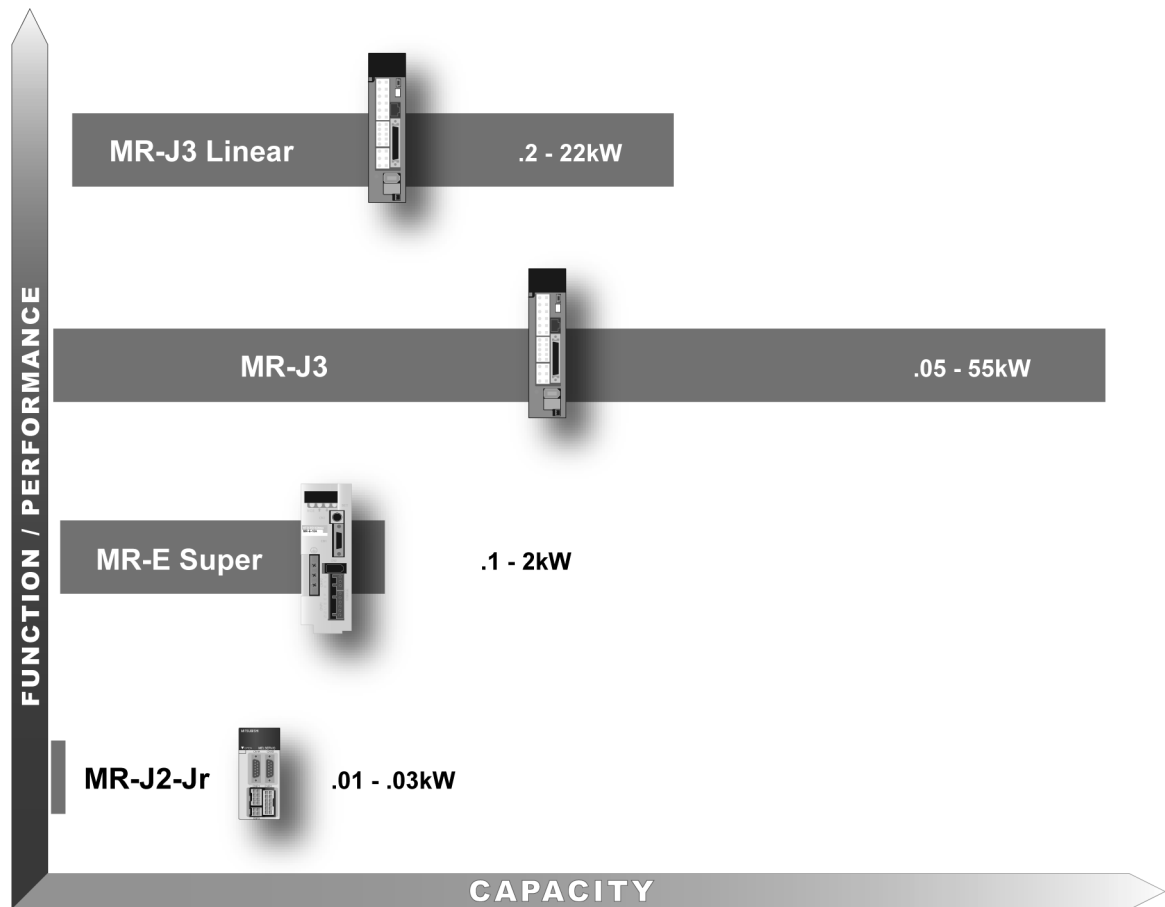


Servomotors and Amplifiers



MR-E Super	218
MR-J2-JR	230
MR-J3 200~230 and 380~480 VAC	233
MR-J3 Linear	285

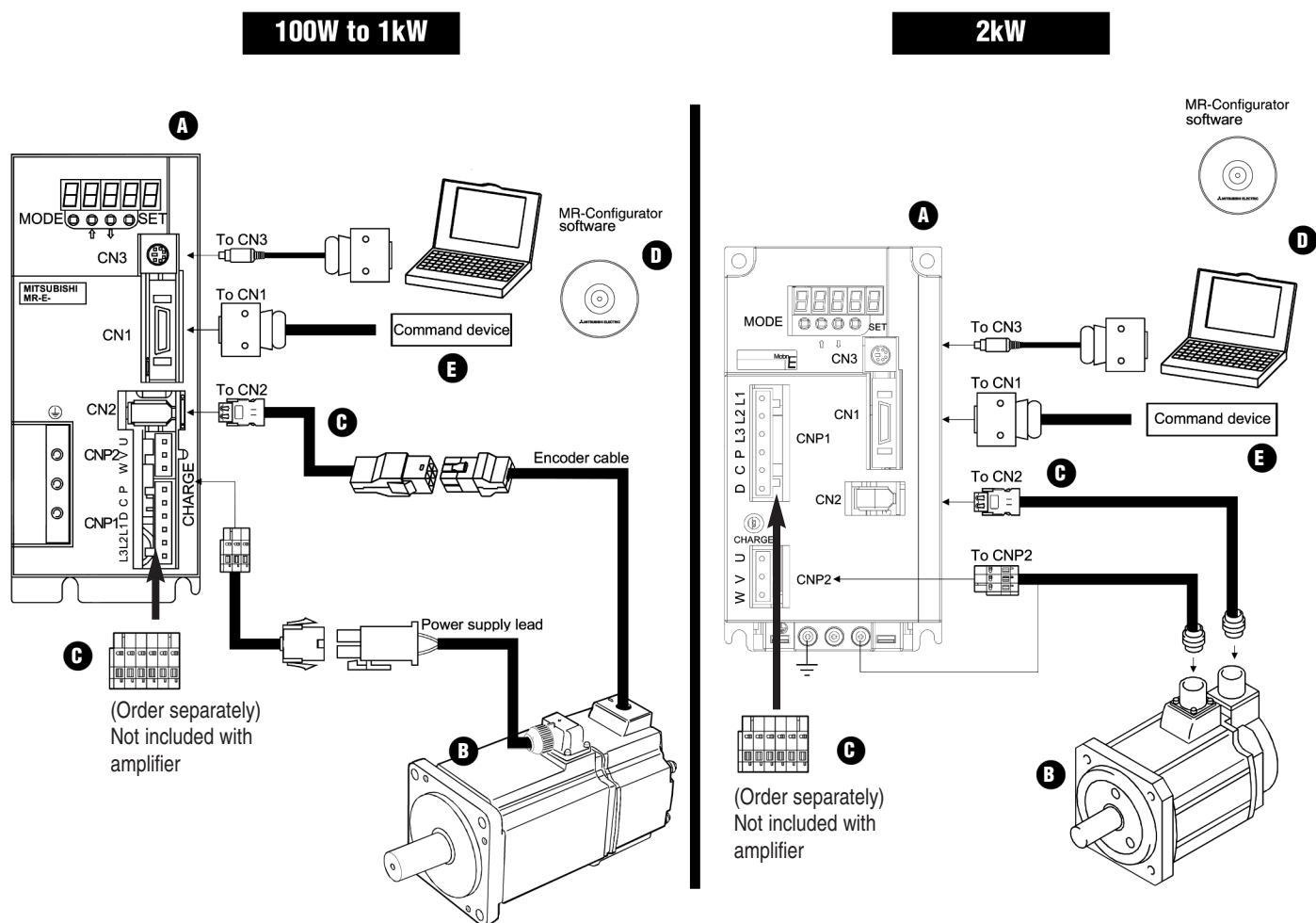
Note: Refer to the Motion Controller section of this catalog for the MR-MQ100 Single Axis Motion Controller.

Stock Product: Stock product is product MEAU makes every effort to have on hand for immediate shipment. There may be instances when we are out of stock due to unexpected large requirements. All stock product will be indicated in this book by an "S" in the Stocked Item columns/rows.

Non-Stock Product: Non-stock product is product supplied on an "as-needed" basis. Standard lead times of 12 – 16 weeks apply, product is non-returnable and non-cancelable. Product listed as non-stock may change to stock product subject to increases in sales and usage. All non-stock product will be indicated in this book by a dash "—" in the Stocked Item columns/rows.

MR-E Super Servomotors and Amplifiers

High performance and compact, the MR-E Super is an excellent choice for applications up to 2kW. The MR-E Super is available in pulse-train position or analog speed/torque models. The amplifier features Mitsubishi Electric's legendary auto-tuning and vibration suppression functions, a 400 Hz analog frequency response, and accepts pulse commands up to 500 kHz. The motors are low to medium inertia up to 4500 rpm and are equipped with a 131,072 pulse per revolution encoder. Set-up and diagnosis is made easy with the MR-Configurator Windows® based software.



A. Amplifier	219
B. Motor	220
C. Cables / Connectors	223
D. Software and Manuals	226
E. Optional Accessories	226

A MR-E Super Amplifiers

Amplifier Selection

MR-E-□□-KH003

Mitsubishi E-Series
general purpose AC
Servo Amplifier

Super Series

Symbol	Description
A	General Pulse Train Interface
AG	Analog Input Interface

Conforms to
the following
standards: EN,
UL, cUL

Symbol	Compatible Motor	
	HF-KE□(B)W1-S100	HF-SE□(B)JW1-S100
10	13	—
20	23	—
40	43	—
70	73	52
100	—	102
200	—	152, 202

Servo Standard Specifications

Servo Amplifier Model			MR-E-10A-KH003	MR-E-20A-KH003	MR-E-40A-KH003	MR-E-70A-KH003	MR-E-100A-KH003	MR-E-200A-KH003
			MR-E-10AG-KH003	MR-E-20AG-KH003	MR-E-40AG-KH003	MR-E-70AG-KH003	MR-E-100AG-KH003	MR-E-200AG-KH003
Stocked Item			S	S	S	S	S	S
Power Supply	Voltage/Frequency (*1)		3-phase 200 to 230VAC 50/60Hz or 1-phase 230VAC 50/60Hz				3-phase 200 to 230VAC 50/60Hz	
	Permissible Voltage Fluctuation		For 3-phase 200 to 230VAC: 3-phase170 to 253VAC For 1-phase 230VAC: 1-phase 207 to 253VAC				3-phase 170 to 253VAC	
	Permissible Frequency Fluctuation		±5% maximum					
Control System			Sine-wave PWM control/current control system					
Dynamic Brake			Built-in					
Built-In Regenerative Resistor			None		Installed			
Safety Features			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					
A Type Amps	Position Control Mode	Maximum Input Pulse Frequency	1Mpps (when using differential receiver), 200 kpps (when using open collector)					
		Positioning Feedback Pulse	Resolution per encoder/servo motor rotation: 131072 p/rev					
		Command Pulse Multiple	Electronic gear A/B multiple, A: 1 to 65535, B: 1 to 65535, 1/50 < A/B < 50					
		Positioning Complete Width Setting	0 to ±10000 pulses (command pulse unit)					
		Excess Error	±2.5 rotations					
		Torque Limit	Set by parameters					
	Speed Control Mode	Speed Control Range	Internal speed command 1: 5000					
		Speed Fluctuation Rate	±0.01% maximum (load fluctuation 0 to 100%) 0% (power fluctuation ±10%)					
Torque Limit		Set by parameters						
AG Type Amps	Speed Control Mode	Speed Control Range	Analog speed command 1:2000, internal speed command 1: 5000					
		Analog Speed Command Input	0 to ±10VDC / rated speed					
		Speed Fluctuation Rate	±0.01% maximum (load fluctuation 0 to 100%); 0% (power fluctuation ±10%) ±0.2% maximum (ambient temperature 25°C±10°C [59°F to 95°F]), when using analog speed command					
		Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)					
	Torque Control Mode	Analog Torque Command Input	0 to ±8VDC/maximum torque (input impedance 10 to 12kΩ)					
		Speed Limit	Set by parameters or external analog input (0 to ±10VDC/rated speed)					
Structure			Self-cooling open (IP00)					Fan cooling open (IP00)
Environment	Ambient Temperature		0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)					
	Ambient Humidity		90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)					
	Atmosphere		Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust					
	Elevation		1000m or less above sea level					
	Vibration		5.9m/s ² maximum					
Mass kg (lb)			0.7 (1.5)	0.7 (1.5)	1.1 (2.4)	1.7 (3.7)	1.7 (3.7)	2.0 (4.4)

Notes:

- Rated output and rated speed of a servo motor are applicable when the servo amplifier, combined with the servo motor, is operated within the specified power supply voltage and frequency.
The torque drops when the power supply voltage is less than specified.

B MR-E Super Servomotors

Servomotor Selection

HF-KE ☐ **3** ☐ ☐ **W1-S100**

Super Series
Encoder Resolution 131,072 ppr (Inc)

Symbol	Shaft Shape
None	Standard (Straight Shaft)
K	With Keyway (Note)

Note: Keyway only on 200W ~ 750W with key included.

Symbol	Electromagnetic Brake
None	Without Brake
B	With Brake

Rated Speed 3000 (r/min)

Symbol	Rated Output (W)
1	100
2	200
4	400
7	750

Conforms to the following standards: EN, UL, cUL

Stocked Motors

Model Number
HF-KE13W1-S100
HF-KE13BW1-S100
HF-KE23KW1-S100
HF-KE23BKW1-S100
HF-KE43KW1-S100
HF-KE43BKW1-S100
HF-KE73KW1-S100
HF-KE73BKW1-S100

HF-SE ☐ **2** ☐ **J** ☐ **W1-S100**

Super Series
Encoder Resolution 131,072 ppr (Inc)

With Oil Seal Standard

Symbol	Shaft Shape
None	Standard (Straight Shaft)
K	With Keyway (Note)

Note: Key not included.

Symbol	Electromagnetic Brake
None	Without Brake
B	With Brake

Rated Speed 2000 (r/min)

Symbol	Rated Output (W)
5	500
10	1000
15	1500
20	2000

Conforms to the following standards: EN, UL, cUL

Stocked Motors

Model Number
HF-SE52JKW1-S100
HF-SE52BJKW1-S100
HF-SE102JKW1-S100
HF-SE102BJKW1-S100
HF-SE152JKW1-S100
HF-SE152BJKW1-S100
HF-SE202JKW1-S100
HF-SE202BJKW1-S100

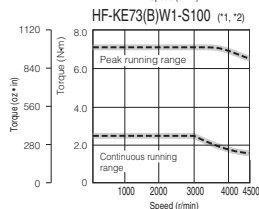
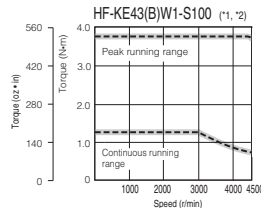
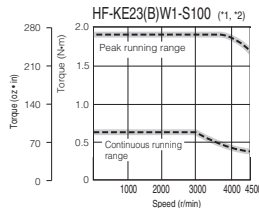
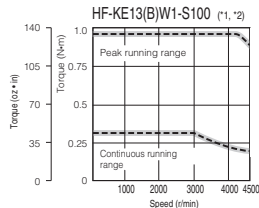
	Motor Series	Rated Speed (Max. r/min)	Rated Output Capacity (kW)	Servomotor Brake (B)	EN	UL cUL	Protective Rating	Features	Application Examples
Small Capacity	HF-KE Super Series 	3000 (4500)	4 Types 0.1, 0.2, 0.4, 0.75	Yes	Yes	Yes	IP55 Excluding the shaft-through portion and connector	Stable control from low speeds to high speeds allows compliance with a variety of applications.	Belt Drive Robots Mounters Sewing Machines X-Y Tables Food Processing Machines
Medium Capacity	HF-SE Super Series 	2000 (3000)	4 Types 0.5, 1.0, 1.5, 2.0	Yes	Yes	Yes	IP65 Excluding the shaft-through portion		Material Handling Systems Robots X-Y Tables

MR-E HF-KE Super 3000 r/min Series Servomotor Specifications

Servo Motor Model		HF-KE13W1-S100	HF-KE23W1-S100	HF-KE43W1-S100	HF-KE73W1-S100
Servomotor Model with Brake		HF-KE13BW1-S100	HF-KE23BW1-S100	HF-KE43BW1-S100	HF-KE73BW1-S100
Compatible Servo Amplifier Model		MR-E-10A-KH003	MR-E-20A-KH003	MR-E-40A-KH003	MR-E-70A-KH003
Compatible Servo Amplifier with Analog Input Interface		MR-E-10AG-KH003	MR-E-20AG-KH003	MR-E-40AG-KH003	MR-E-70AG-KH003
Power Facility Capacity (kVA) (*1)		0.3	0.5	0.9	1.3
Continuous Running Duty	Rated Output (W)	100	200	400	750
	Rated Torque (N·m [oz·in])	0.32 (45.3)	0.64 (90.6)	1.3 (184)	2.4 (340)
Maximum Torque (N·m [oz·in])		0.95 (135)	1.9 (269)	3.8 (538)	7.2 (1020)
Rated Speed (r/min)		3000			
Maximum Speed (r/min)		4500			
Permissible Instantaneous Speed (r/min)		5175			
Power Rate At Continuous Rated Torque (kW/s)		11.5	16.9	38.6	39.9
Rated Current (A)		0.8	1.4	2.7	5.2
Maximum Current (A)		2.4	4.2	8.1	15.6
Regenerative Braking Frequency (Times/Min.) (*2, *3)	With No Options	(*4)	(*4)	249	140
	MR-RB032 (30W)	(*4)	(*4)	747	210
	MR-RB12 (100W)	—	(*4)	2490	700
	MR-RB32 (300W)	—	—	—	2100
Moment Of Inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	0.088 (0.481)	0.24 (1.31)	0.42 (2.30)	1.43 (7.82)
	With Electromagnetic Brake	0.090 (0.492)	0.31 (1.69)	0.50 (2.73)	1.63 (8.91)
Recommended Load/Motor Inertia Moment Ratio		Maximum of 15 times the servo motor's inertia moment (*5)			
Speed/Position Detector		Incremental encoder (resolution per servo motor rotation: 131072 p/rev)			
Attachments		—			
Structure		Totally enclosed non ventilated (protection level: IP55) (*6)			
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)			
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)			
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust			
	Elevation/Vibration (*7)	1000m or less above sea level; X: 49m/s ² Y: 49m/s ²			
Mass kg (lb)	Standard	0.56 (1.3)	0.94 (2.1)	1.5 (3.3)	2.9 (6.4)
	With Electromagnetic Brake	0.86 (1.9)	1.6 (3.6)	2.1 (4.7)	3.9 (8.6)

Notes:

- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency when the motor, without a load and the optional regeneration unit, decelerates from the rated speed to a stop. When a load is connected; however, the value will be the table value/(m+1), where m=the load inertia moment/the motor inertia moment. When the operating speed exceeds the rated speed, the regenerative braking frequency is inversely proportional to the square of (operating speed/rated speed). If the operating speed changes frequently or when the regeneration is constant (as with vertical feeds), find the regenerative heating value (W) in operation. Provisions must be made to keep this heating value below the tolerable regenerative power (W). Optimal regenerative resistor varies for each system. Refer to the section "Optional Accessories • Regenerative Brake Options" in this catalog for details on the tolerable regenerative power (W).
- The regenerative braking frequency of the 600W or smaller servo amplifier may fluctuate due to the affect of the power voltage since the energy charged by the electrolytic capacitor in the servo amplifier is large.
- There are no limits on regeneration frequency as long as the effective torque is within the rated torque range. However, the load/motor of inertia moment ratio must be 15 times or less.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion and connector for cable terminal are excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.



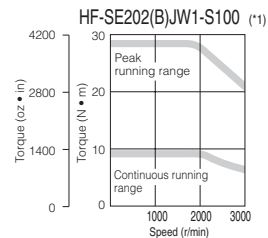
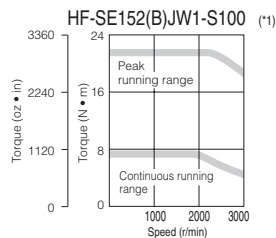
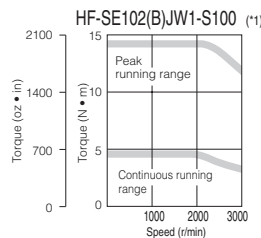
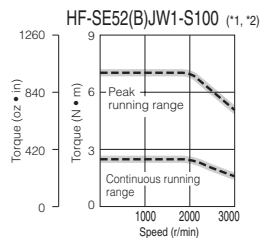
- Notes:
- For 3-phase 200VAC.
 - For 1-phase 230VAC.

MR-E HF-SE Super 2000 r/min Series Servomotor Specifications

Servo Motor Model		HF-SE52JW1-S100	HF-SE102JW1-S100	HF-SE152JW1-S100	HF-SE202JW1-S100
Servo Amplifier Model		HF-SE52BJW1-S100	HF-SE102BJW1-S100	HF-SE152BJW1-S100	HF-SE202BJW1-S100
Compatible Servo Amplifier Model		MR-E-70A-KH003	MR-E-100A-KH003	MR-E-200A-KH003	
Compatible Servo Amplifier with Analog Input Interface		MR-E-70AG-KH003	MR-E-100AG-KH003	MR-E-200AG-KH003	
Power Facility Capacity (kVA) (*1)		1.0	1.7	2.5	3.5
Continuous Running Duty	Rated Output (kW)	0.5	1.0	1.5	2.0
	Rated Torque (N·m [oz·in])	2.39 (338)	4.77 (675)	7.16 (1010)	9.55 (1350)
Maximum Torque (N·m [oz·in])		7.16 (1010)	14.3 (2020)	21.5 (3040)	28.6 (4050)
Rated Speed (r/min)		2000			
Maximum Speed (r/min)		3000			
Permissible Instantaneous Speed (r/min)		3450			
Power Rate At Continuous Rated Torque (kW/s)		9.34	19.2	28.8	23.8
Rated Current (A)		2.9	5.3	8.0	10
Maximum Current (A)		8.7	15.9	24	30
Regenerative Braking Frequency (Times / Min) (*2, *3)	With No Options	120	62	152	71
	MR-RB032 (30W)	180	93	—	—
	MR-RB12 (100W)	600	310	—	—
	MR-RB30 (300W)	—	—	456	213
	MR-RB32 (300W)	1800	930	—	—
	MR-RB50 (500W)	—	—	760	355
Moment Of Inertia J (x10 ⁻⁴ kg · m ²) [J (oz · in ²)]	Standard	6.1 (33.4)	11.9 (65.1)	17.8 (97.3)	38.3 (209)
	With Electromagnetic Brake	8.3 (45.4)	14.0 (76.5)	20.0 (109)	47.9 (262)
Recommended Load / Motor Inertia Moment Ratio		Maximum of 15 times the servo motor's inertia moment (*4)			
Speed / Position Detector		Incremental encoder (resolution per servo motor: 131072 p/rev)			
Attachments		Oil seal			
Structure		Totally enclosed non ventilated (protection level: IP65) (*5)			
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)			
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)			
	Atmosphere	indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust			
	Elevation	1000m or less above sea level			
	Vibration (*6)	X, Y: 24.5m/s ²			X: 24.5m/s ² • Y: 49m/s ²
Mass kg (lb)	Standard	4.8 (11)	6.5 (15)	8.3 (19)	12 (27)
	With Electromagnetic Brake	6.7 (15)	8.5 (19)	11 (25)	18 (40)

Notes:

- The power facility capacity varies depending on the power supply's impedance
- The regenerative braking frequency shows the permissible frequency when the motor, without a load and the optional regeneration unit, decelerates from the rated speed to a stop. When a load is connected; however, the value will be the table value/(m+1), where m—the load inertia moment/the motor inertia moment. When the operating speed exceeds the rated speed, the regenerative braking frequency is inversely proportional to the square of (operating speed/rated speed). If the operating speed changes frequently or when the regeneration is constant (as with vertical feeds), find the regenerative heating value (W) in operation. Provisions must be made to keep this heating value below the tolerable regenerative power (W). Optimal regenerative resistor varies for each system. Refer to the section "Optional Accessories • Regenerative Brake Options" in this catalog for details on the tolerable regenerative power (W).
- The regenerative braking frequency of the 600W or smaller servo amplifier may fluctuate due to the affect of the power voltage since the energy charged by the electrolytic capacitor in the servo amplifier is large
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.

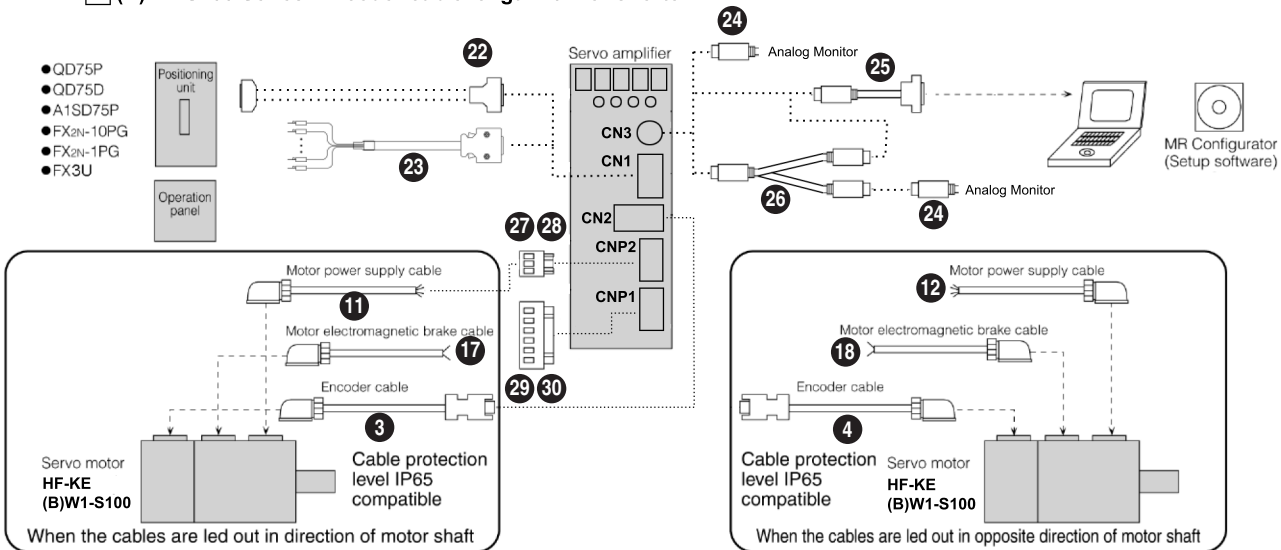


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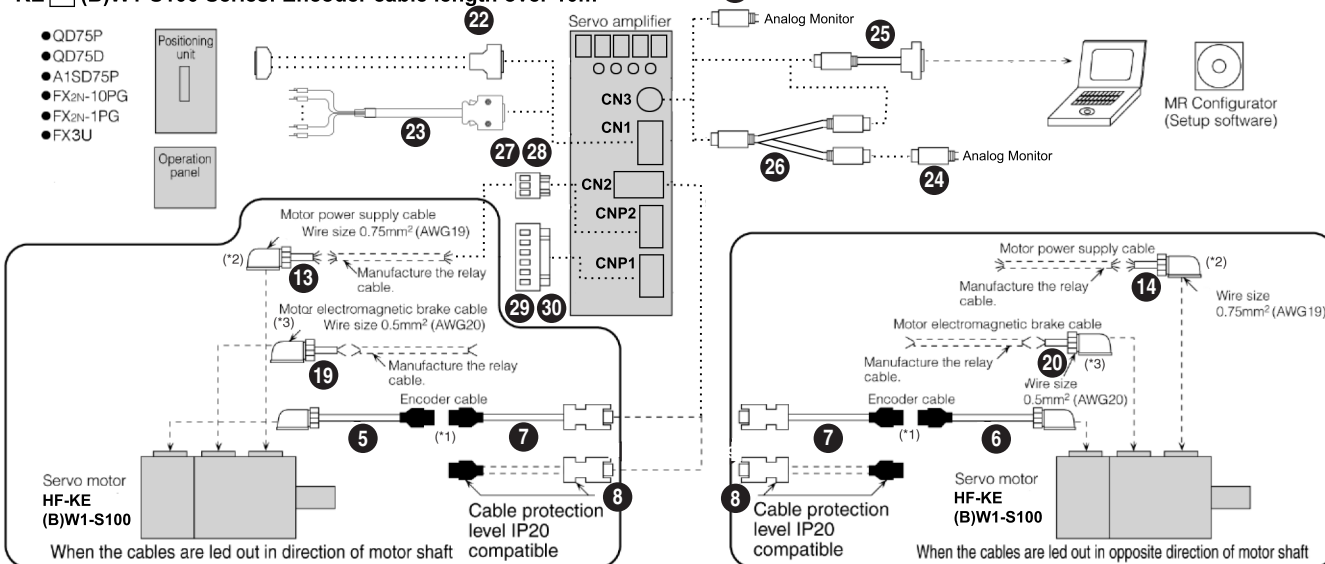
- : For 3-phase 200VAC.
- - - : For 1-phase 230VAC.

Cables and Connectors

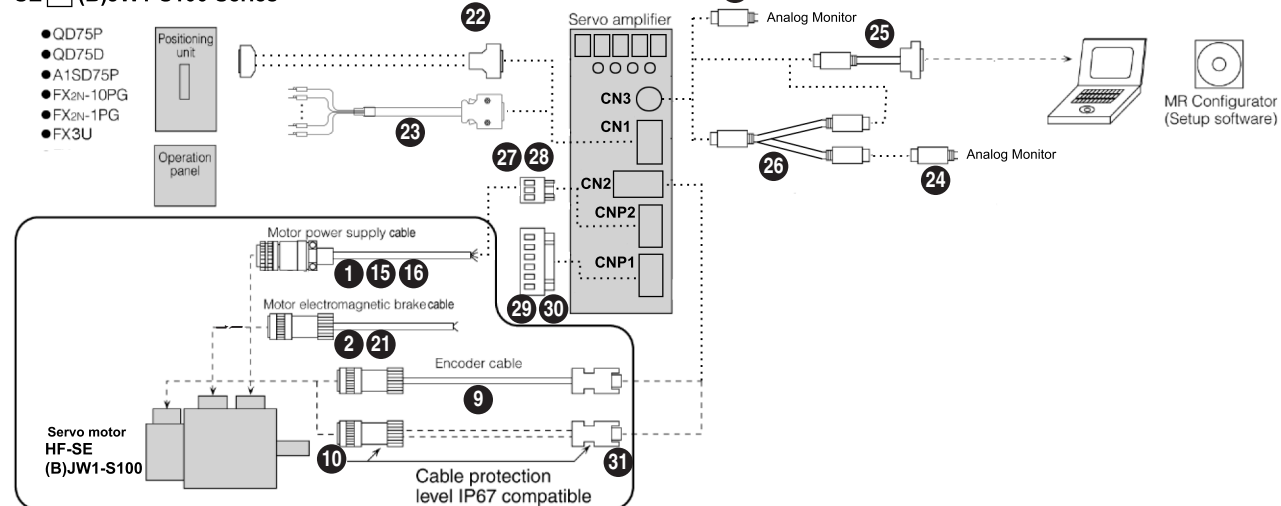
HF-KE (B)W1-S100 Series: Encoder cable length 10m or shorter



HF-KE (B)W1-S100 Series: Encoder cable length over 10m



HF-SE (B)W1-S100 Series



MR-E Super Cables and Connectors (refer to chart on previous page)

Item				Cable Number (□ = cable length 2, 5, 10, 15, 20, 25, 30 meter)	Stocked Lengths	Protection Level	Description
Power Cables HF-SE□(B)JW1-S100	1	Standard-Flex, Unshielded Type Cables (Straight Type Connector Only)	HF-SE52(B)JW1-S100 (*1)	MR-J3P1-□M (*2)	2M, 5M, 10M, 20M, 30M	IP65	
			HF-SE102(B)JW1-S100 (*1)	MR-J3P2-□M (*2)			
			HF-SE152(B)JW1-S100 (*1)	MR-J3P3-□M (*2)			
			HF-SE202(B)JW1-S100 (*1)	MR-J3P4-□M (*2)			
		High-Flex, Shielded Type Cables (Straight type connector only)	HF-SE52(B)JW1-S100 (*1)	MR-J3PWS1-□M (*2)	—	IP67	
			HF-SE102(B)JW1-S100 (*1)	MR-J3PWS2-□M (*2)			
			HF-SE152(B)JW1-S100 (*1)	MR-J3PWS3-□M (*2)			
			HF-SE202(B)JW1-S100 (*1)	MR-J3PWS4-□M (*2)			
Brake Cables HF-SE□(B)JW1-S100	2	Standard-Flex, Unshielded Type Cables		MR-J3BK-□M	2M, 5M, 10M, 20M, 30M	IP65	
		High-Flex, Shielded Type Cables		MR-J3BRKS1-□M	—	IP65	
Encoder Cable for CN2 Connector HF-KE□(B)W1-S100	3	10m or Shorter (Direct Connection Type)	Lead Out In Direction Of Motor Shaft	MR-J3ENCBL□M-A1-H (□ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65	
				MR-J3ENCBL□M-A1-L (□ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65	
	Lead Out In Opposite Direction Of Motor Shaft		MR-J3ENCBL□M-A2-H (□ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65		
			MR-J3ENCBL□M-A2-L (□ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65		
	5	Lead Out In Direction Of Motor Shaft	MR-J3JCBLO3M-A1-L (Cable length 0.3m) (*3)	S	IP20		
	6		Lead Out In Opposite Direction Of Motor Shaft	MR-J3JCBLO3M-A2-L (Cable length 0.3m) (*3)	S		IP20
	7	Exceeding 10m (Relay Type)	Amplifier-Side Cable	MR-EKCBL□M-H (□ = cable length 20, 30, 40, 50m) (*3)	20, 30	IP20	
				MR-EKCBL□M-L (□ = cable length 20, 30m) (*3)	—	IP20	
	8	Junction Connector, Amplifier-Side Connector (*2)	MR-ECNM	S	IP20		
	Encoder Cable for CN2 Connector HF-SE□(B)JW1-S100	9	Encoder Cable		MR-ENECBL□M-H (□ = cable length 2, 5, 10, 20, 30, 40, 50m) (*3)	2, 5, 10	IP67
MR-ENECBL□M-L (□ = cable length 2, 5, 10, 20, 30m) (*3)					—	IP67	
10		Encoder Connector Set		MR-ENECNS	S	IP67	
Motor Power Supply Cables For CNP2 HF-KE□(B)W1-S100	11	10m Or Shorter (Direct Connection Type)	Lead Out In Direction Of Motor Shaft	MR-PWS1CBL□M-A1-H (□ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65	
				MR-PWS1CBL□M-A1-L (□ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65	
	Lead Out In Opposite Direction of Motor Shaft		MR-PWS1CBL□M-A2-H (□ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65		
			MR-PWS1CBL□M-A2-L (□ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65		
	13	Exceeding 10m (Relay Type)	Lead Out In Direction Of Motor Shaft	MR-PWS2CBL03M-A1-L (Cable length 0.3m) (*3)	S	IP55	
	14		Lead Out In Opposite Direction Of Motor Shaft	MR-PWS2CBL03M-A2-L (Cable length 0.3m) (*3)	S	IP55	

Notes:

1. Must order separate brake cable for these motors.
2. Must order separate power connector **27** or **28** to connect to the power cable.
3. -H and -L indicate bending life. -H indicates a long bending life and -L indicates a standard bending life.

MR-E Super Cables and Connectors (refer to chart on previous page)

Item				Model	Stocked Lengths	Protection Level	Description
Power Supply Connectors	15	Motors: HF-SE52(B)JW1-S100 HF-SE102(B)JW1-S100 HF-SE152(B)JW1-S100 See ① For The Power Cable		MR-PWCNS4 (Straight type only)	S	IP67	
	16	Motor: HF-SE202(B)JW1-S100 See ① For The Power Cable		MR-PWCNS5 (Straight type only)	S	IP67	
Motor Brake Cables For HF-KE□BW1-S100	17	10m Or Shorter (Direct Connection Type)	Lead Out In Direction Of Motor Shaft	MR-BKS1CBL□M-A1-H (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65	
				MR-BKS1CBL□M-A1-L (□ = cable length 2, 5, 10m) (*1)	—	IP65	
	18		Lead Out In Opposite Direction Of Motor Shaft	MR-BKS1CBL□M-A2-H (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65	
				MR-BKS1CBL□M-A2-L (□ = cable length 2, 5, 10m) (*1)	—	IP65	
	19	Exceeding 10m (Relay Type)	Motor Lead Out In Direction Of Motor Shaft	MR-BKS2CBL03M-A1-L (Cable length 0.3m) (*1)	S	IP55	
	20		Lead Out In Opposite Direction Of Motor Shaft	MR-BKS2CBL03M-A2-L (Cable length 0.3m) (*1)	S	IP55	
Brake Connector Set For HF-SE□BJW1-S100	21	Brake Connector See ② For The Brake Cable		MR-BKCN1 (Straight type only)	S	IP67	
Connector for CN1 on Amp	22	CN1 Connector (26 Pin)		MR-ECN1	S	—	
Pigtail Cable for CN1 on Amp	23	CN1 Pigtail Cable (26 Pin)		MR-ECN1CBL-3M	S	—	
Connector and Cable Options For CN3 Connector on Amp	24	Analog Monitor RS-232C Connector		MR-ECN3	S	—	
	25	Communication Cable		SC-Q	S	—	
	26	Analog Monitor RS-232C Branch Cable		MR-E3CBL15-P	S	—	
CNP2 Power to Motor Connector	27	MR-E10 to 100A/AG-KH003		MR-ECNP2-B	S	—	
	28	MR-E200A/AG-KH003 Amp Only		MR-ECNP2-B1	S	—	
CNP1 Amp Power Input Connector	29	MR-E10 to 100A/AG-KH003 Amps		MR-ECNP1-B	S	—	
	30	MR-E200A/AG-KH003 Amp Only		MR-ECNP1-B1	S	—	
CN2 Connector	31	CN2 Connector Only		MR-J3CN2	S	—	

Note:

1. -H and -L indicate bending life. -H indicates a long bending life and -L indicates a standard bending life.

D Software and Manuals

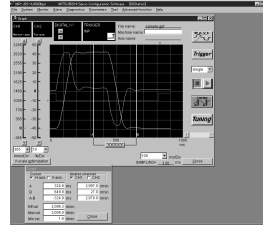
MR-Configurator Setup Software

This Windows®-based software package is used to setup, program and test the amplifier. Initial setup and programming is easy and quick with the user-friendly software, which has extensive help functions and drop-downs. MR-Configurator also has many diagnostic functions such as a machine simulator to aid in mechanical design, a machine analyzer to find resonant frequencies of the load and set notch filters, an alarm monitor with history data, and the ability to assign and monitor I/O.

Features:

- Can be set up using a personal computer. Works on Windows 95/98/NT/ME/2000 Professional, XP Professional*.
- Provides numerous monitor functions. Provides graph display function that enables display of servomotor status upon input signal triggers such as command pulses, droop pulses, and r/min.
- Allows servomotors to be tested easily from a personal computer.

* Windows is a registered trademark of the Microsoft Corporation.



Description	Model Number	Stk Item
Windows Communication Software	MR-CONFIGURATOR	S
Communications Cable	SC-Q	S

Manuals

Hardware Description	Model Number	Stk Item
MR-E Super	SH(NA)030071	—
EMC Guidelines (Servo) Manual	IB(NA)67310	—

Note: Many of these manuals are available for free download from our website, www.meau.com

E Optional Accessories

Filters

Description	Model Type	Model Number	Stocked Item
Line Noise Filter	All MR-E Models	FR-BSF01	S
Radio Noise Filter	All MR-E Models	FR-BIF	S
EMC Filter	MR-E-10 to 100	SF1252	S
EMC Filter	MR-E-200	MF-3F480-025.230	—

Regenerative Brake Options

Servo Amplifier	Model Number – Regenerative Power [W]					
	Built-In Regen. Resistor	MR-RB032 [40ohm]	MR-RB12 [40ohm]	MR-RB30 [40ohm]	MR-RB32 [40ohm]	MR-RB50 [40ohm] (Note)
Stocked Item	N/A	S	S	S	S	S
MR-E-10	—	30	—	—	—	—
MR-E-20	—	30	100	—	—	—
MR-E-40	10	30	100	—	—	—
MR-E-70	20	30	100	—	300	—
MR-E-100	20	30	100	—	300	—
MR-E-200	100	—	—	300	—	500

Note: Always install a cooling fan when using MR-RB50.

AC Power Improving Reactor Options

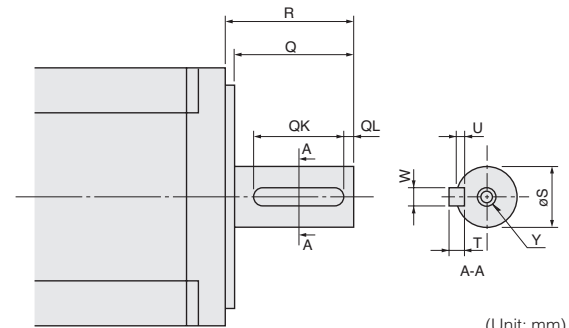
Model Type	Model Number	Stocked Item
MR-E-10 to 40	MRL-00402	S
MR-E-70	MRL-00802	S
MR-E-100	MRL-01202	S
MR-E-200	MRL-01802	S

MR-E Super Shaft Detail

HF-KE□(B)W1-S100

With key (200, 400, 750W)

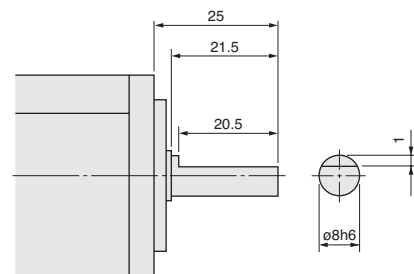
Model Number (*1)	Variable Dimensions								
	T	S	R	Q	W	QK	QL	U	Y
HF-KE23(B)KW1-S100 HF-KE43(B)KW1-S100	5	14h6	30	27	5	20	3	3	M4 screw Depth: 15mm
HF-KE73(B)KW1-S100	6	19h6	40	37	6	25	5	3.5	M5 screw Depth: 20mm



(Unit: mm)

HF-KE13(B)DW1-S100

D-cut (100W) (*1)



(Unit: mm)

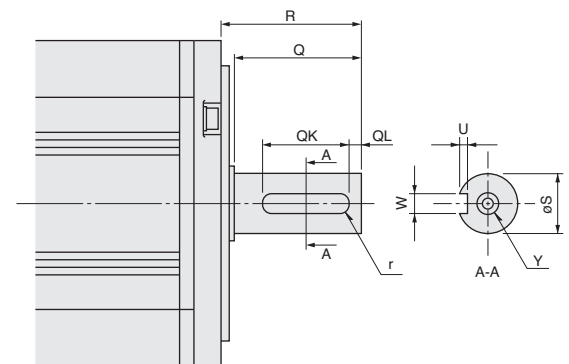
HF-SE□(B)JW1-S100

Key way. Key not included

Model Number (*1, *2)	Variable Dimensions								
	S	R	Q	W	QK	QL	U	r	Y
HF-SE52(B)JKW1-S100 HF-SE102(B)JKW1-S100 HF-SE152(B)JKW1-S100	24h6	55	50	8 ⁰ _{+0.036}	36	5	4 ^{+0.2} ₀	4	M8 screw Depth: 20mm
HF-SE202(B)JKW1-S100	35 ^{+0.01} ₀	79	75	10 ⁰ _{+0.036}	55	5	5 ^{+0.2} ₀	5	M8 screw Depth: 20mm

Notes:

1. Motors with keyway shaft (with/without key) and D-cut shaft cannot be used in frequent start/stop applications.
Loose keys may damage the motor shaft.
2. A key is not supplied with the motor. The key shall be installed by the user.



