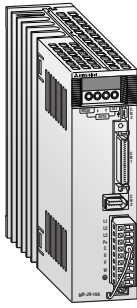


## MR-JE servo amplifier specifications



The MR-JE was designed to reach high performance and to get an easy-to-use servo system for all kind of machines. Proven reliability with a 2.0 kHz highfrequency response, an energy-saving design and the easy setup with Advanced One-Touch Tuning can be offered by MR-JE.

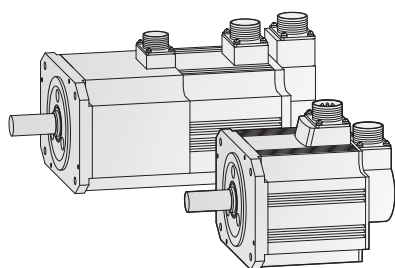
The servo motors are equipped with 131,072 pulses/rev (17-bit) incremental encoder for achieving high-accuracy positioning and smooth rotation for applications from 100 W to 3 kW. In combination with the MR Configurator2 software package the servo system is easy to start-up, to adjust and to analyze.

Servo amplifier MR-JE-□A	10A	20A	40A	70A	100A	200A	300A
Power supply	3-phase or 1-phase 200–240 V AC, 50/60 Hz				3-phase or 1-phase 200–240 V AC, 50/60 Hz *		3-phase 200–240 V AC, 50/60 Hz
Control system	Sinusoidal PWM control/current control system						
Dynamic brake	Built-in						
Protective functions	Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection						
Structure/protection	Self-cooling, open (IP20)					Fan-cooling, open (IP20)	
Environment	ambient temperature	Operation: 0–55 °C (no freezing); storage: -20–65 °C (no freezing)					
	ambient humidity	Operation: 90 % RH max. (no condensation); storage: 90 % RH max. (no condensation)					
	others	Elevation: 1000 m or less above sea level; oscillation: 5.9 m/s <sup>2</sup> (0.6 G) max.					
Position control mode	max. input pulse frequency	4 Mpps (differential receiver), 200 kpps (open collector)					
	positioning feedback pulse	131072 pulses per servo motor rotation					
	torque limit	Set by parameters or external analog input (0–+ 10 V DC/maximum torque)					
Speed control mode	control range	Analog speed command 1:2000, internal speed command 1:5000					
	fluctuation rate	±0.01 % max. (load fluctuation 0–100 %)					
	torque limit	Set by parameters or external analog input (0–+10 V DC/maximum torque)					
Torque control mode	command input	0–±8 V DC/maximum torque					
	speed limit	Set by parameters or external analog input (0–±10 V DC, rated speed)					
Weight	kg	0.8	0.8	0.8	1.5	1.5	2.1
Dimensions (WxHxD)	mm	50x168x135	50x168x135	50x168x135	70x168x185	70x168x185	90x168x195
<b>Order information</b>	Art. no.	268792	268793	268794	268795	268796	268797

Servoverstärker MR-JE-□B	10B	20B	40B	70B	100B	200B	300B
Power supply	3-phase or 1-phase 200–240 V AC, 50/60 Hz				3-phase or 1-phase 200–240 V AC, 50/60 Hz *		3-phase 200–240 V AC, 50/60 Hz
Control system	Sinusoidal PWM control/current control system						
Dynamic brake	Built-in						
Protective functions	Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection						
Structure/protection	Self-cooling, open (IP20)					Fan-cooling, open (IP20)	
Environment	ambient temperature	Operation: 0–55 °C (no freezing); storage: -20–65 °C (no freezing)					
	ambient humidity	Operation: 90 % RH max. (no condensation); storage: 90 % RH max. (no condensation)					
	others	Elevation: 1000 m or less above sea level; oscillation: 5.9 m/s <sup>2</sup> (0.6 G) max.					
Position/speed control mode, torque control specifications	Control via SSCNETIII/H						
Communication speed	150 Mbps						
Weight	kg	0.8	0.8	0.8	1.5	1.5	2.1
Dimensions (WxHxD)	mm	50x168x135	50x168x135	50x168x135	70x168x185	70x168x185	90x168x195
<b>Order information</b>	Art. no.	281964	281975	281976	281977	281978	281979

\* When 1-phase 200 V AC to 240 V AC power supply is used, use them with 75 % or less of the effective load ratio.

