

The new arc welding robot IRB 1600 ID offers optim

>FACTS

The IRB 1600 ID offers the following key advantages:

- Integrated processing cable, enabling customers to fully exploit the benefits of off-line programming
- Enclosed cable housing, eliminating the problem of sharp parts damaging the cable, which can cause expensive disruptions to the continuous operation. This time-saving feature also reduces the need for maintenance and increases the lifetime of complete robot system.
- A compact size, offering easy handling and manipulation in tight spaces, providing extreme control over the operation.
- Enhances the ability to operate continuously
- Flexible design, accommodating a range of requirements while improving reliability, flexibility and the quality of the operation.

By Amy Brown
Photos ABB

There is a growing need for even more dedicated robots, due to the growing complexity of manufacturing tasks, demands for shorter cycle times, greater cost efficiency and increased reliability and flexibility. The solution is ABB's new model, IRB 1600 ID.

> Over the years, robotics has become a vital ingredient in boosting productivity in almost every manufacturing industry. Robots not only dramatically increase uptime but also improve quality, ensure repeatability, reduce cycle time, simplify processes and reduce work hazards to operators for manufacturing processes. This is where ABB's new model, IRB 1600 ID, fills an important

gap, primarily for arc welding, which is used widely in the automotive, automotive sub supplier and other industries. Arc welding robots have become extremely popular, due to their ability to allow the welding torch to be manipulated in almost the same fashion as a person would manipulate it. The torch angle and travel angle can be changed to make good-quality welds in all positions. The IRB 1600 ID is designed to allow the arc to weld in areas that are difficult to reach, offering an extreme degree of control over the operation.

"Arc welding is a tricky process, so many manufacturers learn to use it in the way that most benefits them," says Karl-Gunnar Johnsson, senior project manager, robotics, for ABB Automation Technologies AB. "They require a robot that can adapt easily to their specific needs. The movements of the IRB 1600 ID provide 100 percent control – not just theoretically but practically."

The new model has other features that offer benefits over traditional arc welding robots, including integrated processing cable, which enables customers to fully exploit the benefits of off-line programming. An increasing number of large manufacturers are using off-line programming, in which the robot is programmed in concordance with the actual position of equipment and pieces. This means that production can

The IRB 1600 ID offers an extended lifetime for the production line.



bot ized control



IRB 1600 ID comes with the option to purchase the robot without the welding part, so that customers can use process equipment suited to their particular operation. This is important, as local suppliers, depending on where they are situated globally, will have different requirements.

Not least, the new model is compact, so it is easier to handle and manipulate in tight spaces. This also provides easier access to the cabling for the operator. There is also the option to enclose the cabling completely to avoid contact with sharp edges on parts.

As manufacturers look for ways to further leverage robotics to maintain and increase competitiveness in today's global market, process-dedicated models such as the IRB 1600 ID will help meet that rising demand. ☉



continue during the programming process. However, this requires a reliable and flexible robot to minimize any disruptions to operation.

"With off-line programming, the customer needs to have a robot and peripheral equipment that does exactly what it is required to do," says Lars Gäfvert, product manager, metal fabrication, for ABB Robotics. "By using off-line programming, the customer can have the program ready when the robot arrives, so there is a shorter commissioning time."

Another important benefit of the IRB 1600 ID is that it enhances the ability for continuous operation, which is important when the rapid evolution of products and markets requires manufacturers to be very fast and agile in their operations.

Yet another plus for the new model is that the enclosed cable housing eliminates the problem of sharp parts damaging the cable, which can cause expensive disruptions to continuous operation. Not only does this feature save time, but it also reduces the need for maintenance and increases the lifetime of the complete robot system.

"It is important for our customers to be able to accurately predict their maintenance cycles, and that is another advantage ABB can offer with the IRB 1600 ID," says Gäfvert. "This new model offers an extended lifetime for all the process cables on the line."

Automated technologies continue to offer solutions that simplify and standardize operations. In the automotive industry, one of the most robot-intensive sectors, applications range from the press and body shop to the paint process systems and power train assembly. Robots are also used in other applications such as forging, where they play a key role in material handling of

hot iron billets and placing in presses when manufacturing crankshafts and similar components. In foundries, applications include casting extraction from high-pressure die-casting machines and plastic injection moulding machines.

"Different customers have different demands," says Gäfvert. "The IRB 1600 ID is designed to handle a range of requirements while improving the reliability, flexibility and quality of the operation."

In light of the varying requirements, the

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