(Unit: mm)

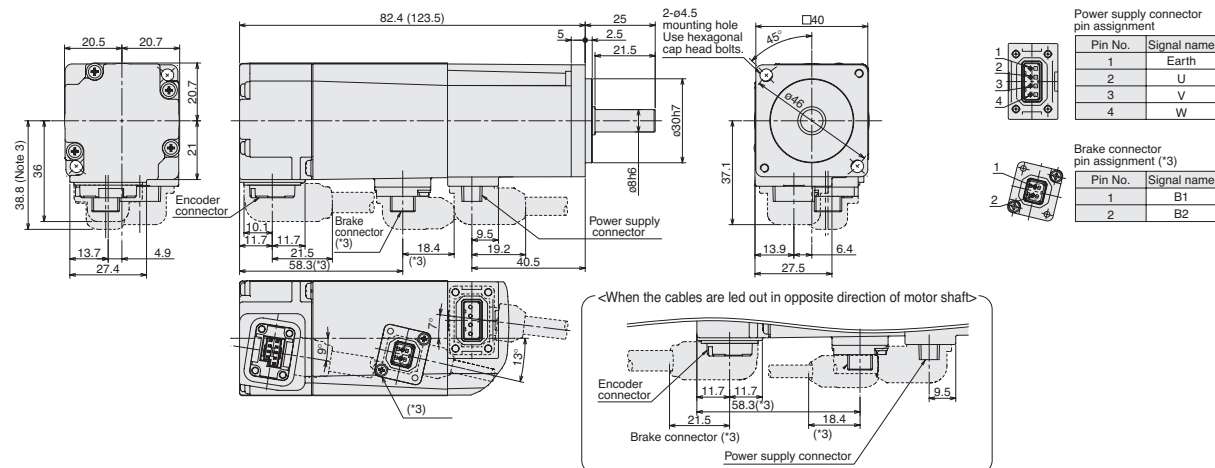
Optional Keys Available (Order Separately)

Motor Model	Model Number	Key Dimensions	Stocked item
HF-SE52-152(B)JKW1-S100	MTR KEY 8-7-28	8 x 7 x 28	S
HF-SE202(B)JKW1-S100	MTR KEY 10-8-45	10 x 8 x 45	S

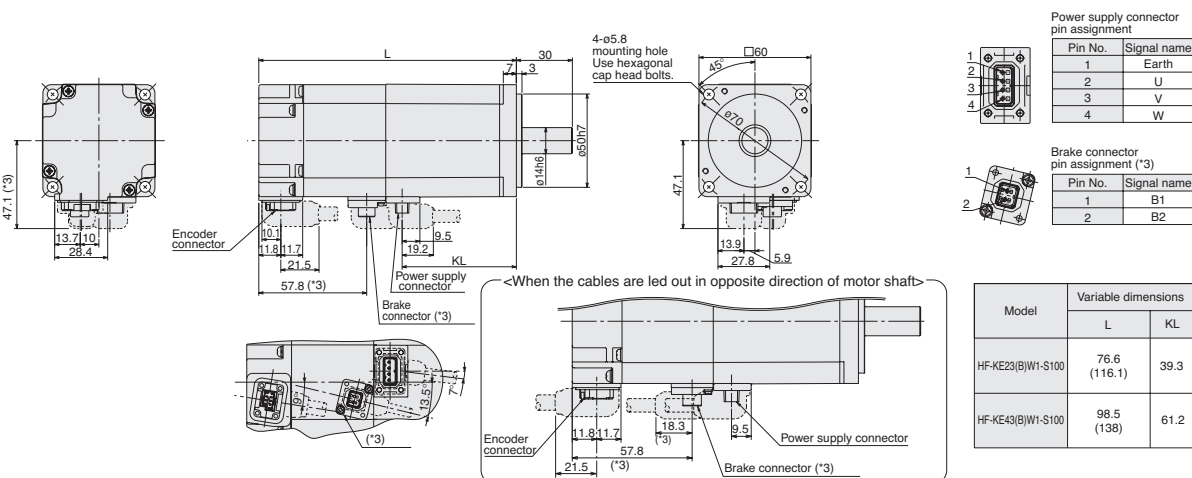
HF-KE Super Series

HF-KE13(B)W1-S100

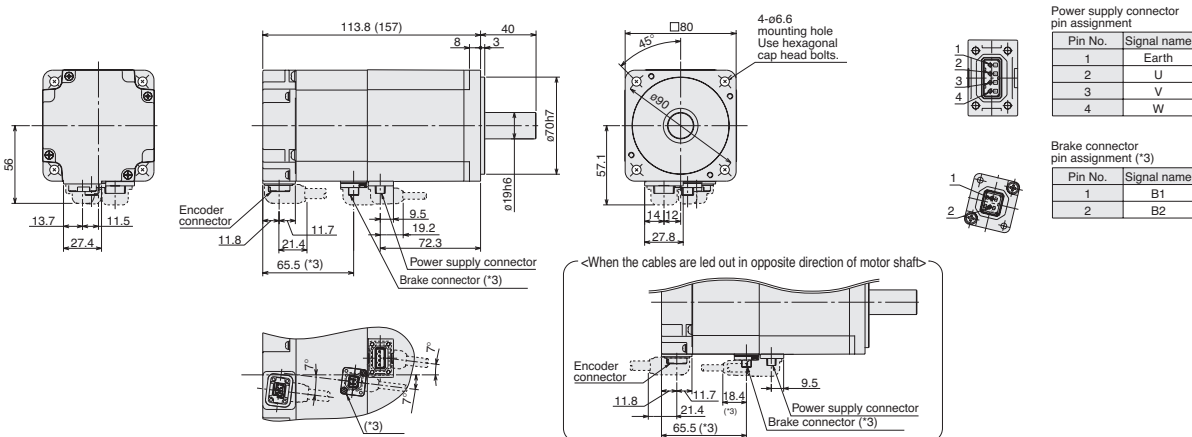
(Unit: mm)



HF-KE23(B)W1-S100, HF-KE43(B)W1-S100



HF-KE73(B)W1-S100



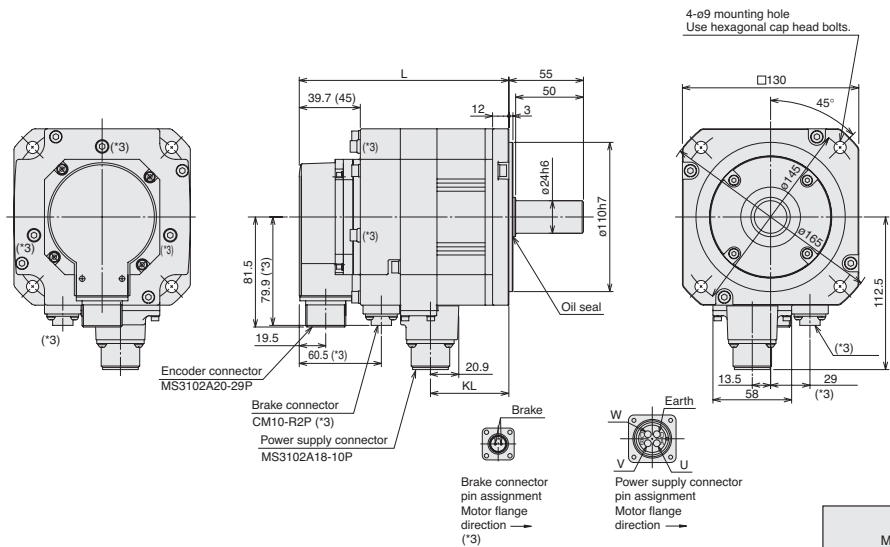
Notes:

1. Use a friction coupling to fasten a load.
2. Dimensions inside () are for the models with an electromagnetic brake.
3. Only for the models with an electromagnetic brake. The electromagnetic brake terminals (B1, B2) do not have polarity.
4. For dimensions where there is no tolerance listed, use general tolerance.

HF-SE Super Series

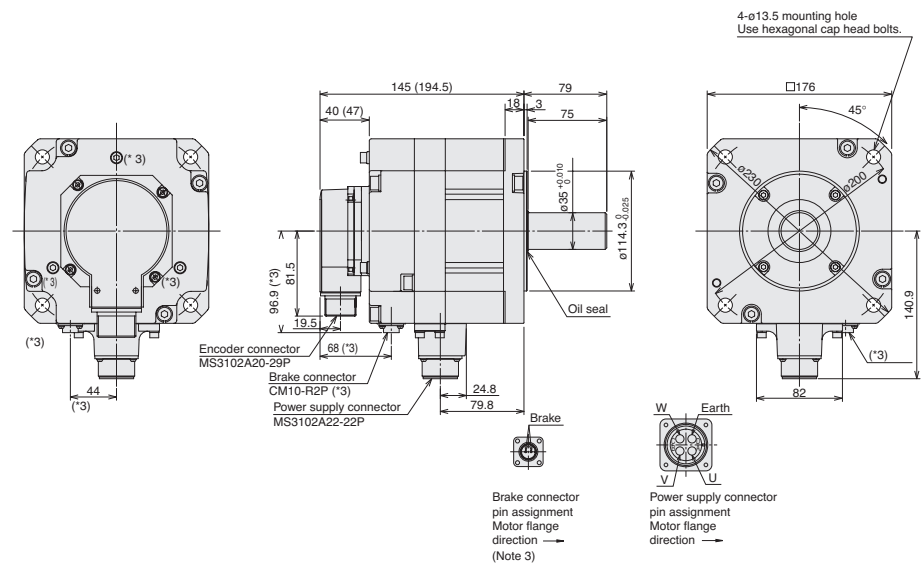
HF-SE52(B)JW1-S100, HF-SE102(B)JW1-S100, HF-SE152(B)JW1-S100

(Unit: mm)



Model	Variable dimensions	
	L	KL
HF-SE52(B)JW1-S100	120 (154.5)	57.8
HF-SE102(B)JW1-S100	142 (176.5)	79.8
HF-SE152(B)JW1-S100	164 (198.5)	101.8

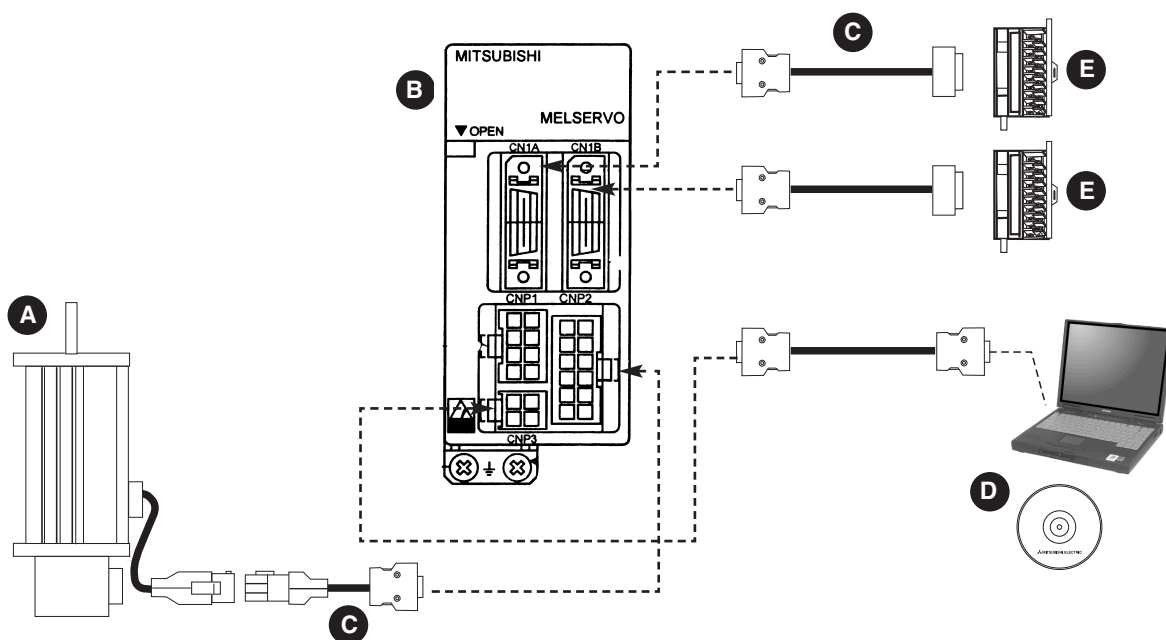
HF-SE202(B)JW1-S100



- Notes:
1. Use a friction coupling to fasten a load.
 2. Dimensions inside () are for the models with an electromagnetic brake.
 3. Only for the models with an electromagnetic brake. The electromagnetic brake terminals do not have polarity.
 4. For dimensions where there is no tolerance listed, use general tolerance.

MR-J2-JR Servomotors and Amplifiers

The ultimate servo system using the latest in servo technology operating at 24VDC input with: patented Real-Time Adaptive Tuning; RS-232C serial interface for Windows based set-up speed, positioning, and torque modes; low acoustic noise and a built-in parameter unit.



A. Motor	231
B. Amplifier	232
C. Cables	232
D. Software and Manuals	232
E. Optional Accessories	232

A MR-J2-JR Servomotors

Servomotor Selection

HC-AQ0 ☐ 35 ☐ D

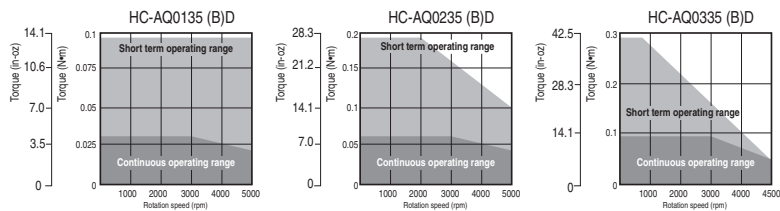
Symbol	Description
1	10 Watts
2	20 Watts
3	30 Watts

Symbol	Description
None	No brake installed
B	With an electromagnetic brake installed

Servomotor			HC-AQ0135	HC-AQ0235	HC-AQ0335
Stocked Item			—	—	S (Non-B only)
Continuous Characteristics (*1, *2)	Rated Output	kW	0.01	0.02	0.03
	Rated Torque	N · m (oz · in)	0.0318 (4.503)	0.0637 (9.021)	0.0955 (13.524)
Rated Speed (*1)		r/min	3000		
Maximum Speed		r/min	5000		4500
Instantaneous Permissible Speed		r/min	5750		5175
Maximum Torque		N · m (oz · in)	0.0955 (13.524)	0.191 (27.048)	0.287 (40.643)
Power at Continuous Rated Torque		kW/s	2.0	5.6	9.7
Inertia Moment (*4)	J [x 10 ⁴ kg · m ²]		0.0050	0.0072	0.0094
	WK ² [oz · in ²]		0.027	0.039	0.051
Recommended Ratio of Load Inertia Moment to Servo Motor Shaft Inertia Moment			30 times or less		
Power Supply Capacity			Refer to “Power supply capacity and generated loss of servo amplifier” in the Servo Amplifier Instruction Manual		
Rated Current (Maximum Current)		A	2.4 (7.7)	2.4 (7.7)	2.3 (7.4)
Speed/Position Detector			Encoder (resolution: 8192 pulses/rev)		
Accessory			Encoder		
Insulation Class			Class B		
Structure			Totally-enclosed self-cooling (protection type: IP55 (*6))		
Environmental Conditions (*5)			Refer to Section 2.1 in the Servo Motor Instruction Manual		
Weight (*3)	kg (lb)		0.19 (0.419)	0.22 (0.485)	0.25 (0.551)

Notes:

- When the power supply voltage drops, we cannot guarantee the output and rated speed.
- 80% ED at low noise.
80% ED: Indicates the condition in which operation time at rated torque accounts for 80% and the other no load time accounts for 20% in a single operation cycle.
- When the servo motor is equipped with reduction gear or electromagnetic brake, refer to the corresponding outline dimension drawing. For the EN Standard and UL/cUL Standard compliant models, please contact Mitsubishi.
- If the load inertia moment ratio exceeds the indicated value, please contact Mitsubishi.
- When the equipment is to be used in places where it is subjected to oil and/or water, such as on machine field sites, optional features apply to the equipment.
- Except for the shaft-through portion and connector end.



B MR-J2-JR Amplifiers

Amplifier Selection

MR-J2-03 ☐ 5

Symbol	Description
A	Analog Speed, Analog Torque and Pulse Train Position
B	SSCNET high speed serial network
C	Built-in motion control (point table)

Servo Amplifier				MR-J2-03A5	MR-J2-03B5	MR-J2-03C5
Stocked Item				S	—	—
Circuit Power Supply (Note)	Voltage			21.6 to 30VDC (instantaneous permissible voltage 34V)		
	Power Supply Capacity	HC-AQ0135D		Continuous 0.8A, Max. 2.4A		
		HC-AQ0235D		Continuous 1.6A, Max. 4.8A		
		HC-AQ0335D		Continuous 2.4A, Max. 7.2A		
Control Circuit Power Supply (Note)				24VDC+10% 200mA (400mA when using the servo motor equipped with electromagnetic brake)		
System				Sine-wave PWM control, current control system		
Dynamic Brake				Built-in		
Protective Functions				Overcurrent shut-off, regenerative overvoltage shut-off, overload shut-off, (electronic thermal relay), servo motor overheat protection, encoder fault protection, undervoltage, instantaneous power failure protection, overspeed protection, excessive error protection		
Speed Frequency Response				250Hz or more		
Structure				Open (IP00)		
Environment	Ambient Temperature	Operation	°C (°F)	0 to +55 (non-freezing) (32 to +131 (non-freezing))		
		Storage	°C (°F)	-20 to +65 (non-freezing) (-4 to +149 (non-freezing))		
	Ambient Humidity	Operation (Storage)		90%RH or less (non-condensing)		
	Atmosphere			Indoors (no direct sunlight), Free from corrosive gas, flammable gas, oil mist, dust and dirt		
	Altitude			Max. 1000m (3280 ft) above sea level		
	Vibration		m/s² (ft/s²)	5.9 or less (19.4 or less)		
Weight	kg (lb)			0.2 (0.44)		

Note: To comply with the low voltage directive, use a reinforced insulation stabilizing power supply.

C Cables

Motor Type	Power/Encoder Cable Length	Power/Encoder Cable Model Number	Stocked Item
HC-AQ0135D or HC-AQ0135BD	2 Meter	MR-JRCBL2M-H	S
HC-AQ0135D or HC-AQ0135BD	5 Meter	MR-JRCBL5M-H	–
HC-AQ0135D or HC-AQ0135BD	10 Meter	MR-JRCBL10M-H	–
HC-AQ0235D or HC-AQ0235BD	2 Meter	MR-JRCBL2M-H	S
HC-AQ0235D or HC-AQ0235BD	5 Meter	MR-JRCBL5M-H	–
HC-AQ0235D or HC-AQ0235BD	10 Meter	MR-JRCBL10M-H	–
HC-AQ0335D or HC-AQ0335BD	2 Meter	MR-JRCBL2M-H	S
HC-AQ0335D or HC-AQ0335BD	5 Meter	MR-JRCBL5M-H	–
HC-AQ0335D or HC-AQ0335BD	10 Meter	MR-JRCBL10M-H	–

D Software

Description	Model Number	Stocked Item
Windows Communication Software	MR-CONFIGURATOR	S
Communication Cable	MR-JRPCATCBL3M	S

Manuals

Description	Model Number	Stocked Item
MR-J2-03A5 Instruction Manual	SH(NA)3200	–
MR-J2-03B5 Instruction Manual	SH(NA)030005	–
MR-J2-03C5 Instruction Manual	SH(NA)3209	–
ServoMotor Instruction Manual	SH(NA)3181	–

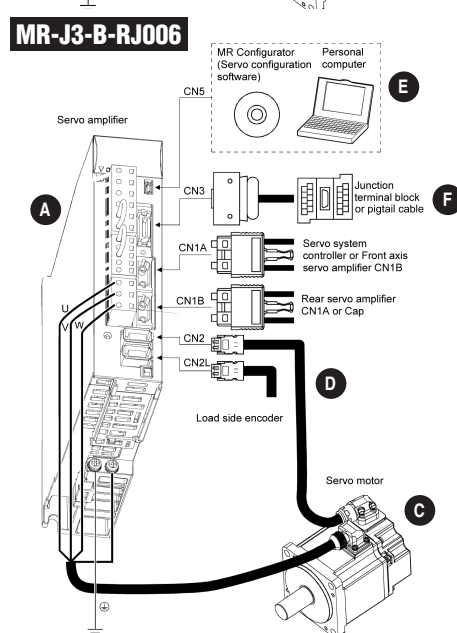
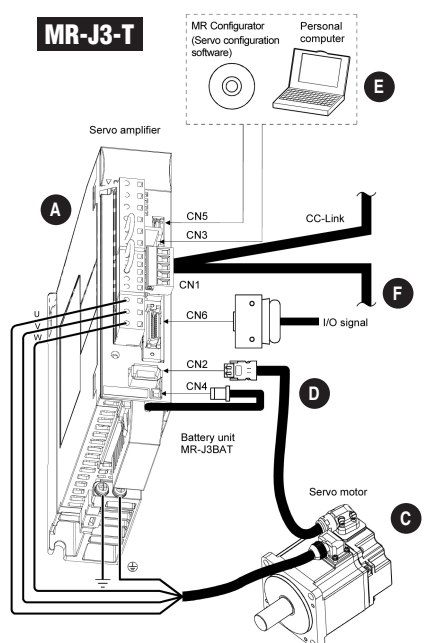
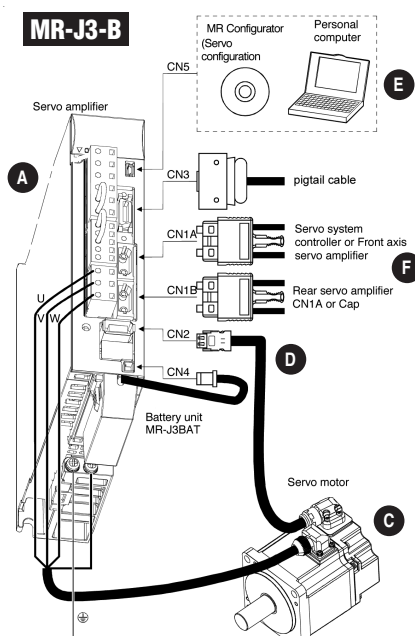
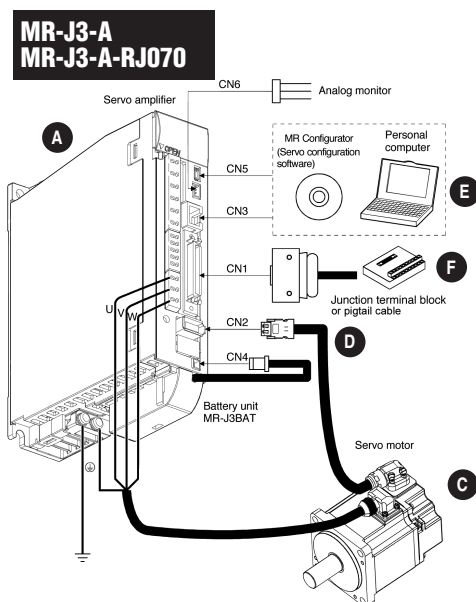
Note: Many of these manuals are available for free download from our website, www.meau.com

E System Options

Description	Model Number	Stocked Item
Terminal Block	MR-TB20	S
Terminal Block Cable 0.5 Meter	MR-J2TBL05M	S
Terminal Block Cable 1.0 Meter	MR-J2TBL1M	S
Encoder Connector Kit (instead of MR-JRCBL□M-H Cable)	MR-JRCNM	–
CN1-I/O Connector Kit (contains 2 connectors, one each for CN1A & CN1B)	MR-J2CN1	S
CN1-I/O Pigtail Cables (one each optional for CN1A & CN1B)	MR-CCN1CBL-3M (3m length) MR-CCN1CBL-5M (5m length)	S

MR-J3 Servomotors and Amplifiers

With a capacity range of 50W to 55kW, we reduced the size of both the amplifier and motor, added a high resolution encoder and advanced auto-tuning and vibration control. The J3's high torque motor can operate at up to 6000 rpm, and with a speed frequency response of 900 Hz. Twenty percent smaller than its predecessor, the J3's high resolution 262,144ppr encoder is mounted as standard to provide stability even at low speeds. Mitsubishi Electric Automation's original model adaptive control and ever-evolving automatic tuning function makes precise tuning easy and the J3's advanced vibration control suppresses vibrations automatically. Set-up, diagnostics, and tuning are easy, thanks to MR-Configurator, a Windows™-based software package. MR-Configurator has many improved diagnostic functions, such as an advanced machine analyzer, software oscilloscope, and high speed monitor. A parameter setting window makes start-up easy, and a USB interface enables high-speed sampling and long-term wavelength measurement. The MR-J3 supports the following control methods: Position, Speed, Torque, SSCNET III Network, CC-Link, RS-485 Multi Drop and now Turret Index.



A. Amplifier	234
B. Converter (Required for 30KW ~ 55KW 200/400V amplifiers) (Not shown in above diagrams)	247
C. Motor	248
D. Cables and Connectors	263
E. Software and Manuals	273
F. Optional Accessories	273

A MR-J3 Amplifiers

Amplifier Types

Type	Interface						Control Mode						Setup Software	Model	Power	Source Capacity (*1)	Compatible Motor Series						
	Pulse Train	Analog	DIO	SSCNET III	RS-422 Multi-Drop	CC-Link	Position	Speed	Torque	Position Functions	Fully Closed Loop Control	Turret Index					HF-KP	HF-MP	HF-SP	HC-LP	HC-RP	HC-UP	HA-LP
A-Type 	General Purpose Interface	✓ (*5)	✓ (*5)	—	—	✓	✓	✓	✓	—	—	✓	✓	MR-J3-□A	3-Phase 200VAC	0.05 ~37kW	✓	✓	✓	✓	✓	✓	✓
														MR-J3-□A1	1-Phase 100VAC	0.05 ~0.4kW	✓	✓					
														MR-J3-□A4	3-Phase 400VAC	0.5 ~55kW			✓				✓
B-Type 	Advanced High-Speed Serial Bus SSCNETIII	—	—	—	✓	—	✓	—	—	—	—	—	✓	MR-J3-□B	3-Phase 200VAC	0.05 ~37kW	✓	✓	✓	✓	✓	✓	✓
														MR-J3-□B1	1-Phase 100VAC	0.05 ~0.4kW	✓	✓					
														MR-J3-□B4	3-Phase 400VAC	0.5 ~55kW			✓				✓
	Fully Closed Loop Control Compatible 	—	—	—	✓	—	✓	—	—	—	✓	—	✓	MR-J3-□B-RJ006	3-Phase 200VAC	0.05 ~25kW	✓	✓	✓	✓	✓	✓	✓
														MR-J3-□B1-RJ006	1-Phase 100VAC	0.05 ~0.4kW	✓	✓					
														MR-J3-□B4-RJ006	3-Phase 400VAC	0.5 ~22kW			✓				✓
T-Type 	Built-In CC-Link Positioning Function	✓ (*2)	—	✓ (*3)	—	✓	✓	—	—	✓	—	—	✓	MR-J3-□T	3-Phase 200VAC	0.05 ~25kW	✓	✓	✓	✓	✓	✓	✓
														MR-J3-□T1	1-Phase 100VAC	0.05 ~0.4kW	✓	✓					
														MR-J3-□T4	3-Phase 400VAC	0.5 ~22kW			✓				✓

Notes:

- Capacity selection software MSIZE (MRZJW3-MOTSZ111) can be downloaded for free from www.mead.com.
- Please use the manual pulse generator (MR-HDP01).
- Please use the extended IO unit (MR-J3-D01).

100V/200V Amplifier Selection:

(Example Part No. = MR-J3-10B-RJ006)

MR-J3-□□□ - □

Mitsubishi General
Purpose AC Servo
Amplifier

A: General Purpose Interface
B: SSCNET III Interface
T: CC-Link Interface

Symbol	Power Supply
None	Standard J3 Amplifier
RJ006	Fully Closed Loop Control (*1)
RJ070	Turret Index (*2)

Notes:

1. Available on MR-J3-B type amplifiers only.
2. Available on MR-J3-A type only.

Symbol	Power Supply
None	3-phase 200VAC or 1-phase 230VAC (*1)
1	1-phase 100VAC (*2)

Notes:

1. The 1-phase 200VAC is available on MR-J3-70 or smaller.
2. The 1-phase 100VAC is available on MR-J3-40 or smaller.

Stocked Amplifiers

Model Number	Model Number	Model Number
MR-J3-10A1	MR-J3-40T	MR-J3-350A-RJ070
MR-J3-10B1	MR-J3-60A	MR-J3-350B
MR-J3-10T1	MR-J3-60A-RJ070	MR-J3-350B-RJ006
MR-J3-10A	MR-J3-60B	MR-J3-350T
MR-J3-10A-RJ070	MR-J3-60B-RJ006	MR-J3-500A
MR-J3-10B	MR-J3-60T	MR-J3-500A-RJ070
MR-J3-10T	MR-J3-70A	MR-J3-500B
MR-J3-20A1	MR-J3-60A-RJ070	MR-J3-500T
MR-J3-20B1	MR-J3-70B	MR-J3-700A
MR-J3-20T1	MR-J3-70B-RJ006	MR-J3-700A-RJ070
MR-J3-20A	MR-J3-70T	MR-J3-700B
MR-J3-20A-RJ070	MR-J3-100A	MR-J3-700T
MR-J3-20B	MR-J3-100A-RJ070	MR-J3-11KA
MR-J3-20T	MR-J3-100B	MR-J3-11KB
MR-J3-40A1	MR-J3-100B-RJ006	MR-J3-15KA
MR-J3-40B1	MR-J3-100T	MR-J3-15KB
MR-J3-40T1	MR-J3-200A	MR-J3-22KA
MR-J3-40A	MR-J3-200A-RJ070	MR-J3-22KB
MR-J3-40A-RJ070	MR-J3-200B	
MR-J3-40B	MR-J3-200B-RJ006	
MR-J3-40B-RJ006	MR-J3-200T	
	MR-J3-350A	

Symbol	Compatible Motors						
	HF-KP	HF-MP	HF-SP	HC-LP	HC-RP	HC-UP	HA-LP
10	053, 13	053, 13	—	—	—	—	—
20	23	23	—	—	—	—	—
40	43	43	—	—	—	—	—
60	—	—	51, 52	52	—	—	—
70	73	73	—	—	—	72	—
100	—	—	81, 102	102	—	—	—
200	—	—	121, 201, 152, 202	152	103, 153	152	—
350	—	—	301, 352	202	203	202	—
500	—	—	421, 502	302	353, 503	352, 502	502
700	—	—	702	—	—	—	601, 701M, 702
11K	—	—	—	—	—	—	801, 12K1, 11K1M, 11K2
15K	—	—	—	—	—	—	15K1, 15K1M, 15K2
22K	—	—	—	—	—	—	20K1, 25K1, 22K1M, 22K2
DU30K (*1, *2)	—	—	—	—	—	—	30K1, 30K1M, 30K2
DU37K (*1, *2)	—	—	—	—	—	—	37K1, 37K1M, 37K2

Notes:

1. Converter Unit MR-J3-CR55K is required for 30kW and 37kW amplifiers.
2. Available for MR-J3-A and B types only.

400V Amplifier Selection:

(Example Part No. = MR-J3-60A4)

MR-J3-□□ 4 - □

Mitsubishi General
Purpose AC Servo
Amplifier

400VAC Amplifier

A: General Purpose Interface
B: SSCNET III Interface
T: CC-Link Interface (up to 22kW only)

Symbol	Power Supply
None	Standard J3 Amplifier
RJ006	Fully Closed Loop Control (*1)
RJ070	Turret Index (*2)

Notes:

1. Available on 600kW~22kW MR-J3-B amplifiers only.
2. Available on MR-J3-A type only.

Symbol	Compatible Motors	
	HF-SP	HA-LP
60	524	—
100	1024	—
200	1524, 2024	—
350	3524	—
500	5024	—
700	7024	6014, 7014
11K	—	8014, 12K14, 11K1M4, 11K24
15K	—	15K14, 15K1M4, 15K24
22K	—	20K14, 22K1M4, 22K24
DU30K (*1, *2)	—	25K14, 30K14, 30K1M4, 30K24
DU37K (*1, *2)	—	37K14, 37K1M4, 37K24
DU45K (*1, *2)	—	45K1M4, 45K24
DU55K (*1, *2)	—	50K1M4, 55K24

Notes:

1. Converter Unit MR-J3-CR55K4 is required for 30kW to 55kW amplifiers.
2. Available for the MR-J3-A and B types only.

Stocked Amplifiers

Model Number	Model Number	Model Number
MR-J3-60A4	MR-J3-350A4	MR-J3-11KA4
MR-J3-60B4	MR-J3-350B4	MR-J3-11KB4
MR-J3-60B4-RJ006	MR-J3-350B4-RJ006	MR-J3-15KA4
MR-J3-60T4	MR-J3-350T4	MR-J3-15KB4
MR-J3-100A4	MR-J3-500A4	MR-J3-22KA4
MR-J3-100B4	MR-J3-500B4	MR-J3-22KB4
MR-J3-100B4-RJ006	MR-J3-500B4-RJ006	
MR-J3-100T4	MR-J3-500T4	
MR-J3-200A4	MR-J3-700A4	
MR-J3-200B4	MR-J3-700B4	
MR-J3-200B4-RJ006	MR-J3-700B4-RJ006	
MR-J3-200T4	MR-J3-700T4	

MR-J3-A Servo Amplifier Specifications 100/200V 22kW or Smaller

Servo Amplifier Model MR-J3-		10A	20A	40A	60A	70A	100A	200A	350A	500A	700A	11KA	15KA	22KA	10A1	20A1	40A1		
Main Circuit Power Supply	Voltage/Frequency (*1, *2)	3-phase 200 to 230VAC 50/60Hz or 1-phase 200 to 230VAC 50/60Hz (*10)					3-phase 200 to 230VAC 50/60Hz								1-phase 100 to 120VAC 50/60Hz				
	Permissible Voltage Fluctuation	For 3-phase 200 to 230VAC: 3-phase170 to 253VAC For 1-phase 200 to 230VAC: 1-phase170 to 253VAC					3-phase 170 to 253VAC								1-phase 85 to 132VAC				
	Permissible Frequency Fluctuation	±5% maximum																	
Control Circuit Power Supply	Voltage/Frequency	1-phase 200 to 230VAC 50/60Hz (*10)					1-phase 200 to 230VAC 50/60Hz								1-phase 100 to 120VAC 50/60Hz				
	Permissible Voltage Fluctuation	1-phase 170 to 253VAC																1-phase 85 to 132VAC	
	Permissible Frequency Fluctuation	±5% maximum																	
	Power Consumption (W)	30					45								30				
Interface Power Supply		24VDC ±10% (required current capacity: 300mA (*7))																	
Regenerative Resistor/ Tolerable Regenerative Power (W) (*3, *4)	Built-in Regenerative Resistor	—	10	10	10	20	20	100	100	130	170	—	—	—	—	10	10		
	External Regenerative Resistor (Standard Accessory) (*5, *6)	—	—	—	—	—	—	—	—	—	—	500 (800)	850 (1300)	850 (1300)	—	—	—		
Control System		Sine-wave PWM control/current control system																	
Dynamic Brake		Built-in (*8, *13)					External option								Built-in (*8, *13)				
Safety Features		Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/ sudden power outage protection, overspeed protection, excess error protection																	
Position Control Mode	Maximum Input Pulse Frequency	1Mpps (when using differential receiver), 200kpps (when using open collector), (4Mpps (*11))																	
	Positioning Feedback Pulse	Resolution per encoder/servo motor rotation: 262144 p/rev																	
	Command Pulse Multiple	Electronic gear A/B multiple, A: 1 to 1048576, B: 1 to 1048576, 1/10 < A/B < 2000																	
	Positioning Complete Width Setting	0 to ±10000 pulses (command pulse unit)																	
	Excess Error	±3 rotations																	
	Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)																	
Speed Control Mode	Speed Control Range	Analog speed command 1:2000, internal speed command 1:5000																	
	Analog Speed Command Input	0 to ±10VDC/rated speed (possible to change the speed in 10V using the parameter No. PC12.) (*12)																	
	Speed Fluctuation Rate	±0.01% maximum (load fluctuation 0 to 100%) 0% (power fluctuation ±10%) ±0.2% maximum (ambient temperature 25°C±10°C (59°F to 95°F)), when using analog speed command																	
	Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque) (*12)																	
Torque Control Mode	Analog Torque Command Input	0 to ±8VDC/maximum torque (input impedance 10 to 12kΩ) (*12)																	
	Speed Limit	Set by parameters or external analog input (0 to ±10VDC/rated speed)																	
Structure		Self-cooling open (IP00)					Fan cooling open (IP00)								Self-cooling open (IP00)				
Environment	Ambient Temperature (*6)	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)																	
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)																	
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust																	
	Elevation	1000m or less above sea level																	
	Vibration	5.9m/s² maximum																	
Mass kg (lb)		0.8 (1.8)	0.8 (1.8)	1.0 (2.2)	1.0 (2.2)	1.4 (3.1)	1.4 (3.1)	2.1 (4.6)	2.3 (5.1)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)	0.8 (1.8)	0.8 (1.8)	1.0 (2.2)		

Notes:

- Rated output and speed of a servo motor are applicable when the servo amplifier, combined with the servo motor, is operated within the specified power supply voltage and frequency. Torque drops when the power supply voltage is below the specified value.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in this catalog.
- Optimal regenerative resistor varies for each system. Select the most suitable regenerative resistor by using the capacity selection software.
- Refer to the section "Options • Optional regeneration unit" in this catalog for the tolerable regenerative power (W).
- The servo amplifier (MR-J3-□KA-PX) without an enclosed regenerative resistor is also available.
- The value in () applies when the external regenerative resistors, GRZG400-□Ω, (standard accessory) are used with cooling fans (2 units of 92 x 92mm, minimum air flow: 1.0m³/min). Note that change in the parameter No. PA02 is required.
- 300mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Special specification models without a dynamic brake, MR-J3-□A -ED and MR-J3-□A1-ED, are also available for 7kW or smaller servo amplifier.
- The MR-J3-350A or smaller servo amplifier can be installed closely. In this case, keep the ambient temperature within 0 to 45°C (32 to 113°F), or use the servo amplifier with 75% or less of the effective load rate.
- The special specification model, MR-J3-□A-U004, is also available for 1-phase 200 to 240 VAC.
- 4Mpps compatible servo amplifier (MR-J3-□A(1)-KE) is also available.
- High resolution analog speed command and analog torque command is available with a set of MR-J3-□A(1)-RJ040 and the extension IO unit, MR-J3-D01.
- When using the built-in dynamic brake, refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for the permissible load inertia moment ratio.

MR-J3-A Servo Amplifier Specifications: 200VAC, 30kW or Larger

Drive Unit Model		MR-J3-DU30KA	MR-J3-DU37KA
Main Circuit Power Supply	Voltage/Frequency (*1)	The drive unit's main circuit power is supplied from the converter unit.	
	Permissible Voltage Fluctuation		
	Permissible Frequency Fluctuation		
Control Circuit Power Supply	Voltage/Frequency	1-phase 200 to 230VAC 50/60Hz	
	Permissible Voltage Fluctuation	1-phase 170 to 253VAC	
	Permissible Frequency Fluctuation	±5% maximum	
	Power Consumption (W)	45	
Interface Power Supply		24VDC ±10% (required current capacity: 300mA (*3))	
Control System		Sine-wave PWM control/current control system	
Dynamic Brake		External option	
Safety Features		Overcurrent shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection	
Position Control Mode	Maximum Input Pulse Frequency	1Mpps (when using differential receiver), 200kpps (when using open collector)	
	Positioning Feedback Pulse	Resolution per encoder/servo motor rotation: 262144 p/rev	
	Command Pulse Multiple	Electronic gear A/B multiple, A: 1 to 1048576, B: 1 to 1048576, 1/10 < A/B < 2000	
	Positioning Complete Width Setting	0 to ±10000 pulses (command pulse unit)	
	Excess Error	±3 rotations	
	Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)	
Speed Control Mode	Speed Control Range	Analog speed command 1:2000, internal speed command 1:5000	
	Analog Speed Command Input	0 to ±10VDC/rated speed (possible to change the speed in 10V using the parameter No. PC12.)	
	Speed Fluctuation Rate	±0.01% maximum (load fluctuation 0 to 100%) 0% (power fluctuation ±10%) ±0.2% maximum (ambient temperature 25°C±10°C (59°F to 95°F)), when using analog speed command	
	Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)	
Torque Control Mode	Analog Torque Command Input	0 to ±8VDC/maximum torque (input impedance 10 to 12kΩ)	
	Speed Limit	Set by parameters or external analog input (0 to ±10VDC/rated speed)	
Structure		Fan cooling open (IP00)	
Mass kg (lb)		26 (57)	
Environment	Ambient Temperature	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)	
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)	
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust	
	Elevation	1000m or less above sea level	
	Vibration	5.9m/s² maximum	

Notes:

- Rated output and speed of a servo motor are applicable when the drive unit and the converter unit, combined with the servo motor, are operated within the specified power supply voltage and frequency. Torque drops when the power supply voltage is below the specified value.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in this catalog.
- The interface power supply can be shared with the drive unit and the converter unit. When all of the input/output points are used, 300mA is required for the drive unit, and 130mA is required for the converter unit. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.