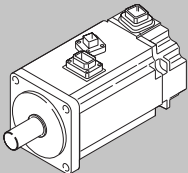
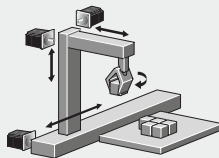
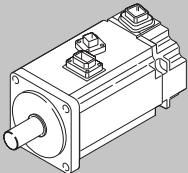
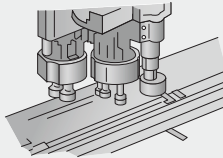
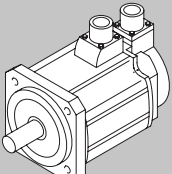
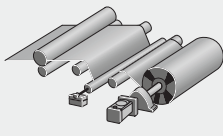
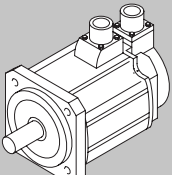
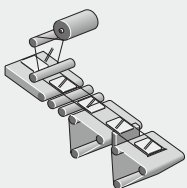
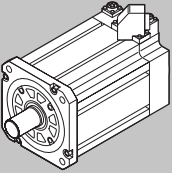
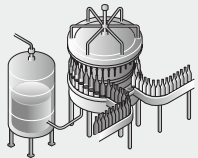
## Servo motor features and typical applications



### Absolute high-resolution encoder as standard equipment

Inclusion of an absolute position detection system eliminates the need for a homing sequence, approximate DOG and other sensors, helping to reduce time and enhance reliability. With these motors high performance and safety at low speed is ensured.

With Mitsubishi Electric original absolute mode, an absolute system can be configured using conventional I/O even with pulse-train control.

Model designation	Features	Application example	
<b>K</b> 	<b>Low inertia</b> Larger motor inertia moment makes this unit well suited for machines with fluctuating load inertia moment or machines with low rigidity such as conveyors.	<ul style="list-style-type: none"> <li>● Conveyors</li> <li>● Food preparation machinery</li> <li>● Printers</li> <li>● Small loaders and unloaders</li> <li>● Small robots and component assembly devices</li> <li>● Small X-Y tables</li> <li>● Small press feeders</li> </ul>	 <p>Handling systems</p>
<b>M</b> 	<b>Ultra low inertia</b> Small motor inertia moment makes this unit well suited for high-dynamic positioning operations with extra small cycle times.	<ul style="list-style-type: none"> <li>● Inserters, mounters, bonders</li> <li>● Printed board hole openers</li> <li>● In-circuit testers</li> <li>● Label printers</li> <li>● Knitting and embroidery machinery</li> <li>● Ultra-small robots and robot tips</li> </ul>	 <p>Inserter, mounters, bonders</p>
<b>S</b> 	<b>Medium inertia</b> Stable control is performed from low to high-speeds, enabling this unit to handle a wide range of applications (e.g. direct connection to ball screw components).	<ul style="list-style-type: none"> <li>● Conveyor machinery</li> <li>● Specialised machinery</li> <li>● Robots</li> <li>● Loaders and unloaders</li> <li>● Winders and tension devices</li> <li>● Turrets</li> <li>● X-Y tables</li> <li>● Test devices</li> </ul>	 <p>Winders and tension devices</p>
<b>R</b> 	<b>Low inertia</b> A compact sized low inertia moment model with medium capacity. Well suited for high-frequency operation.	<ul style="list-style-type: none"> <li>● Roll feeders</li> <li>● Loaders and unloaders</li> <li>● high-frequency conveyor machinery</li> </ul>	
<b>J</b> 	<b>Low inertia (400 V)</b> A 400 V servo motor for the MELSERVO-J4 series for a power range up to 55 kW with low inertia and high speed. It has a compact size, is equipped with high resolution encoder and is compatible to global standards.	<ul style="list-style-type: none"> <li>● Food and packaging</li> <li>● Printing machine</li> <li>● Pick up robot for injection molding machine</li> <li>● Palletizing machine</li> <li>● General machine which require high-speed and high-frequency</li> </ul>	 <p>Wrapping machinery</p>

Note: Other types of motors are available on request.

