

ABB introduces new backwards-bending, 6-axis robot with 3.9 m reach

ABB introduces the flexible IRB 6650S-90/3.9 m – a shelf-mounted, six-axis robot with an enhanced working envelope over previous models.

With a reach of 3.9 metres, the IRB 6650S is capable of full vertical and horizontal stroke motion – as well as providing increased reach forward and down. With virtually no footprint, the shelf-mounted robot provides ample space to handle large parts – allowing for shorter cycle times.

Post-process tasks in parallel

The IRB 6650S is an attractive alternative to a linear, 3-axis robot, conventionally used in injection moulding applications. Based on 6-axis technology, the robot is superior in versatility, reach and precision – qualities that combine to minimize cycle times and optimize product quality. The IRB 6650S is an ideal solution for large injection moulding machines requiring over 1,000 tons of clamping force. The flexibility of the six-axis robot means no idle time between shoots, facilitating post-process applications like flaming, sprue cutting, tape dispensing and assembly operations. This allows plant designers to reduce the number of downstream stations and decrease plant throughput times.

“What takes two or more downstream processes with a linear robot, can all be done in parallel at the injection-moulding station using the IRB 6650S,” says Tore Lindström, segment manager for plastics at ABB in Västerås, Sweden.

Built for productivity

In contrast to a conventional robot, a shelf robot has its principal working envelope below the foot. The arm and wrist design of the IRB 6650S facilitates easy entry into the injection-moulding machine for part extraction, while the combined ability to reach 2624 mm below its base adds to the robot's flexibility. This flexibility makes it possible to mount the robot over the injection-moulding machine – an important factor, along with the backwards-bending ability, in saving valuable space. To increase productivity even more, the IRB 6650S can work between two injection-moulding machines from its shelf-mounted position. The IRB 6650S is a backwards-bending, steam-washable robot, with optional IP 67 classification available in three versions – with a reach of 3.9 m 3.5 m or 3.0 m and payload capacity of 90, 125 or 200 kg.

A safe investment

The IRB 6650S comes with a number of safety features. In particular, Collision Detection – which reduces collision force substantially – is especially useful for robots handling high payloads. Used for injection moulding, Collision Detection provides extra protection against the damage of moulds and tools.

RobotWare Plastics Mould makes life on the shop floor easy

ABB's IRC5 robot controller offers flexibility in programming and operating robots. RobotWare Plastics Mould is a user-friendly graphical interface designed specifically for the plastics industry. Injection moulders, using six-axis robots and this software, are already reaping major benefits. RobotWare Plastics Mould offers greater efficiency in terms of installation, set-up and production. A new program can be installed and operational within thirty minutes, reducing standard programming by a day or more.

Euromap / SPI for fast and easy set-up

Euromap / SPI is the ideal signal interface between a robot and an injection-moulding machine – speeding up the installation process. The ABB Euromap kit connects robots to injection-moulding machines and is used for all hand-shaking signals between the two. This is a true “plug and play solution” based on international standards and safety regulations. Fast and easy set-up is key to high productivity. For the Plastics Industry the IRB 6650S comes complete with Euromap 12, 67 or SPI interface.

For further information, please contact:

ABB (www.abb.com) is a leader in power and automation technologies that enable utility and industry customers to improve performance while lowering environmental impact. The ABB Group of companies operates in more than 100 countries and employs about 102,000 people. ABB-robots have been delivered to more than 125,000 users world wide.