MR-J3-A Servo Amplifier Specifications, 400VAC, 22kW or Smaller

Servo Amplifier Model MR-J3-		60A4	100A4	200A4	350A4	500A4	700A4	11KA4	15KA4	22KA4
Main Circuit Power Supply	Voltage/Frequency (*1, *2)	3-phase 380 to 480VAC 50/60Hz								
	Permissible Voltage Fluctuation	3-phase 323 to 528VAC								
	Permissible Frequency Fluctuation	±5% maximum								
Control Circuit Power Supply	Voltage/Frequency	1-phase 380 to 480VAC 50/60Hz								
	Permissible Voltage Fluctuation	1-phase 323 to 528VAC								
	Permissible Frequency Fluctuation	±5% maximum								
	Power Consumption (W)	30				45				
Interface Power Supply		24VDC ±10% (required current capacity: 300mA (*7))								
Regenerative Resistor/ Tolerable Regenerative Power (W) (*3, *4)	Built-in Regenerative Resistor	15	15	100	100	130 (*9)	170 (*9)	—	—	—
	External Regenerative Resistor (Standard Accessory) (*5, *6)	—	—	—	—	—	—	500 (800)	850 (1300)	850 (1300)
Control System		Sine-wave PWM control/current control system								
Dynamic Brake		Built-in (*8, *10)						External option		
Safety Features		Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection								
Position Control Mode	Maximum Input Pulse Frequency	1Mpps (when using differential receiver), 200kpps (when using open collector)								
	Positioning Feedback Pulse	Resolution per encoder/servo motor rotation: 262144 p/rev								
	Command Pulse Multiple	Electronic gear A/B multiple, A: 1 to 1048576, B: 1 to 1048576, 1/10 < A/B < 2000								
	Positioning Complete Width Setting	0 to ±10000 pulses (command pulse unit)								
	Excess Error	±3 rotations								
	Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)								
Speed Control Mode	Speed Control Range	Analog speed command 1:2000, internal speed command 1:5000								
	Analog Speed Command Input	0 to ±10VDC/rated speed (possible to change the speed in 10V using the parameter No. PC12.) (*11)								
	Speed Fluctuation Rate	±0.01% maximum (load fluctuation 0 to 100%) 0% (power fluctuation ±10%) ±0.2% maximum (ambient temperature 25°C±10°C (59°F to 95°F)), when using analog speed command								
	Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque) (*11)								
Torque Control Mode	Analog Torque Command Input	0 to ±8VDC/maximum torque (input impedance 10 to 12kΩ) (*11)								
	Speed Limit	Set by parameters or external analog input (0 to ±10VDC/rated speed)								
Structure		Self-cooling open (IP00)			Fan cooling open (IP00)					
Environment	Ambient Temperature (*6)	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)								
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)								
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust								
	Elevation	1000m or less above sea level								
	Vibration	5.9m/s² maximum								
Mass kg (lb)		1.7 (3.7)	1.7 (3.7)	2.1 (4.6)	4.6 (10)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)

Notes:

- Rated output and speed of a servo motor are applicable when the servo amplifier, combined with the servo motor, is operated within the specified power supply voltage and frequency. Torque drops when the power supply voltage is below the specified value.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in this catalog.
- Optimal regenerative resistor varies for each system. Select the most suitable regenerative resistor by using the capacity selection software.
- Refer to the section "Options • Optional regeneration unit" in this catalog for the tolerable regenerative power (W).
- The servo amplifier (MR-J3-□KA4-PX) without an enclosed regenerative resistor is also available.
- The value in () applies when the external regenerative resistors, GRZG400-□Ω, (standard accessory) are used with cooling fans (2 units of 92 x 92mm, minimum air flow: 1.0m³/min). Note that change in the parameter No. PA02 is required.
- 300mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Special specification models without a dynamic brake, MR-J3-□JA4 -ED, are also available for 7kW or smaller servo amplifier.
- The amplifier built-in resistor is compatible with the maximum torque deceleration when the motor is used within the rated speed and the recommended load/motor inertia moment ratio. Contact Mitsubishi if the operating motor speed and the load/motor inertia moment ratio exceed the rated speed and the recommended ratio.
- When using the built-in dynamic brake, refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for the permissible load inertia moment ratio.
- For the servo amplifier 11kW to 22kW, high resolution analog speed command and analog torque command is available with a set of MR-J3-□JA4-RJ040 and the extension IO unit, MRJ3-D01. Servo amplifier 7kW or smaller, compatible with high resolution analog speed torque command, will be available.

MR-J3-A Servo Amplifier Specifications, 400VAC, 30kW or Larger

Drive Unit Model		MR-J3-DU30KA4	MR-J3-DU37KA4	MR-J3-DU45KA4	MR-J3-55KA4
Main Circuit Power Supply	Voltage/Frequency (*1)	The drive unit's main circuit power is supplied from the converter unit.			
	Permissible Voltage Fluctuation				
	Permissible Frequency Fluctuation				
Control Circuit Power Supply	Voltage/Frequency	1-phase 380 to 480VAC 50/60Hz			
	Permissible Voltage Fluctuation	1-phase 323 to 528VAC			
	Permissible Frequency Fluctuation	±5% maximum			
	Power Consumption (W)	45			
Interface Power Supply		24VDC ±10% (required current capacity: 300mA (*3))			
Control System		Sine-wave PWM control/current control system			
Dynamic Brake		External option			
Safety Features		Overcurrent shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection			
Position Control Mode	Maximum Input Pulse Frequency	1Mpps (when using differential receiver), 200kpps (when using open collector)			
	Positioning Feedback Pulse	Resolution per encoder/servo motor rotation: 262144 p/rev			
	Command Pulse Multiple	Electronic gear A/B multiple, A: 1 to 1048576, B: 1 to 1048576, 1/10 < A/B < 2000			
	Positioning Complete Width Setting	0 to ±10000 pulses (command pulse unit)			
	Excess Error	±3 rotations			
	Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)			
Speed Control Mode	Speed Control Range	Analog speed command 1:2000, internal speed command 1:5000			
	Analog Speed Command Input	0 to ±10VDC/rated speed (possible to change the speed in 10V using the parameter No. PC12.)			
	Speed Fluctuation Rate	±0.01% maximum (load fluctuation 0 to 100%) 0% (power fluctuation ±10%) ±0.2% maximum (ambient temperature 25°C±10°C (59°F to 95°F)), when using analog speed command			
	Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)			
Torque Control Mode	Analog Torque Command Input	0 to ±8VDC/maximum torque (input impedance 10 to 12kΩ)			
	Speed Limit	Set by parameters or external analog input (0 to ±10VDC/rated speed)			
Structure		Fan cooling open (IP00)			
Mass kg (lb)		18 (40)		26 (57)	
Environment	Ambient Temperature	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)			
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)			
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust			
	Elevation	1000m or less above sea level			
	Vibration	5.9m/s² maximum			

Notes:

- Rated output and speed of a servo motor are applicable when the drive unit and the converter unit, combined with the servo motor, are operated within the specified power supply voltage and frequency. Torque drops when the power supply voltage is below the specified value.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in this catalog.
- The interface power supply can be shared with the drive unit and the converter unit. When all of the input/output points are used, 300mA is required for the drive unit, and 130mA is required for the converter unit. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.

MR-J3-A-RJ070 Servo Amplifier Specifications 200VAC, 22kW or Smaller

Servo Amplifier Model MR-J3-□-RJ070		10A	20A	40A	60A	70A	100A	200A	350A	500A	700A	11KA	15KA	22KA	10A1	20A1	40A1
Main Circuit Power Supply	Voltage/Frequency	3-phase 200 to 230VAC 50/60Hz or 1-phase 200 to 230VAC 50/60Hz (*10)						3-phase 200 to 230VAC 50/60Hz							1-phase 100 to 120VAC 50/60Hz		
	Permissible Voltage Fluctuation	For 1-phase 230VAC: 207 to 253VAC For 3-phase 200 to 230VAC: 170 to 253VAC						1-phase 170 to 253VAC							1-phase 85 to 132VAC		
	Permissible Frequency Fluctuation	±5% maximum															
Control Circuit Power Supply	Voltage/Frequency	1-phase 200 to 230VAC 50/60Hz													1-phase 100 to 120VAC 50/60Hz		
	Permissible Voltage Fluctuation	1-phase 170 to 253VAC													1-phase 85 to 132VAC		
	Permissible Frequency Fluctuation	±5% maximum															
	Power Consumption (W)	30									45				30		
	Inrush Current	Refer to MR-J3-□A Servo Amplifier Instruction Manual															
Interface Power Supply		24VDC ±10% (300mA) (*1)															
Control System		Sine-wave PWM control/current control system															
Dynamic Brake		Built-in										External option			Built-in		
Safety Features		Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection															
Indexer Positioning (Turret)	Max. No. of Stations	MR-J3-□-A□-RJ070 only: 15 stations, With MR-J3-D01: 255 stations															
	Number of Gears on Servomotor / Machine (Electronic Gears)	1/9999<MCX/CDV<9999, CDVx STN<32767, CMX x CDV<100000															
	In-Position Range Setting	0 to ±10000 pulses (command pulse unit)															
	Error Excessive	±3 rotations															
	Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)															
Structure		Self-cooling open (IP00)						Forced-cooling open (IP00)							Self-cooling open (IP00)		
Environment	Ambient Temperature	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing) (*2)															
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)															
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust															
	Elevation	1000m or less above sea level															
	Vibration	5.9m/s² maximum															
Mass kg (lb)		0.8 (1.8)	0.8 (1.8)	1.0 (2.2)	1.0 (2.2)	1.4 (3.1)	1.4 (3.1)	2.1 (4.6)	2.3 (5.1)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)	0.8 (1.8)	0.8 (1.8)	1.0 (2.2)

Notes:

- 300mA is the value when all I/O signals are used. The current capacity can be decreased by reducing the number of I/O points.
- When closely mounting the servo amplifiers of 3.5kW or less, operate them at the ambient temperatures of 0 to 45°C or at 75% or smaller effective ratio loads.

MR-J3-A-RJ070 Servo Amplifier Specifications 400VAC, 22kW or Smaller

Servo Amplifier Model MR-J3-□-RJ070		60A4	100A4	200A4	350A4	500A4	700A4	11KA4	15KA4	22KA4
Main Circuit Power Supply	Voltage/Frequency	3-phase 380 to 480VAC 50/60Hz								
	Permissible Voltage Fluctuation	3-phase 323 to 528VAC								
	Permissible Frequency Fluctuation	±5% maximum								
	Power Supply Equipment Capacity	Refer to MR-J3-□A Servo Amplifier Instruction Manual								
	Inrush Current	Refer to MR-J3-□A Servo Amplifier Instruction Manual								
Control Circuit Power Supply	Voltage/Frequency	1-phase 380 to 480VAC 50/60Hz								
	Permissible Voltage Fluctuation	1-phase 323 to 528VAC								
	Permissible Frequency Fluctuation	±5% maximum								
	Power Consumption (W)	30				45				
	Inrush Current	Refer to MR-J3-□A Servo Amplifier Instruction Manual								
Interface Power Supply		24VDC ±10% (300mA) (*1)								
Control System		Sine-wave PWM control/current control system								
Dynamic Brake		Built-in						External option		
Safety Features		Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection								
Indexer Positioning (Turret)	Maximum Number of Stations	MR-J3-□-A□-RJ070 only: 15 stations, With MR-J3-D01: 255 stations								
	Number of Gears on Servomotor/ Machine (Electronic Gears)	1/9999<MCX/CDV<9999, CDV x STN<32767, CMX x CDV<100000								
	In-Position Range Setting	0 to ±10000 pulses (command pulse unit)								
	Error Excessive	±3 rotations								
	Torque Limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)								
Structure		Self-cooling open (IP00)			Forced cooling open (IP00)					
Environment	Ambient Temperature (*6)	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)								
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)								
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust								
	Elevation	1000m or less above sea level								
	Vibration	5.9m/s² maximum								
Mass kg (lb)		1.7 (3.7)	1.7 (3.7)	2.1 (4.6)	4.6 (10)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)

Note: 1. 300 mA is the value when all I/O signals are used. The current capacity can be decreased by reducing the number of I/O points.

MR-J3-B Servo Amplifier Specifications 100V/200VAC, 22kW or Smaller

Servo Amplifier Model MR-J3-		10B	20B	40B	60B	70B	100B	200B	350B	500B	700B	11KB	15KB	22KB	10B1	20B1	40B1			
Main Circuit Power Supply	Voltage/Frequency (*1, *2)	3-phase 200 to 230VAC 50/60Hz or 1-phase 200 to 230VAC 50/60Hz (*10)					3-phase 200 to 230VAC 50/60Hz								1-phase 100 to 120VAC 50/60Hz					
	Permissible Voltage Fluctuation	For 3-phase 200 to 230VAC: 3-phase 170 to 253VAC For 1-phase 200 to 230VAC: 1-phase 170 to 253VAC					3-phase 170 to 253VAC								1-phase 85 to 132VAC					
	Permissible Frequency Fluctuation	±5% maximum																		
Control Circuit Power Supply	Voltage/Frequency	1-phase 200 to 230VAC 50/60Hz (*10)					1-phase 200 to 230VAC 50/60Hz								1-phase 100 to 120VAC 50/60Hz					
	Permissible Voltage Fluctuation	1-phase 170 to 253VAC																1-phase 85 to 132VAC		
	Permissible Frequency Fluctuation	±5% maximum																		
	Power Consumption (W)	30					45								30					
Interface Power Supply		24VDC ±10% (required current capacity: 150mA (*7))																		
Regenerative Resistor/ Tolerable Regenerative Power (W) (*3, *4)	Built-in Regenerative Resistor	—	10	10	10	20	20	100	100	130	170	—	—	—	—	10	10			
	External Regenerative Resistor (Standard Accessory) (*5, *6)	—	—	—	—	—	—	—	—	—	—	500 (800)	850 (1300)	850 (1300)	—	—	—			
Control System		Sine-wave PWM Control/ Current Control System																		
Dynamic Brake		Built-in (*8, *11)										External option			Built-in (*8, *11)					
Safety Features		Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection																		
Structure	Self-Cooling Open (IP00)	Fan cooling open (IP00)													Self-cooling open (IP00)					
Environment	Ambient Temp. (*9)	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)																		
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)																		
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust																		
	Elevation	1000m or less above sea level																		
	Vibration	5.9m/s² maximum																		
Mass kg (lb)		0.8 (1.8)	0.8 (1.8)	1.0 (2.2)	1.0 (2.2)	1.4 (3.1)	1.4 (3.1)	2.1 (4.6)	2.3 (5.1)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)	0.8 (1.8)	0.8 (1.8)	1.0 (2.2)			

Notes:

- Rated output and rated speed of the servo motor used in combination with the servo amplifier are as indicated when using the power supply voltage and frequency listed. The torque drops when the power supply voltage is less than specified.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in the MR-J3 manual.
- Optimal regenerative resistor varies for each system. Select the most suitable regenerative resistor by using the capacity selection software.
- Refer to the section "Options • Optional regeneration unit" in the MR-J3 manual for the tolerable regenerative power (W).
- The servo amplifier (MR-J3-□KB-PX) without an enclosed regenerative resistor is also available.
- The value in () applies when the external regenerative resistors, GRZG400-□Ω, (standard accessory) are used with cooling fans (2 units of 92 x 92mm, minimum air flow: 1.0m³/min). Note that change in the parameter No. PA02 is required.
- 150mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□B SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Special specification models without a dynamic brake, MR-J3-□B-ED and MR-J3-□B1-ED, are also available.
- The MR-J3-350B or smaller servo amplifier can be installed closely. In this case, keep the ambient temperature within 0 to 45°C (32 to 113°F), or use the servo amplifier with 75% or less of the effective load rate.
- The special specification model, MR-J3-□B-U004, is also available for 1-phase 200 to 240VAC.
- When using the built-in dynamic brake, refer to MR-J3-□B SERVO AMPLIFIER INSTRUCTION MANUAL for the permissible load inertia moment ratio.

MR-J3-B Servo Amplifier Specifications: 200VAC, 30kW or Larger

Drive Unit Model		MR-J3-DU30KB	MR-J3-DU37KB
Main Circuit Power Supply	Voltage/Frequency (*1)	The drive unit's main circuit power is supplied from the converter unit	
	Permissible Voltage Fluctuation		
	Permissible Frequency Fluctuation		
Control Circuit Power Supply	Voltage/Frequency	1-phase 200 to 230VAC 50/60Hz	
	Permissible Voltage Fluctuation	1-phase 170 to 253VAC	
	Permissible Frequency Fluctuation	±5% maximum	
	Power Consumption (W)	45	
Interface Power Supply		24VDC ±10% (required current capacity: 150mA (*2))	
Control System		Sine-wave PWM control/current control system	
Dynamic Brake		External option	
Safety Features		Overcurrent shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection	
Structure		Fan cooling open (IP00)	
Mass kg (lb)		26 (57)	
Environment	Ambient Temperature	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)	
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)	
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust	
	Elevation	1000m or less above sea level	
	Vibration	5.9m/s² maximum	

Notes:

- Rated output and rated speed of the servo motor used in combination with the drive unit and the converter unit are as indicated when using the power supply voltage and frequency listed. The torque drops when the power supply voltage is less than specified.
- The interface power supply can be shared with the drive unit and the converter unit. When all of the input/output points are used, 150mA is required for the drive unit, and 130mA is required for the converter unit. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□B SERVO AMPLIFIER INSTRUCTION MANUAL" for details.

MR-J3-B Servo Amplifier Specifications: 400VAC, 22kW or Smaller

Servo Amplifier Model MR-J3-		60B4	100B4	200B4	350B4	500B4	700B4	11KB4	15KB4	22KB4
Main Circuit Power Supply	Voltage/Frequency (*1, *2)	3-phase 380 to 480VAC 50/60Hz								
	Permissible Voltage Fluctuation	3-phase 323 to 528VAC								
	Permissible Frequency Fluctuation	±5% maximum								
Control Circuit Power Supply	Voltage/Frequency	1-phase 380 to 480VAC 50/60Hz								
	Permissible Voltage Fluctuation	1-phase 323 to 528VAC								
	Permissible Frequency Fluctuation	±5% maximum								
	Power Consumption (W)	30				45				
Interface Power Supply		24VDC ±10% (required current capacity: 150mA (*7))								
Regenerative Resistor/ Tolerable Regenerative Power (W) (*3, *4)	Built-In Regenerative Resistor	15	15	100	100	130 (*9)	170 (*9)	—	—	—
	External Regenerative Resistor (Standard Accessory) (*5, *6)	—	—	—	—	—	—	500 (800)	850 (1300)	850 (1300)
Control System		Sine-wave PWM control/current control system								
Dynamic Brake		Built-in (*8, 10)						External option		
Safety Features		Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection								
Structure		Self-cooling open (IP00)			Fan cooling open (IP00)					
Environment	Ambient Temperature	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)								
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)								
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust								
	Elevation	1000m or less above sea level								
	Vibration	5.9m/s² maximum								
Mass kg (lb)		1.7 (3.7)	1.7 (3.7)	2.1 (4.6)	4.6 (10)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)

Notes:

- Rated output and rated speed of the servo motor used in combination with the servo amplifier are as indicated when using the power supply voltage and frequency listed. The torque drops when the power supply voltage is less than specified.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in the MR-J3 manual.
- Optimal regenerative resistor varies for each system. Select the most suitable regenerative resistor by using the capacity selection software.
- Refer to the section "Options • Optional regeneration unit" in the MR-J3 manual for the tolerable regenerative power (W).
- The servo amplifier (MR-J3-□KB4-PX) without an enclosed regenerative resistor is also available.
- The value in () applies when the external regenerative resistors, GRZG400-MΩ, (standard accessory) are used with cooling fans (2 units of 92 X 92mm, minimum air flow: 1.0m³/min). Note that change in the parameter No. PA02 is required.
- 150mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□B SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Special specification models without a dynamic brake, MR-J3-□B4-ED, are also available.
- The amplifier built-in resistor is compatible with the maximum torque deceleration when the motor is used within the rated speed and the recommended load/motor inertia moment ratio. Contact Mitsubishi if the operating motor speed and the load/motor inertia moment ratio exceed the rated speed and the recommended ratio.
- For the servo amplifier 5kW or 7kW, the load/motor of inertia moment ratio must be 5 times or less when the amplifier built-in dynamic brake is used, and the motor speed exceeds 2000r/min.

MR-J3-B Servo Amplifier Specifications: 400VAC, 30kW or Larger

Drive Unit Model		MR-J3-DU30KB4	MR-J3-DU37KB4	MR-J3-DU45KB4	MR-J3-55KB4
Main Circuit Power Supply	Voltage/Frequency (*1)	The drive unit's main circuit power is supplied from the converter unit.			
	Permissible Voltage Fluctuation				
	Permissible Frequency Fluctuation				
Control Circuit Power Supply	Voltage/Frequency	1-phase 380 to 480VAC 50/60Hz			
	Permissible Voltage Fluctuation	1-phase 323 to 528VAC			
	Permissible Frequency Fluctuation	±5% maximum			
	Power Consumption (W)	45			
Interface Power Supply		24VDC ±10% (required current capacity: 150mA (*2))			
Control System		Sine-wave PWM control/current control system			
Dynamic Brake		External option			
Safety Features		Overcurrent shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection			
Structure		Fan cooling open (IP00)			
Mass kg (lb)		18 (40)			26 (57)
Environment	Ambient Temperature	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)			
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)			
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust			
	Elevation	1000m or less above sea level			
	Vibration	5.9m/s ² maximum			

Notes:

- Rated output and rated speed of the servo motor used in combination with the drive unit and the converter unit are as indicated when using the power supply voltage and frequency listed. The torque drops when the power supply voltage is less than specified.
- The interface power supply can be shared with the drive unit and the converter unit. When all of the input/output points are used, 150mA is required for the drive unit, and 130mA is required for the converter unit. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□B SERVO AMPLIFIER INSTRUCTION MANUAL" for details.

MR-J3-B-RJ006 Servo Amplifier Specifications: 100VAC/200VAC

Servo Amplifier Model MR-J3-□-RJ006			10B	20B	40B	60B	70B	100B	200B	350B	500B	700B	11KB	15KB	22KB	10B1	20B1	40B1			
Main Circuit Power Supply	Voltage/Frequency (*1, *2)		3-phase 200 to 230VAC 50/60Hz or 1-phase 200 to 230VAC 50/60Hz (*10)					3-phase 200 to 230VAC 50/60Hz								1-phase 100 to 120VAC 50/60Hz					
	Permissible Voltage Fluctuation		For 3-phase 200 to 230VAC: 3-phase 170 to 253VAC For 1-phase 200 to 230VAC: 1-phase 170 to 253VAC					3-phase 170 to 253VAC								1-phase 85 to 132VAC					
	Permissible Freq. Fluctuation		±5% maximum																		
Control Circuit Power Supply	Voltage/Frequency		1-phase 200 to 230VAC 50/60H (*10)					1-phase 200 to 230VAC 50/60Hz								1-phase 100 to 120VAC 50/60Hz					
	Permissible Voltage Fluctuation		1-phase 170 to 253VAC																	1-phase 85 to 132VAC	
	Permissible Freq. Fluctuation		±5% maximum																		
	Power Consumption (W)		30									45					30				
Interface Power Supply			24VDC ±10% (required current capacity: 150mA (*7))																		
Load-Side Encoder Interface	Serial Interface		Mitsubishi high-speed serial communication																		
	Pulse Train Interface	Input Signal	ABZ phase differential input signal																		
		Min. Phase Difference	200ns																		
Regenerative Resistor/ Tolerable Regenerative Power (W) (*3, *4)	Built-In Regenerative Resistor		—	10	10	10	20	20	100	100	130	170	—	—	—	—	10	10			
	External Regenerative Resistor (Standard Accessory) (*5, *6)		—	—	—	—	—	—	—	—	—	—	500 (800)	850 (1300)	850 (1300)	—	—	—			
Control System			Sine-wave PWM control/current control system																		
Dynamic Brake			Built-in (*8)											External option			Built-in (*8)				
Safety Features			Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection																		
Structure			Self-cooling open (IP00)					Fan cooling open (IP00)								Self-cooling open (IP00)					
Environment	Ambient Temperature (*9)		0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)																		
	Ambient Humidity		90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)																		
	Atmosphere		Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust																		
	Elevation		1000m or less above sea level																		
	Vibration		5.9m/s² maximum																		
Mass kg (lb)			0.8 (1.8)	0.8 (1.8)	1.0 (2.2)	1.0 (2.2)	1.4 (3.1)	1.4 (3.1)	2.3 (5.1)	2.3 (5.1)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)	0.8 (1.8)	0.8 (1.8)	1.0 (2.2)			

Notes:

- Rated output and rated speed of the servo motor used in combination with the servo amplifier are as indicated when using the power supply voltage and frequency listed.
The torque drops when the power supply voltage is less than specified.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in the MR-J3 manual.
- Optimal regenerative resistor varies for each system.
- Refer to the section "Options • Optional regeneration unit" in the MR-J3 manual for the tolerable regenerative power (W).
- The servo amplifier (MR-J3-□KB-RZ006) without an enclosed regenerative resistor is also available.
- The value applies when the external regenerative resistors, GRZG400-□□, (standard accessory) are used with cooling fans (2 units of 92 x 92mm, minimum air flow: 1.0m³/min). Note that change in the parameter No. PA02 is required.
- 150mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use.
Refer to "MR-J3-□B-RJ006 SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Special specification models without a dynamic brake, MR-J3-□B-RU006 and MR-J3-□B1-RU006, are also available.
- The MR-J3-350B or smaller servo amplifier can be installed closely. In this case, keep the ambient temperature within 0 to 45°C (32 to 113°F), or use the servo amplifier with 75% or less of the effective load rate.
- The special specification model, MR-J3-□B-RJ006U004, is also available for 1-phase 200 to 240VAC.

MR-J3-B-RJ006 Servo Amplifier Specifications: 400VAC

Servo Amplifier Model MR-J3-□-RJ006			60B4	100B4	200B4	350B4	500B4	700B4	11KB4	15KB4	22KB4
Main Circuit Power Supply	Voltage/Frequency (*1, *2)		3-phase 380 to 480VAC 50/60Hz								
	Permissible Voltage Fluctuation		3-phase 323 to 528VAC								
	Permissible Freq. Fluctuation		±5% maximum								
Control Circuit Power Supply	Voltage/Frequency		1-phase 380 to 480VAC 50/60Hz								
	Permissible Voltage Fluctuation		1-phase 323 to 528VAC								
	Permissible Freq. Fluctuation		±5% maximum								
	Power Consumption (W)		30				45				
Interface Power Supply			24VDC ±10% (required current capacity: 150mA (*7))								
Load-Side Encoder Interface	Serial Interface		Mitsubishi high-speed serial communication								
	Pulse Train Interface	Input Signal	ABZ phase differential input signal								
		Minimum Phase Difference	200ns								
Regenerative Resistor/ Tolerable Regenerative Power (W) (*3, *4)	Built-In Regenerative Resistor		15	15	100	100	130 (*9)	170 (*9)	—	—	—
	External Regenerative Resistor (Standard Accessory) (*5, *6)		—	—	—	—	—	—	500 (800)	850 (1300)	850 (1300)
Control System			Sine-wave PWM control/current control system								
Dynamic Brake			Built-in (*8, *10)						External option		
Safety Features			Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection								
Structure			Self-cooling open (IP00)			Fan cooling open (IP00)					
Environment	Ambient Temperature		0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)								
	Ambient Humidity		90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)								
	Atmosphere		Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust								
	Elevation		1000m or less above sea level								
	Vibration		5.9m/s² maximum								
Mass kg (lb)			1.7 (3.7)	1.7 (3.7)	2.1 (4.6)	4.6 (10)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)

Notes:

- Rated output and rated speed of the servo motor used in combination with the servo amplifier are as indicated when using the power supply voltage and frequency listed. The torque drops when the power supply voltage is less than specified.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in the MR-J3 manual.
- Optimal regenerative resistor varies for each system.
- Refer to the section "Options • Optional regeneration unit" in the MR-J3 manual for the tolerable regenerative power (W).
- The servo amplifier (MR-J3-MKB4-RZ006) without an enclosed regenerative resistor is also available.
- The value in () applies when the external regenerative resistors, GRZG400-M Ω 2, (standard accessory) are used with cooling fans (2 units of 92 x 92mm, minimum air flow: 1.0m³/min). Note that change in the parameter No. PA02 is required.
- 150mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□B-RJ006 SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Special specification models without a dynamic brake, MR-J3-□B4-RU006, are also available.
- The amplifier built-in resistor is compatible with the maximum torque deceleration when the motor is used within the rated speed and the recommended load/motor inertia moment ratio. Contact Mitsubishi if the operating motor speed and the load/motor inertia moment ratio exceed the rated speed and the recommended ratio.
- For the servo amplifier 5kW or 7kW, the load/motor of inertia moment ratio must be 5 times or less when the amplifier built-in dynamic brake is used, and the motor speed exceeds 2000r/min.

MR-J3-T Servo Amplifier Specifications 100VAC/200VAC

Servo Amplifier Model MR-J3-		10T	20T	40T	60T	70T	100T	200T	350T	500T	700T	11KT	15KT	22KT	10T1	20T1	40T1		
Main Circuit Power Supply	Voltage/Frequency (*1, *2)	3-phase 200 to 230VAC 50/60Hz or 1-phase 200 to 230VAC 50/60Hz (*10)					3-phase 200 to 230VAC 50/60Hz								1-phase 100 to 120VAC 50/60Hz				
	Permissible Voltage Fluctuation	For 3-phase 200 to 230VAC: 3-phase 170 to 253VAC For 1-phase 200 to 230VAC: 1-phase 170 to 253VAC					3-phase 170 to 253VAC								1-phase 85 to 132VAC				
	Permissible Freq. Fluctuation	±5% maximum																	
Control Circuit Power Supply	Voltage/Frequency	1-phase 200 to 230VAC 50/60Hz (*10)					1-phase 200 to 230VAC 50/60Hz								1-phase 100 to 120VAC 50/60Hz				
	Permissible Voltage Fluctuation	1-phase 170 to 253VAC																1-phase 85 to 132VAC	
	Permissible Freq. Fluctuation	±5% maximum																	
	Power Consumption (W)	30								45				30					
Interface Power Supply		24VDC ±10% (required current capacity: 150mA (*7))																	
Regenerative Resistor/ Tolerable Regenerative Power (W) (*3, *4)	Built-In Regenerative Resistor	—	10	10	10	20	20	100	100	130	170	—	—	—	—	10	10		
	External Regenerative Resistor (Standard Accessory) (*5, *6)	—	—	—	—	—	—	—	—	—	—	500 (800)	850 (1300)	850 (1300)	—	—	—		
Control System		Sine-wave PWM control/current control system																	
Dynamic Brake		Built-in (*8)										External option			Built-in (*8)				
Safety Features		Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection																	
Structure		Self-cooling open (IP00)					Fan cooling open (IP00)								Self-cooling open (IP00)				
Environment	Ambient Temperature (*9)	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)																	
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)																	
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust																	
	Elevation	1000m or less above sea level																	
	Vibration	5.9m/s ² maximum																	
Mass kg (lb)		0.8 (1.8)	0.8 (1.8)	1.0 (2.2)	1.0 (2.2)	1.4 (3.1)	1.4 (3.1)	2.1 (4.6)	2.3 (5.1)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)	0.8 (1.8)	0.8 (1.8)	10 (2.2)		

Notes:

- Rated output and rated speed of the servo motor used in combination with the servo amplifier are as indicated when using the power supply voltage and frequency listed. The torque drops when the power supply voltage is less than specified.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in the MR-J3 manual.
- Optimal regenerative resistor varies for each system. Select the most suitable regenerative resistor by using the capacity selection software.
- Refer to the section "Options • Optional regeneration unit" in the MR-J3 manual for the tolerable regenerative power (W).
- The servo amplifier (MR-J3-□KT-PX) without an enclosed regenerative resistor is also available.
- The value in () applies when the external regenerative resistors, GRZG400-□Ω, (standard accessory) are used with cooling fans (2 units of 92 x 92mm, minimum air flow: 1.0m³/min). Note that change in the parameter No. PA02 is required.
- 150mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□T SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Special specification models without a dynamic brake, MR-J3-□T-ED and MR-J3-□T1-ED, are also available.
- The MR-J3-350T or smaller servo amplifier can be installed closely. In this case, keep the ambient temperature within 0 to 45°C (32 to 113°F), or use the servo amplifier with 75% or less of the effective load rate.
- The special specification model, MR-J3-□T-U004, is also available for 1-phase 200 to 240VAC.

MR-J3-T Servo Amplifier Specifications 400VAC

Servo Amplifier Model MR-J3-		60T4	100T4	200T4	350T4	500T4	700T4	11KT4	15KT4	22KT4
Main Circuit Power Supply	Voltage/Frequency (*1, 2)	3-phase 380 to 480VAC 50/60Hz								
	Permissible Voltage Fluctuation	3-phase 323 to 528VAC								
	Permissible Frequency Fluctuation	±5% maximum								
Control Circuit Power Supply	Voltage/Frequency	1-phase 380 to 480VAC 50/60Hz								
	Permissible Voltage Fluctuation	1-phase 323 to 528VAC								
	Permissible Frequency Fluctuation	±5% maximum								
Power Consumption (W)		30				45				
Interface Power Supply		24VDC ±10% (required current capacity: 150mA (*7))								
Regenerative Resistor/ Tolerable Regenerative Power (W) (*3, 4)	Built-in Regenerative Resistor	15	15	100	100	130 (*9)	170 (*9)	—	—	—
	External Regenerative Resistor (Standard Accessory) (*5, *6)	—	—	—	—	—	—	500 (850)	850 (1300)	850 (1300)
Control System		Sine-wave PWM control/current control system								
Dynamic Brake		Built-in (*8, *10)						External option		
Safety Features		Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection								
Structure		Self-cooling open (IP00)			Fan cooling open (IP00)					
Environment	Ambient Temperature	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)								
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)								
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust								
	Elevation	1000m or less above sea level								
	Vibration	5.9m/s² maximum								
Mass kg (lb)		1.7 (3.7)	1.7 (3.7)	2.1 (4.6)	4.6 (10)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)

Notes:

- Rated output and rated speed of the servo motor used in combination with the servo amplifier are as indicated when using the power supply voltage and frequency listed. The torque drops when the power supply voltage is less than specified.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in the MR-J3 manual.
- Optimal regenerative resistor varies for each system. Select the most suitable regenerative resistor by using the capacity selection software.
- Refer to the section "Options • Optional regeneration unit" in the MR-J3 manual for the tolerable regenerative power (W).
- The servo amplifier (MR-J3-□KT4-PX) without an enclosed regenerative resistor is also available.
- The value in () applies when the external regenerative resistors, GRZG400-MΩ, (standard accessory) are used with cooling fans (2 units of 92 x 92mm, minimum air flow: 1.0m³/min). Note that change in the parameter No. PA02 is required.
- 150mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□T SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Special specification models without a dynamic brake, MR-J3-□T4-ED are also available.
- The amplifier built-in resistor is compatible with the maximum torque deceleration when the motor is used within the rated speed and the recommended load/motor inertia moment ratio. Contact Mitsubishi if the operating motor speed and the load/motor inertia moment ratio exceed the rated speed and the recommended ratio.
- For the servo amplifier 5kW or 7kW, the load/motor of inertia moment ratio must be 5 times or less when the amplifier built-in dynamic brake is used, and the motor speed exceeds 2000r/min.

MR-J3-T Servo Amplifier Common Specifications

Item			Description		
Command Interface			CC-Link communication (Ver.1.10), DIO command (extension IO unit MR-J3-D01 is required), or RS-422 communication		
Operation System	Point Table	Command Method	Remote Register		
			Possible with CC-Link communication when 2 stations occupied. Position command input: position command data is set with the remote register. Feed length input setting range: ±1μm to ±999.999mm. Speed command input: speed command data (rotating speed) is set with the remote register.		
		Point Table No. Input			
		Possible with CC-Link communication, DIO command or RS-422 communication CC-Link communication (when 1 station occupied): 31 points CC-Link communication (when 2 stations occupied): 255 points DIO command: 255 points (extension IO unit MR-J3-D01 is required.) RS-422 communication: 255 points Position command input: selects from the point table. 1-point feed length setting range: ±1μm to ±999.999mm. Speed command input: selects speed and acceleration/deceleration time constant from the point table.			
		Automatic Operation Mode	Point Table	Point table No. input or point table data input system. Each positioning operation based on position and speed data. Speed changing operation (2 to 255 speeds). Automatic continuous positioning operation (2 to 255 points) Roll feed display is selectable. Clearing droop pulses with the clear (CR) signal is settable.	
		Manual Operation Mode	JOG Operation		Inches upon contact input, CC-Link communication or RS-422 communication based on speed data set by a parameter.
	Manual Pulse Generator		Manual feed with the manual pulse generator. Command pulse multiplication: x1, x10, x100 is selectable with parameter.		
	Index System	Command Method	Station Position Command Input		Possible with CC-Link communication CC-Link communication (when 1 station occupied): 31 stations CC-Link communication (when 2 stations occupied): 255 stations
			Speed Command Input	Remote Register	Possible with CC-Link communication when 2 stations occupied. Sets speed command data (rotating speed) with the remote register.
				Speed No Input	Selects speed and acceleration/deceleration time constant from the point table. (Only when 2 stations occupied)
		Automatic Operation Mode	Rotating Direction Specified		Positions to the specified station. Rotating direction is settable.
			Shortest Rotating Direction		Positions to the specified station. Shorter rotating direction from the current point is selected.
		Manual Operation Mode	Index JOG Operation		Rotates in a direction specified by rotating direction evaluation when the start signal (RYn1) turns ON. Positions to a nearest station where deceleration to a stop is possible when the start signal (RYn1) turns OFF.
			JOG Operation		Inches upon CC-Link communication based on speed data set by a parameter.
		Home Position Return Mode	Dog System		Returns to home position upon Z-phase pulse count after passing through near-point dog. Direction for return to home position selectable. Home position shift amount and home position address settable. Automatic retreat on dog back to home position and automatic stroke retreat function.
	Count System		Returns to home position upon encoder pulse count after touching near-point dog. Direction for return to home position selectable. Home position shift amount and home position address settable. Automatic retreat on dog back to home position and automatic stroke retreat function.		
Data Set System			Returns to home position without dog. Sets any position as home position using JOG operation, etc. Home position address settable.		
Stopper System			Returns to home position upon hitting end of stroke. Direction for return to home position selectable. Home position address settable.		
Ignore Home (Servo-On Position As Home Position)			Uses position where the servo on signal (SON) turns ON as home position. Home position address settable.		
Dog System Rear End Reference			Returns to home position with respect to the rear end of a near-point dog. Direction for return to home position selectable. Home position shift amount and home position address settable. Automatic retreat on dog back to home position and automatic stroke retreat function.		
Count System Front End Reference			Returns to home position with respect to the front end of a near-point dog. Direction for return to home position selectable. Home position shift amount and home position address settable. Automatic retreat on dog back to home position and automatic stroke retreat function.		
Dog Cradle System			Returns to home position upon the first Z-phase pulse with respect to the front end of a near-point dog. Direction for return to home position selectable. Home position shift amount and home position address settable. Automatic retreat on dog back to home position and automatic stroke retreat function.		
Dog System Adjacent Z-Phase Reference			Returns to home position upon the Z-phase pulse right before a near-point dog with respect to the front end of a near-point dog. Direction for return to home position selectable. Home position shift amount and home position address settable. Automatic retreat on dog back to home position and automatic stroke retreat function.		
Dog System Front End Reference			Returns to home position to the front end of a point dog with respect to the front end of a near-point dog. Direction for return to home position selectable. Home position shift amount and home position address settable. Automatic retreat on dog back to home position and automatic stroke retreat function.		
Dog Less Z-Phase Reference			Returns to home position to the first Z-phase pulse with respect to the first Z-phase pulse. Direction for return to home position selectable. Home position shift amount and home position address settable.		
Torque Limit Switching Dog System (*2)			Returns to home position upon Z-phase pulse count after passing through near-point dog. Direction for return to home position selectable. Home position shift amount and home position address settable. Automatic retreat on dog back to home position and automatic stroke retreat function. Torque limit automatic switching function.		
Torque Limit Switching Data Set System (*2)			Returns to home position without dog. Sets any position as home position. Home position address and torque limit settable.		
Automatic Positioning To Home Position Function			High-speed automatic positioning to a defined home position.		

Notes:

1. The servo amplifier with software version A4 or above is required for the indexer function.
2. This mode is available only with the indexer function.

