

FANUC America Demonstrates Live Fixtureless Welding at Fabtech 2015

For Immediate Release

ROCHESTER HILLS, Mich., Nov. 9, 2015 – FANUC America Corporation demonstrates intelligent fixtureless live welding with its ARC Mate 100iC/12 robot, LR Mate 200iD/7L mini-robot robot, and the next-generation *iR*Vision® 3D Area Sensor during Fabtech, Nov. 9-12 at McCormick Place, Chicago, booth #N-14025.

At the show, a FANUC LR Mate 200iD/7L robot will use the *iR*Vision 3DA/1300 Area Sensor to locate and pick an auger tooth from a bin. Next the robot will present the part to a fixed camera and use *iR*Vision inspection to determine the part's orientation. The LR Mate 200iD/7L will place the part in a re-grip station and correctly grab it. During the pick process, the ARC Mate 100iC/12 will run through an *iRTorch*Mate torch maintenance station.

The two robots will then perform dual-arm motion to simulate hard face TIG welding. The robots will perform live welding approximately every 2.5 minutes. After live welding, the LR Mate 200iD/7L will perform post-process inspection to validate hard facing. If the inspection fails, the robot will apply additional weld material and inspect again. If the inspection passes, the LR Mate 200iD/7L will place the finished part into a bin below the pick bin. Non-welded parts will fail post-inspection and be run through a simulated welding program.

Intelligent ARC Mate Robot Series

FANUC's six-axis ARC Mate 100iC robot series includes the new ARC Mate 100iC/8L with a 2,028 mm reach and 8 kg payload, the ARC Mate 100iC/12 with a 1,420 mm reach and a 12 kg payload, and the ARC Mate 100iC/7L with a 1,632 mm reach and a 7 kg payload. The ARC Mate 100iC robot's hollow wrist offers easy routing of cables and tubes, eliminating cable management issues. Strong and rigid, the ARC Mate 100iC series offers higher speeds and payloads than previous models. A compact size allows it to operate in tight workspaces. Productivity is improved through an enhanced motor and servo system that shorten cycle times. Excellent motion range with the industry's best reach and stroke ratio ease part placement and accessibility.

Compared to traditional dress packages, which are mounted externally on the robot's arm, the internal routing of the ARC Mate 100iC allows the dress package to follow the motion range of the robot, simplifying programming and eliminating the worries of bending, snagging or breaking cables.

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“The ARC Mate 100*i*C series of robots are the highest performance arc welding robots in their class,” said Joe Hoffman, senior welding engineer, FANUC America. “The internal dress package also makes it extremely easy to operate and maintain, and ensures a longer cable life.”

The ARC Mate 100*i*C robots and the R-30*i*B Controller can be integrated in a welding system that includes the weld torch cable, wire feeder, and welding power supply.

ARC Mate 100*i*C Features and Benefits

- ARC Mate 100*i*C robot series handle payloads from 7-12 kg
- Offers a six-axis design for maximum flexibility
- Compact robot fits into tight workspaces
- All position mounting (including floor, invert and angle) with J3 flip over
- A hollow wrist allows tooling cables to be routed internally, minimizing wear and tear
- Supports FANUC’s latest intelligent features including *i*RVision
- Optional ServoTorch, integrated pull wire feeder with touch retract-start
- ArcLink XT™, the industry’s first Ethernet-based welding network
- High-motion range including ‘best in class’ reach versus stroke

FANUC LR Mate 200*i*D Robots

The family of LR Mate 200*i*D robots is a versatile solution for a wide range of manufacturing operations that require access into small spaces. A very slim arm about the same size as a human arm, and a bottom cable exit option minimize interference with peripheral devices. The LR Mate 200*i*D robots offer a “best in class” work envelope for both upright and invert mount installations. The LR Mate 200*i*D robots are also available with ISO Class 4 clean-room and food-grade variants for food handling and healthcare packaging applications.

LR Mate 200*i*D Features and Benefits

- Slim arm and compact foot print minimizes interference to peripheral devices in narrow spaces.
- Available in three variations: standard, short, and long arm.
- Four to seven kg wrist load capacity with six-axis articulation.
- Best in class work envelope simplifies system layout.
- Fastest joint axes speeds maximize system throughput.
- Integrated 24VDC power, signal and air for easy end-of-arm-tool connection.

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- Integrated thru-arm cable option for *iR*Vision, force sensing, Ethernet and auxiliary axes.
- Flexible mounting (upright, invert, angle).
- High rigidity and the most advanced servo technology enable smooth motion at high speeds.
- Easy integration into machines.
- Features lightest mechanical unit in its class.
- IP67 rating allows operation in factory environments with dust and oil mist.

FANUC *iR*Vision and 3D Area Sensor

FANUC *iR*Vision is a truly integrated, plug-and-go vision system that runs on the standard CPU of every FANUC R-30*i*B controller without any additional hardware. A single source solution developed and supported by FANUC, *iR*Vision offers easy setup and operation for factory environments requiring 2D and 3D guidance, error proofing, visual tracking, and quality control – all with FANUC's world-renowned reliability.

The high-speed 3D Area Sensor provides a detailed 3D map in one quick vision shot. It's an easy-to-use vision tool allowing bin picking setup through the *i*Pendant in a matter of minutes. The 3D Area Sensor is available in two variants – The 3DA/1300 for a wider range of view, and the compact 3DA/400 for small to medium size applications. Both models are equipped with a higher-resolution mode for greater 3D location precision.

R-30*i*B and R-30*i*B Mate Controller

The FANUC R-30*i*B and R-30*i*B Mate Controller use high-performance hardware and the latest advances in network communications, integrated *iR*Vision, and motion control functions. The R-30*i*B Controllers feature FANUC's exclusive and easy-to-use *i*Pendant with 4D graphics. The *i*Pendant displays process information and the actual process path directly on the *i*Pendant screen, enabling easier setup and troubleshooting.

Based on the latest FANUC Series 30*i*B CNC Controller, the R-30*i*B and R-30*i*B Mate Robot Controllers are compact, providing customers a significant space savings. The R-30*i*B Mate Controller, available with a compact rack-style open-air controller cabinet, or an industrial grade standard Mate cabinet, is very energy efficient and requires less power consumption due to its availability in both single-phase and three-phase versions. The R-30*i*B Controller offers an optional power regeneration feature.

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About FANUC America Corporation

FANUC America Corporation is a subsidiary of FANUC CORPORATION in Japan, and provides industry-leading robotics, CNC systems, and factory automation. FANUC's innovative technologies and proven expertise help manufacturers in the Americas maximize efficiency, reliability and profitability.

FANUC America is headquartered at 3900 W. Hamlin Road, Rochester Hills, MI 48309, and has facilities in: Atlanta; Boston; Charlotte; Chicago; Cincinnati; Cleveland; Dallas; Indianapolis; Los Angeles; Minneapolis; Montreal; Pine Brook, NJ; San Francisco; Toronto; Buenos Aires, Argentina; Sao Paulo, Brazil; and Aguascalientes, and Mexico City, Mexico. For more information, please call: 888-FANUC-US (888-326-8287) or visit our website: www.fanucamerica.com. Also, connect with us on [YouTube](#), [Twitter](#), [Facebook](#), [Google+](#) and [LinkedIn](#).

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