



for a greener tomorrow

MITSUBISHI ELECTRIC SERVO SYSTEM
MELSERVO-J5



PRODUCT OVERVIEW



Progressiveness
For evolution of machines



Heritage
For utilization of existing devices



Usability
For quick operation start



Maintainability
For prompt detection and diagnosis of failures

MR-J5 SERIES SERVO MOTORS



With the release of our high performance MR-J5 Servo Product Family Mitsubishi Electric Automation is excited to introduce our new line of AC Rotary Servo Motors. MR-J5 Servos are available in 200VAC and 50W up to 7.0kW with more capacities and power supply options coming soon. HK-KT our Low Inertia Servo motor and HK-ST our Medium Inertia servos offer industry leading performance and servo functions in a small package.

KEY BENEFITS



Progressiveness

For evolution of machines

- **3.5 kHz speed frequency response rate** – The definition of servo performance, speed frequency response rate, is a servo motor's ability to follow motion instructions from the servo amplifier. This has a direct effect on servo responsiveness and settling time resulting in increased machine throughput and reduced cycle times.
- **Standard 26 bit batteryless absolute encoder** – With ~64million pulses/revolution, our new 26 bit batteryless absolute encoder allows for precision positioning with no maintenance or replacement of batteries.
- **Small footprint** – Thanks to our newly designed batteryless encoder, HK-KT servo motors are up to 20% shorter in length when compared to MR-J4 motors with the same frame size, performance in a small package.
 - Maximum speed 6700 rpm*
 - Rated speed 3000 rpm*
- **Flexible drive compatibility** – Combine larger-capacity servo amplifiers with lower capacity servo motors in order to unlock greater maximum torque capacity (up to 450% maximum torque) or reduce inventory by combining one amplifier with multiple motor sizes.



Heritage

For utilization of existing devices

- **Interchangeability with previous generation models** – Forward migration from MR-J4 and earlier servo models is made easy with MR-J5.
- **Geared motor and functional safety option available**
Optimize servo performance with geared motors and enable higher levels of safety with Functional Safety Servo motors.



Usability

For quick operation start

- **New servo motor capacities** – The HK-KT and HK-ST servo motor product line has been expanded to include new capacities and frame size combinations that were not available in previous generations (150W, 600W, 1kW, 1.5kW, 2.0kW and our new flat-type and long-type). Choose the exact capacity that works with your application.
- **Single cable with new one-touch lock connector** – Encoder, power, and electromagnetic brake cables are combined into a single cable for the HK-, which reduces assembly time by reducing the total number of cables that need to be run through a machine during assembly. Our new single cable connector also utilizes a one-touch lock that eliminates the need for tightening screws, making wiring easy.
- **One-touch connector** – HK-ST series servo motors boast a greatly simplified installation process through use of the one-touch lock system. The one-touch lock can be used to mount connectors for the motor power supply, encoder, and electromagnetic brake, which eliminates the need for tightening screws.



Maintainability

For prompt detection and diagnosis of failures

- **Servo-based predictive maintenance** – The MR-J5 servo provides predictive maintenance powered by AI technology. The servo amplifier detects mechanical component deterioration through friction and vibration values changes, and generates a failure warning as a reminder before any severe downtime happens. This helps to improve machine uptime, reduce unexpected failures, and minimize spare parts inventory.

*Speed varies by servo model type.

MR-J5 SERIES SERVO Product Overview

Motor Capacities

The following table contains and overview of MR-J5 AC Rotary Servo motor capacities in red. Capacities colored in gray are planned for a future release date.

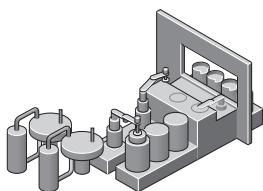
Series	Inertia	Motor type	Servo amplifier power supply	Capacity Range	Future release planned
HK-KT	Low inertia	HK-KT_W	200 VAC	50 W to 2.0 kW	
			400 VAC	50 W to 2.0 kW	
HK-KT_4_W		200 VAC	200 W to 1.0 kW		
		400 VAC	400 W to 2.0 kW		
HK-ST	Medium inertia	HK-ST_W	200 VAC	500 W to 7 kW	Up to 11.0 kW
			400 VAC	500 W to 11.0 kW	
HK-ST_4_W		200 VAC	300 W to 3.0 kW	Up to 5.5 kW	
		400 VAC	500 W to 11.0 kW		

Legend: ■ Future release planned

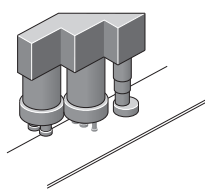
Application Examples

While there are endless applications for AC Servo Motors in Factory Automation settings here are some more common examples.

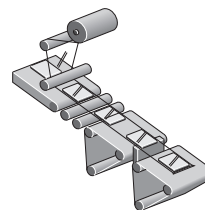
Semiconductor/FPD/photovoltaic manufacturing systems



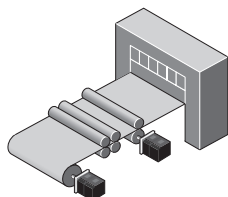
Mounters/bonders



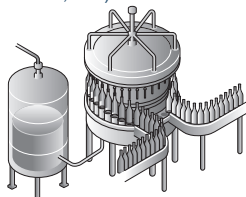
Food packaging machines



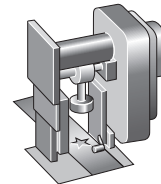
Loaders/unloaders, feeders and sliders



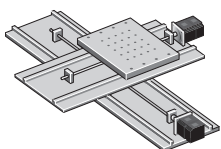
Food processing machines (filling machines, mixers, measuring machines, etc.)



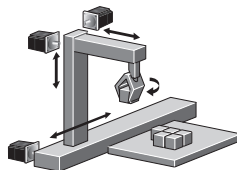
Press machines



X-Y tables



Robots



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