MR-J3-D01 Specifications

Model		MR-J3-D01
Power Supply for Interface		24VDC $\pm 10\%$ (required current capacity: 800mA (*1, *2))
Digital Input		30 points, photocoupler insulation, sink/source compatible
Digital Output		16 points, photocoupler insulation, sink/source compatible
Analog Input		2ch, 0 to ± 10 VDC (input impedance: 10 to 12k Ω)
Analog Output		2ch, 0 to ± 12 VDC
Power Supply for Analog Input Signal		P15R: DC+15V, permissible current: 30mA; N12R: DC-12V, permissible current: 30mA (*5)
Structure		Self-cooling open (IP00)
Environment	Ambient Temperature	0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)
	Ambient Humidity	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust
	Elevation	1000m or less above sea level
	Vibration	5.9m/s ² maximum
Mass kg (lb)		140 (0.31)

Functions Connecting to MR-J3-□T□

Function	Description
Digital Input	Point table No. selection 1 to 8 (DI0 to DI7), Servo-on (SON), Reset (RES), External torque limit selection (TL), Internal torque limit selection (TL1), Manual pulse generator multiplication 1, 2 (TP0, TP1), Override selection (OVR), Automatic/manual selection (MD0), Temporary stop/restart (TSTP), Proportional control (PC), Forward rotation start (ST1), Reverse rotation start (ST2), Position data input 1 to 12 (POS00 to POS03, POS10 to POS13, POS20 to POS23), Position data input symbol+ (POSP), Clear (CR), Position data input symbol- (POSN), Strobe (STRB), Speed selection 1 to 3 (SP0 to SP2), Gain changing (CDP) (*3)
Digital Output	Alarm code (ACD0 to ACD3), M code (MCD00 to MCD03, MCD10 to MCD13), Temporary stop (PUS), Positioning complete (MEND), Phase match (CPO), In-position (INP), Position data request 1, 2 (PRQ1, PRQ2), Zero speed (ZSP), Torque limit in effect (TLC), Warning (WNG), Electromagnetic brake interlock (MBR), Dynamic brake interlock (DB), Battery warning (BWNG), Positioning range output (POT), Variable gain selection (CDPS), Command speed reached (SA), Point table No. output 1 to 8 (PT0 to PT7) (*3)
Analog Input	Override (VC) (-10 to +10VDC/0 to 200%) Analog torque limit (TLA) (0 to ± 10 VDC/maximum torque)
Analog Output	Analog monitor output (MO1, MO2) (*4)

Functions Connecting to MR-J3-□A□-RJ040

Function	Description
Position Control Mode	Electric Gear Numerator Digital Input The electric gear numerator can be set arbitrarily in 5-digit BCD or 16-bit binary.
	High Resolution Analog Torque Limit The torque limit can be set according to the rotating direction. TLAP: 0 to +10VDC/maximum torque; Resolution: 12-bit (Standard: 10-bit) TLAN: 0 to -10VDC/maximum torque; Resolution: 12-bit (Standard: 10-bit)
Speed Control Mode	Digital Speed Command Input The speed command can be set arbitrarily in 5-digit BCD or 12-bit (16-bit) binary.
	High Resolution Analog Torque Limit The torque limit can be set according to the rotating direction. TLAP: 0 to +10VDC/maximum torque; Resolution: 16-bit (Standard: 14-bit) TLAN: 0 to -10VDC/maximum torque; Resolution: 16-bit (Standard: 14-bit)
Torque Control Mode	Digital Speed Limit Input The speed limit can be set arbitrarily in 5-digit BCD or 12-bit (16-bit) binary.
	High Resolution Torque Command Input External analog torque command (OTC) 0 to ± 8 VDC/maximum torque; Resolution: 12-bit (Standard: 10-bit)

Notes:

- 800mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□T MR-J3-D01 SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- A 24VDC power supply for input/output signals can be shared by the servo amplifier and MR-J3-D01. In this case, secure the power supply capacity corresponding to the points of the input/output signals to be used.
- The signal assignment can be changed by setting the parameters. Refer to "MR-J3-□T MR-J3-D01 SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Analog monitor output can be selected by setting the parameter. Refer to "MR-J3-□T MR-J3-D01 SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- P15R can be used as a power supply for TLA and VC. N12R can be used as a power supply for VC. Note that the power voltage varies between -12 to -15V.

B Converter Unit (Required for 30KW ~ 55KW 200/400V amplifiers)

Converter Unit Model		MR-J3-CR55K (For 200VAC Only)	MR-J3-CR55K4 (For 400VAC Only)
Main Circuit Power Supply	Voltage/Frequency (*1, *2)	3-phase 200 to 230VAC 50/60Hz	3-phase 380 to 480VAC 50/60Hz
	Permissible Voltage Fluctuation	3-phase 170 to 253VAC	3-phase 323 to 528VAC
	Permissible Frequency Fluctuation	$\pm 5\%$ maximum	$\pm 5\%$ maximum
Control Circuit Power Supply	Voltage/Frequency	1-phase 200 to 230VAC 50/60Hz	1-phase 380 to 480VAC 50/60Hz
	Permissible Voltage Fluctuation	1-phase 170 to 253VAC	1-phase 323 to 528VAC
	Permissible Frequency Fluctuation	$\pm 5\%$ maximum	$\pm 5\%$ maximum
	Power Consumption (W)	45	45
Interface Power Supply		24VDC $\pm 10\%$ (required current capacity: 130mA (*3))	24VDC $\pm 10\%$ (required current capacity: 130mA (*3))
Safety Features		Regeneration overvoltage shutdown, regeneration fault protection, overload shutdown (electronic thermal), undervoltage/sudden power outage protection	
Structure		Fan cooling open (IP00)	Fan cooling open (IP00)
Mass kg (lb)		25 (55)	25 (55)

Notes:

- Rated output and rated speed of the servo motor used in combination with the drive unit and the converter unit are as indicated when using the power supply voltage and frequency listed. The torque drops when the power supply voltage is less than specified.
- For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in the MR-J3 manual.
- The interface power supply can be shared with the drive unit and the converter unit. When all of the input/output points are used, 150mA is required for the drive unit, and 130mA is required for the converter unit. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A/B SERVO AMPLIFIER INSTRUCTION MANUAL" for details.

MR-J3 Servomotors

MR-J3 Motor Types

Motor Series		Rated Speed (Maximum Speed) r/min	Rated Output (kW)	Electromagnetic Brake Available	Standards		Protective Degree	Features	Application Examples
					EN	UL/cUL			
Small Capacity Series	HF-KP 	3000 (6000)	5 Types (200V) 0.05, 0.1, 0.2, 0.4, 0.75	✓	✓	✓	IP65 (*2)	Low inertia Perfect for general industrial machines	- Belt drive - Robots - Mounters - Sewing machines - X-Y tables - Food processing machines - Semiconductor manufacturing devices - Knitting and embroidery machines
	HF-MP 							Ultra-low inertia Well suited for high frequency operation.	- Inserters - Mounters
Medium Capacity Series	HF-SP 	1000 (1500)	6 Types (200V) 0.5, 0.85, 1.2, 2.0, 3.0, 4.2	✓	✓	✓	IP67 (*2)	Medium inertia Suitable for variable applications three models from low to high-speed are available.	- Material handling systems - Robots - X-Y tables
		2000 (3000)	7 Types (200V) 0.5, 1.0, 1.5, 2.0, 3.5, 5.0, 7.0 7 Types (400V) 0.5, 1.0, 1.5, 2.0, 3.5, 5.0, 7.0	✓	✓	✓	IP67 (*2)		
	HC-LP 	2000 (3000)	5 Types (200V) 0.5, 1.0, 1.5, 2.0, 3.0	✓	✓	✓	IP65 (*2)	Low inertia Perfect for general industrial machines.	- Roller feeder - Loader and unloader - High frequency material handling systems
	HC-RP 	3000 (4500)	5 Types (200V) 1.0, 1.5, 2.0, 3.5, 5.0	✓	✓	✓	IP65 (*2)	Ultra-low inertia Well suited for high-frequency	Ultra-high-frequency material handling systems
Flat, Small/ Medium Capacity Series	HC-UP 	2000 (3000): 0.75 ~ 2kW 2500: 3.5, 5kW	5 Types (200V) 0.75, 1.5, 2.0, 3.5, 5.0	✓	✓	✓	IP65 (*2)	Flat Type The flat design makes this unit well suited for situations where the installation space is restricted.	- Robots - Food processing machines
Medium/ Large Capacity Series		1000 (1200)	8 Types (200V) 6.0, 8.0, 12, 15, 20, 25, 30, 37 8 Types (400V) 6.0, 8.0, 12, 15, 20, 25, 30, 37	✓ (6.0 ~ 12kW Only)	✓ (*4)	✓ (*4)	IP44 (*2)	Low inertia Suitable for variable applications three models from low to medium-speed are available. As a standard, 30kW and larger capacities are compatible with flange mounting or foot mounting.	- Injection molding machines - Semiconductor manufacturing devices - Large material handling systems
		1500 (2000)	6 Types (200V) 7.0, 11, 15, 22, 30, 37 8 Types (400V) 7.0, 11, 15, 22, 30, 37, 45, 50	✓ (7.0 ~ 15kW Only)	✓ (*4)	✓ (*4)	IP44 (*2)		
		2000 (2000)	7 Types (200V) 5.0, 7.0, 11, 15, 22, 30, 37 7 Types (400V) 11, 15, 22, 30, 37, 45, 55	✓ (11 ~ 22kW Only)	✓ (*4)	✓ (*4)	IP44 (HA-LP 502/702=IP65) (*2)		

Notes:

- ✓ indicates the available product range.
- The shaft-through portion is excluded.
- Some motors from 15 to 25kW capacities can be mounted with the feet. Refer to the Motor Dimensions of this catalog.
- Some motors are under application for EN, UL, and cUL standards. Contact MEAU for more details.

200V Motor Selection: (Example Part# = HF-SP102BK)

H ☐ - ☐ P - ☐ ☐ ☐ ☐ ☐

Symbol	Motor Series	
HF-KP	Low inertia, small capacity	
HF-MP	Ultra-low inertia, small capacity	
HF-SP	Medium inertia, medium capacity	
HC-LP	Low inertia, medium capacity	
HC-RP	Ultra-low inertia, medium capacity	
HC-UP	Flat type Small/medium capacity	
HA-LP	Low inertia Medium/large capacity	

Symbol	Shaft Shape
None	Standard (Straight)
K	With Keyway (*1)
D	D-Cut (*1)

Note:

1. Refer to Motor Shaft Detail in this section for compatible models and specifications.

Symbol	Oil Seal
None	None
J	Oil Seal Installed (*1, *2)

Note:

1. Dimensions for HF-KP/MP motors with oil seals are different than standard models. Contact Mitsubishi for details.
2. Oil-Seal not available for the 0.05kW motors.

Symbol	Electromagnetic Brake
None	None
B	With Brake

Symbol	Rated Speed (r/min)
1	1000 (*1)
1M	1500 (*1)
2	2000 (*1)
3	3000 (*1)

Note:

1. Refer to motor specifications in this catalog for correct symbol to use for each servo motor.

Symbol	Rated Output (kW)
05	0.05
1 to 8	0.1 to 0.85
10 to 80	1.0 to 8.0
11K to 37K	11.0 to 37.0

Stocked Motors

Model Number
HF-KP053
HF-KP053B
HF-KP13
HF-KP13B
HF-KP13D
HF-KP23
HF-KP23K
HF-KP23BK
HF-KP43K
HF-KP43BK
HF-KP73K
HF-KP73BK

Model Number
HF-MP053
HF-MP053B
HF-MP13
HF-MP13B
HF-MP23K
HF-MP23BK
HF-MP43K
HF-MP43BK
HF-MP73K
HF-MP73BK

Model Number
HF-SP51K
HF-SP51BK
HF-SP52K
HF-SP52BK
HF-SP81K
HF-SP81BK
HF-SP102K
HF-SP102BK
HF-SP121K
HF-SP121BK
HF-SP152K
HF-SP152BK
HF-SP202K
HF-SP202BK
HF-SP352K
HF-SP352BK
HF-SP502K
HF-SP502BK
HF-SP702K
HF-SP702BK

Model Number
HC-RP103K
HC-RP103BK
HC-UP152K
HC-UP152BK
HC-RP153K
HC-RP353K
HC-RP353BK
HC-RP503K

Model Number
HC-UP72K
HC-UP72BK
HC-UP202K
HC-UP202BK
HC-UP352K
HC-UP352BK
HC-UP502K
HC-UP502BK

Model Number
HA-LP11K2K
HA-LP11K2BK
HA-LP15K2K
HA-LP15K2BK
HA-LP22K2K
HA-LP22K2BK

400V Motor Selection:

(Example Part# = HF-SP524BK)

H ☐ - ☐ P - ☐ ☐ 4 ☐ ☐

Symbol	Motor Series	
HF-SP	Medium inertia, medium capacity	
HA-LP	Low inertia, medium/large capacity	

Symbol	Shaft Shape
None	Standard (Straight)
K	With Keyway (*1)

Note:

1. Refer to Motor Shaft Detail in this section for compatible models and specifications.

Symbol	Electromagnetic Brake
None	None
B	With Brake

Symbol	Rated Speed (r/min)
1	1000 (*1)
1M	1500 (*1)
2	2000 (*1)

Note:

1. Refer to motor specifications in this catalog for correct symbol to use for each servo motor.

Symbol	Rated Output (kW)
5	0.5
10 to 80	1.0 to 8.0
11K to 55K	11.0 to 55.0

Note:

1. Refer to motor specifications in this catalog for correct symbol to use for each servo motor.

Stocked Motors

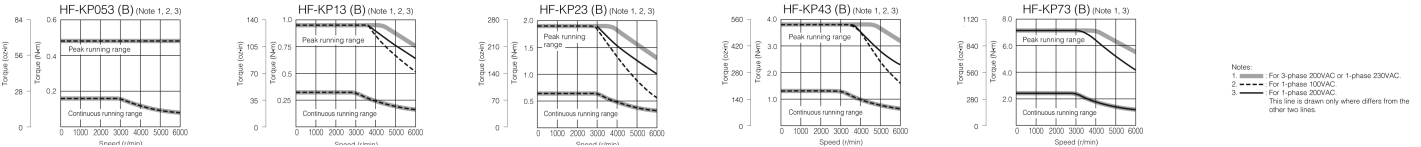
Model Number
HF-SP524K
HF-SP524BK
HF-SP1024K
HF-SP1024BK
HF-SP1524K
HF-SP1524BK
HF-SP2024K
HF-SP2024BK
HF-SP3524K
HF-SP3524BK
HF-SP5024K
HF-SP5024BK
HF-SP7024K
HF-SP7024BK

Model Number
HA-LP11K24K
HA-LP11K24BK
HA-LP15K24K
HA-LP15K24BK
HA-LP22K24K
HA-LP22K24BK

HF-KP Series 200V Servomotor Specifications

Servomotor Model HF-KP□		053(B)	13(B)	23(B)	43(B)	73(B)
Servo Amplifier Model MR-J3-□-□		10A(1)(-RJ070)/ B(1)(-RJ006)/T(1)		20A(1)(-RJ070)/ B(1)(-RJ006)/T(1)	40A(1)(-RJ070)/ B(1)(-RJ006)/T(1)	70A(-RJ070)/ B(-RJ006)/T
Power Facility Capacity (kVA) (*1)		0.3	0.3	0.5	0.9	1.3
Continuous Running Duty	Rated Output (W)	50	100	200	400	750
	Rated Torque (N•m [oz•in])	0.16 (22.7)	0.32 (45.3)	0.64 (90.6)	1.3 (184)	2.4 (340)
Maximum Torque (N•m [oz•in])		0.48 (68)	0.95 (135)	1.9 (269)	3.8 (538)	7.2 (1020)
Rated Speed (r/min)		3000				
Maximum Speed (r/min)		6000				
Permissible Instantaneous Speed (r/min)		6900				
Power Rate at Continuous Rated Torque (kW/s)		4.87	11.5	16.9	38.6	39.9
Rated Current (A)		0.9	0.8	1.4	2.7	5.2
Maximum Current (A)		2.7	2.4	4.2	8.1	15.6
Regenerative Braking Frequency (*2) (times/min)		Refer to Manual	Refer to Manual	448	249	140
Moment Of Inertia J (x10 ⁻⁴ kg•m ²) [J (oz•in ²)]	Standard	0.052 (0.284)	0.088 (0.481)	0.24 (1.31)	0.42 (2.30)	1.43 (7.82)
	With Electromagnetic Brake	0.054 (0.295)	0.090 (0.492)	0.31 (1.69)	0.50 (2.73)	1.63 (8.91)
Recommended Load / Motor Inertia Moment Ratio (*3)		15 times maximum		24 times maximum	22 times maximum	15 times maximum
Speed/Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)				
Attachments		— Motors with an oil seal are available (HF-KP□J)				
Insulation Class		Class B				
Structure		Totally enclosed non-ventilated (protection level: IP65) (*4)				
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)				
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)				
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust				
	Elevation / Vibration	1000m or less above sea level/ X,Y:49m/s ²				
Mass kg (lb)	Standard	0.35 (0.78)	0.56 (1.3)	0.94 (2.1)	1.5 (3.3)	2.9 (6.4)
	With Electromagnetic Brake	0.65 (1.5)	0.86 (1.9)	1.6 (3.6)	2.1 (4.7)	3.9 (8.6)

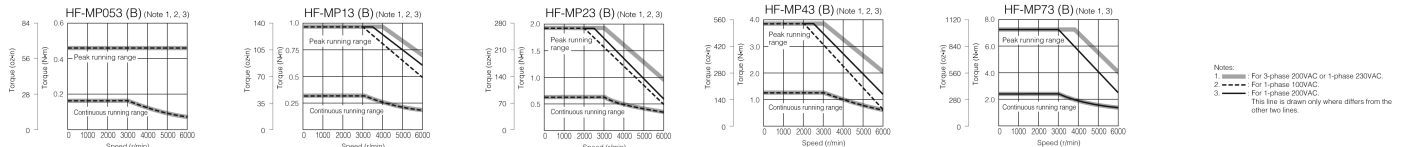
- Notes:
- The power facility capacity varies depending on the power supply's impedance.
 - The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
 - Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
 - The shaft-through portion is excluded.



HF-MP Series 200V Servomotor Specifications

Servomotor Model HF-MP□		053(B)	13(B)	23(B)	43(B)	73(B)
Servo Amplifier Model MR-J3-□-□		10A(1)(-RJ070)/ B(1)(-RJ006)/T(1)		20A(1)(-RJ070)/ B(1)(-RJ006)/T(1)	40A(1)(-RJ070)/ B(1)(-RJ006)/T(1)	70A(-RJ070)/B(-RJ006)/T
Power Facility Capacity (kVA) (*1)		0.3	0.3	0.5	0.9	1.3
Continuous Running Duty	Rated output (W)	50	100	200	400	750
	Rated torque (N•m [oz•in])	0.16 (22.7)	0.32 (45.3)	0.64 (90.6)	1.3 (184)	2.4 (340)
Maximum Torque (N•m [oz•in])		0.48 (68)	0.95 (135)	1.9 (269)	3.8 (538)	7.2 (1020)
Rated Speed (r/min)		3000				
Maximum Speed (r/min)		6000				
Permissible Instantaneous Speed (r/min)		6900				
Power Rate at Continuous Rated Torque (kW/s)		13.3	31.7	46.1	111.6	95.5
Rated Current (A)		1.1	0.9	1.6	2.7	5.6
Maximum Current (A)		3.2	2.8	5.0	8.6	16.7
Regen Braking Frequency (*2) (times/min)		Refer to Manual	Refer to Manual	1570	920	420
Moment of Inertia J (x10 ⁻⁴ kg•m ²) [J (oz•in ²)]	Standard	0.019 (0.104)	0.032 (0.175)	0.088 (0.481)	0.15 (0.82)	0.60 (3.28)
	With Electromagnetic Brake	0.025 (0.137)	0.039 (0.213)	0.12 (0.656)	0.18 (0.984)	0.70 (3.83)
Recommended Load/Motor Inertia Moment Ratio		30 times the servomotor's inertia moment maximum (*3)				
Speed/Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)				
Attachments		— Motors with an oil seal are available (HF-MP□J)				
Insulation Class		Class B				
Structure		Totally enclosed non-ventilated (protection level: IP65) (*4)				
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)				
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)				
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust				
	Elevation / Vibration	1000m or less above sea level / X, Y: 49m/s ²				
Mass kg (lb)	Standard	0.35 (0.78)	0.56 (1.3)	0.94 (2.1)	1.5 (3.3)	2.9 (6.4)
	With electromagnetic brake	0.65 (1.5)	0.86 (1.9)	1.6 (3.6)	2.1 (4.7)	3.9 (8.6)

- Notes:
- The power facility capacity varies depending on the power supply's impedance.
 - The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
 - Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
 - The shaft-through portion is excluded.

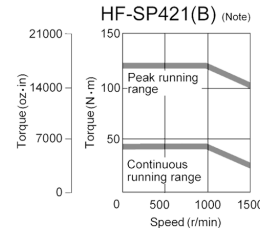
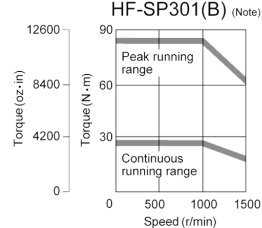
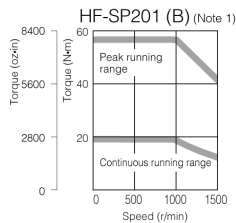
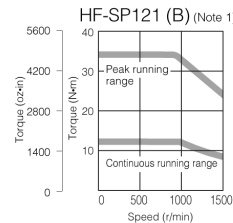
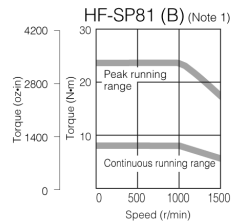
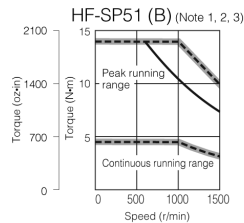


HF-SP 1000r/min Series 200V Servomotor Specifications

Servomotor Model HF-SP□		51(B)	81(B)	121(B)	201(B)	301(B)	421(B)
Servo Amplifier Model MR-J3-□-□		60A(-RJ070)/ 60B(-RJ006)/T (*6)	100A(-RJ070)/ B(-RJ006)/T (*6)	200A(-RJ070)/B(-RJ006)/T (*6)		350A(-RJ070)/ B(-RJ006)/T (*6)	500A(-RJ070)/ B(-RJ006)/T (*6)
Power Facility Capacity (*1) (kVA)		1.0	1.5	2.1	3.5	4.8	6.3
Continuous Running Duty	Rated Output (kW)	0.5	0.85	1.2	2.0	3.0	4.2
	Rated Torque (N·m [oz·in])	4.77 (675)	8.12 (1150)	11.5 (1630)	19.1 (2700)	28.6 (4050)	40.1 (5679)
Maximum Torque (N·m [oz·in])		14.3 (2030)	24.4 (3460)	34.4 (4870)	57.3 (8110)	85.9 (12200)	120 (17000)
Rated Speed (r/min)		1000					
Maximum Speed (r/min)		1500					
Permissible Instantaneous Speed (r/min)		1725					
Power Rate at Continuous Rated Torque (kW/s)		19.2	37.0	34.3	48.6	84.6	104
Rated Current (A)		2.9	4.5	6.5	11	16	24
Maximum Current (A)		8.7	13.5	19.5	33	48	72
Regenerative Braking Frequency (Times/Min) (*2)		36	90	188	105	84	75
Moment Of Inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	11.9 (65.1)	17.8 (97.3)	38.3 (290)	75.0 (410)	97.0 (530)	154 (842)
	With Electromagnetic Brake	14.0 (76.5)	20.0 (109)	47.9 (262)	84.7 (463)	107 (585)	164 (897)
Recommended Load/Motor Inertia Moment Ratio		15 times the servomotor's inertia moment maximum (*3)					
Speed/Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)					
Attachments		— Motors with an oil seal are available (HF-SP□J)					
Insulation Class		Class F					
Structure		Totally enclosed non-ventilated (protection level: IP67) (*4)					
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)					
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)					
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust					
	Elevation / Vibration (*5)	1000m or less above sea level/ X: 24.5m/s ² Y: 24.5m/s ²		1000m or less above sea level/ X: 24.5m/s ² Y: 49m/s ²		1000m or less above sea level/ X: 24.5m/s ² Y: 29.4m/s ²	
Mass kg (lb)	Standard	6.5 (15)	8.3 (19)	12 (27)	19 (42)	22 (49)	32 (71)
	With Electromagnetic Brake	8.5 (19)	10.3 (23)	18 (40)	25 (56)	28 (62)	38 (84)

Notes:

- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.



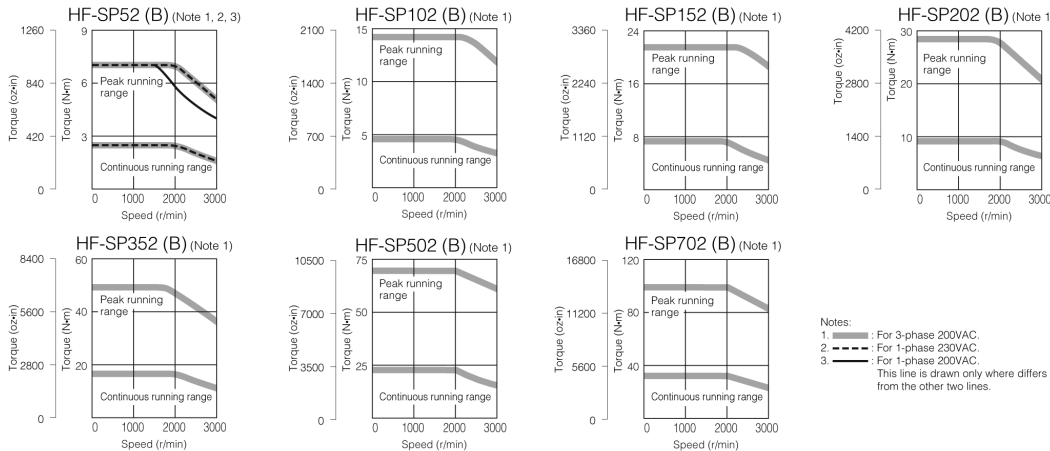
- Notes:
- For 3-phase 200VAC.
 - For 1-phase 230VAC.
 - For 1-phase 200VAC.
- This line is drawn only where it differs from the other two lines.

HF-SP 2000r/min Series 200V Servomotor Specifications

Servomotor Model HF-SP□		52(B)	102(B)	152(B)	202(B)	352(B)	502(B)	702(B)
Servo Amplifier Model MR-J3-□-□		60A(-RJ070)/B(-RJ006)/T	100A(-RJ070)/B(-RJ006)/T	200A(-RJ070)/B(-RJ006)/T		350A(-RJ070)/B(-RJ006)/T	500A(-RJ070)/B(-RJ006)/T	700A(-RJ070)/B(-RJ006)/T
Power Facility Capacity (kVA) (*1)		1.0	1.7	2.5	3.5	5.5	7.5	10
Continuous Running Duty	Rated Output (kW)	0.5	1.0	1.5	2.0	3.5	5.0	7.0
	Rated Torque (N·m [oz·in])	2.39 (338)	4.77 (675)	7.16 (1010)	9.55 (1350)	16.7 (2360)	23.9 (3380)	33.4 (4730)
Maximum Torque (N·m [oz·in])		7.16 (1010)	14.3 (2020)	21.5 (3040)	28.6 (4050)	50.1 (7090)	71.6 (10100)	100 (14200)
Rated Speed (r/min)		2000						
Maximum Speed (r/min)		3000						
Permissible Instantaneous Speed (r/min)		3450						
Power Rate Continuous Rated Torque (kW/s)		9.34	19.2	28.8	23.8	37.2	58.8	72.5
Rated Current (A)		2.9	5.3	8.0	10	16	24	33
Maximum Current (A)		8.7	15.9	24	30	48	72	99
Regenerative Braking Frequency (times/min) (*2)		60	62	152	71	33	37	31
Moment of inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	6.1 (33.4)	11.9 (65.1)	17.8 (97.3)	38.3 (209)	75.0 (410)	97.0 (530)	154 (842)
	With Electromagnetic Brake	8.3 (45.4)	14.0 (76.5)	20.0 (109)	47.9 (262)	84.7 (463)	107 (585)	164 (897)
Recommended Load/Motor Inertia Moment Ratio		15 times the servomotor's inertia moment maximum (*3)						
Speed/Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144 p/rev)						
Attachments		— Motors with an oil seal are available (HF-SP□J)						
Insulation Class		Class F						
Structure		Totally enclosed non-ventilated (protection level: IP67) (*4)						
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)						
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)						
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust						
	Elevation / Vibration (*5)	1000m or less above sea level X: 24.5m/s ² Y: 24.5m/s ²			1000m or less above sea level X: 24.5m/s ² Y: 49m/s ²		1000m or less above sea level X: 24.5m/s ² Y: 29.4m/s ²	
Mass kg (lb)	Standard	4.8 (11)	6.5 (15)	8.3 (19)	12 (27)	19 (42)	22 (49)	32 (71)
	With Electromagnetic Brake	6.7 (15)	8.5 (19)	10.3 (23)	18 (40)	25 (56)	28 (62)	38 (84)

Notes:

- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.



HF-SP 2000r/min Series 400V Servomotor Specifications

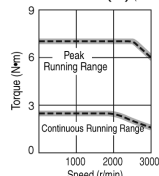
Servomotor Model HF-SP□		524(B)	1024(B)	1524(B)	2024(B)	3524(B)	5024(B)	7024(B)
Servo Amplifier Model MR-J3-□-□		60A4(-RJ070)/ B4(-RJ006)/T4	100A4(-RJ070)/ B4(-RJ006)/T4	200A4(-RJ070)/B4(-RJ006)/T4		350A4(-RJ070)/ B4(-RJ006)/T4	500A4(-RJ070)/ B4(-RJ006)/T4	700A4(-RJ070)/ B4(-RJ006)/T4
Power Facility Capacity (kVA) (*1)		1.0	1.7	2.5	3.5	5.5	7.5	10
Continuous Running Duty	Rated Output (kW)	0.5	1.0	1.5	2.0	3.5	5.0	7.0
	Rated Torque (N·m [oz·in])	2.39 (338)	4.77 (675)	7.16 (1010)	9.55 (1350)	16.7 (2360)	23.9 (3380)	33.4 (4730)
Maximum Torque (N·m [oz·in])		7.16 (1010)	14.3 (2020)	21.5 (3040)	28.6 (4050)	50.1 (7090)	71.6 (10100)	100 (14200)
Rated Speed (r/min)		2000						
Maximum Speed (r/min)		3000						
Permissible Instantaneous Speed (r/min)		3450						
Power Rate Continuous Rated Torque (kW/s)		9.34	19.2	28.8	23.8	37.2	58.8	72.5
Rated Current (A)		1.5	2.9	4.1	5.0	8.4	12	16
Maximum Current (A)		4.5	8.7	12	15	25	36	48
Regenerative Braking Freq. (times/min) (*2)		90	46	154	72	37	34	28
Moment of inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	6.1 (33.4)	11.9 (65.1)	17.8 (97.3)	38.3 (209)	75.0 (410)	97.0 (530)	154 (842)
	With Electromagnetic Brake	8.3 (45.4)	14.0 (76.5)	20.0 (109)	47.9 (262)	84.7 (463)	107 (585)	164 (897)
Recommended Load / Motor Inertia Moment Ratio		15 times the servomotor's inertia moment maximum (*3)						
Speed/Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144 p/rev)						
Attachments		— Motors with an oil seal are available (HF-SP□J)						
Insulation Class		Class F						
Structure		Totally enclosed non-ventilated (protection level: IP67) (*4)						
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)						
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)						
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust						
	Elevation / Vibration (*5)	1000m or less above sea level X: 24.5m/s ² Y: 24.5m/s ²			1000m or less above sea level X: 24.5m/s ² Y: 49m/s ²		1000m or less above sea level X: 24.5m/s ² Y: 29.4m/s ²	
Mass kg (lb)	Standard	4.8 (11)	6.7 (15)	8.5 (19)	13 (29)	19 (42)	22 (49)	32 (71)
	With Electromagnetic Brake	6.7 (15)	8.6 (19)	11 (25)	19 (42)	25 (56)	28 (62)	38 (84)

Notes:

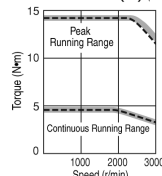
- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.



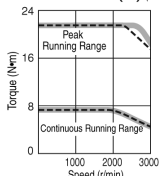
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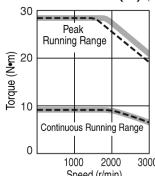
HF-SP1024(B) (Note 1, 2)



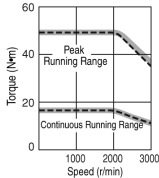
HF-SP1524(B) (Note 1, 2)



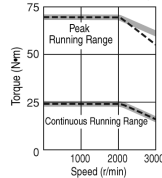
HF-SP2024(B) (Note 1, 2)



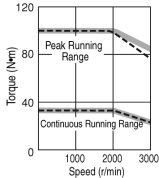
HF-SP3524(B) (Note 1, 2)



HF-SP5024(B) (Note 1, 2)



HF-SP7024(B) (Note 1, 2)



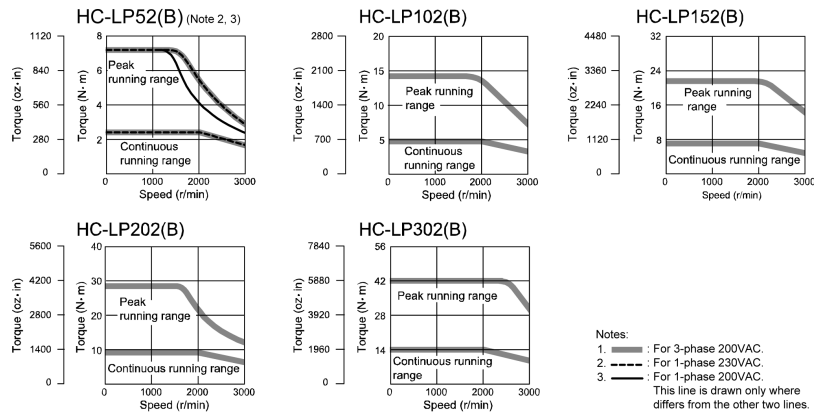
- : For 3-phase 400 VAC
- - - : For 3-phase 380 VAC

HC-LP Series 200V Servomotor Specifications

Servomotor Model HC-LP□		52(B)	102(B)	152(B)	202(B)	302(B)
Servo Amplifier Model MR-J3-□-□		60A(-RJ070)/ B(-RJ006)/T	100A(-RJ070)/ B(-RJ006)/T	200A(-RJ070)/ B(-RJ006)/T	350A(-RJ070)/ B(-RJ006)/T	500A(-RJ070)/ B(-RJ006)/T
Power Facility Capacity (kVA) (*1)		1.0	1.7	2.5	3.5	4.8
Continuous Running Duty	Rated Output (kW)	0.5	1.0	1.5	2.0	3.0
	Rated Torque (N·m [oz·in])	2.39 (338)	4.78 (677)	7.16 (1010)	9.55 (1350)	14.3 (2020)
Maximum Torque (N·m [oz·in])		7.16 (1010)	14.4 (2040)	21.6 (3060)	28.5 (4040)	42.9 (6070)
Rated Speed (r/min)		2000				
Maximum Speed (r/min)		3000				
Permissible Instantaneous Speed (r/min)		3450				
Power Rate At Continuous Rated Torque (kW/s)		18.4	49.3	79.8	41.5	56.8
Rated Current (A)		3.2	5.9	9.9	14	23
Maximum Current (A)		9.6	18	30	42	69
Regenerative Braking Frequency (Times/Min) (*2)		115	160	425	120	70
Moment Of Inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	3.10 (16.9)	4.62 (25.3)	6.42 (35.1)	22.0 (120)	36.0 (197)
	With Electromagnetic Brake	5.20 (28.4)	6.72 (36.7)	8.52 (46.6)	32.0 (175)	46.0 (252)
Recommended Load/Motor Inertia Moment Ratio		10 times the servomotor's inertia moment maximum (*3)				
Speed/Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)				
Attachments		Oil seal				
Insulation Class		Class F				
Structure		Totally enclosed non-ventilated (protection level: IP65) (*4)				
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)				
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)				
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust				
	Elevation / Vibration (*5)	1000m or less above sea level X: 9.8m/s ² Y: 24.5m/s ²			1000m or less above sea level X: 19.6m/s ² Y: 49m/s ²	
Mass kg (lb)	Standard	6.5 (15)	8.0 (18)	10 (22)	21 (47)	28 (62)
	With Electromagnetic Brake	9.0 (20)	11 (25)	13 (29)	27 (60)	34 (75)

Notes:

- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value

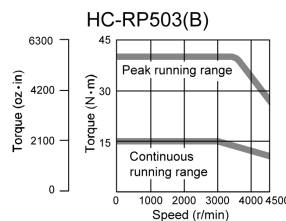
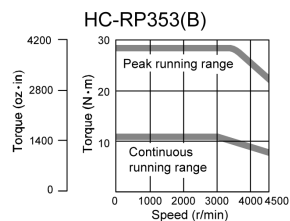
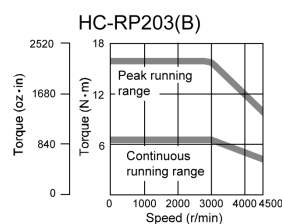
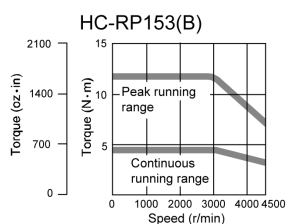
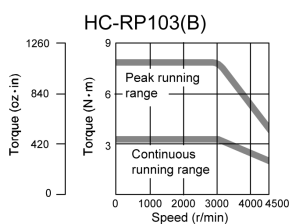


HC-RP Series 200V Servomotor Specifications

Servomotor Model HC-RP□		103(B)	153(B)	203(B)	353(B)	503(B)
Servo Amplifier Model MR-J3-□-□		200A(-RJ070)/B(-RJ006)/T		350A(-RJ070)/B(-RJ006)/T	500A(-RJ070)/B(-RJ006)/T	
Power Facility Capacity (kVA) (*1)		1.7	2.5	3.5	5.5	7.5
Continuous Running Duty	Rated Output (kW)	1.0	1.5	2.0	3.5	5.0
	Rated Torque (N·m [oz·in])	3.18 (450)	4.78 (677)	6.37 (902)	11.1 (1570)	15.9 (2250)
Maximum Torque (N·m [oz·in])		7.95 (1130)	11.9 (1690)	15.9 (2250)	27.9 (3950)	39.7 (5620)
Rated Speed (r/min)		3000				
Maximum Speed (r/min)		4500				
Permissible Instantaneous Speed (r/min)		5175				
Power Rate At Continuous Rated Torque (kW/s)		67.4	120	176	150	211
Rated Current (A)		6.1	8.8	14	23	28
Maximum Current (A)		18	23	37	58	70
Regen Braking Frequency (times/min) (*2)		1090	860	710	174	125
Moment Of inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	1.50 (8.20)	1.90 (10.4)	2.30 (12.6)	8.30 (45.4)	12.0 (65.6)
	With Electromagnetic Brake	1.85 (10.1)	2.25 (12.3)	2.65 (14.5)	11.8 (64.5)	15.5 (84.7)
Recommended Load/Motor Inertia Moment Ratio		5 times the servomotor's inertia moment maximum (*3)				
Speed/Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)				
Attachments		Oil seal				
Insulation Class		Class F				
Structure		Totally enclosed non-ventilated (protection level: IP65) (*4)				
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)				
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)				
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust				
	Elevation/Vibration (*5)	1000m or less above sea level X, Y: 24.5m/s ²				
Mass kg (lb)	Standard	3.9 (8.6)	5.0 (11)	6.2 (14)	12 (27)	17 (38)
	With Electromagnetic Brake	6.0 (14)	7.0 (16)	8.3 (19)	15 (33)	21 (47)

Notes:

- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.



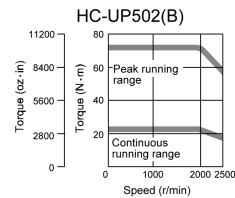
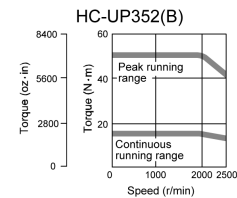
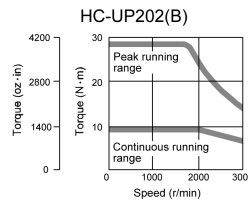
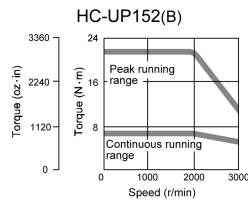
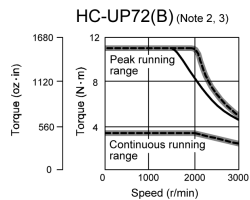
Note:
 : For 3-phase 200VAC.