Motoren für die Servoverstärkerserie MR-J4 (400 V)

Motor series 400 V	Rated speed [r/min]	Maximum rotation speed [r/min]	Rated torque [Nm]	Peak running range [Nm]	Moment of inertia J [x10 <sup>-4</sup> kg m <sup>2</sup> ]	Rated output capacity [kW]	Servo motor model	Servo motor type		Amplifier pairing MR-J4							Art. no.			
								Voltage	Protective structure	60	100	200	350	500	700	11K		15K	22K	
HG-SR <b>S</b>	2000	3000	2.4	7.2	7.26	0.5	HG-SR524	400 V AC	IP67	●									261431	
			4.8	14.3	11.6	1.0	HG-SR1024				●								261432	
			7.2	21.5	16.0	1.5	HG-SR1524					●							261433	
			9.5	28.6	46.8	2.0	HG-SR2024						●						261434	
			16.7	50.1	78.6	3.5	HG-SR3524							●					261435	
			23.9	71.6	99.7	5.0	HG-SR5024								●				261436	
			33.4	100	151	7.0	HG-SR7024									●			261437	
HG-JR <b>J</b>	3000	6000	1.6	4.8 <6.4> <sup>①</sup>	1.52	0.5	HG-JR534	400 V AC	IP67 <sup>④</sup>	●	● <sup>②</sup>								261445	
			2.4	7.2 <9.6> <sup>①</sup>	2.09	0.75	HG-JR734				●	● <sup>②</sup>							261446	
			3.2	9.6 <12.7> <sup>①</sup>	2.65	1.0	HG-JR1034				●	● <sup>②</sup>							261447	
			4.8	14.3 <19.1> <sup>①</sup>	3.79	1.5	HG-JR1534					●	● <sup>②</sup>						261448	
			6.4	19.1 <25.5> <sup>①</sup>	4.92	2.0	HG-JR2034					●	● <sup>②</sup>						261449	
			10.5	32.0 <44.6> <sup>①</sup>	13.2	3.3 <3.5> <sup>③</sup>	HG-JR3534					●	● <sup>②</sup>	● <sup>③</sup>					261450	
			15.9	47.7 <63.7> <sup>①</sup>	19.0	5.0	HG-JR5034						●	● <sup>②</sup>					261451	
		5000	22.3	66.8	43.3	7.0	HG-JR7034							●					261452	
			28.6	85.8	55.8	9.0	HG-JR9034								●				261453	
		1500	3000	70.0	210	220	11			HG-JR11K1M4						●				261384
				95.5	286	315	15			HG-JR15K1M4							●			261535
				140	420	489	22			HG-JR22K1M4								●		261536

- ① The value in angle brackets is applicable when the maximum torque is increased. The maximum torque will be increased by changing the servo amplifier to be combined (see ②).
- ② This combination of the HG-JR servo motor and the servo amplifier increases the maximum torque from 300 % to 400 % of the rated torque.
- ③ The value in angle brackets is applicable when the servo motor is used with MR-J4-500B or MR-J4-500A.
- ④ 22 kW of HG-JR series is rated IP44

Motors for MR-JE series servo amplifiers

Motor series 200 V	Rated speed [r/min]	Maximum rotation speed [r/min]	Rated torque [Nm]	Peak running range [Nm]	Moment of inertia J [x10 <sup>-4</sup> kg m <sup>2</sup> ]	Rated output capacity [kW]	Servo motor model	Servo motor type		Amplifier pairing MR-JE				Art. no.			
								Voltage	Protective structure	10A	20A	40A	70A		100A	200A	300A
HG-KN <b>K</b>	3000	4500	0,32	0,95	0,088	0,1	HG-KN13J	200 V AC	IP65	●							282631
			0,64	1,9	0,24	0,2	HG-KN23K				●						282633
			1,3	3,8	0,42	0,4	HG-KN43K					●					282635
			2,4	7,2	1,43	0,75	HG-KN73JK						●				282637
			2,39	7,16	6,1	0,5	HG-SN52JK							●			282639
HG-SN <b>S</b>	2000	3000	4,77	14,3	11,9	1,0	HG-SN102JK	200 V AC	IP67					●			282641
			7,16	21,5	17,8	1,5	HG-SN152JK							●			282643
			9,55	28,6	38,3	2,0	HG-SN202JK								●		282645
			14,3	42,9	58,5	3,0	HG-SN302JK									●	282647