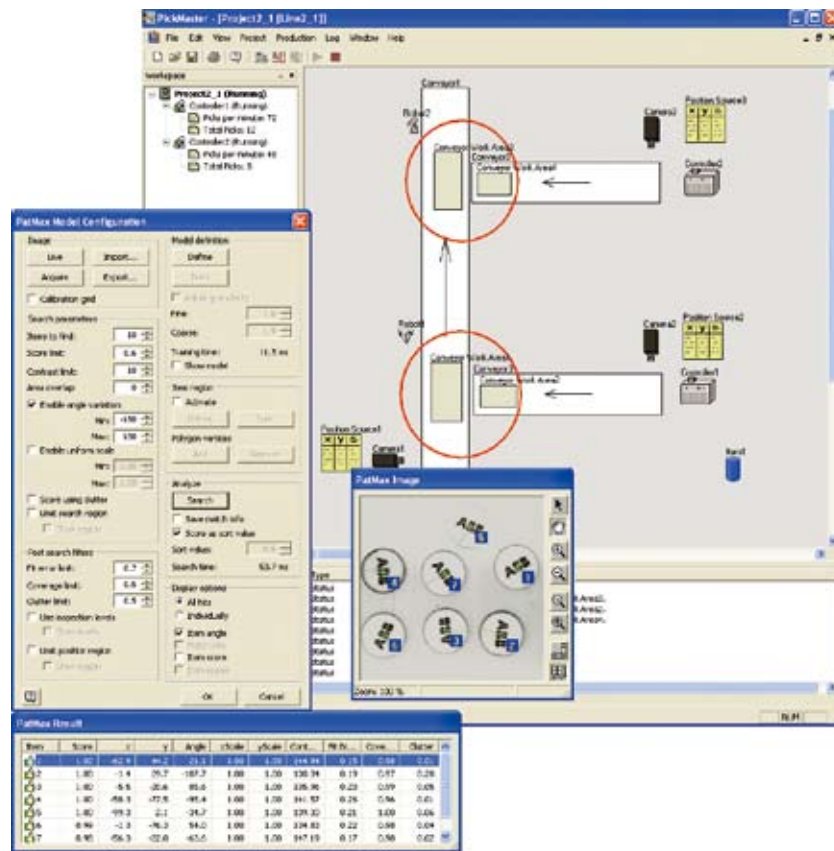
connectors. The IRB 360, which is most likely to handle open food, is available in wash-down and stainless steel and is IP69K certified.

Pharmaceutical demands

The demands on quality validation and traceability are extremely high in pharmaceutical production. The absolute accuracy, repeatability and high up-time of ABB robots result in massive improvements over

manual operation or dedicated production equipment. All our smaller robots suited to primary packing are verified for clean-room operation.





Packaging the easy way

ABB spares no effort in creating smart PC-software solutions for you. Easy-to-use software packages, for picking, packing and palletizing the IRC5 controller and graphical FlexPendant, work in unison to enhance robot programming and operation.

PickMaster

ABB's dedicated PickMaster software makes programming and re-programming easy. PickMaster is ABB's standard software solution for integrating cameras, vision system and conveyors with picking, packing and palletizing robots. It is specifically designed for easy integration of ABB's robots to a wide range of random material flow handling applications. In fact,

it's ideal for running combined high-speed picking and case packing systems. PickMaster integrates up to 8 cameras and 8 robots and multiple conveyors for each robot using the industry benchmark – the Cognex vision system. In addition, it houses quality control/inspection capabilities, as well as functions for advanced mixing and sorting. PickMaster is designed to allow the highest degree of flexibility over the whole product life cycle. In the palletizing system design phase, the user can fully focus on how to achieve the highest productivity. The software can handle multiple in-feeders and multiple out-feeders in simultaneous production. Mixing different products from many stations to one pallet is as easy as

distributing loads to several palletizing stations. Ultimately, PickMaster elevates robot performance to new levels of efficiency.

Conveyor tracking

ABB offers the market's highest conveyor tracking accuracy, allowing picking and packing from conveyors – on the fly – without stopping the product flow. Thanks to synchronization of robots and conveyors, you can look forward to an increase in line speed as well as a healthy productivity boost.



PickMaster integrates robots, cameras, vision systems and conveyors.



With courtesy of AEW Delford



Robots for increased productivity in packaging



Robot	IRB 360	IRB 140	IRB 260	IRB 660	IRB 1600	IRB 2400	IRB 4400	IRB 6640
Load capacity (kg)	1 – 3	6	30	180 / 250	6 – 8,5	5 – 20	10 – 60	130 – 235
Reach (m)	Ø 0,8 / 1,130	0,81	1,5	3,15	1,2 / 1,45	1,5 – 1,8	1,95 – 2,55	2,55 – 3,2



Controller	Compact	Modular	Panel Mounted	FlexPendant
Measurement H x W x D (mm)	970 x 725 x 710	1370 x 725 x 710	899 x 498 x 299	7,5" Display/1,3 kg
IP Class	IP54	IP54	IP20	IP54

Over the last three decades, ABB has remained committed to building and strengthening relationships with customers, integrators and partners throughout the world.

Underpinning this commitment is our belief that at the heart of innovative robotics lie mutual trust and confidence. This belief has helped us to achieve clear leadership in a demanding field. Today, in the automotive, metal fabrication, foundry, consumer and plastics industries our solutions help to pave the way for optimised production. Across the world, our global network of sales and service centres, and our carefully selected partners, make ABB's products, systems and services available wherever they are needed.



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