HC-UP Series 200V Servomotor Specifications

Servomotor Model HC-UP□		72(B)	152(B)	202(B)	352(B)	502(B)
Servo Amplifier Model MR-J3-□-□		70A(-RJ070)/B(-RJ006)/T	200A(-RJ070)/B(-RJ006)/T	350A(-RJ070)/B(-RJ006)/T	500A(-RJ070)/B(-RJ006)/T	
Power Facility Capacity (kVA) (*1)		1.3	2.5	3.5	5.5	7.5
Continuous Running Duty	Rated Output (kW)	0.75	1.5	2.0	3.5	5.0
	Rated Torque (N·m [oz·in])	3.58 (507)	7.16 (1010)	9.55 (1350)	16.7 (2360)	23.9 (3380)
Maximum Torque (N·m [oz·in])		10.7 (1520)	21.6 (3060)	28.5 (4040)	50.1 (7090)	71.6 (10100)
Rated Speed (r/min)		2000				
Maximum Speed (r/min)		3000			2500	
Permissible Instantaneous Speed (r/min)		3450			2875	
Power Rate At Continuous Rated Torque (kW/s)		12.3	23.2	23.9	36.5	49.6
Rated Current (A)		5.4	9.7	14	23	28
Maximum Current (A)		16	29	42	69	84
Regen Braking Frequency (times/min) (*2)		53	124	68	44	31
Moment Of Inertia J (x10 ⁻⁴ ·kg·m ²) [J (oz·in ²)]	Standard	10.4 (56.9)	22.1 (121)	38.2 (209)	76.5 (418)	115 (629)
	With Electromagnetic Brake	12.5 (68.3)	24.2 (132)	46.8 (256)	85.1 (465)	124 (678)
Recommended Load / Motor Inertia Moment Ratio		15 times the servomotor's inertia moment maximum (*3)				
Speed / Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)				
Attachments		Oil seal				
Insulation Class		Class F				
Structure		Totally enclosed non-ventilated (protection level: IP65) (*4)				
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)				
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)				
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust				
	Elevation / Vibration (*5)	1000m or less above sea level X, Y: 24.5m/s ²		1000m or less above sea level X: 24.5m/s ² Y: 49m/s ²		
Mass kg (lb)	Standard	8.0 (18)	11 (25)	16 (36)	20 (44)	24 (53)
	With Electromagnetic Brake	10 (22)	13 (29)	22 (49)	26 (58)	30 (67)

Notes:

- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.



- Notes:
- For 3-phase 200VAC.
 - For 1-phase 230VAC.
 - For 1-phase 200VAC.
- This line is drawn only where differs from the other two lines.

HA-LP 1000r/min Series 200V Servomotor Specifications

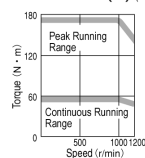
Servomotor Model HA-LP□		601(B)	801(B)	12K1(B)	15K1	20K1	25K1	30K1	37K1
Servo Amplifier Model MR-J3-□-□		700A(-RJ070)/ B(-RJ006)/T	11KA(-RJ070)/B(-RJ006)/T		15KA(-RJ070)/ B(-RJ006)/T	22KA(-RJ070)/B(-RJ006)/T		DU30KA(-RJ070)/B	DU37KA(-RJ070)/B
Power Facility Capacity (kVA) (*1)		8.6	12	18	22	30	38	48	59
Continuous Running Duty	Rated Output (kW)	6.0	8.0	12	15	20	25	30	37
	Rated Torque (N·m [oz·in])	57.3 (8110)	76.4 (10800)	115 (16300)	143 (20200)	191 (2700)	239 (33800)	286 (40500)	353 (50000)
Maximum Torque (N·m [oz·in])		172 (24400)	229 (32400)	344 (48700)	415 (58800)	477 (67500)	597 (84500)	716 (101000)	883 (125000)
Rated Speed (r/min)		1000							
Maximum Speed (r/min)		1200							
Permissible Instantaneous Speed (r/min)		1380							
Power Rate At Continuous Rated Torque (kW/s)		313	265	445	373	561	528	626	668
Rated Current (A)		34	42	61	83	118	118	154	188
Maximum Current (A)		102	126	183	249	295	295	385	470
Regen Braking Frequency (times/min) (*2)		158	354 (*6)	264 (*6)	230 (*6)	195 (*6)	117 (*6)	—	—
Moment Of Inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	105 (574)	220 (1200)	295 (1610)	550 (3010)	650 (3550)	1080 (5900)	1310 (7160)	1870 (10200)
	With Electromagnetic Brake	113 (618)	293 (1600)	369 (2020)	—	—	—	—	—
Recommended Load / Motor Inertia Moment Ratio		10 times the servomotor's inertia moment maximum (*3)							
Speed / Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)							
Attachments		Oil seal							
Insulation Class		Class F							
Structure		Totally enclosed ventilated (protection level: IP44) (*4)							
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)							
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)							
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust							
	Elevation/Vibration (*5)	1000m or less above sea level X: 11.7m/s ² Y: 29.4m/s ²				1000m or less above sea level X: 9.8m/s ² Y: 9.8m/s ²			
Mass kg (lb)	Standard	55 (125)	95 (210)	115 (255)	160 (355)	180 (400)	230 (510)	250 (555)	335 (740)
	With Electromagnetic Brake	70 (155)	130 (290)	150 (335)	—	—	—	—	—
Cooling Fan Power	Voltage, Frequency	1-phase 200 to 220VAC/50Hz 1-phase 200 to 230VAC/60Hz	3-phase 200 to 230VAC/60Hz						
	Input (W)	42 (50Hz)/ 54 (60Hz)	62 (50Hz) / 76 (60Hz)		65 (50Hz) / 85 (60Hz)		120 (50Hz) / 175 (60Hz)		
Cooling Fan Rated Current (A)		0.21(50Hz)/ 0.25 (60Hz)	0.18 (50Hz) / 0.17 (60Hz)		0.20 (50Hz) / 0.22 (60Hz)		0.65 (50Hz) / 0.80 (60Hz)		

Notes:

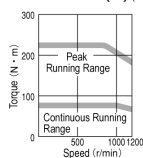
- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.
- This applies when the GRZG400-□Ω regeneration resistors are used as a standard accessory and parameter PA02 is changed with cooling fan (1.0m³/min, the □92x2 unit) installed.



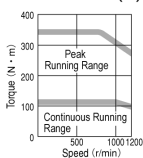
HA-LP601 (B) (Note 1)



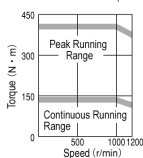
HA-LP801 (B) (Note 1)



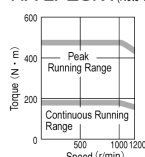
HA-LP12K1 (B) (Note 1)



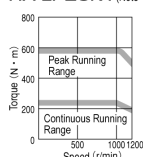
HA-LP15K1 (Note 1)



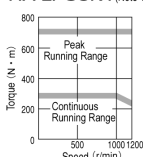
HA-LP20K1 (Note 1)



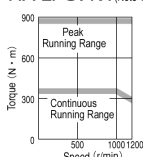
HA-LP25K1 (Note 1)



HA-LP30K1 (Note 1)



HA-LP37K1 (Note 1)



1. — : For 3-Phase 200 VAC

HA-LP 1000r/min Series 400V Servomotor Specifications

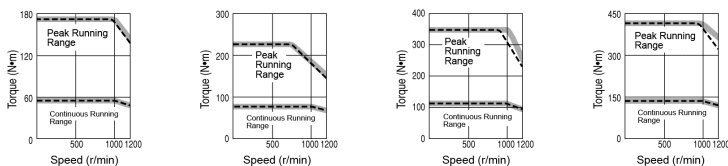
Servomotor Model HA-LP□		6014(B)	8014(B)	12K14(B)	15K14	20K14	25K14	30K14	37K14
Servo Amplifier Model MR-J3-□-□		700A4(-RJ070)/ B4(-RJ006)/T4	11KA4(-RJ070)/B4(-RJ006)/T4		15KA4(-RJ070)/ B4(-RJ006)/ T4	22KA4(-RJ070)/ B4(-RJ006)/T4	DU30KA4(-RJ070)/B4		DU37KA4 (-RJ070)/B4
Power Facility Capacity (kVA) (*1)		8.6	12	18	22	30	38	48	59
Continuous Running Duty	Rated Output (kW)	6.0	8.0	12	15	20	25	30	37
	Rated Torque (N·m [oz·in])	57.3 (8110)	76.4 (10800)	115 (16300)	143 (20200)	191 (27000)	239 (33800)	286 (40500)	353 (50000)
Maximum Torque (N·m [oz·in])		172 (24400)	229 (32400)	344 (48700)	415 (58800)	477 (67500)	597 (84500)	716 (101000)	883 (125000)
Rated Speed (r/min)		1000							
Maximum Speed (r/min)		1200							
Permissible Instantaneous Speed (r/min)		1380							
Power Rate At Continuous Rated Torque (kW/s)		313	265	445	373	561	528	626	668
Rated Current (A)		17	20	30	40	55	70	77	95
Maximum Current (A)		51	60	90	120	138	175	193	238
Regen Braking Frequency (times/min) (*2)		169	354 (*6)	264 (*6)	230 (*6)	195 (*6)	—	—	—
Moment Of Inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	105 (574)	220 (1200)	295 (1610)	550 (3010)	650 (3550)	1080 (5900)	1310 (7160)	1870 (10200)
	With Electromagnetic Brake	113 (617.7)	293 (1601.7)	369 (2017.2)	—	—	—	—	—
Recommended Load/Motor Inertia Moment Ratio		10 times the servomotor's inertia moment maximum (*3)							
Speed/Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)							
Attachments		Oil seal							
Insulation Class		Class F							
Structure		Totally enclosed ventilated (protection level: IP44) (*4)							
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)							
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)							
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust							
	Elevation / Vibration (*5)	1000m or less above sea level X: 11.7m/s ² Y: 29.4m/s ²			1000m or less above sea level X: 9.8m/s ² Y: 9.8m/s ²				
Mass kg (lb)	Standard	55 (125)	95 (210)	115 (255)	160 (355)	180 (400)	230 (510)	250 (555)	335 (740)
	With Electromagnetic Brake	70 (155)	130 (290)	150 (335)	—	—	—	—	—
Cooling Fan Power	Voltage, Frequency	1-phase 200 to 220VAC/50Hz 1-phase 200 to 230VAC/60Hz	3-phase 380 to 440VAC 50Hz 3-phase 380 to 480 VAC 60Hz		3-phase 380 to 460VAC 50Hz 3-phase 380 to 480VAC 60Hz				
	Input (W)	42 (50Hz)/ 54 (60Hz)	62 (50Hz)/76 (60Hz)		65 (50Hz)/85 (60Hz)		110 (50Hz)/150 (60Hz)		
Cooling Fan Rated Current (A)		0.21 (50Hz)/ 0.25 (60Hz)	0.14 (50Hz)/0.11 (60Hz)		0.12 (50Hz)/0.14 (60Hz)		0.20 (50Hz)/0.22 (60Hz)		

Notes:

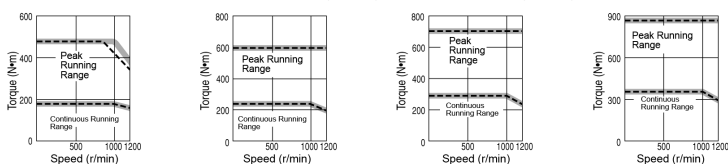
- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.
- This applies when the GRZG400-□□□ regeneration resistors are used as a standard accessory and parameter PA02 is changed with cooling fan (1.0m³/min, the □92x2 unit) installed.



HA-LP6014(B) (Note 1, 2) HA-LP8014(B) (Note 1, 2, 3) HA-LP12K14(B) (Note 1, 2) HA-LP15K14



HA-LP20K14 (Note 1, 2, 3) HA-LP25K14 (Note 1, 2) HA-LP30K14 (Note 1, 2) HA-LP37K14



- Notes:
- For 3-phase 200VAC.
 - For 1-phase 230VAC.
 - This line is drawn only where differs from the other two lines.

HA-LP 1500r/min Series 200V Servomotor Specifications

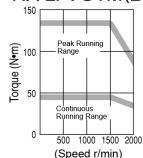
Servomotor Model HA-LP□		701M(B)	11K1M(B)	15K1M(B)	22K1M	30K1M	37K1M
Servo Amplifier Model MR-J3-□-□		700A(-RJ070)/ B(-RJ006)/T	11KA(-RJ070)/ B(-RJ006)/T	15KA(-RJ070)/ B(-RJ006)/T	22KA(-RJ070)/B(-RJ006)/T	DU30KA(-RJ070)/B	DU37KA(-RJ070)/B
Power Facility Capacity (kVA) (*1)		10	16	22	33	48	59
Continuous Running Duty	Rated Output (kW)	7.0	11	15	22	30	37
	Rated Torque (N·m [oz·in])	44.6 (6320)	70.0 (9910)	95.5 (13500)	140 (19800)	191 (27000)	236 (33400)
Maximum Torque (N·m [oz·in])		134 (19000)	210 (29700)	286 (40500)	350 (49600)	477 (67500)	589 (83400)
Rated Speed (r/min)		1500					
Maximum Speed (r/min)		2000					
Permissible Instantaneous Speed (r/min)		2300					
Power Rate at Continuous Rated Torque (kW/s)		189	223	309	357	561	514
Rated Current (A)		37	65	87	126	174	202
Maximum Current (A)		111	195	261	315	435	505
Regen Braking Frequency (times/min) (*2)		70	158 (*6)	191 (*6)	102 (*6)	—	—
Moment Of inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	105 (574)	220 (1200)	295 (1610)	550 (3010)	650 (3550)	1080 (5900)
	With Electromagnetic Brake	113 (618)	293 (1600)	369 (2020)	—	—	—
Recommended Load / Motor Inertia Moment Ratio		10 times the servomotor's inertia moment maximum (*3)					
Speed / Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)					
Attachments		Oil seal					
Insulation Class		Class F					
Structure		Totally enclosed ventilated (protection level: IP44) (*4)					
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)					
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)					
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust					
	Elevation / Vibration (*5)	1000m or less above sea level X: 11.7m/s ² Y: 29.4m/s ²			1000m or less above sea level X: 9.8m/s ² Y: 9.8m/s ²		
Mass kg (lb)	Standard	55 (125)	95 (210)	115 (255)	160 (355)	180 (400)	230 (510)
	With Electromagnetic Brake	70 (155)	130 (290)	150 (335)	—	—	—
Cooling Fan Power	Voltage, Frequency	1-phase 200 to 220VAC / 50 Hz 1-phase 200 to 230VAC / 60Hz 3-phase 200 to 230VAC 50/60Hz					
	Input (W)	42 (50Hz) / 54 (60Hz)	62 (50Hz) / 76 (60Hz)		65 (50Hz) / 85 (60Hz)		120 (50Hz) / 175 (60Hz)
Cooling Fan Rated Current (A)		0.21 (50Hz) / 0.25 (60Hz)	0.18 (50Hz) / 0.17 (60Hz)		0.20 (50Hz) / 0.22 (60Hz)		0.65 (50Hz) / 0.80 (60Hz)

Notes:

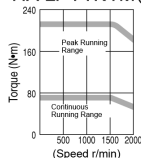
- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.
- This applies when the GRZG400- □ Ω regeneration resistors are used as a standard accessory and parameter PA02 is changed with cooling fan (1.0m³/min, the □92x2 unit) installed.



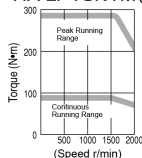
HA-LP701M(B)



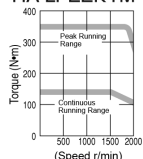
HA-LP11K1M(B)



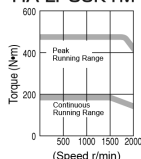
HA-LP15K1M(B)



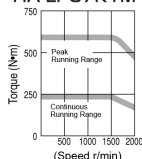
HA-LP22K1M



HA-LP30K1M



HA-LP37K1M



Notes:
1. — : For 3-phase 200VAC.

HA-LP 1500r/min Series 400V Servomotor Specifications

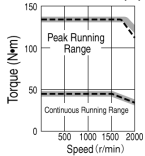
Servomotor Model HA-LP□		701M4(B)	11K1M4(B)	15K1M4(B)	22K1M4	30K1M4	37K1M4	45K1M4	50K1M4
Servo Amplifier Model MR-J3□-□		700A4(-RJ070)/ B4(-RJ006)/T4	11KA4(-RJ070)/ B4(-RJ006)/T4	15KA4(-RJ070)/ B4(-RJ006)/T4	22KA4(-RJ070)/ B4(-RJ006)/T4	DU30KA4 (-RJ070)/B4	DU37KA4(-RJ070)/ B4	DU45KA4 (-RJ070)/B4	DU55KA4 (-RJ070)/B4
Power Facility Capacity (kVA) (*1)		10	16	22	33	48	59	71	80
Continuous Running Duty	Rated Output (kW)	7.0	11	15	22	30	37	45	50
	Rated Torque (N·m [oz·in])	44.6 (6320)	70.0 (9910)	95.5 (13500)	140 (19800)	191 (27000)	236 (33400)	286 (40500)	318 (45000)
Maximum Torque (N·m [oz·in])		134 (19000)	210 (29700)	286 (40500)	350 (49600)	477 (67500)	589 (83400)	716 (101000)	796 (113000)
Rated Speed (r/min)		1500							
Maximum Speed (r/min)		2000							
Permissible Instantaneous Speed (r/min)		2300							
Power Rate At Continuous Rated Torque (kW/s)		189	223	309	357	561	514	626	542
Rated Current (A)		18	31	41	63	87	101	128	143
Maximum Current (A)		54	93	123	158	218	253	320	358
Regen Braking Frequency (times/min) (*2)		75	158 (*6)	191 (*6)	102 (*6)	—	—	—	—
Moment Of Inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	105 (574)	220 (1200)	295 (1610)	550 (3010)	650 (3550)	1080 (5900)	1310 (7100)	1870 (10200)
	With Electromagnetic Brake	113 (618)	293 (1600)	369 (2020)	—	—	—	—	—
Recommended Load / Motor Inertia Moment Ratio		10 times the servomotor's inertia moment maximum (*3)							
Speed / Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)							
Attachments		Oil seal							
Insulation class		Class F							
Structure		Totally enclosed ventilated (protection level: IP44) (*4)							
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)							
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)							
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust							
	Elevation / Vibration (*5)	1000m or less above sea level X: 11.7m/s ² Y: 29.4m/s ²			1000m or less above sea level X: 9.8m/s ² Y: 9.8m/s ²				
Mass kg (lb)	Standard	55 (125)	95 (210)	115 (255)	160 (355)	180 (400)	230 (510)	250 (555)	335 (740)
	With Electromagnetic Brake	70 (154.2)	130 (290)	150 (335)	—	—	—	—	—
Cooling Fan Power	Voltage, Frequency	1-phase 200 to 220VAC/50Hz 1-phase 200 to 230VAC/60Hz	3-phase 380 to 440VAC 50Hz 3-phase 380 to 480VAC 60Hz		3-phase 380 to 460VAC 50Hz 3-phase 380 to 480VAC 60Hz				
	Input (W)	42 (50Hz)/54 (60Hz)	62 (50Hz) / 76 (60Hz)		65 (50Hz) / 85 (60Hz)		110 (50Hz) / 150 (60Hz)		
Cooling Fan Rated Current (A)		0.21 (50Hz)/ 0.25 (60Hz)	0.14 (50Hz) / 0.11 (60Hz)		0.12 (50Hz) / 0.14 (60Hz)		0.20 (50Hz) / 0.22 (60Hz)		

Notes:

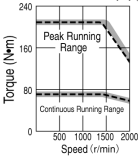
- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.
- This applies when the GRZG400- □ Ω regeneration resistors are used as a standard accessory and parameter PA02 is changed with cooling fan (1.0m³/min, the □92x2 unit) installed.



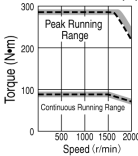
HA-LP701M4(B)



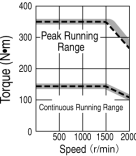
HA-LP11K1M4(B) (Note 1, 2)



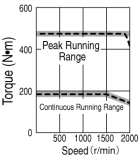
HA-LP15K1M4(B) (Note 1, 2)



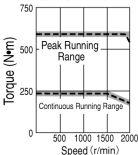
HA-LP22K1M4 (Note 1, 2)



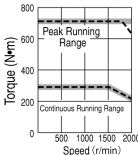
HA-LP30K1M4



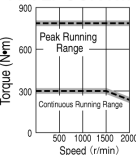
HA-LP37K1M4 (Note 1, 2)



HA-LP45K1M4 (Note 1, 2)



HA-LP50K1M4 (Note 1, 2)



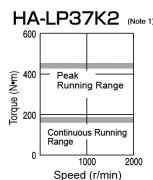
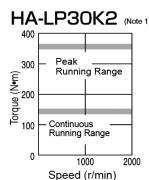
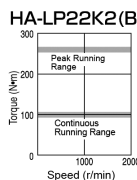
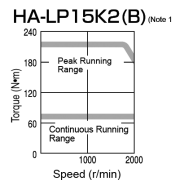
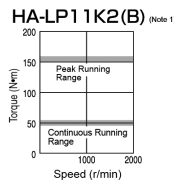
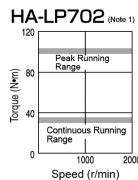
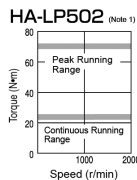
1. ——— : For 3-phase 400VAC
2. - - - - : For 3-phase 380VAC

HA-LP 2000r/min Series 200V Servomotor Specifications

Servomotor Model HA-LP□		502	702	11K2(B)	15K2(B)	22K2(B)	30K2	37K2
Servo Amplifier Model MR-J3-□-□		500A(-RJ070)/ B(-RJ006)/T	700A(-RJ070)/ B(-RJ006)/T	11KA(-RJ070)/ B(-RJ006)/T	15KA(-RJ070)/ B(-RJ006)/T	22KA(-RJ070)/ B(-RJ006)/T	DU30KA(-RJ070)/B	DU37KA(-RJ070)/B
Power Facility Capacity (kVA) (*1)		7.5	10.0	16	22	33	48	59
Continuous Running Duty	Rated Output (kW)	5.0	7.0	11	15	22	30	37
	Rated Torque (N•m [oz•in])	23.9 (3380)	33.4 (4730)	52.5 (7430)	71.6 (10100)	105 (14900)	143 (20200)	177 (25100)
Maximum Torque (N•m [oz•in])		71.6 (10100)	100 (14200)	158 (22400)	215 (30400)	263 (37200)	358 (50700)	442 (62600)
Rated Speed (r/min)		2000						
Maximum Speed (r/min)		2000						
Permissible Instantaneous Speed (r/min)		2300						
Power Rate At Continuous Rated Torque (kW/s)		77.2	118	263	233	374	373	480
Rated Current (A)		25	34	63	77	112	166	204
Maximum Current (A)		75	102	189	231	280	415	510
Regen Braking Frequency (times/min) (*2)		50	50	186 (*6)	144 (*6)	107 (*6)	—	—
Moment Of Inertia J (x10 ⁻⁴ kg•m ²) [J (oz•in ²)]	Standard	74.0 (405)	94.2 (515)	105 (574)	220 (1200)	295 (1610)	550 (3010)	650 (3550)
	With Electromagnetic Brake	—	—	113 (618)	293 (1600)	369 (2020)	—	—
Recommended Load/Motor Inertia Moment Ratio		10 times the servomotor's inertia moment maximum (*3)						
Speed/Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)						
Attachments		Oil seal						
Insulation Class		Class F						
Structure		Totally enclosed non-ventilated (protection level: IP65) (*4)			Totally enclosed ventilated (protection level: IP44) (*4)			
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)						
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)						
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust						
	Elevation / Vibration	1000m or less above sea level X: 11.7m/s² Y: 29.4m/s²					1000m or less above sea level X: 9.8m/s² Y: 9.8m/s²	
Mass kg (lb)	Standard	28 (62)	35 (78)	55 (125)	95 (210)	115 (255)	160 (355)	180 (400)
	With Electromagnetic Brake	—	—	70 (155)	130 (290)	150 (335)	—	—
Cooling Fan Power	Voltage, Frequency (*5)	—	—	1-phase 200 to 220 VAC/50Hz 1-phase 200 to 230 VAC/60Hz	3-phase 200 to 230VAC 50/60Hz			
	Input (W)	—	—	42 (50Hz) / 54 (60Hz)	62 (50Hz) / 76 (60Hz)		65 (50Hz) / 85 (60Hz)	
Cooling Fan Rated Current (A)		—	—	0.21 (50Hz)/ 0.25 (60Hz)	0.18 (50Hz) / 0.17 (60Hz)		0.20 (50Hz) / 0.22 (60Hz)	

Notes:

- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.
- This applies when the GRZG400-□Ω regeneration resistors are used as a standard accessory and parameter PA02 is changed with cooling fan (1.0m³/min, the □92x2 unit) installed.



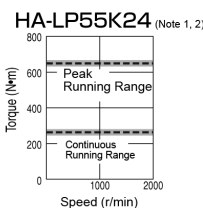
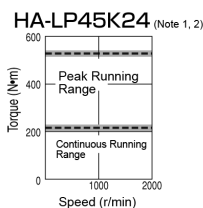
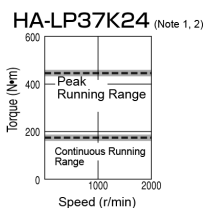
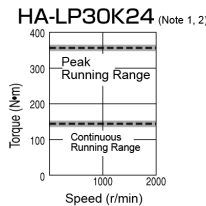
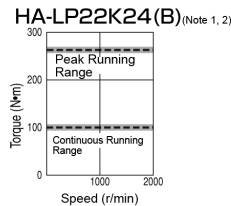
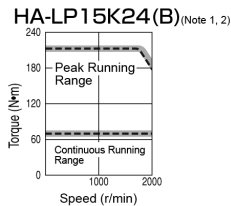
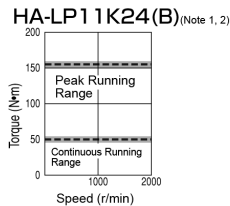
Notes:
1. ■■■■■ : For 3-phase 200VAC.

HA-LP 2000r/min Series 400V Servomotor Specifications

Servomotor Model HA-LP□		11K24(B)	15K24(B)	22K24(B)	30K24	37K24	45K24	55K24
Servo Amplifier Model MR-J3-□-□		11KA4(-RJ070)/ B4(-RJ006)/T4	15KA4(-RJ070)/ B4(-RJ006)/T4	22KA4(-RJ070)/ B4(-RJ006)/T4	DU30KA4/B4	DU37KA4/B4	DU45KA4/B4	DU55KA4/B4
Power Facility Capacity (kVA) (*1)		16	22	33	48	59	71	87
Continuous Running Duty	Rated Output (kW)	11	15	22	30	37	45	55
	Rated Torque (N·m [oz·in])	52.5 (7430)	71.6 (10100)	105 (14900)	143 (20200)	177 (25100)	215 (30400)	263 (37200)
Maximum Torque (N·m [oz·in])		158 (22400)	215 (30400)	263 (37200)	358 (50700)	442 (62600)	537 (76000)	657 (93000)
Rated Speed (r/min)		2000						
Maximum Speed (r/min)		2000						
Permissible Instantaneous Speed (r/min)		2300						
Power Rate At Continuous Rated Torque (kW/s)		263	233	374	373	480	427	526
Rated Current (A)		32	40	57	83	102	131	143
Maximum Current (A)		96	120	143	208	255	328	358
Regen. Braking Frequency (times/min) (*2)		186 (*6)	144 (*6)	107 (*6)	—	—	—	—
Moment of Inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	105 (574)	220 (1200)	295 (1610)	550 (3010)	650 (3550)	1080 (5900)	1310 (7160)
	With Electromagnetic Brake	113 (618)	293 (1600)	369 (2020)	—	—	—	—
Recommended Load / Motor Inertia Moment Ratio		10 times the servomotor's inertia moment maximum (*3)						
Speed / Position Detector		18-bit encoder (Resolution per encoder/servomotor rotation: 262144p/rev)						
Attachments		Oil seal						
Insulation Class		Class F						
Structure		Totally enclosed ventilated (protection level: IP44) (*4)						
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)						
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)						
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust						
	Elevation / Vibration (*5)	1000m or less above sea level X: 11.7m/s ² Y: 29.4m/s ²			1000m or less above sea level X: 9.8m/s ² Y: 9.8m/s ²			
Mass kg (lb)	Standard	55 (125)	95 (210)	115 (255)	160 (355)	180 (400)	230 (510)	250 (555)
	With Electromagnetic Brake	70 (155)	130 (290)	150 (335)	—	—	—	—
Cooling Fan Power	Voltage, Frequency	1-phase 200 to 220 VAC / 50Hz 1-phase 200 to 230 VAC / 60Hz	3-phase 380 to 440VAC 50Hz 3-phase 380 to 480VAC 60Hz		3-phase 380 to 460VAC 50Hz 3-phase 380 to 480VAC 60Hz			
	Input (W)	42 (50Hz) / 54 (60Hz)	62 (50Hz) / 76 (60Hz)		65 (50Hz) / 85 (60Hz)		110 (50Hz) / 150 (60Hz)	
Cooling Fan Rated Current (A)		0.21 (50Hz) / 0.25 (60Hz)	0.14 (50Hz) / 0.11 (60Hz)		0.12 (50Hz) / 0.14 (60Hz)		0.20 (50Hz) / 0.22 (60Hz)	

Notes:

- The power facility capacity varies depending on the power supply's impedance.
- The regenerative braking frequency shows the permissible frequency for decelerating the motor without a load and the optional regeneration unit from the rated speed to a stop.
- Contact Mitsubishi if the load/motor of inertia moment ratio exceeds the value in the table.
- The shaft-through portion is excluded.
- The vibration direction is shown in the right-side diagram. The numeric value indicates the maximum value of the component (commonly the bracket in the opposite direction of the motor shaft). Fretting of the bearing occurs easily when the motor stops, so maintain vibration to approximately one-half of the allowable value.
- This applies when the GRZG400-□Ω regeneration resistors are used as a standard accessory and parameter PA02 is changed with cooling fan (1.0m³/min, the □92x2 unit) installed.

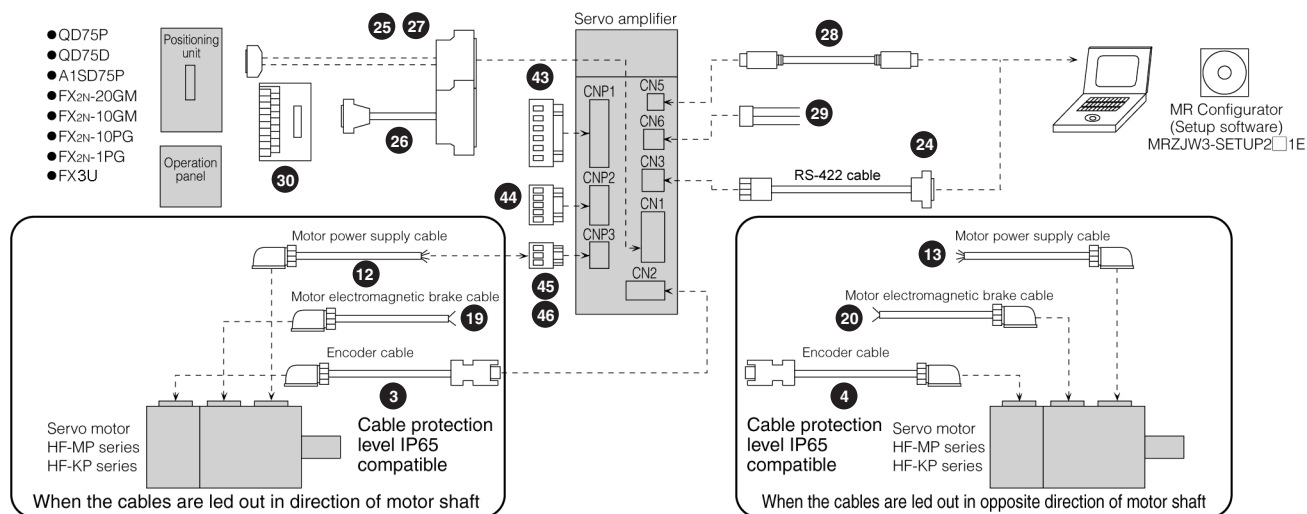


1. ——— : For 3-phase 400VAC
2. - - - - : For 3-phase 380VAC

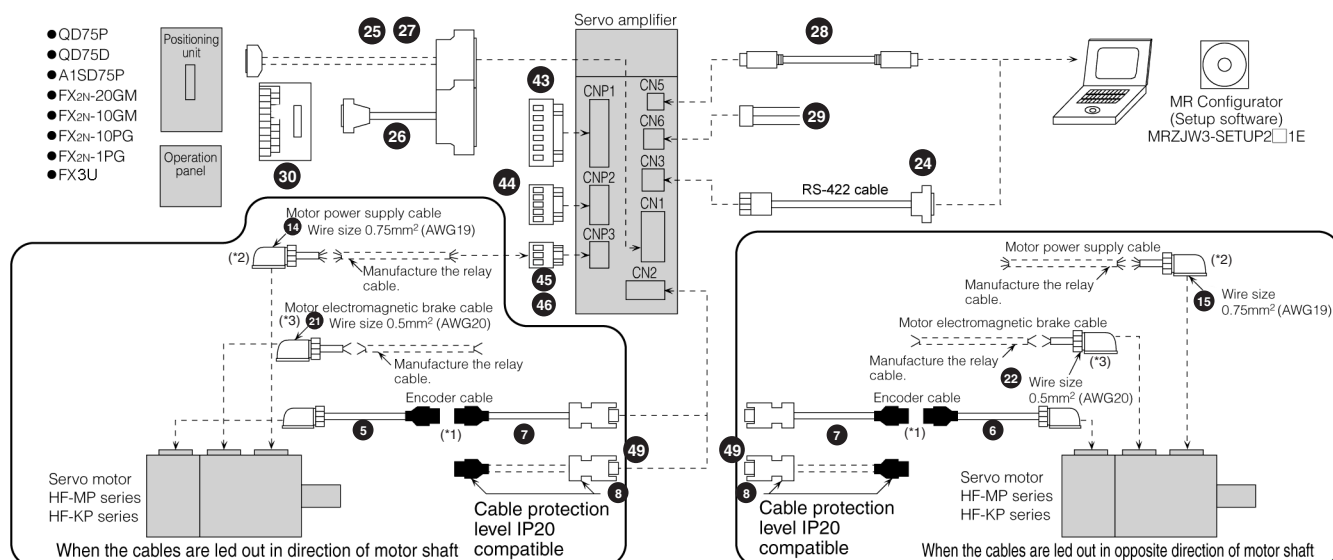
D MR-J3 Cables and Connectors

MR-J3-A Cables and Connectors (A-Type)

HF-MP/HF-KP Series: Encoder cable length 10m or shorter

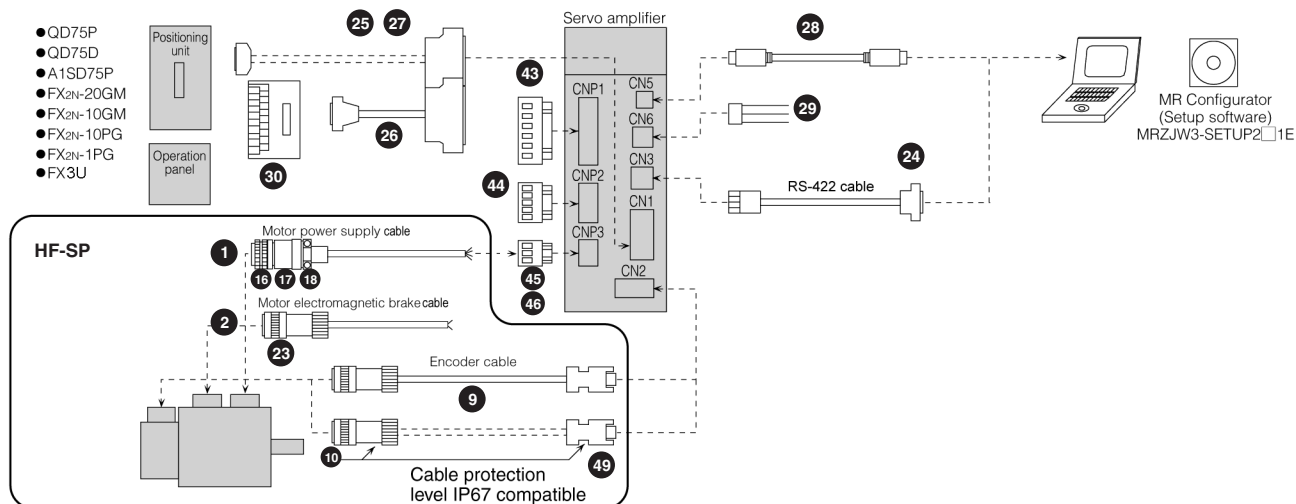


HF-MP/HF-KP Series: Encoder cable length over 10m

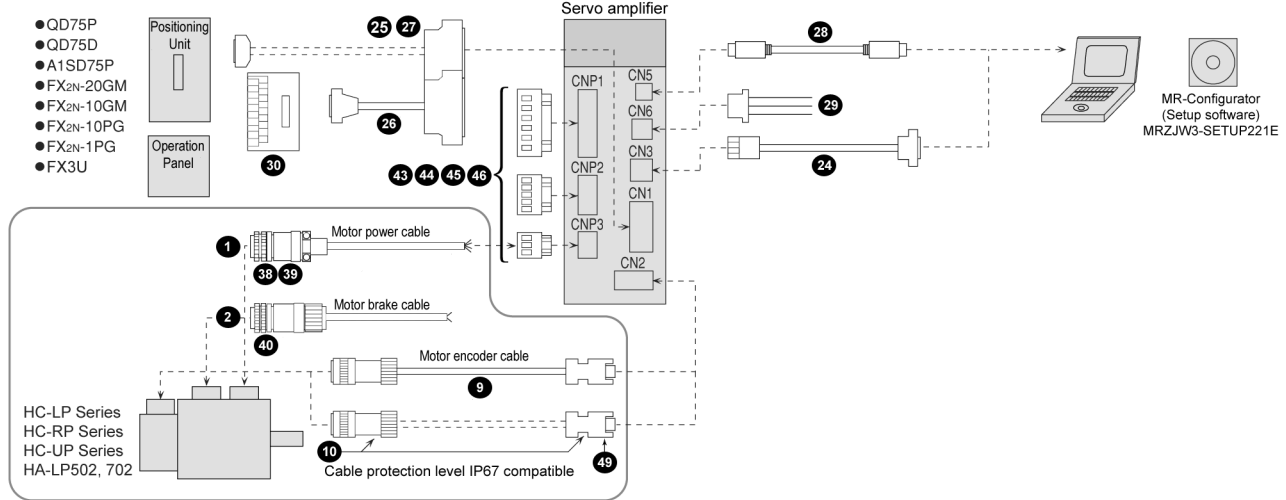


- Notes:
1. This cable does not have a long bending life, please be sure to secure the cable before using.
 2. If the length exceeds 10m, use the needed length extension cable (customer supplied) in junction with the MR-PWS2CBL03M-A1-L/A2-L. This cable does not have a long bending life, please be sure to secure the cable before using. Refer to the MR-J3-T Amplifier Instruction Manual for information on manufacturing the extension cable.
 3. If the length exceeds 10m, use the needed length extension cable (customer supplied) in junction with the MR-BKS2CBL03M-A1-L/A2-L. This cable does not have a long bending life, please be sure to secure the cable before using. Refer to the MR-J3-T Amplifier Instruction Manual for information on manufacturing the extension cable.

