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MELFA-3D Vision and Sensor-less Servo Win R&D 100 Awards

TOKYO, August 6, 2014 – [Mitsubishi Electric Corporation](http://www.mitsubishielectric.com) (TOKYO: 6503) announced today that two of its factory-automation technologies, MELFA-3D Vision and Sensor-less Servo, have each won a 2014 R&D 100 Award from *R&D Magazine*. The awards, commonly known as the “Oscars of Innovation,” underline Mitsubishi Electric’s continuing status as a global leader in industrial innovation.

The award ceremony will take place at the Bellagio Hotel, Las Vegas, Nevada on November 7.



MELFA-3D Vision

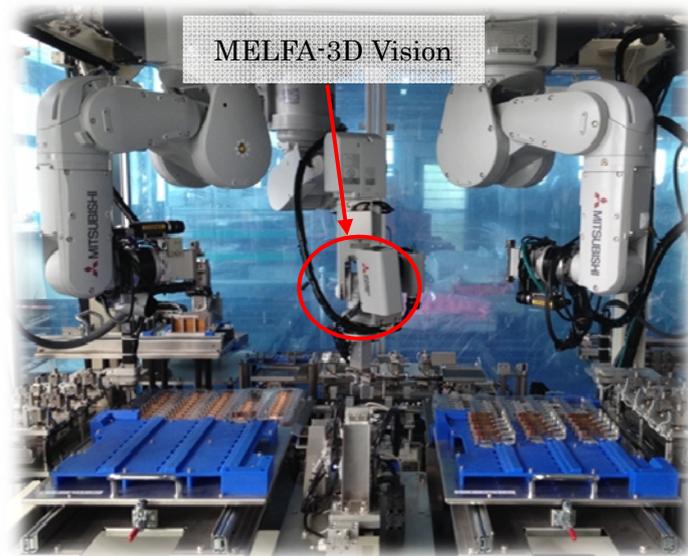


Drive unit (FR-E700EX) &
sensor-less motor (MM-GKR)

MELFA-3D Vision

The MELFA-3D Vision provides bin-picking solutions for a wide class of complex shaped parts. The MELFA-F series robotic system, using the advanced vision solution, is the first system of its kind to completely automate bin-picking. In many conventional factories, various parts are supplied manually to automatic assembly systems. Repetitive tasks such as these can become painful and stressful for workers, which is why parts feeders were adopted to automate bin-picking tasks. Feeders, however, need to be

custom-designed for each part and often occupy large spaces. Several robotic systems using vision sensors have already been developed, but typically they can be used only for parts with simple shapes in conventional systems. In response to these technical limitations, Mitsubishi Electric's MELFA-3D Vision technology offers dramatically improved capabilities for the automatic bin-picking of general parts on production lines.



MELFA F series robots with MELFA-3D Vision mounted on the central robot arm

Sensor-less Servo

The Sensor-less Servo system combines a specialized drive unit and motor for precise control of speed and position without the need for an encoder. The drive offers many advantages over conventional substitutes, including a smaller motor, higher durability and greater efficiency. Conventional motor drive products, such as general-purpose inverters and servo drives, have contributed to improved performance and efficiency in production machines, but the Sensor-less Servo technology is expected to be used in an increasing range of drive products as the variety and needs of these production machines expand.



Ball screw application

About the R&D 100 Awards

The R&D 100 Awards recognize the top technology products of the year. Past winners have included sophisticated testing equipment, innovative new materials, chemistry breakthroughs, biomedical products, consumer items and high-energy physics. The Awards span industry, academia and government-sponsored research. Established in 1963, the program initially was named the I-R 100s in keeping with the original name of the sponsoring magazine, *Industrial Research*. In the first year, winners were picked by a panel of outside judges selected by the publisher and editor. No entries were required, and only U.S. companies could win. A formal entry procedure was established in 1964 and final judging was performed by the magazine's editors, with the advice of outside experts. The first non-U.S. winners came along in 1965.

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About Mitsubishi Electric Corporation

With over 90 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,054.3 billion yen (US\$ 39.3 billion*) in the fiscal year ended March 31, 2014. For more information visit <http://www.MitsubishiElectric.com>

*At an exchange rate of 103 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2014