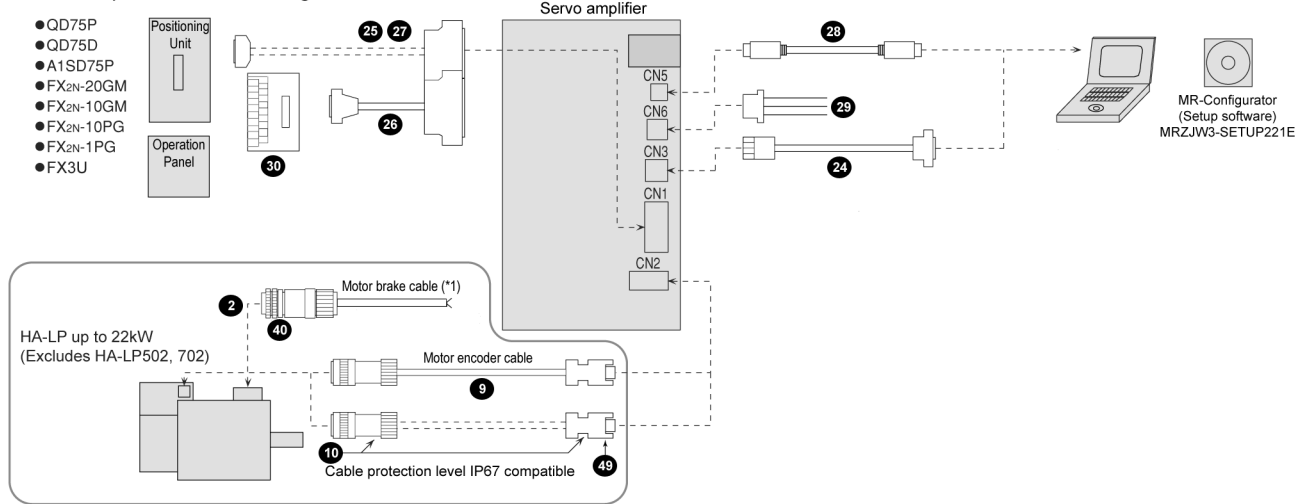
HF-SP Series



HC-LP, HC-RP, HC-UP Series, HA-LP502, HA-LP702

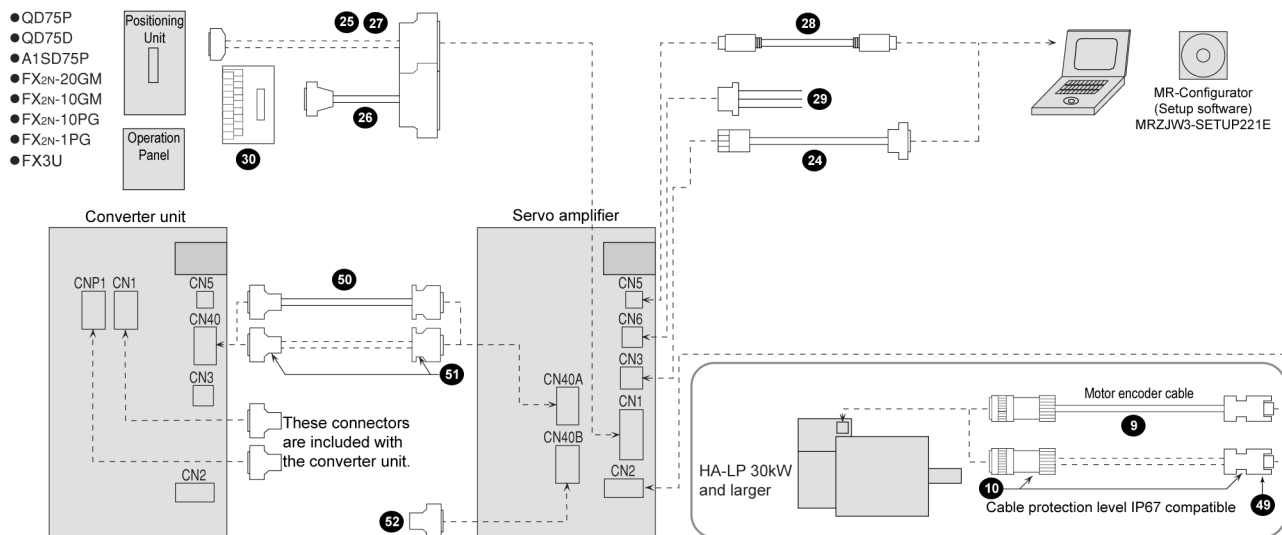


HA-LP Series up to 22kW, Excluding HA-LP502, HA-LP702



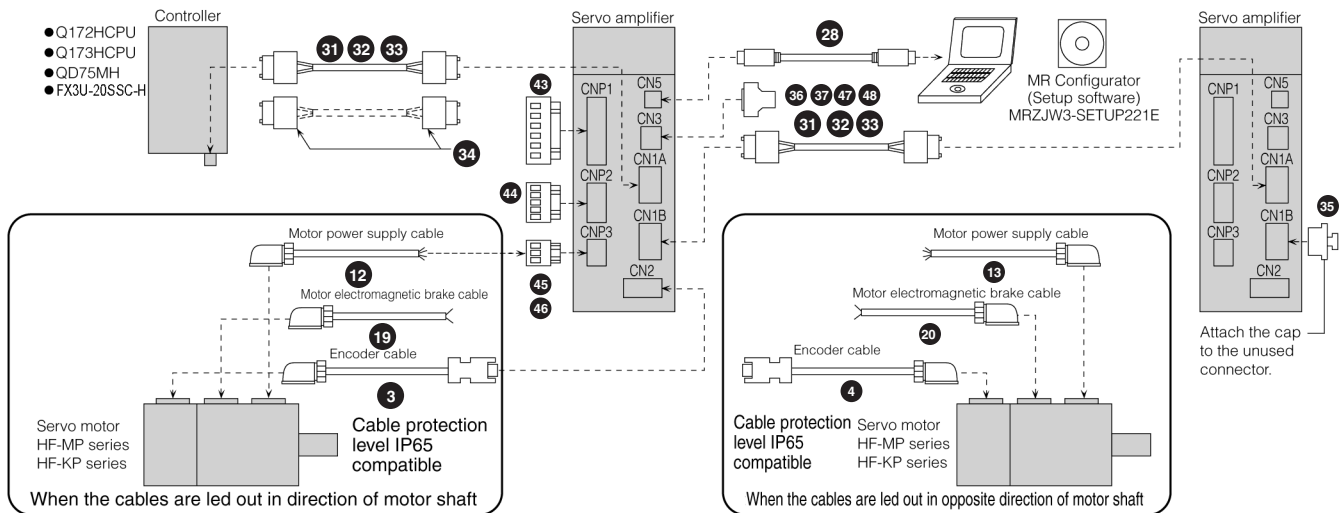
1. Only select models of the HA-LP series motors have the brake available, please refer to the motor specifications for model types.

HA-LP Series 30kW and larger

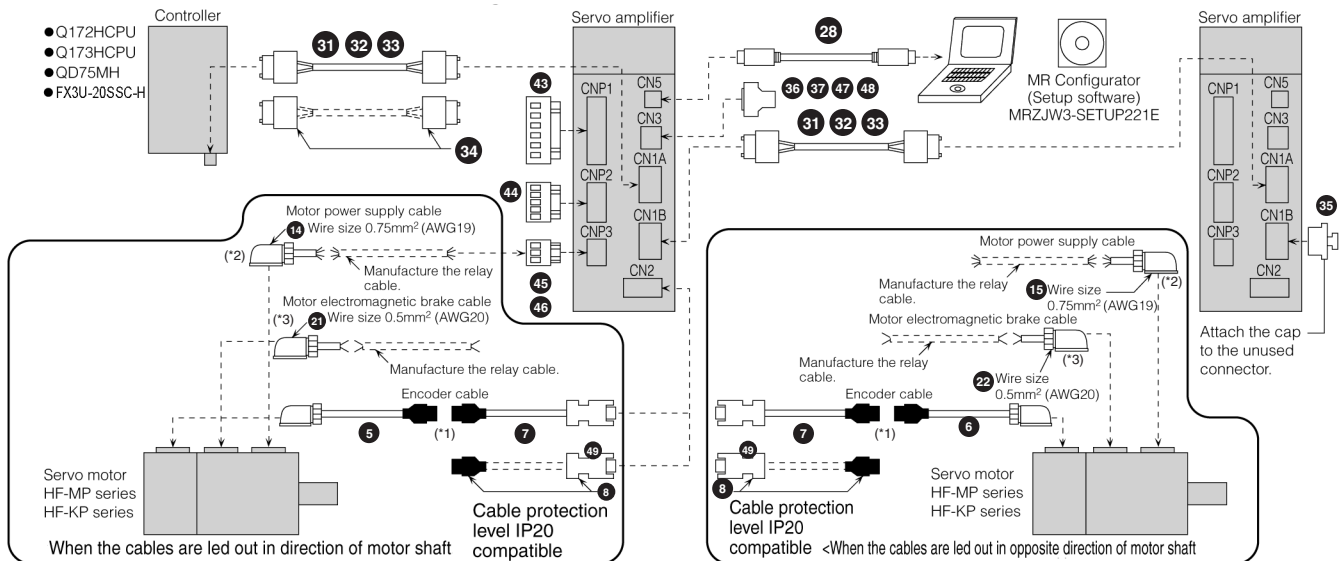


MR-J3-B Cables and Connectors (B-Type)

HF-MP/HF-KP Series: Encoder cable length 10m or shorter

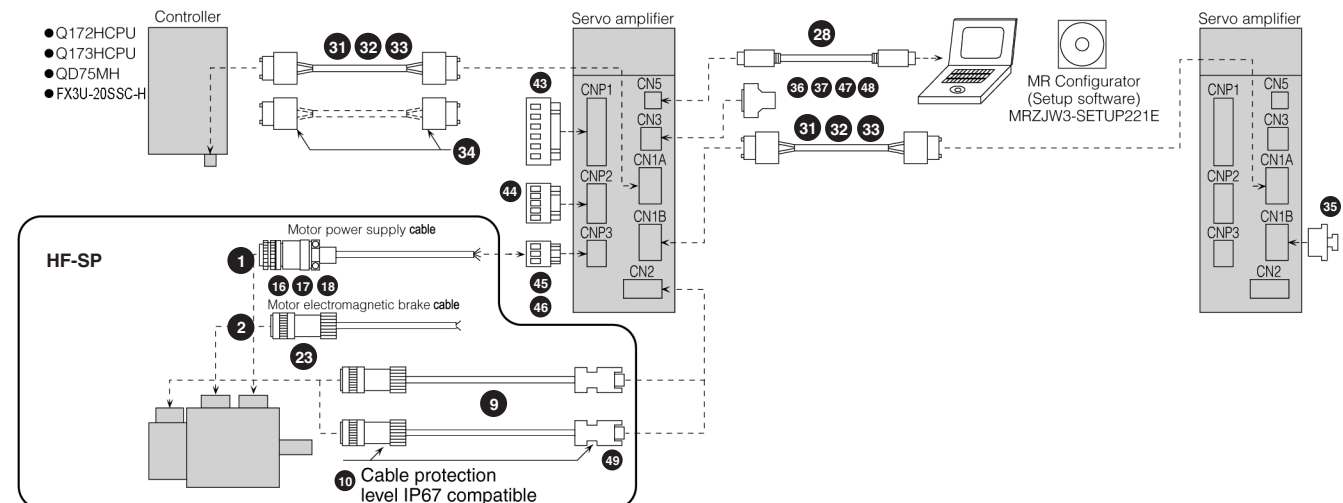


HF-MP/HF-KP Series: Encoder cable length over 10m

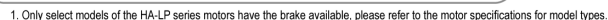
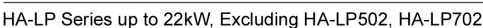


- Notes: 1. This cable does not have a long bending life, please be sure to secure the cable before using.
 2. If the length exceeds 10m, use the needed length extension cable (customer supplied) This cable does not have a long bending life, please be sure to secure the cable before using. Refer to the MR-J3-T Amplifier Instruction Manual for information on manufacturing the extension cable.
 3. If the length exceeds 10m, use the needed length extension cable (customer supplied) in junction with the MR-BKS2CBL03M-A1-L/A2-L. This cable does not have a long bending life, please be sure to secure the cable before using. Refer to the MR-J3-T Amplifier Instruction Manual for information on manufacturing the extension cable.

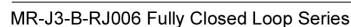
HF-SP Series



HC-LP, HC-RP, HC-UP Series, HA-LP502, HA-LP702



HA-LP Series 30kW and larger

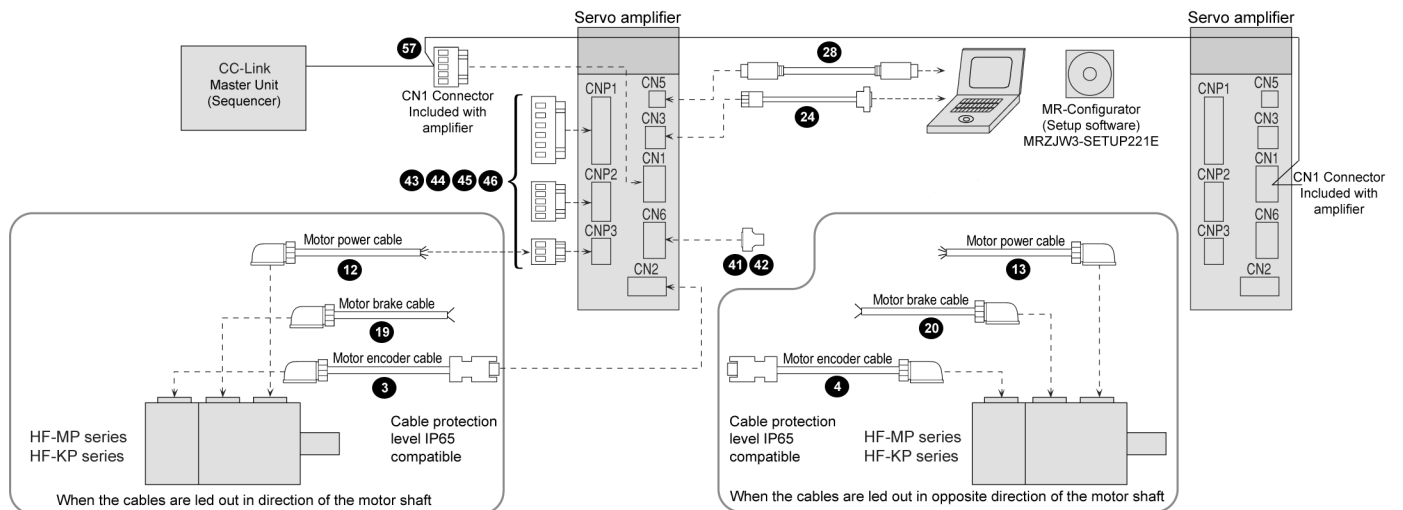


This connector drawing refers to the extra connector on the MR-J3-B-RJ006 amplifier all other connectors are the same as the MR-J3-B standard type amplifier.

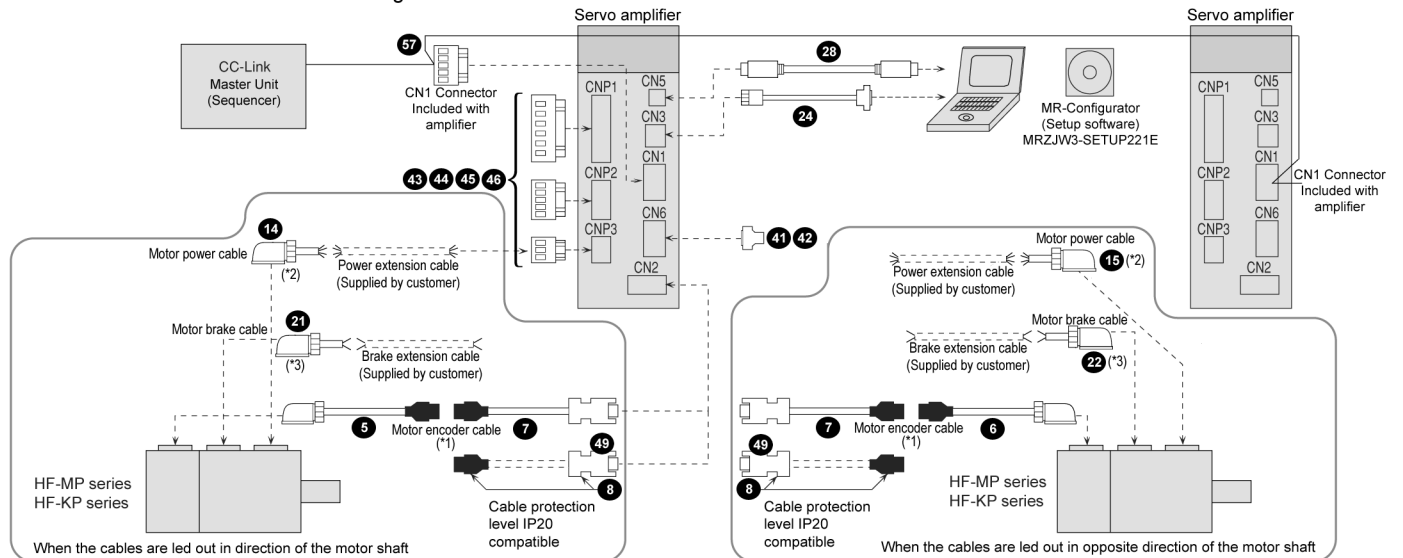


MR-J3-T Cables and Connectors (T-Type)

HF-MP/HF-KP Series: Encoder cable length 10m or shorter

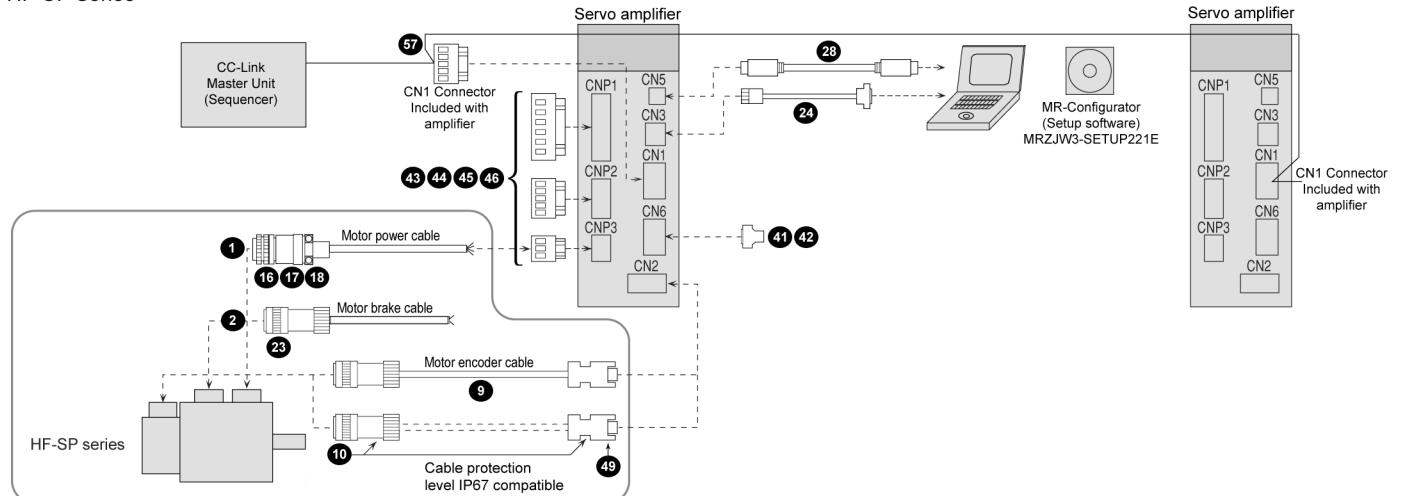


HF-MP/HF-KP Series: Encoder cable length over 10m



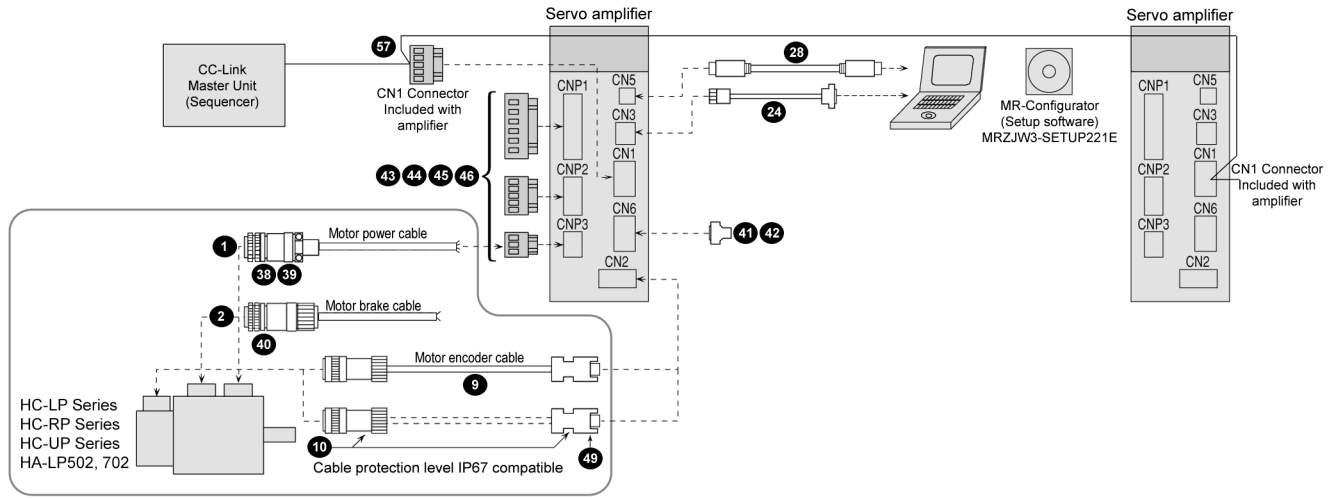
1. This cable does not have a long bending life, please be sure to secure the cable before using.
2. If the length exceeds 10m, use the needed length extension cable (customer supplied) in junction with the MR-PWS2CBL03M-A1-L-A2-L. This cable does not have a long bending life, please be sure to secure the cable before using. Refer to the MR-J3-T Amplifier Instruction Manual for information on manufacturing the extension cable.
3. If the length exceeds 10m, use the needed length extension cable (customer supplied) in junction with the MR-BKS2CBL03M-A1-L-A2-L. This cable does not have a long bending life, please be sure to secure the cable before using. Refer to the MR-J3-T Amplifier Instruction Manual for information on manufacturing the extension cable.

HF-SP Series

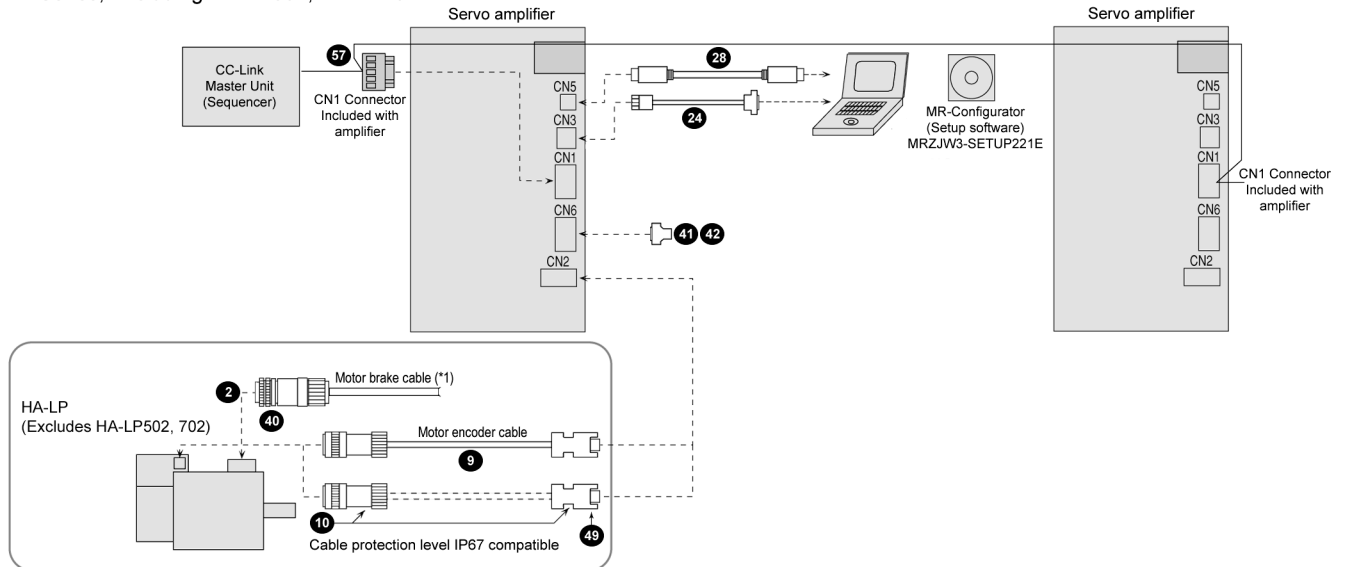


MR-J3-T Cables and Connectors (T-Type)

HC-LP, HC-RP, HC-UP Series, HA-LP502, HA-LP702

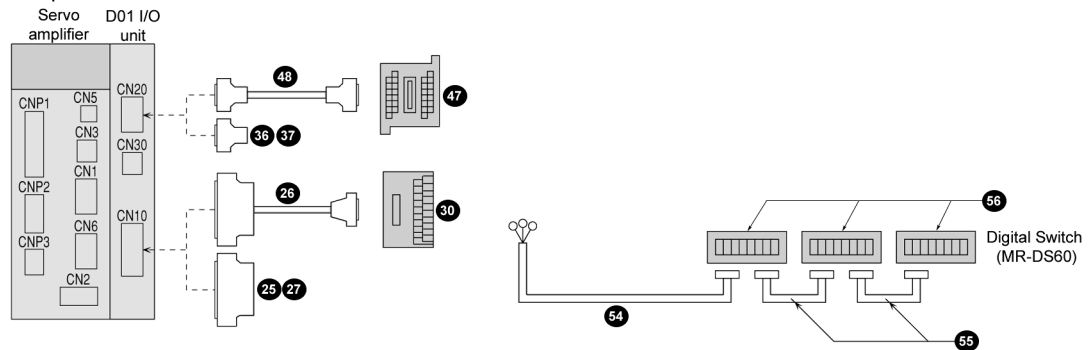


HA-LP Series, Excluding HA-LP502, HA-LP702



1. Only select models of the HA-LP series motors have the brake available, please refer to the motor specifications for model types.

MR-J3-D01 optional expansion I/O module with a MR-J3-T



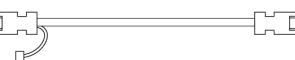
MR-J3 Cables and Connectors (Refer to Charts on Previous Pages)

Item		Motor Model Number	Cable Number (□ = cable length 2, 5, 10, 15, 20, 25, 30 meter)	Stocked Lengths	Protection Level	Description	
Power Cables for HA-LP, HC-LP, HC-UP and HF-SP Series Motors - A-, B- & T-Type Amplifiers	1	Standard-Flex, Unshielded Type Cables (Straight Type Connector Only)	HA-LP502	MR-J3HC5S-□M	2M, 5M, 10M, 20M, 30M	IP65	
			HA-LP702	MR-J3P7-□M			
			HA-LP ALL OTHERS	Hard Wired By Customer			
			HC-LP52	MR-J3HC1S-□M	2M, 5M, 10M, 20M, 30M	IP65	
			HC-LP52B	MR-J3HC1SB-□M			
			HC-LP102-152	MR-J3HC2S-□M			
			HC-LP102B-152B	MR-J3HC2SB-□M			
			HC-LP202(B) (*1)	MR-J3HC4S-□M			
			HC-LP302(B) (*1)	MR-J3HC5S-□M			
			HC-RP103-153	MR-J3HC2S-□M	2M, 5M, 10M, 20M, 30M	IP65	
			HC-RP103B-153B	MR-J3HC2SB-□M			
			HC-RP203	MR-J3HC3S-□M			
			HC-RP203B	MR-J3HC3SB-□M			
			HC-RP353-503	MR-J3HC5S-□M			
			HC-RP353B-503B	MR-J3HC5SB-□M			
			HC-UP72	MR-J3HC1S-□M	2M, 5M, 10M, 20M, 30M	IP65	
			HC-UP72B	MR-J3HC1SB-□M			
			HC-UP152	MR-J3HC2S-□M			
			HC-UP152B	MR-J3HC2SB-□M			
			HC-UP202(B) (*1)	MR-J3HC4S-□M			
			HC-UP352(B)-502(B) (*1)	MR-J3HC5S-□M			
		HF-SP51(B)-HF-SP52(4)(B) (*1)	MR-J3P1-□M	2M, 5M, 10M, 20M, 30M	IP65		
		HF-SP81(B)-HF-SP102(4)(B) (*1)	MR-J3P2-□M				
		HF-SP121(B)-HF-SP202(4)(B) (*1)	MR-J3P4-□M				
		HF-SP152(4)(B) (*1)	MR-J3P3-□M				
		HF-SP301(B)-HF-SP352(4)(B) (*1)	MR-J3P5-□M				
		HF-SP502(4)(B) (*1)	MR-J3P6-□M				
		HF-SP421(B), HF-SP702(4)(B) (*1)	MR-J3P7-□M				
		High-Flex, Shielded Type Cables (Straight type connector only)	HA-LP502	MR-J3HC5S-SH-□M	—	IP65	
			HA-LP702	MR-J3PWS7-□M			
			HA-LP ALL OTHERS	Hard Wired By Customer			
			HC-LP52	MR-J3HC1S-SH-□M	—	IP65	
			HC-LP52B	MR-J3HC1SB-SH-□M			
			HC-LP102-152	MR-J3HC2S-SH-□M			
			HC-LP102B-152B	MR-J3HC2SB-SH-□M			
			HC-LP202(B) (*1)	MR-J3HC4S-SH-□M			
			HC-LP302(B) (*1)	MR-J3HC5S-SH-□M			
			HC-RP103-153	MR-J3HC2S-SH-□M	—	IP65	
			HC-RP103B-153B	MR-J3HC2SB-SH-□M			
			HC-RP203	MR-J3HC3S-SH-□M			
			HC-RP203B	MR-J3HC3SB-SH-□M			
			HC-RP353-503	MR-J3HC5S-SH-□M			
	HC-RP353B-503B		MR-J3HC5SB-SH-□M				
	HC-UP72		MR-J3HC1S-SH-□M	—	IP65		
	HC-UP72B		MR-J3HC1SB-SH-□M				
	HC-UP152		MR-J3HC2S-SH-□M				
	HC-UP152B		MR-J3HC2SB-SH-□M				
	HC-UP202(B) (*1)		MR-J3HC4S-SH-□M				
	HC-UP352(B)-502(B) (*1)		MR-J3HC5S-SH-□M				
	HF-SP51(B)-HF-SP52(4)(B) (*1)		MR-J3PWS1-□M	—	IP67		
	HF-SP81(B)-HF-SP102(4)(B) (*1)		MR-J3PWS2-□M				
	HF-SP121(B)-HF-SP202(4)(B) (*1)		MR-J3PWS4-□M				
	HF-SP152(4)(B) (*1)	MR-J3PWS3-□M					
	HF-SP301(B)-HF-SP352(4)(B) (*1)	MR-J3PWS5-□M					
	HF-SP502(4)(B) (*1)	MR-J3PWS6-□M					
	HF-SP421(B), HF-SP702(4)(B) (*1)	MR-J3PWS7-□M					
Brake Cables - A-, B- & T-Types	2	Standard-Flex, Unshielded Type Cables	HA-LP ALL (B) SIZES	MR-J3HCBKS-□M	2M, 5M, 10M, 20M, 30M	IP65	
			HC-LP202B, 302B				
			HC-UP202B, 352B, 502B				
			HF-SP(4) ALL (B) SIZES		MR-J3BK-□M	2M, 5M, 10M, 20M, 30M	
	High-Flex, Shielded Type Cables	HA-LP ALL (B) SIZES	MR-J3HCBKS-SH-□M	—	IP65		
		HC-LP202B, 302B					
		HC-UP202B, 352B, 502B					
		HF-SP(4) ALL (B) SIZES	MR-J3BRKS1-□M	—	IP67		

Notes:

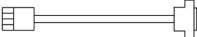
1. Must order separate brake cable for these motors.

MR-J3 Cables and Connectors (Refer to Charts on Previous Pages)

Item				Model	Stocked Lengths	Protection Level	Description	
Encoder Cable for CN2 – A-, B- and T-Type	3 4	10m or Shorter (Direct Connection Type)	Encoder Cable For HF-MP/HF-KP Series Motor Lead Out In Direction Of Motor Shaft	MR-J3ENCBL□M-A1-H (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65	Encoder Side Amplifier Side 	
				MR-J3ENCBL□M-A1-L (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65		
			Encoder Cable For HF-MP/HF-KP Series Motor Lead Out In Opposite Direction Of Motor Shaft	MR-J3ENCBL□M-A2-H (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65		
				MR-J3ENCBL□M-A2-L (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65		
	5	Exceeding 10m (Relay Type)	Encoder Cable For HF-MP/HF-KP Series Motor Lead Out In Direction Of Motor Shaft	MR-J3JCBL03M-A1-L (Cable length 0.3m) (*1)	S	IP20	Encoder Side Junction Connector 	
				MR-J3JSCBL03M-A1-L (Cable length 0.3m) (*1)	S	IP67		
	Encoder Cable For HF-MP/HF-KP Series Motor Lead Out In Opposite Direction Of Motor Shaft		MR-J3JCBL03M-A2-L (Cable length 0.3m) (*1)	S	IP20	Encoder Side Junction Connector 		
			MR-J3JSCBL03M-A2-L (Cable length 0.3m) (*1)	S	IP67			
	7		Amplifier-Side Cable For HF-MP/HF-KP Series Motor	MR-EKCBL□M-H (□ = cable length 20, 30, 40, 50m) (*1)	20, 30	IP20	 Use this in combination of 5 or 6.	
				MR-EKCBL□M-L (□ = cable length 20, 30m) (*1)	–	IP20		
	8			Junction Connector, Amplifier-Side Connector (*2) For HF-MP/HF-KP Series Motor	MR-ECNM	S	IP20	
	9		Encoder Cable For HF-SP, HC-RP, HC-UP, HC-LP, HA-LP Series Motor		MR-J3ENSCBL□M-H (□ = cable length 2, 5, 10, 20, 30, 40, 50m) (*1)	2, 5, 10, 20, 30	IP67	
					MR-J3ENSCBL□M-L (□ = cable length 2, 5, 10, 20, 30m) (*1)	–	IP67	
	10		Encoder Connector Set For HF-SP, HC-RP, HC-UP, HC-LP, HA-LP Series Motor	MR-J3SCNS	S	IP67	Encoder Side Amplifier Side 	
	11	Battery Connection Relay Cable	MR-J3BTCBL03M (Cable length 0.3m) (*3)	S	–	Amplifier Side Junction Connector 		
Motor Power Supply Cables For CNP3 – A-, B- and T-Type	12 13	10m Or Shorter (Direct Connection Type)	Power Supply Cable For HF-MP/ HF-KP Series Motor. Lead Out In Direction Of Motor Shaft	MR-PWS1CBL□M-A1-H (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65		
				MR-PWS1CBL□M-A1-L (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65		
	Power Supply Cable For HF-MP/ HF-KP Series Motor. Lead Out In Opposite Direction Of Motor Shaft	MR-PWS1CBL□M-A2-H (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65				
		MR-PWS1CBL□M-A2-L (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65				
	14	Exceeding 10m (Relay Type)	Power Supply Cable For HF-MP/HF-KP Series Motor Lead Out In Direction Of Motor Shaft	MR-PWS2CBL03M-A1-L (Cable length 0.3m) (*1)	S	IP55		
	Power Supply Cable For HF-MP/HF-KP Series Motor Lead Out In Opposite Direction Of Motor Shaft		MR-PWS2CBL03M-A2-L (Cable length 0.3m) (*1)	S	IP55			

See notes next page.

MR-J3 Cables and Connectors

Item				Model	Stocked Lengths	Protection Level	Description
Power Supply Connectors For HF-SP Motors	16	Power Supply Connector For HF-SP51, 81, HF-SP52, 102, 152 Motor See ① For Cable		MR-PWCNS4 (Straight type only)	S	IP67	
	17	Power Supply Connector For HF-SP121, 201, HF-SP202, 352, 502 Motor See ① For Cable		MR-PWCNS5 (Straight type only)	S	IP67	
	18	Power Supply Connector For HF-SP702 See ① For Cable		MR-PWCNS3 (Straight type only)	S	IP67	
Motor Brake Cables – A-, B- and T-Type	19	10m Or Shorter (Direct Connection Type)	Brake Cable For HF-MP/ HF-KP Series Motor Lead Out In Direction Of Motor Shaft	MR-BKS1CBL□M-A1-H (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65	
				MR-BKS1CBL□M-A1-L (□ = cable length 2, 5, 10m) (*1)	–	IP65	
	20	Exceeding 10m (Relay Type)	Brake Cable For HF-MP/ HF-KP Series Motor Lead Out In Opposite Direction Of Motor Shaft	MR-BKS1CBL□M-A2-H (□ = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65	
				MR-BKS1CBL□M-A2-L (□ = cable length 2, 5, 10m) (*1)	–	IP65	
	21		Brake Cable For HF-MP/ HF-KP Series Motor Lead Out In Direction Of Motor Shaft	MR-BKS2CBL03M-A1-L (Cable length 0.3m) (*1)	S	IP55	
	22		Brake Cable For HF-MP/ HF-KP Series Motor Lead Out In Opposite Direction Of Motor Shaft	MR-BKS2CBL03M-A2-L (Cable length 0.3m) (*1)	S	IP55	
Brake Connector For HF-SP Series Motor	23	Brake Connector For HF-SP Series Motor See ② For Cable		MR-BKCNS1 (Straight type only)	S	IP67	
For CN3 A- and T-Type Only	24	RS-232 to RS-485 Converter PC to CN3 Cable (3 Meter)		SC-FRPC	S	–	
For CN1 – A- and T-D01 Types Only	25	CN1 Connector (50 Pin)		MR-J3CN1	–	–	
	26	Junction Terminal Block Cable		MR-J2M-CN1TBL□M (□ = cable length 0.5, 1m) (For use with MR-TB50 and MR-TB50MIN Junction Terminal Block)	0.5, 1	–	
For CN1 – A- and T-D01 Types Only	27	CN1 Pigtail Cable (50 Pin)		MR-J3CCN1CBL-□M (□ = cable length 3, 5m)	3, 5	–	
For CN5 A-, B- & T-Types	28	Personal Computer Communication Cable	USB Cable	MR-J3USBCBL3M (Cable length 3m)	S	–	
For CN6 A-Type Only	29	Monitor Cable		MR-J3CN6CBL1M (Cable length 1m)	S	–	
A-Type Only	30	Junction Terminal Block		MR-TB50MIN (reduced size – width = 145mm (5.71 in))	S	–	
				MR-TB50 (standard size – width = 244mm (9.61 in))	S		

See notes next page.

MR-J3 Cables and Connectors

Item			Model	Stocked Lengths	Protection Level	Description
For Controller, CN1A, CN1B B-Type Only	31	SSCNET III Cable (Standard Cord For Inside Panel)	MR-J3BUS□□M (□ = cable length 0.15, 0.3, 0.5, 1, 3m)	0.15, 0.3, 0.5, 1, 3	—	
	32	SSCNET III Cable (Standard Cable For Outside Panel)	MR-J3BUS□□M-A (□ = cable length 5, 10, 20m)	5, 10, 20	—	
	33	SSCNET III Cable (Long Distance Cable)	MR-J3BUS□□M-B (□ = cable length 30, 40, 50m)	30	—	
For CN1B B-Type Only	35	Connector Cap for SSCNET III	Connector comes with amplifier standard	—	—	
For CN3 B- and T-D01 Types Only	36	CN20 or CN3 Signal Connector (20 Pin)	MR-J2CN1	S	—	
For CN3 B- and T-D01 Types Only	37	CN20 or CN3 Pigtail Cable (20 Pin)	MR-CCN1CBL-□□M (□ = cable length 3, 5m)	3, 5	—	
For A-, B- and T-Types	38	Power Supply Connector For HC-RP to 203, HC-UP to 152, and HC-LP to 152	MR-PWCNS1	S	IP65	
	39	Power Supply Connector For HC-RP 353 and Up, HC-UP 202 and up, and HC-LP 202 and Up	MR-PWCNS2	S	IP65	
	40	Brake Connector For HC-RP, HC-UP, and HC-LP With Separate Brake Connector	MR-BKCN	S	IP65	
For T-Type Only	41	CN6 Connector (26 Pin)	MR-ECN1	S	—	
	42	CN6 Pigtail Cable (26 Pin)	MR-ECN1CBL-3M	S	—	
For A, B and T-Types (Comes with J3 Amp Standard)	43	CNP1 Connector 1kW or Less (200VAC)	54928-0670	S	—	
		CNP1 Connector 2kW – 3.5kW (200VAC)	PC4/6-STF-7.62	S	—	
		CNP1 Connector 2kW or Less (400VAC)	721-207/026-000	S	—	
	44	CNP2 Connector up to 3.5kW (200VAC)	54927-0510	S	—	
		CNP2 Connector 2kW or Less (400VAC)	721-205/026-000	S	—	
	45	CNP3 Connector 1kW or Less (200VAC)	54928-0370	S	—	
		CNP3 Connector 2kW – 3.5kW (200VAC)	PC4/3-STF-7.62	S	—	
		CNP3 Connector 2kW or Less (400VAC)	721-203/026-000	S	—	
	46	CNP1-2-3 Insertion Tool (200VAC)	54932-0000	S	—	
		CNP1-2-3 Insertion Tool (400VAC)	231-131	S	—	
For B-Type and D01 Only	47	20 Pin Terminal B Lock For J3-B (TB20 Cannot be Used)	PS7DW-20V14B-F	S	—	
	48	Cable for PS7DW-20V14B-F Terminal Block	MR-J2HBUS□□M (□ = Cable length 0.5, 1, 3, 5m)	0.5, 1, 3, 5	—	
For A, B, & T-Type	49	CN2 or CN2L Connector	MR-J3CN2	S	IP20	
For A & B Types	50	CN40 to CN40A Cable Between Converter and Amp	MR-J3CDL05M	—	—	
	51	CN40 to CN40A Connector Set	MR-J2CN1-A	—	—	
	52	CN40B Connector	MR-J3-TM	—	—	
For B-RJ006 Type Only	53	CN2L Cable	MR-EKCB□□M-H (□ = cable length 2, 5, 10m)	2, 5, 10	IP20	
For MR-J3-D01 Types	54	MR-J3-D01 Terminal Block to MR-DS60 Cable	MR-DSCBL□□M-G (□ = cable length 3, 5, 10m)	—	—	
	55	MR-DS60 to MR-DS60 Cable	MR-DSCBL□ (□ = cable length 25, 100cm)	—	—	
	56	Digital Switch to Use Together With the MR-J3-D01	MR-DS60	—	—	
For T-Type Only	57	CN1 CC-Link Replacement Connector	1781014	—	—	

Notes:

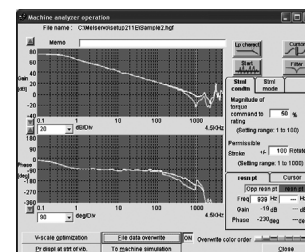
- H and -L indicate bending life. -H indicates a long bending life, and -L indicates a standard.
- Refer to "MR-J3-B SERVO AMPLIFIER INSTRUCTION MANUAL" for details on manufacturing the cable.
- The battery connection junction cable (MR-J3BTCB L03M) has a diode built-in. Do not manufacture this cable. This optional cable must be used.

③ Software and Manuals

MR Configurator • (MRJW3-SETUP221E)

This software makes it easy to perform setup, tuning, monitor display, diagnostics, reading and writing of parameters, and test operations with a personal computer. User-satisfying functions that enable the balance with the machine system, optimum control and short start up time are available.

1. This software can set up and tune your servo system easily with a personal computer.
2. Multiple monitor functions
Graphic display functions are provided to display the servo motor status with the input signal triggers, such as the command pulse, droop pulse and speed.
3. Test operations with a personal computer. Test operation of the servo motors can be performed with a personal computer using multiple test mode menus.
4. Further advanced tuning is possible with the improved advanced functions.



(*1)

Description	Model Number	Stocked Item
Windows Communication Software	MR-CONFIGURATOR	S
Communication Cable	MR-J3USBCBL3M	S

Manuals

Hardware Description	Model Number	Stocked Item
MR-J3-A Instruction Manual	SH(NA)030038	S
MR-J3-B Instruction Manual	SH(NA)030051	S
MR-J3-T Instruction Manual	SH(NA)030058	S
MR-J3-T / MR-J3-D01 Instruction Manual	SH(NA)030061	S
Servo Motor Manual Volume 2	SH(NA)030041	S

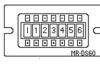
Note: Many of these manuals are available for free download from our website, www.mau.com

④ System Options

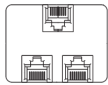
Extension I/O Unit

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-T Only	MR-J3-D01	S	

I/O Digital Switch

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-D01 Only	MR-DS60	—	

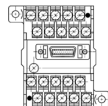
RS-422 Distributor (For Multidrop)

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-A/B/T	BMJ-8	S	

Manual Pulse Generator

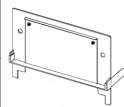
Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-T Only	MR-HDP01	S	

20 Pin Terminal Block (*1)

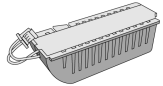
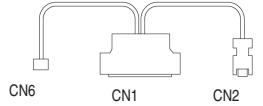
Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-B Only	PS7DW-20V14B-F	S	

Note: MR-TB20 terminal block cannot be used for MR-J3-B.

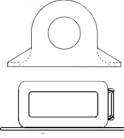
Heat Sink Mounting Attachment

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-11K to 22KA/B/T Only	MR-J3ACN	—	

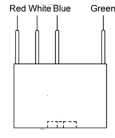
Battery

Item Number	Model Number	Description	Stk Item	Description
Battery	MR-J3BAT	The servo motor's absolute value can be maintained by installing the battery in the servo amplifier. The battery is not required when the servo system is used in an incremental mode.	S	
Battery Connection Relay Cable	MR-J3BTCBL03M	Use this relay cable to hold the absolute value when shipping the product with the machine and servo amplifier removed. The servo motor HF series does not have a super capacitor (for holding an absolute value for short time) in the encoder. When this optional cable is used, the absolute value can be held even when the encoder cable is disconnected from the servo amplifier, making it easy to do maintenance on the servo amplifier.	S	
Diagnostic Cable Only For MR-J3-A Type	MR-J3ACHECK	This cable is required when using the amplifier diagnostic function of MR Configurator (Setup software).	S	

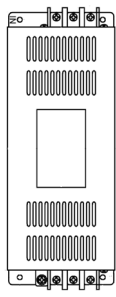
Line Noise Filter

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-200A/B/T(4) or smaller	FR-BSF01	S	
MR-J3-350A/B/T(4) or larger	FR-BLF	S	

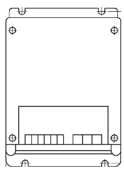
Line Noise Filter

Servo Amplifier Type	Model Number	Stocked Item	
All 200VAC J3 Models	FR-BIF	S	
All 400VAC J3 Models	FR-BIF-H	—	

EMC Filter

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-100A/B/T and less	HF3010A-UN	S	
MR-J3-200A/B/T ~ 350A/B/T	HF3030A-UN	S	
MR-J3-500A/B/T ~ 700A/B/T	HF3040A-UN	S	
MR-J3-11KA/B/T ~ 22KA/B/T	HF3100A-UN	S	
MR-J3-DU30 ~ 37KA/B	HF3200A-UN	—	
MR-J3-100A4/B4/T4 and less	TF3005C-TX	—	
MR-J3-200 ~ 700A4/B4/T4	TF3020C-TX	—	
MR-J3-11KA4/B4/T4	TF3030C-TX	—	
MR-J3-15KA4/B4/T4	TF3040C-TX	—	
MR-J3-22KA4/B4/T4	TF3060C-TX	—	
MR-J3-DU30 ~ 55KA4/B4	TF3150C-TX	—	

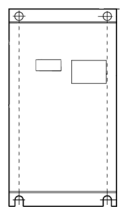
External Dynamic Brake

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-11KA/B/T	DBU-11K	—	
MR-J3-15KA/B/T	DBU-15K	—	
MR-J3-22KA/B/T	DBU-22K	—	
MR-J3-11KA4/B4/T4	DBU-11K-4	—	
MR-J3-15K ~ 22KA4/B4/T4	DBU-22K-4	S	
MR-J3-DU30KB ~ DU37KB	DBU-37K	—	
MR-J3-DU30KB4 ~ DU55KB4	DBU-55K-4	—	

Brake/Resistor Units (Must be used in conjunction with each other)

Servo Amplifier Model	Brake Unit Model Number	Stk Item	Resistor Unit Model Number	Stk Item
MR-J3-500A/B/T to 700A/B/T	FR-BU2-15K	S	FR-BR-15K-UL	S
MR-J3-11KA/B/T to 15KA/B/T	FR-BU2-30K	S	FR-BR-30K-UL	S
MR-J3-22KA/B/T	FR-BU2-55K	—	FR-BR-55K-UL	—
MR-J3-500 ~ 700A4/B4/T4	FR-BU2-H15K	S	FR-BR-H15K-UL	S
MR-J3-11K ~ 15KA4/B4/T4	FR-BU2-H30K	S	FR-BR-H30K-UL	S
MR-J3-22KA4/B4/T4	FR-BU2-H55K	—	FR-BR-H55K-UL	S

Power Regeneration Converter

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-500A/B/T	FR-RC-15K	—	
MR-J3-700A/B/T ~ 15KA/B/T	FR-RC-30K	—	
MR-J3-22KA/B/T	FR-RC-55K	—	
MR-J3-500A4/B4/T4	FR-RC-H15K	—	
MR-J3-700 ~ 15KA4/B4/T4	FR-RC-H30K	—	
MR-J3-22KA4/B4/T4	FR-RC-H55K	—	

Power Regeneration Common Converter/Stand-Alone Reactor

(Must be used in conjunction with each other).

Up to six servo amplifiers can be connected to one FR-CV, refer to manuals for details.

Servo Amplifier Model	Common Converter Model Number	Stk Item	Reactor Model Number	Stk Item
MR-J3-350A/B/T	FR-CV-7.5K	—	FR-CVL-7.5K	—
MR-J3-500A/B/T	FR-CV-11K	—	FR-CVL-11K	—
MR-J3-700A/B/T	FR-CV-15K	—	FR-CVL-15K	—
MR-J3-11KA/B/T	FR-CV-22K	—	FR-CVL-22K	—
MR-J3-15KA/B/T	FR-CV-30K	—	FR-CVL-30K	—
	FR-CV-37K	—	FR-CVL-37K	—
MR-J3-22KA/B/T	FR-CV-55K	—	FR-CVL-55K	—

200VAC Optional Regeneration Resistors

Servo Amplifier Model (MR-J3-)	Built-in Regenerative Resistor/ Tolerable Regenerative Power (W)	Standard Resistors Supplied with Amplifiers			Optional Regeneration Resistors/Tolerable Regenerative Power (W)											
		GRZG400-			MR-RB											
		1.5ΩX4 (*2)	0.9ΩX5 (*2)	0.6ΩX5 (*2)	032 (40Ω)	12 (40Ω)	30 (13Ω)	31 (6.7Ω)	32 (40Ω)	50 (13Ω) (*1)	51 (6.7Ω)(*1)	5E (6Ω)(*2)	9P (4.5Ω)(*2)	9F (3Ω)(*2)	139 (1.3Ω)	137 (1.3Ω)(*3)
Stocked Item	—	—	—	—	S	S	S	—	S	S	S	—	—	—	—	—
10A(1)/B(1)/T(1)	—	—	—	—	30	—	—	—	—	—	—	—	—	—	—	—
20A(1)/B(1)/T(1)	10	—	—	—	30	100	—	—	—	—	—	—	—	—	—	—
40A(1)/B(1)/T(1)	10	—	—	—	30	100	—	—	—	—	—	—	—	—	—	—
60A/B/T	10	—	—	—	30	100	—	—	—	—	—	—	—	—	—	—
70A/B/T	20	—	—	—	30	100	—	—	300	—	—	—	—	—	—	—
100A/B/T	20	—	—	—	30	100	—	—	300	—	—	—	—	—	—	—
200A/B/T	100	—	—	—	—	—	300	—	—	500	—	—	—	—	—	—
350A/B/T	100	—	—	—	—	—	300	—	—	500	—	—	—	—	—	—
500A/B/T	130	—	—	—	—	—	—	300	—	—	500	—	—	—	—	—
700A/B/T	170	—	—	—	—	—	—	300	—	—	500	—	—	—	—	—
11KA/B/T	—	500 (800)	—	—	—	—	—	—	—	—	—	500 (800)	—	—	—	—
15KA/B/T	—	—	850 (1300)	—	—	—	—	—	—	—	—	—	850 (1300)	—	—	—
22KA/B/T	—	—	—	850 (1300)	—	—	—	—	—	—	—	—	—	850 (1300)	—	—
DU30KA/B	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1300	3900
DU37KA/B	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1300	3900

400VAC Optional Regeneration Resistors

Servo Amplifier Model (MR-J3-)	Built-in Regenerative Resistor/ Tolerable Regenerative Power (W)	Standard Resistors Supplied with Amplifiers			Optional Regeneration Resistors/Tolerable Regenerative Power (W)											
		GRZG400-			MR-RB											
		5ΩX4 (*2)	2.5ΩX5 (*2)	2ΩX5 (*2)	1H-4 (82Ω)	3M-4 (120Ω)	3G-4 (47Ω)	34-4 (26Ω)	5G-4 (47Ω) (*1)	54-4 (26Ω)(*1)	6B-4 (20Ω)(*2)	60-4 (12.5Ω)(*2)	6K-4 (10Ω)(*2)	136-4 (5Ω)	138-4 (5Ω) (*4)	
Stocked Item	—	—	—	—	—	S	S	S	S	S	S	—	—	—	—	
60A4/B4/T4	15	—	—	—	100	300	—	—	—	—	—	—	—	—	—	
100A4/B4/T4	15	—	—	—	100	300	—	—	—	—	—	—	—	—	—	
200A4/B4/T4	100	—	—	—	—	—	300	—	500	—	—	—	—	—	—	
350A4/B4/T4	100	—	—	—	—	—	300	—	500	—	—	—	—	—	—	
500A4/B4/T4	130	—	—	—	—	—	—	300	—	500	—	—	—	—	—	
700A4/B4/T4	170	—	—	—	—	—	—	300	—	500	—	—	—	—	—	
11KA4/B4/T4	—	500 (800)	—	—	—	—	—	—	—	—	500 (800)	—	—	—	—	
15KA4/B4/T4	—	—	850 (1300)	—	—	—	—	—	—	—	—	850 (1300)	—	—	—	
22KA4/B4/T4	—	—	—	850 (1300)	—	—	—	—	—	—	—	—	850 (1300)	—	—	
DU30KA4/B4	—	—	—	—	—	—	—	—	—	—	—	—	—	1300	3900	
DU37KA4/B4	—	—	—	—	—	—	—	—	—	—	—	—	—	1300	3900	
DU45KA4/B4	—	—	—	—	—	—	—	—	—	—	—	—	—	1300	3900	
DU55KA4/B4	—	—	—	—	—	—	—	—	—	—	—	—	—	1300	3900	

Notes:

1. Be sure to install cooling fans.
2. This applies when the GRZG400-□Ω regeneration resistors are used as a standard accessory and parameter PA02 is changed with cooling fan (1.0m³/min, the □ 92 x 2 unit) installed.
3. MR-RB137 is three resistance values combined.
4. MR-RB138-4 is three resistance values combined.

DC Power Improvement Reactor

Servo Amplifier Type	Model Number	Stk Item	
MR-J3-10 ~ 20A/B/T	DCA000402	—	
MR-J3-40A/B/T	DCA000902	—	
MR-J3-60 ~ 70A/B/T		—	
MR-J3-100A/B/T	DCA001202	—	
MR-J3-200A/B/T	DCA001802	—	
MR-J3-350A/B/T	DCA003202	—	
MR-J3-500A/B/T	DCA005001	—	
MR-J3-60A4/B4/T4	DCA000402	—	
MR-J3-100A4/B4/T4	DCA000903	—	
MR-J3-200A4/B4/T4		—	
MR-J3-350A4/B4/T4	DCA001803	—	
MR-J3-500A4/B4/T4	DCA002503	—	
MR-J3-700 ~ 11KA/B/T	DCA008002	—	
MR-J3-15KA/B/T	DCA011003	—	
MR-J3-22KA/B/T	DCA012502	—	
MR-J3-700 ~ 11KA4/B4/T4	DCA003202	—	
MR-J3-15KA4/B4/T4	DCA005004	—	
MR-J3-22KA4/B4/T4	DCA008005	—	
MR-J3-DU30KA/B	MR-DCL30K	—	
MR-J3-DU37KA/B	MR-DCL37K	—	
MR-J3-DU30KA4/B4	MR-DCL30K-4	—	
MR-J3-DU37KA4/B4	MR-DCL37K-4	—	
MR-J3-DU45KA4/B4	MR-DCL45K-4	—	
MR-J3-DU55KA4/B4	MR-DCL55K-4	—	

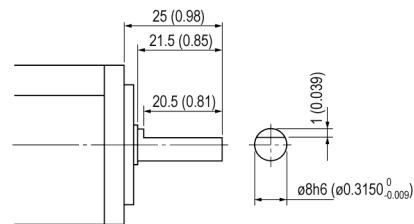
AC Power Factor Improvement Reactor

Servo Amplifier Type	Model Number	Stk Item	
MR-J3-10A1/B1/T1	MRL-00204	—	
MR-J3-10 ~ 20A/B/T		—	
MR-J3-20A1/B1/T1	MRL-00401	—	
MR-J3-40A/B/T		—	
MR-J3-40A1/B1/T1	MRL-00801	—	
MR-J3-60 ~ 70A/B/T		—	
MR-J3-100A/B/T	MRL-01201	—	
MR-J3-200A/B/T	MRL-01801	S	
MR-J3-350A/B/T	MRL-03501	—	
MR-J3-500A/B/T	MRL-04501	—	
MR-J3-700 ~ 11KA/B/T	MRL-05501	—	
MR-J3-15KA/B/T	MRL-08001	—	
MR-J3-22KA/B/T	MRL-10001	—	
MR-J3-60A4/B4/T4	MRL-00402	S	
MR-J3-100A4/B4/T4		S	
MR-J3-200A4/B4/T4	MRL-00802	S	
MR-J3-350A4/B4/T4	MRL-01802	S	
MR-J3-500A4/B4/T4	MRL-02502	S	
MR-J3-700 ~ 11KA4/B4/T4	MRL-03502	S	
MR-J3-15KA4/B4/T4	MRL-04502	S	
MR-J3-22KA4/B4/T4	MRL-05502	—	

MR-J3 Motor Shaft Details and Servomotor Dimensions

HF-KP / HF-MP Series

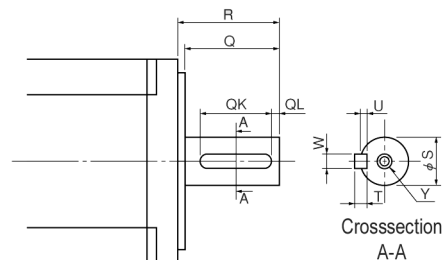
D-Cut Shaft (50W & 100W Motors Only)



Unit: mm (inch)

Keyway With Key Included

Motor Model	Capacity (W)	Variable Dimensions								
		T	S	R	Q	W	QK	QL	U	Y
HF-KP□K HF-MP□K	200, 400	5 (0.20)	14h6 (0.554)	30 (1.18)	27 (1.06)	5 (0.20)	20 (0.79)	3 (0.12)	3 (0.12)	M4 Depth 15 (0.59)
	750	6 (0.24)	19h6 (0.7480)	40 (1.57)	37 (1.46)	6 (0.24)	25 (0.98)	5 (0.20)	3.5 (0.14)	M5 Depth 20 (0.79)



Unit: mm (inch)

HF-SP / HC-LP / HC-RP / HC-UP / HA-LP Series

Keyway With No Key Supplied (Customer must supply key or order key part separately below)

Motor Model	Capacity (kW)	Variable Dimensions mm (in)									Fig.	Key Dimensions	Key Model Number	Stocked Item
		S	R	Q	W	QK	QL	U	r	Y				
HF-SP_K HC-LP_K	0.5-1.5	24h6 (0.9449 $\frac{0}{-0.0003}$)	55 (2.17)	50 (1.91)	8 $\frac{0}{0.036}$ (0.315 $\frac{0}{0.001}$)	36 (1.42)	5 (0.20)	4 $\frac{+0.2}{0}$ (0.16 $\frac{0}{0.008}$)	4 (0.16)		M8 Depth 20 (0.79)	8x7x28	MTR KEY 8-7-28	S
	2.0-7.0	35h6 $\frac{+0.01}{0}$ (1.3780 $\frac{0}{-0.0004}$)	79 (3.11)	75 (2.95)	10 $\frac{0}{0.036}$ (0.394 $\frac{0}{0.001}$)	55 (2.17)	5 (0.20)	5 $\frac{+0.2}{0}$ (0.20 $\frac{0}{0.008}$)	5 (0.20)			10x8x45	MTR KEY 10-8-45	S
HC-RP_K	1.0, 1.5, 2.0	24h6 (0.9449 $\frac{0}{-0.0003}$)	45 (1.77)	40 (1.57)	8 $\frac{0}{0.036}$ (0.315 $\frac{0}{0.001}$)	25 (0.98)	5 (0.20)	4 $\frac{+0.2}{0}$ (0.16 $\frac{0}{0.008}$)	4 (0.16)			8x7x16	MTR KEY 8-7-16	S
	3.5, 5.0	28h6 (1.1024 $\frac{0}{-0.0003}$)	63 (2.48)	58 (2.28)	8 $\frac{0}{0.036}$ (0.315 $\frac{0}{0.001}$)	53 (2.09)	3 (0.12)	4 $\frac{+0.2}{0}$ (0.16 $\frac{0}{0.008}$)	4 (0.16)			8x7x45	MTR KEY 8-7-45	S
HC-UP_K	0.75	22h6 (0.8661 $\frac{0}{-0.0003}$)	55 (2.17)	50 (1.97)	6 $\frac{0}{0.036}$ (0.236 $\frac{0}{0.001}$)	42 (1.65)	3 (0.12)	3.5 $\frac{+0.2}{0}$ (0.14 $\frac{0}{0.008}$)	3 (0.12)			6x6x36	MTR KEY 6-6-36	S
	1.5	28h6 (1.1024 $\frac{0}{-0.0003}$)	55 (2.17)	50 (1.97)	8 $\frac{0}{0.036}$ (0.315 $\frac{0}{0.001}$)	40 (2.09)	3 (0.12)	4 $\frac{+0.2}{0}$ (0.16 $\frac{0}{0.008}$)	4 (0.16)			8x7x36	MTR KEY 8-7-36	S
	2.0, 3.5, 5.0	35 $\frac{+0.01}{0}$ (1.3780 $\frac{0}{-0.0004}$)	65 (2.56)	60 (2.36)	10 $\frac{0}{0.036}$ (0.394 $\frac{0}{0.001}$)	50 (1.97)	5 (0.20)	5 $\frac{+0.2}{0}$ (0.20 $\frac{0}{0.008}$)	5 (0.20)			10x8x45	MTR KEY 10-8-45	S

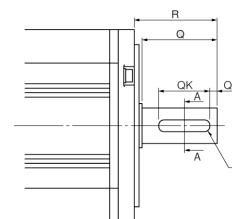
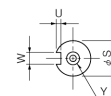


Figure A



Crosssection A-A

Keyway With No Key Supplied (Customer must supply key)

Motor Model (HA-LP_K)	Variable Dimensions mm (in)									Fig.	Key Model Number
	S	R	Q	W	QK	QL	U	r	Y		
601, 6014, 701M, 701M4, 502, 702, 11K2, 11K24	42h6 (1.6535 $\frac{0}{-0.0003}$)	85 (3.35)	80 (3.15)	12 $\frac{0.04}{0}$ (0.47 $\frac{0}{0.002}$)	70 (2.76)	5 (0.20)	5 $\frac{+0.2}{0}$ (0.2 $\frac{0}{0.008}$)	6 (0.24)	Same as Standard motor's straight shaft.	A	(N/A) Key to be supplied by customer.
801, 12K1, 8014, 12K14, 11K1M, 15K1M, 11K1M4, 15K1M4, 15K2, 22K2, 15K24, 22K24	55m6 (2.1654 $\frac{+0.0012}{-0.0003}$)	110 (4.33)	100 (3.94)	16 $\frac{0}{0.04}$ (0.63 $\frac{0}{0.002}$)	90 (3.54)	5 (0.20)	6 $\frac{+0.2}{0}$ (0.24 $\frac{0}{0.008}$)	8 (0.31)			
15K1, 20K1, 15K14, 20K14, 22K1M, 30K1M, 22K1M4, 30K1M4, 30K2, 37K2, 30K24, 37K24	60m6 (2.3622 $\frac{+0.012}{-0.0003}$)	140 (5.51)	140 (5.51)	18 $\frac{0}{0.04}$ (0.71 $\frac{0}{0.002}$)	128 (5.04)	6 (0.24)	7 $\frac{+0.2}{0}$ (0.28 $\frac{0}{0.008}$)	9 (0.35)			
25K1, 30K1, 25K14, 30K14, 37K1M, 37K1M4, 45K1M4, 45K24, 55K24	65m6 (2.5591 $\frac{+0.012}{-0.0003}$)	140 (5.51)	140 (5.51)	18 $\frac{0}{0.04}$ (0.71 $\frac{0}{0.002}$)	128 (5.04)	6 (0.24)	7 $\frac{+0.2}{0}$ (0.28 $\frac{0}{0.008}$)	9 (0.35)			
37K1, 37K14, 50K1M4	80m6 (3.1496 $\frac{0}{-0.0003}$)	170 (6.69)	170 (6.69)	22 $\frac{0}{0.04}$ (0.87 $\frac{0}{0.002}$)	147 (5.79)	11 (0.43)	9 $\frac{+0.2}{0}$ (0.35 $\frac{0}{0.008}$)	11 (0.43)			

Note: Not all key sizes are available to order from MEAU. If a key part is not listed, customer must supply.

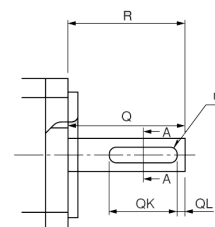
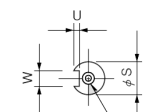
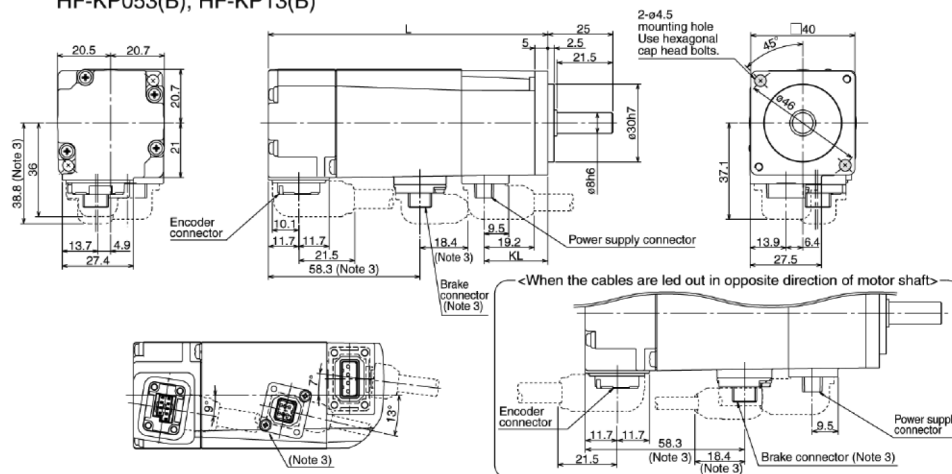


Figure B



Crosssection A-A

HF-KP / HF-MP Series

HF-MP053(B), HF-MP13(B)
HF-KP053(B), HF-KP13(B)

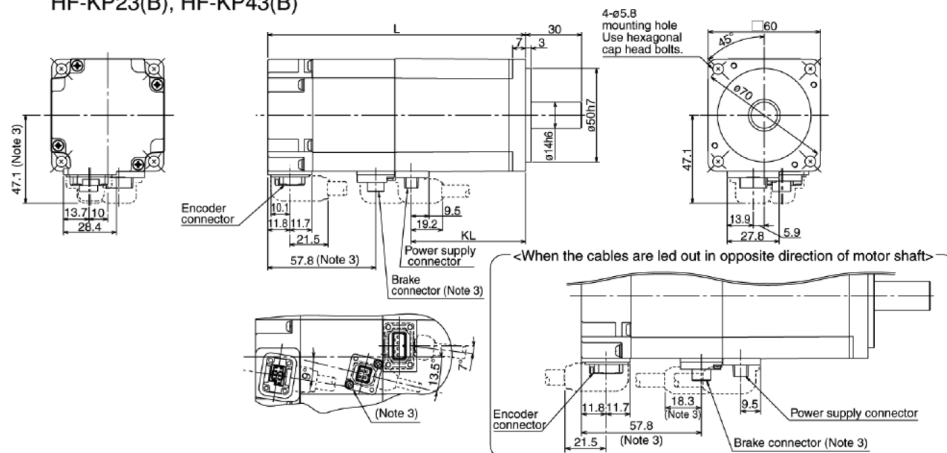
Power supply connector pin assignment

Pin No.	Signal name
1	Earth
2	U
3	V
4	W

Brake connector pin assignment (Note 3)

Pin No.	Signal name
1	B1
2	B2

Model	Variable dimensions	
	L	KL
HF-MP053 (B) HF-KP053 (B)	66.4 (107.5)	24.5
HF-MP13 (B) HF-KP13 (B)	82.4 (123.5)	40.5

HF-MP23(B), HF-MP43(B)
HF-KP23(B), HF-KP43(B)

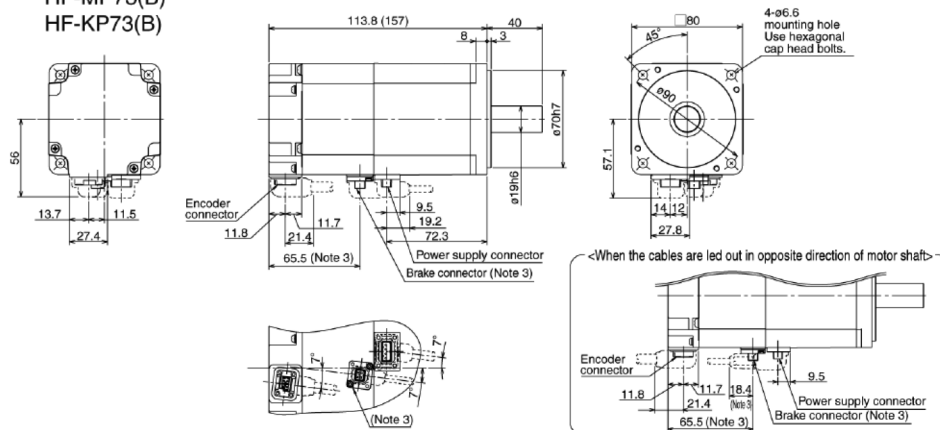
Power supply connector pin assignment

Pin No.	Signal name
1	Earth
2	U
3	V
4	W

Brake connector pin assignment (Note 3)

Pin No.	Signal name
1	B1
2	B2

Model	Variable dimensions	
	L	KL
HF-MP23 (B) HF-KP23 (B)	76.6 (116.1)	39.3
HF-MP43 (B) HF-KP43 (B)	96.5 (136)	61.2

HF-MP73(B)
HF-KP73(B)

Power supply connector pin assignment

Pin No.	Signal name
1	Earth
2	U
3	V
4	W

Brake connector pin assignment (Note 3)

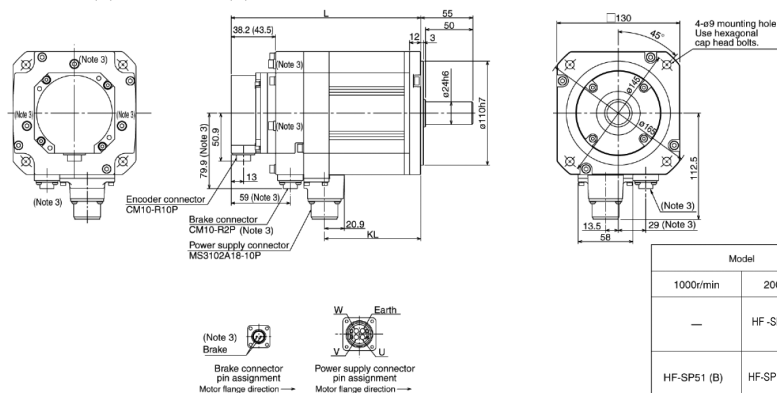
Pin No.	Signal name
1	B1
2	B2

Notes:

1. Use a friction coupling to fasten a load.
2. Dimensions inside () are for the models with an electromagnetic brake.
3. Only for the models with an electromagnetic brake. The electromagnetic brake terminals (B1, B2) do not have the polarity.
4. For dimensions where there is no tolerance listed, use general tolerance.
5. Dimensions for motors with an oil seal (HF-MP□J and HF-KP□J) are different from the above. Contact Mitsubishi for details.

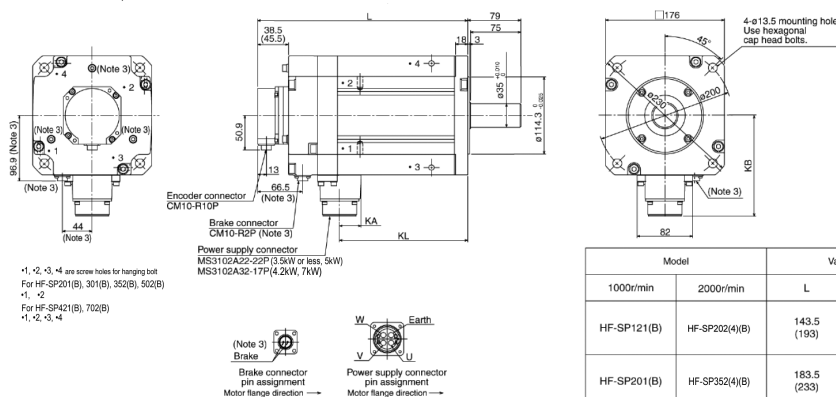
HF-SP Series

HF-SP51(B), HF-SP81(B)
HF-SP52(B) to HF-SP152(B)
HF-SP524(B) to HF-SP1524(B)



Model		Variable dimensions	
1000r/min	2000r/min	L	KL
—	HF-SP52(4)(B)	118.5 (153)	57.8
HF-SP51 (B)	HF-SP102(4)(B)	140.5 (175)	79.8
HF-SP81 (B)	HF-SP152(4)(B)	162.5 (197)	101.8

HF-SP121(B), HF-SP421(B)
HF-SP202(B) to HF-SP702(B), HF-SP2024(B), HF-SP3524(B)
HF-SP5024, HF-SP7024



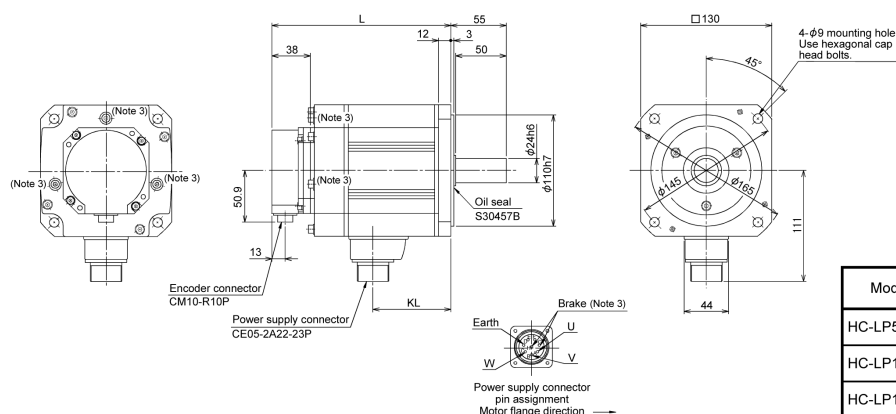
Model		Variable dimensions			
1000r/min	2000r/min	L	KL	KA	KB
HF-SP121(B)	HF-SP202(4)(B)	143.5 (193)	79.8	24.8	140.5
HF-SP201(B)	HF-SP352(4)(B)	183.5 (233)	119.8		
HF-SP301(4)(B)	HF-SP502(4)(B)	203.5 (253)	139.8		
HF-SP421(4)(B)	HF-SP702(4)(B)	263.5 (313)	191.8	32	149.5

Notes:
Use a friction coupling to fasten a load.
Dimensions inside () are for the models with an electromagnetic brake.
Only for the models with an electromagnetic brake. The electromagnetic brake terminals do not have the polarity.
For dimensions where there is no tolerance listed, use general tolerance.

HC-LP Series

HC-LP52(B), HC-LP102(B), HC-LP152(B)

(Unit: mm)



Model	Variable dimensions	
	L	KL
HC-LP52(B)	144 (177)	77
HC-LP102(B)	164 (197)	97
HC-LP152(B)	191.5 (224.5)	124.5

Model	Brake static friction torque (N·m [oz·in])
HC-LP52B	8.5 (1200)
HC-LP102B	
HC-LP152B	

Model	Brake static friction torque (N·m [oz·in])
HC-LP202B	44 (6230)
HC-LP302B	

Model	Brake static friction torque (N·m [oz·in])
HC-RP103B	7 (991)
HC-RP153B	
HC-RP203B	

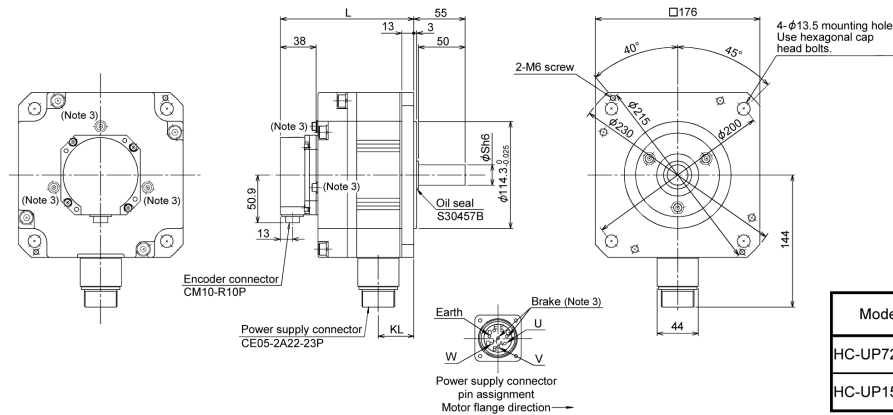
Model	Brake static friction torque (N·m [oz·in])
HC-RP353B	17 (2410)
HC-RP503B	

280

HC-UP Series

HC-UP72(B), HC-UP152(B)

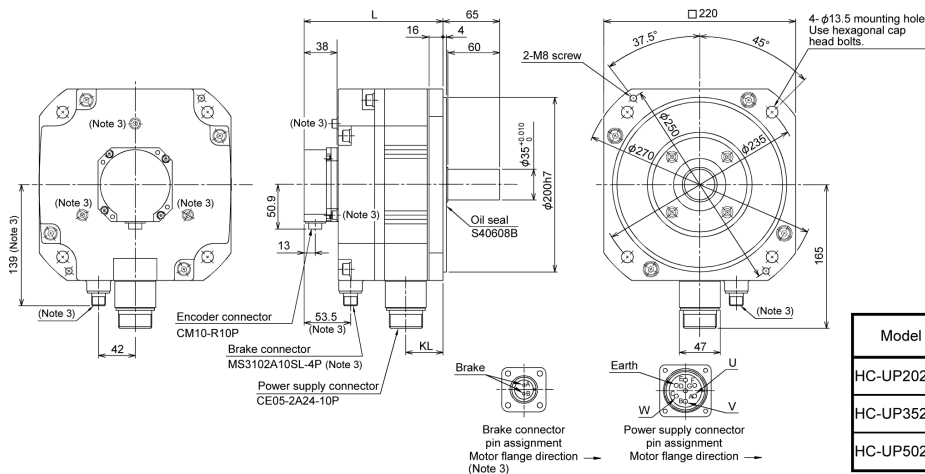
(Unit: mm)



Model	Variable dimensions		
	L	KL	S
HC-UP72(B)	109 (142.5)	38	22
HC-UP152(B)	118.5 (152)	47.5	28

Model	Brake static friction torque (N·m [oz·in])
HC-UP72B	8.5 (1200)
HC-UP152B	

HC-UP202(B), HC-UP352(B), HC-UP502(B)



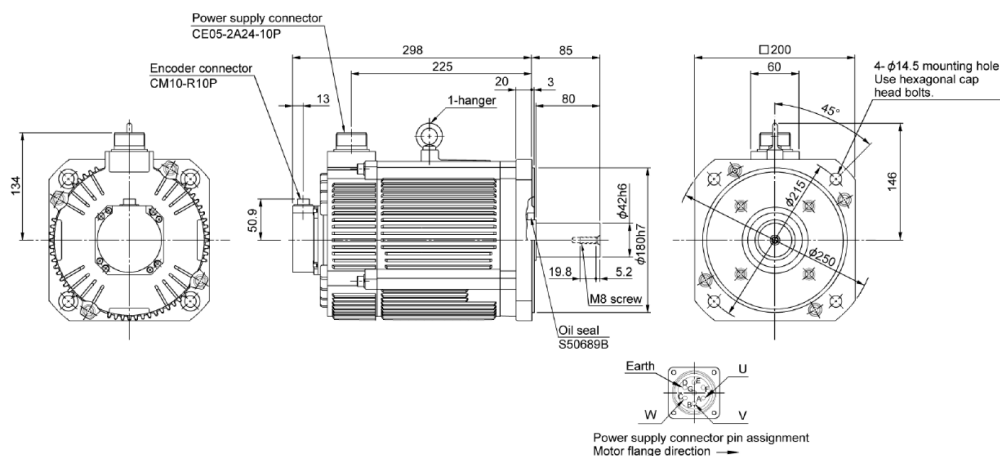
Model	Variable dimensions	
	L	KL
HC-UP202(B)	116.5 (159.5)	42.5
HC-UP352(B)	140.5 (183.5)	66.5
HC-UP502(B)	164.5 (207.5)	90.5

Model	Brake static friction torque (N·m [oz·in])
HC-UP202B	44 (6230)
HC-UP352B	
HC-UP502B	

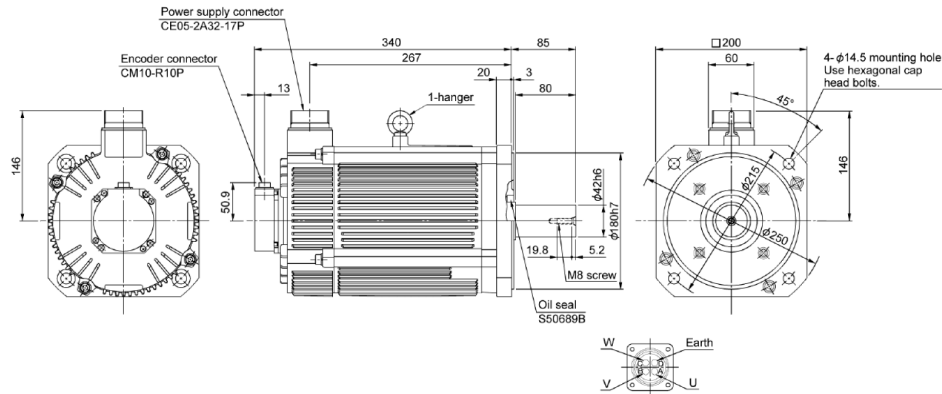
Notes: 1. Use a friction coupling to fasten a load.
 2. Dimensions inside () are for the models with an electromagnetic brake.
 3. Only for the models with an electromagnetic brake.
 The electromagnetic brake terminals do not have the polarity.
 4. For dimensions where there is no tolerance listed, use general tolerance.

HA-LP Series

HA-LP502



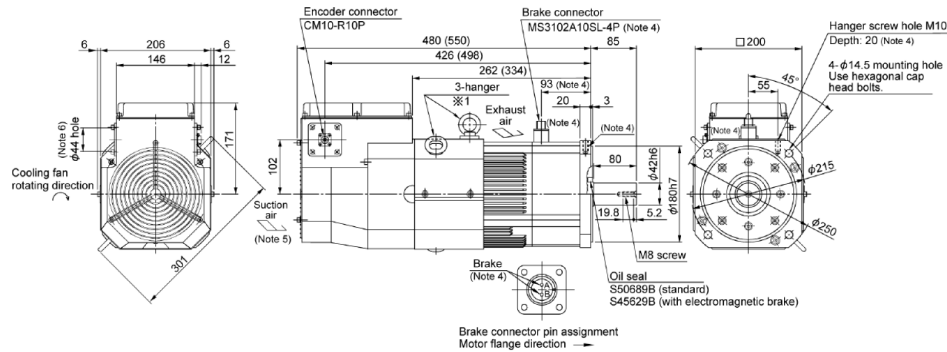
HA-LP702



- Notes: 1. Use a friction coupling to fasten a load.
 2. For dimensions where there is no tolerance listed, use general tolerance.
 3. Dimensions inside () are for the models with an electromagnetic brake.
 4. Only for the models with an electromagnetic brake. The electromagnetic brake terminals do not have the polarity.
 5. Leave a clearance of at least 100mm between the motor's suction side and wall.
 6. Make sure that oil, water and dust, etc., will not enter the motor from the lead-in hole.

HA-LP601(B), HA-LP6014(B), HA-LP701M(B), HA-LP701M4(B), HA-LP11K2(B), HA-LP11K24(B)

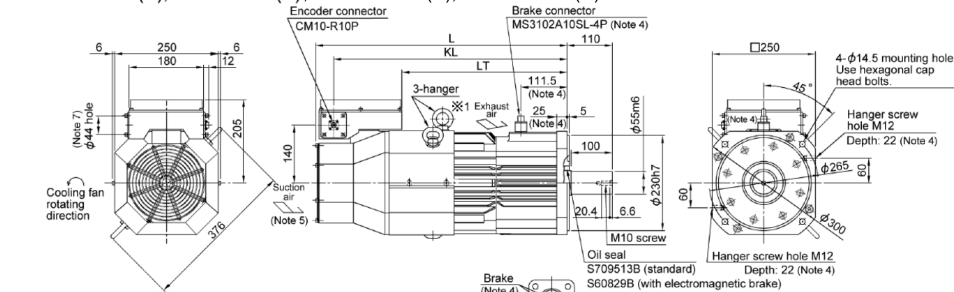
(Unit: mm)



- Notes: 1. When the motor is used without a hanger, plug the thread hole with a bolt of M10×20 or shorter.
 2. The terminal block on the terminal box housing consists of M6 screws for the motor power supply (U, V, W), M4 screws for the cooling fan (BU, BV) and for the thermal protector (OHS1, OHS2).

HA-LP801(B), HA-LP12K1(B), HA-LP8014(B), HA-LP12K14(B) HA-LP11K1M(B), HA-LP15K1M(B), HA-LP11K1M4(B), HA-LP15K1M4(B) HA-LP15K2(B), HA-LP22K2(B), HA-LP15K24(B), HA-LP22K24(B)

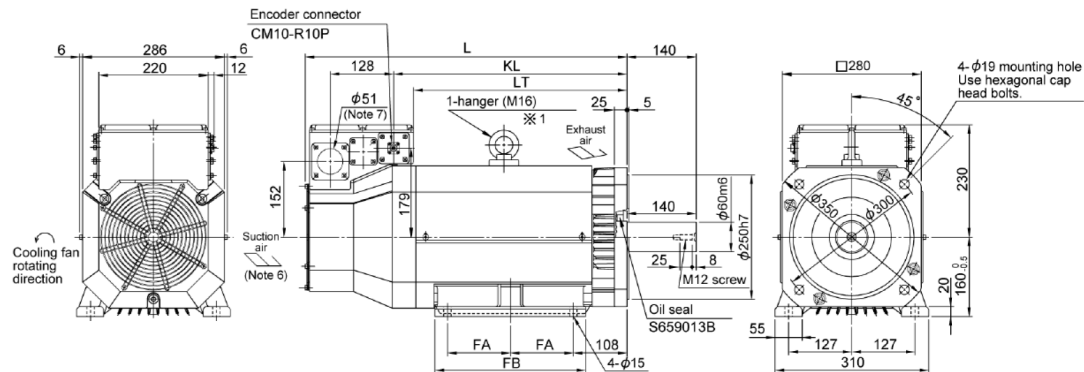
Unit: mm



Model			Variable Dimensions		
1000r/min	1500r/min	2000r/min	L	KL	LT
HA-LP801(B) HA-LP8014(B)	HA-LP11K1M(B) HA-LP11K1M4(B)	HA-LP15K2(B) HA-LP15K24(B)	495 (610)	454 (565)	289 (400)
HA-LP12K1(B) HA-LP12K14(B)	HA-LP15K1M(B) HA-LP15K1M4(B)	HA-LP22K2(B) HA-LP22K24(B)	555 (670)	511 (622)	346 (457)

- Notes: 1. When the motor is used without a hanger, plug the thread hole with a bolt of M12×20 or shorter.
 2. The terminal block on the terminal box housing consists of M8 screws for the motor power supply (U, V, W), M4 screws for the cooling fan (BU, BV, BW) and for the thermal protector (OHS1, OHS2).

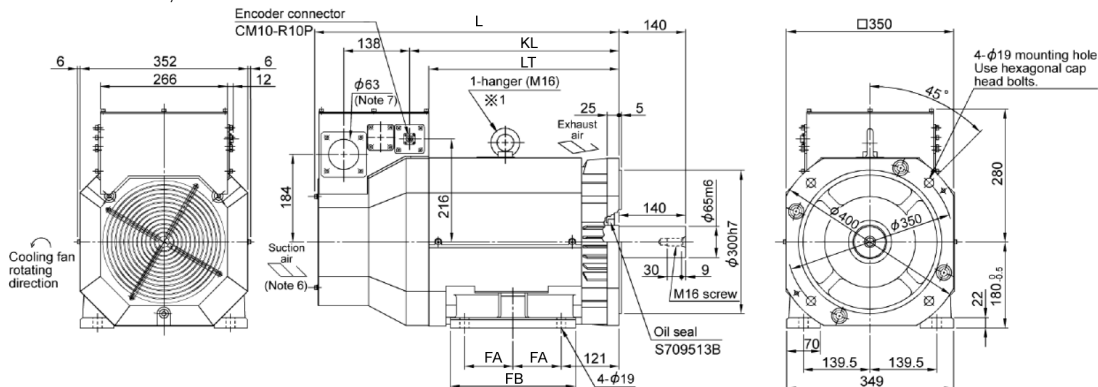
HA-LP15K1, HA-LP20K1, HA-LP15K14, HA-LP20K14
 HA-LP22K1M, HA-LP22K1M4, HA-LP30K1M4
 HA-LP30K24, HA-LP37K24



Model			Variable Dimensions				
1000r/min	1500r/min	2000r/min	L	KL	LT	FA	FB
HA-LP15K1, HA-LP15K14	HA-LP22K1M, HA-LP22K1M4	HA-LP30K24	605	426	386	105	260
HA-LP20K1, HA-LP20K14	HA-LP30K1M4	HA-LP37K24	650	471	431	127	304

- Notes: 1. When the motor is used without a hanger, plug the thread hole with a bolt of M16×20 or shorter.
 2. The terminal block on the terminal box housing consists of M8 screws for the motor power supply (U, V, W), M4 screws for the cooling fan (BU, BV, BW) and for the thermal protector (OHS1, OHS2).
 3. When mounting the motor, keep the motor shaft horizontal and its legs downward. Mount the motor either at the legs or the flange.

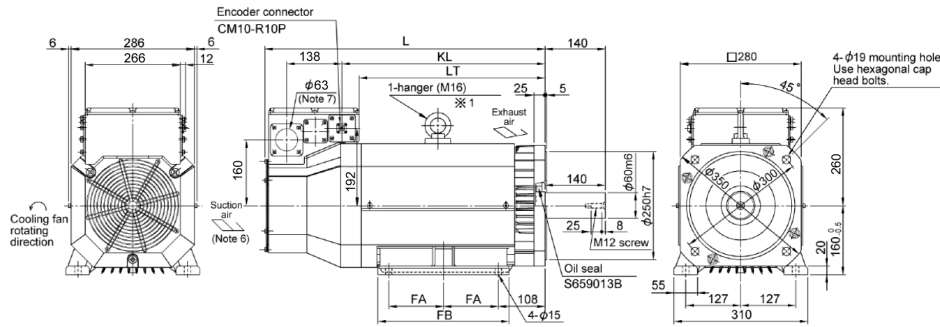
HA-LP25K1, HA-LP30K1, HA-LP25K14, HA-LP30K14
 HA-LP37K1M, HA-LP37K1M4, HA-LP45K1M4
 HA-LP45K24, HA-LP55K24



Model			Variable Dimensions				
1000r/min	1500r/min	2000r/min	L	KL	LT	FA	FB
HA-LP25K1, HA-LP25K14	HA-LP37K1M, HA-LP37K1M4	HA-LP45K24	640	399	439	101.5	262
HA-LP30K1, HA-LP30K14	HA-LP45K1M4	HA-LP55K24	685	444	484	120.5	300

- Notes: 1. When the motor is used without a hanger, plug the thread hole with a bolt of M16×20 or shorter.
 2. The terminal block on the terminal box housing consists of M10 screws for the motor power supply (U, V, W), M4 screws for the cooling fan (BU, BV, BW) and for the thermal protector (OHS1, OHS2).
 3. When mounting the motor, keep the motor shaft horizontal and its legs downward. Mount the motor either at the legs or the flange.

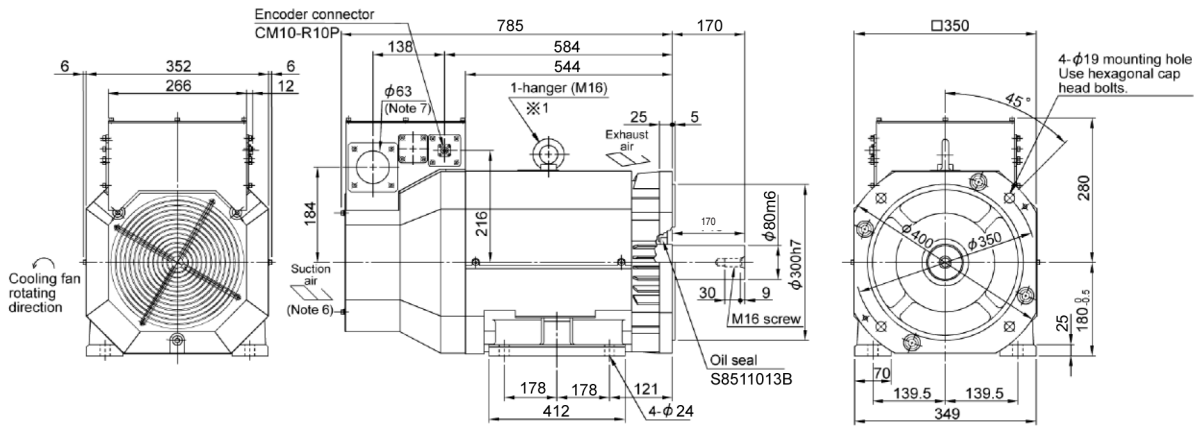
HA-LP30K1M
HA-LP30K2, HA-LP37K2



Model		Variable Dimensions				
1500r/min	2000r/min	L	KL	LT	FA	FB
—	HA-LP30K2	615	421	381	105	260
HA-LP30K1M	HA-LP37K2	660	466	426	127	304

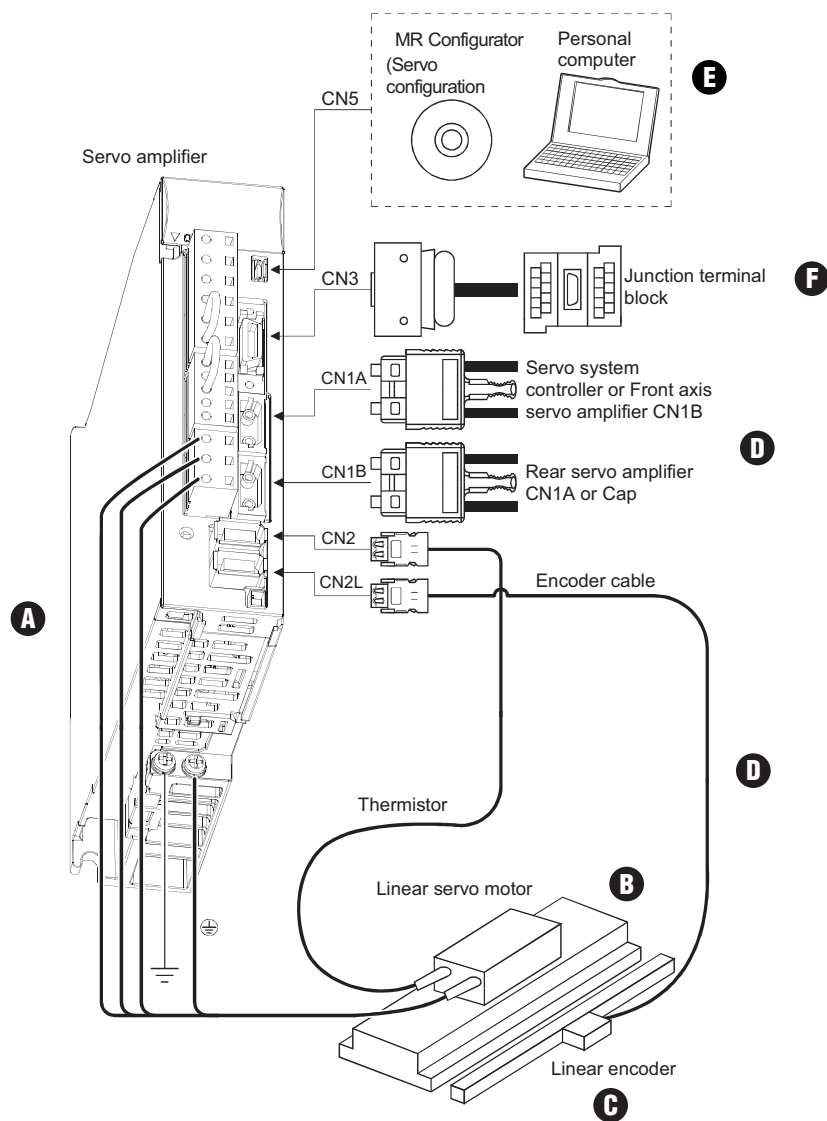
- Notes: 1. When the motor is used without a hanger, plug the thread hole with a bolt of M16×20 or shorter.
2. The terminal block on the terminal box housing consists of M8 screws for the motor power supply (U, V, W), M4 screws for the cooling fan (BU, BV, BW) and for the thermal protector (OHS1, OHS2).
3. When mounting the motor, keep the motor shaft horizontal and its legs downward. Mount the motor either at the legs or the flange.

HA-LP37K1, HA-LP37K14
HA-LP50K1M4



- Notes: 1. When the motor is used without a hanger, plug the thread hole with a bolt of M16×20 or shorter.
2. The terminal block on the terminal box housing consists of M10 screws for the motor power supply (U, V, W), M4 screws for the cooling fan (BU, BV, BW) and for the thermal protector (OHS1, OHS2).
3. When mounting the motor, keep the motor shaft horizontal and its legs downward. Mount the motor either at the legs or the flange.

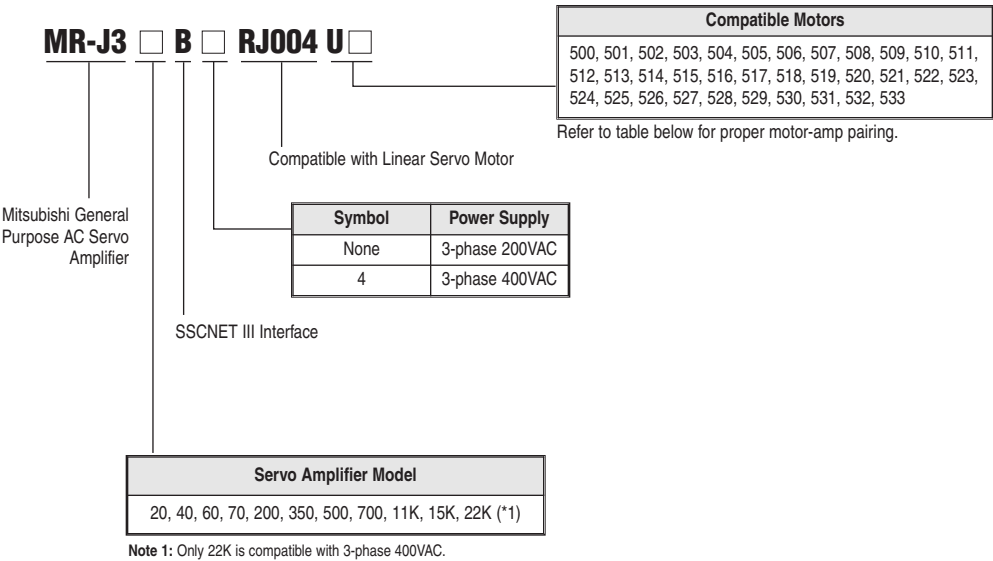
MR-J3 Linear Servomotors and Amplifiers



A. Amplifier.....	286
B. Motor	288
C. Linear Encoder (Customer Supplied)	294
D. Cables and Connectors.....	295
E. Software and Manuals.....	297
F. Optional Accessories.....	297

A MR-J3 Linear Amplifiers

Amplifier Selection



Combination of Linear Servo Motor and Servo Amplifier

Linear Servo Motor			Servo Amplifier
Primary Side (Coil)	Stk. Itm	Secondary Side (Magnet)	
LM-H2 Series	LM-H2P1A-06M-4SS0	–	LM-H2S10-288-4SS0, LM-H2S10-384-4SS0, LM-H2S10-480-4SS0, LM-H2S10-768-4SS0
	LM-H2P2A-12M-1SS0	–	LM-H2S20-288-1SS0, LM-H2S20-384-1SS0, LM-H2S20-480-1SS0, LM-H2S20-768-1SS0
	LM-H2P2B-24M-1SS0	–	LM-H2S30-288-1SS0, LM-H2S30-384-1SS0, LM-H2S30-480-1SS0, LM-H2S30-768-1SS0
	LM-H2P2C-36M-1SS0	–	LM-H2S40-480-1SS0, LM-H2S40-576-1SS0
	LM-H2P2D-48M-1SS0	–	LM-H2S50-480-1SS0, LM-H2S50-576-1SS0
	LM-H2P3A-24M-1SS0	–	LM-H2S60-480-1SS0, LM-H2S60-576-1SS0
	LM-H2P3B-48M-1SS0	–	LM-H2S70-480-1SS0, LM-H2S70-576-1SS0
	LM-H2P3C-72M-1SS0	–	LM-H2S80-480-1SS0, LM-H2S80-576-1SS0
	LM-H2P3D-96M-1SS0	–	LM-H2S90-480-1SS0, LM-H2S90-576-1SS0
LM-F Series	LM-FP2B-06M-1SS0	–	LM-FS20-480-1SS0, LM-FS20-576-1SS0
	LM-FP2D-12M-1SS0	–	LM-FS40-480-1SS0, LM-FS40-576-1SS0
	LM-FP2F-18M-1SS0	–	LM-FS50-480-1SS0, LM-FS50-576-1SS0
	LM-FP4B-12M-1SS0	–	LM-FS60-480-1SS0, LM-FS60-576-1SS0
	LM-FP4D-24M-1SS0	–	LM-FS70-480-1SS0, LM-FS70-576-1SS0
	LM-FP4F-36M-1SS0	–	LM-FS80-480-1SS0, LM-FS80-576-1SS0
	LM-FP4H-48M-1SS0	–	LM-FS90-480-1SS0, LM-FS90-576-1SS0
	LM-FP5H-60M-1SS0	–	LM-FS100-480-1SS0, LM-FS100-576-1SS0
	LM-FP5H-60M-1SS0	–	LM-FS110-480-1SS0, LM-FS110-576-1SS0
LM-U2 Series	LM-U2PAB-05M-0SS0	–	LM-U2SA0-240-0SS0, LM-U2SA0-300-0SS0, LM-U2SA0-420-0SS0
	LM-U2PAD-10M-0SS0	–	LM-U2SB0-240-1SS0, LM-U2SB0-300-1SS0, LM-U2SB0-420-1SS0
	LM-U2PAF-15M-0SS0	–	LM-U2SC0-240-1SS0, LM-U2SC0-300-1SS0, LM-U2SC0-420-1SS0
	LM-U2PBB-07M-1SS0	–	LM-U2SD0-240-1SS0, LM-U2SD0-300-1SS0, LM-U2SD0-420-1SS0
	LM-U2PBD-15M-1SS0	–	LM-U2SE0-240-1SS0, LM-U2SE0-300-1SS0, LM-U2SE0-420-1SS0
	LM-U2PBF-22M-1SS0	–	LM-U2SF0-240-1SS0, LM-U2SF0-300-1SS0, LM-U2SF0-420-1SS0
	LM-U2P2B-40M-2SS0	–	LM-U2SG0-240-1SS0, LM-U2SG0-300-1SS0, LM-U2SG0-420-1SS0
	LM-U2P2C-60M-2SS0	–	LM-U2SH0-240-1SS0, LM-U2SH0-300-1SS0, LM-U2SH0-420-1SS0
	LM-U2P2D-80M-2SS0	–	LM-U2SI0-240-1SS0, LM-U2SI0-300-1SS0, LM-U2SI0-420-1SS0

Note 1: Servo amplifiers MR-J3-22KB4-RJ004U□, are rated 400VAC. 200VAC class is not available.

Amplifier Specifications

Servo Amplifier Model MR-J3-□-RJ004U□			20B- RJ004U□	40B- RJ004U□	60B- RJ004U□	70B- RJ004U□	200B- RJ004U□	350B- RJ004U□	500B- RJ004U□	700B- RJ004U□	11KB- RJ004U□	15KB- RJ004U□	22KB4- RJ004U□	
Main Circuit Power Supply	Voltage/Frequency (*1)		3-phase 200 to 230VAC 50/60Hz or 1-phase 200 to 230VAC 50/60Hz				3-phase 200 to 230VAC 50/60Hz						3-phase 380 to 480VAC 50/650/60Hz	
	Permissible Voltage Fluctuation		For 3-phase 200 to 230VAC: 3-phase 170 to 253VAC For 1-phase 200 to 230VAC: 1-phase 170 to 253VAC				3-phase 170 to 253VAC						3-phase 323 to 528VAC	
	Permissible Frequency Fluctuation		±5% maximum											
Control Circuit Power Supply	Voltage/Frequency		1-phase 200 to 230VAC 50/60Hz										1-phase 380 to 480VAC 50/60Hz	
	Permissible Voltage Fluctuation		1-phase 170 to 253VAC										1-phase 323 to 528VAC	
	Permissible Frequency Fluctuation		±5% maximum											
	Power Consumption (W)		30						45					
Interface Power Supply			24VDC ±10% (required current capacity: 150mA (*3))											
Linear Encoder Interface	Serial Interface		Mitsubishi high-speed serial communicationLinear											
	Pulse Train Interface	Input Signal	ABZ phase differential input signal											
		Minimum Phase Difference	200ns											
Regenerative Resistor / Tolerable Regenerative Power (W) (*4, *5)	Built-In Regenerative Resistor		10	10	10	20	100	100	130	170	—	—	—	
	External Regenerative Resistor (*6)		—	—	—	—	—	—	—	—	500 (800)	850 (1300)	850 (1300)	
Control System			Sine-wave PWM control/current control system											
Dynamic Brake			Built-in								External option			
Safety Features			Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection											
Structure			Self-cooling open (IP00)				Fan cooling open (IP00)							
Environment	Ambient Temperature (*2)		0 to 55°C (32 to 131°F) (non-freezing), storage: -20 to 65°C (-4 to 149°F) (non-freezing)											
	Ambient Humidity		90% RH maximum (non condensing), storage: 90% RH maximum (non condensing)											
	Atmosphere		Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust											
	Elevation		1000m or less above sea level											
	Vibration		5.9m/s ² maximum											
Mass kg (lb)			0.8 (1.8)	1.0 (2.2)	1.0 (2.2)	1.4 (3.1)	2.3 (5.1)	2.3 (5.1)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)	

Notes:

- Rated thrust and speed of a linear servo motor are applicable when the servo amplifier, combined with the linear servo motor, is operated within the specified power supply voltage and frequency. Thrust drops when the power supply voltage is below the specified value.
- The MR-J3-350B-RJ004U□ or smaller servo amplifier can be installed closely. In this case, keep the ambient temperature within 0 to 45°C (32 to 113°F), or use them with 75% or less of the effective load rate.
- 150mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use.
- Optimal regenerative resistor varies for each system.
- Refer to the section "Selecting linear servo 3. Selecting optional regenerative unit" in this catalog for the tolerable regenerative power (W).
- The value applies when the external regenerative resistors, GRZG400-MW, (standard accessory) are used with cooling fans (2 units of 92x92mm, minimum air flow: 1.0m³/min). Note that change in the parameter No. PA02 is required.

Electrical wires, circuit breakers, magnetic contactors (example of selection)

The following are examples of wire sizes when 600V polyvinyl chloride insulated wires with a length of 30m are used.

Servo Amplifier	Circuit Breaker	Magnetic Contactor	Electrical Wire Size (mm²)				
			L1, L2, L3	L11, L21	U, V, W	P, C	THM1, THM2
MR-J3-20B-RJ004U□	30A frame 5A	S-N10	2 (AWG14)	1.25 (AWG16)	1.25 (AWG16)	2 (AWG14)	0.2 (AWG24)
MR-J3-40B-RJ004U□	30A frame 10A						
MR-J3-60B-RJ004U□	30A frame 15A						
MR-J3-70B-RJ004U□							
MR-J3-200B-RJ004U□	30A frame 20A	S-N18					
MR-J3-350B-RJ004U□	30A frame 30A	S-N20	3.5 (AWG12)				
MR-J3-500B-RJ004U□ (*1)	50A frame 50A	S-N35	5.5 (AWG10)				
MR-J3-700B-RJ004U□ (*1)	100A frame 75A	S-N50	8 (AWG8)		8 (AWG8)	3.5 (AWG12)	
MR-J3-11KB-RJ004U□ (*1)	100A frame 100A	S-N65	14 (AWG6)		22 (AWG4)	5.5 (AWG10)	
MR-J3-15KB-RJ004U□ (*1)	225A frame 125A	S-N95	22 (AWG4)		30 (AWG2)		
MR-J3-22KB4-RJ004U□ (*1)	225A frame 125A	S-N65	14 (AWG6)	22 (AWG4)			

Note:

- When connecting the wires to the terminal screws, be sure to use the screws attached to the terminal blocks.

B MR-J3 Linear Servomotors

LM-H2 Linear Servomotor Selection

LM-H2P ☐ ☐ - ☐ **M** - ☐ (Primary side: Coil)

Symbol	Maximum Speed
M	2m/s

Symbol	Rated Thrust
06	60N
12	120N
24	240N
36	360N
48	480N
72	720N
96	960N

Symbol	Length (Nominal Dimension)
A	128 mm
B	224 mm
C	320 mm
D	416 mm

Symbol	Width (Nominal Dimension)
1	50 mm
2	70 mm
3	110 mm

Symbol	Motor Model
4SS0	LM-H2P1A-06M
	LM-H2P2A-12M
	LM-H2P2B-24M
	LM-H2P2C-36M
1SS0	LM-H2P2D-48M
	LM-H2P3A-24M
	LM-H2P3B-48M
	LM-H2P3C-72M
	LM-H2P3D-96M

LM-H2S ☐ **0** - ☐ - ☐ (Secondary side: Magnet)

Symbol	Motor Model
4SS0	LM-H2P10-288
	LM-H2P10-384
	LM-H2P10-480
	LM-H2P10-768
1SS0	LM-H2P20-288
	LM-H2P20-384
	LM-H2P20-480
	LM-H2P20-768
	LM-H2P30-288
	LM-H2P30-384
	LM-H2P30-480
	LM-H2P30-768

Symbol	Length (Nominal Dimension)
288	288 mm
384	384 mm
480	480 mm
768	768 mm

Symbol	Width (Nominal Dimension)
1	42 mm
2	65 mm
3	105 mm

Note: Please refer to the motor specifications in this catalog for the correct part number configuration.

LM-F Linear Servomotor Selection

LM-FP ☐ ☐ - ☐ **M-1SS0** (Primary side: Coil)

Symbol	Maximum Speed
M	2m/s

Symbol	Length (Nominal Dimension)
B	290 mm
D	530 mm
F	770 mm
H	1010 mm

Symbol	Width (Nominal Dimension)
2	120 mm
4	200 mm
5	240 mm

Symbol	Rated Thrust	
	Self-Cooling	Liquid Cooling
06	300N	600N
12	600N	1200N
18	900N	1800N
24	1200N	2400N
36	1800N	3600N
48	2400N	4800N
60	3000N	6000N

Note: Please refer to the motor specifications in this catalog for the correct part number configuration.

LM-FS ☐ **0** - ☐ - **1SS0** (Secondary side: Magnet)

Symbol	Width (Nominal Dimension)
2	120 mm
4	200 mm
5	240 mm

Symbol	Length (Nominal Dimension)
480	480 mm
576	576 mm

LM-U2 (Medium Thrust) Linear Servomotor Selection

LM-U2P□□-□M-□

(Primary side: Coil)

Symbol	Maximum Speed
M	2m/s

Symbol	Rated Thrust
05	50N
07	75N
10	100N
15	150N
22	225N

Symbol	Length (Nominal Dimension)
B	130 mm
D	250 mm
F	370 mm

Symbol	Width (Nominal Dimension)
A	66.5 mm
B	86.5 mm

Symbol	Motor Model
0SS0	LM-U2PAB-05M
	LM-U2PAD-10M
	LM-U2PAF-15M
1SS0	LM-U2PBB-07M
	LM-U2PBD-15M
	LM-U2PBF-22M

LM-U2S□0-□-□

(Secondary side: Magnet)

Symbol	Motor Model
0SS0	LM-U2SA0-240
	LM-U2SA0-300
	LM-U2SA0-420
1SS0	LM-U2SB0-240
	LM-U2SB0-300
	LM-U2SB0-420

Symbol	Length (Nominal Dimension)
240	240 mm
300	300 mm
420	420 mm

Symbol	Width (Nominal Dimension)
A	62 mm
B	82 mm

LM-U2 (Large Thrust) Linear Servomotor Selection

LM-U2P2□□-□M-□

(Primary side: Coil)

Symbol	Maximum Speed
M	2m/s

Symbol	Rated Thrust
40	400N
60	600N
80	800N

Symbol	Length (Nominal Dimension)
B	286 mm
C	406 mm
D	526 mm

Symbol	Motor Model
2SS0	LM-U2P2B-40M
	LM-U2P2C-60M
	LM-U2P2D-80M

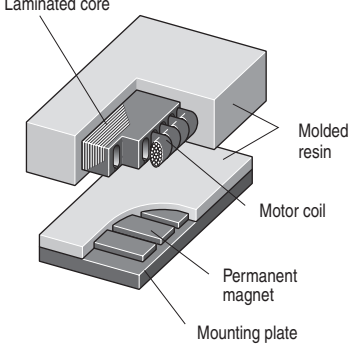
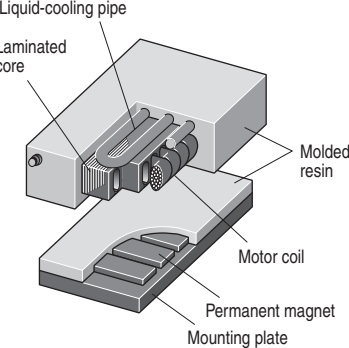
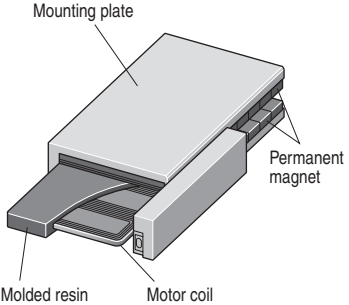
LM-U2S20-□□-□

(Secondary side: Magnet)

Symbol	Length (Nominal Dimension)
300	300 mm
480	480 mm

Symbol	Motor Model
2SS0	LM-U2S20-300
	LM-U2S20-480

Servomotor Types

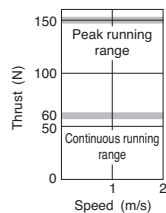
Motor Series		Thrust Range (N)			Features
Core Type	LM-H2 Series 	100 1000 10000 150 2400 Maximum Continuous (self-cooling) 60 960	Structure • The motor consists of the primary side (laminated core + motor coil) and the secondary side (permanent magnets + mounting plate). • The primary side has slots on the laminated core. The motor coil is wound on this laminated core, and the entire section is molded by resin. • The secondary side has flat permanent magnets positioned and fixed on the mounting plate. The entire section is molded by resin.		
	LM-F Series 	1800 18000 Maximum 300 3000 Continuous (self-cooling) Continuous (liquid-cooling) 600 6000	Structure • The basic structure is the same as the LM-H2 series. However, LM-F series has a liquid-cooling pipe in the primary side to suppress heat generation.		
Coreless Type	LM-U2 Series 	150 3200 Maximum Continuous (self-cooling) 50 800	Structure • The motor consists of the primary side (motor coil) and the secondary side (permanent magnets + mounting plate). • The primary side does not have a laminated core. The motor coil is accurately positioned on the base and molded by resin. • On the secondary side, permanent magnets are accurately positioned and fixed to face each other in a U-shaped like mounting plate.		
			Features • Speed fluctuations are very small due to elimination of magnetic attraction force and cogging. • The guide life can be extended as there is no attraction force.		

LM-H2 Linear Motor Specifications

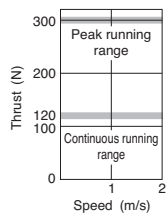
Linear Servo Motor Model LM-H2		P1A-06M-4SS0	P2A-12M-1SS0	P2B-24M-1SS0	P2C-336M-1SS0	P2D-48M-1SS0	P3A-24M-1SS0	P3B-48M-1SS0	P3C-72M-1SS0	P3D-96M-1SS0
Compatible Amplifier Model MR-J3-		40B-RJ004U500	40B-RJ004U501	70B-RJ004U502	200B-RJ004U503	200B-RJ004U504	70B-RJ004U505	200B-RJ004U506	350B-RJ004U507	500B-RJ004U508
Power Facility Capacity (kVA)		0.9	0.9	1.3	3.5	3.5	1.3	3.5	5.5	7.5
Cooling Method		Self-cooling								
Thrust	Continuous (N)	60	120	240	360	480	240	480	720	960
	Maximum (N)	150	300	600	900	1200	600	1200	1800	2400
Maximum Speed (m/s) (*1)		2.0								
Magnetic Attraction Force (N)		500	1000	1900	2700	3500	2000	3700	5300	7000
Mass kg (lb)	Primary Side (Coil)	0.9 (2.0)	1.4 (3.1)	2.5 (5.6)	3.6 (8.0)	4.7 (11)	2.4 (5.3)	4.3 (9.5)	6.2 (14)	8.1 (18)
	Secondary Side (Magnet)	288mm / piece: 0.6 (1.4) 384mm / piece: 0.8 (1.8) 480mm / piece: 1.0 (2.2) 768mm / piece: 1.6 (3.6)	288mm / piece: 1.1 (2.5) 384mm / piece: 1.4 (3.1) 480mm / piece: 1.8 (4.0) 768mm / piece: 2.9 (6.4)				288mm / piece: 3.2 (7.1) 384mm / piece: 4.3 (9.5) 480mm / piece: 5.3 (12) 768mm / piece: 8.5 (19)			
Secondary Side Model LM-H2		S10-M-4SS0	S20-M-1S20-M-1SS0				S30-M-1SS0			
Recommended Load / Motor Mass Ratio		Maximum of 30 times the mass of the linear servo motor's primary side								
Structure		Open (protection level: IP00)								
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)								
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)								
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust								
	Vibration	49m/s² maximum								
	Elevation	1000m or less above sea level								

Notes: 1. The linear servo motor's maximum speed or linear encoder's rated speed, whichever is smaller, is the upper limit value of the linear servo motor's speed.

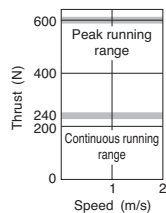
LM-H2P1A-06M-4SS0 (*1)



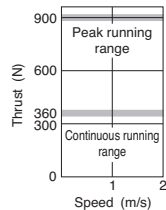
LM-H2P2A-12M-1SS0 (*1)



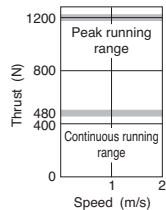
LM-H2P2B-24M-1SS0 (*1)



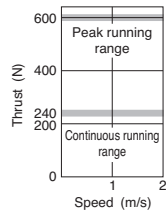
LM-H2P2C-36M-1SS0 (*2)



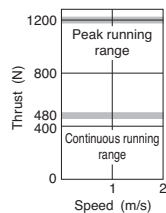
LM-H2P2D-48M-1SS0 (*2)



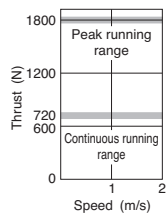
LM-H2P3A-24M-1SS0 (*1)



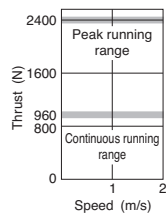
LM-H2P3B-48M-1SS0 (*2)



LM-H2P3C-72M-1SS0 (*2)



LM-H2P3D-96M-1SS0 (*2)



Notes:
1. For 3-phase 200VAC or 1-phase 200VAC.
2. For 3-phase 200VAC.

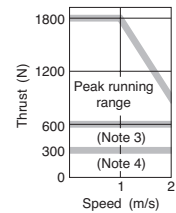
LM-F Series Linear Motor Specifications

Linear Servo Motor Model LM-F		P2B-06M-1SS0	P2D-12M-1SS0	P2F-18M-1SS0	P4B-12M-1SS0	P4D-24M-1SS0	P4F-36M-1SS0	P4H-48M-1SS0	P5H-60M-1SS0 (*2)
Compatible Amplifier MR-J3	Self-Cooling	200BRJ004U518	500BRJ004U520	700BRJ004U522	500BRJ004U524	700BRJ004U526	11KBRJ004U528	15KBRJ004U530	22KB4RJ004U532
	Liquid-Cooling	200BRJ004U519	500BRJ004U521	700BRJ004U523	500BRJ004U525	700B-RJ004U527	11KBRJ004U529	15KBRJ004U531	22KB4RJ004U533
Power Facility Capacity (kVA)		3.5	5.5	10	7.5	18	18	18	22
Cooling Method		Self-cooling or liquid-cooling							
Thrust	Continuous (Self-Cooling) (N)	300	600	900	600	1200	1800	2400	3000
	Continuous (Liquid-Cooling) (N)	600	1200	1800	1200	2400	3600	4800	6000
	Maximum (N)	1800	3600	5400	3600	7200	10800	14400	18000
Maximum Speed (m/s) (*1)		2.0							
Magnetic Attraction Force (N)		4500	9000	13500	9000	18000	27000	36000	45000
Mass kg (lb)	Primary Side (coil)	9 (20)	18 (40)	27 (60)	14 (31)	28 (62)	42 (93)	56 (125)	67 (150)
	Secondary Side (Magnet)	480mm / piece: 7.1 (16) 576mm / piece: 9.0 (20)			480mm / piece: 13.5 (30) 576mm / piece: 16.0 (36)			480mm / piece: 20.0 (44) 576mm / piece: 26.0 (58)	
Secondary Side Model LM-F		S20-M-1SS0			S40-M-1SS0				S50-M-1SS0
Recommended Load / Motor Mass Ratio		Maximum of 15 times the mass of the linear servo motor's primary side							
Structure		Open (protection level: IP00)							
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)							
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)							
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust							
	Vibration	49m/s² maximum							
	Elevation	1000m or less above sea level							

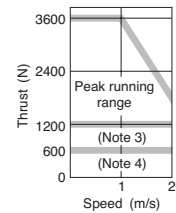
- Notes:
1. The linear servo motor's maximum speed or linear encoder's rated speed, whichever is smaller, is the upper limit value of the linear servo motor's speed.
 2. Use 400VAC rated servo amplifier.

Thrust Characteristics

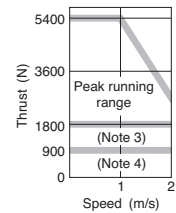
LM-FP2B-06M-1SS0 (*1)



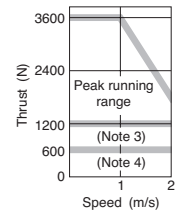
LM-FP2D-12M-1SS0 (*1)



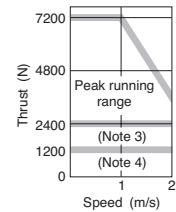
LM-FP2F-18M-1SS0 (*1)



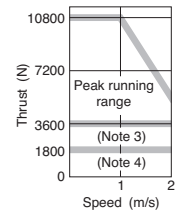
LM-FP4B-12M-1SS0 (*1)



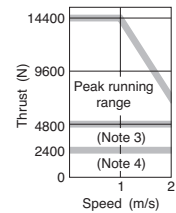
LM-FP4D-24M-1SS0 (*1)



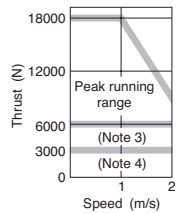
LM-FP4F-36M-1SS0 (*1)



LM-FP4H-48M-1SS0 (*1)



LM-FP5H-60M-1SS0 (*2)



- Notes:
1. For 3-phase 200VAC.
 2. For 3-phase 400VAC.
 3. For continuous running range (liquid-cooling).
 4. For continuous running range (self-cooling).

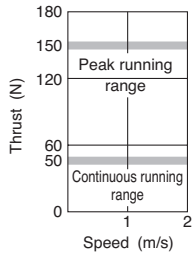
LM-U2 Series Linear Motor Specifications

Linear Servo Motor Model LM-U2		PAB-05M-0SS0	PAD-10M-0SS0	PAF-15M-0SS0	PBB-07M-1SS0	PBD-15M-1SS0	PBF-22M-1SS0	P2B-40M-2SS0	P2C-60M-2SS0	P2D-80M-2SS0
Compatible Amplifier MR-J3-		20B-RJ004U512	40B-RJ004U513	40B-RJ004U514	20B-RJ004U515	60B-RJ004U516	70B-RJ004U517	200B-RJ004U509	350B-RJ004U510	500B-RJ004U511
Power Facility Capacity (kVA)		0.5	0.9	0.9	0.5	1.0	1.3	3.5	5.5	7.5
Cooling Method		Self-cooling								
Thrust	Continuous (N)	50	100	150	75	150	225	400	600	800
	Maximum (N)	150	300	450	225	450	675	1600	2400	3200
Maximum Speed (m/s) (*1)		2.0								
Magnetic Attraction Force (N)		0								
Mass kg (lb)	Primary Side (Coil)	0.3 (0.67)	0.6 (1.4)	0.8 (1.8)	0.4 (0.89)	0.8 (1.8)	1.1 (2.5)	2.9 (6.4)	4.2 (9.3)	5.5 (13)
	Secondary Side (Magnet)	240mm / piece: 2.0 (4.4) 300mm / piece: 2.5 (5.6) 420mm / piece: 3.5 (7.8)			240mm / piece: 2.6 (5.8) 300mm / piece: 3.2 (7.1) 420mm / piece: 4.5 (10)			300mm / piece: 9.6 (22) 480mm / piece: 15.3 (34)		
Secondary Side Model LM-U2		SA0-□-SA0-M-0SS0			SB0-□-1SS0			S20-□-2SS0		
Recommended Load / Motor Mass Ratio		Maximum of 30 times the mass of the linear servo motor's primary side								
Structure		Open (protection level: IP00)								
Environment	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)								
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)								
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust								
	Vibration	49m/s² maximum								
	Elevation	1000m or less above sea level								

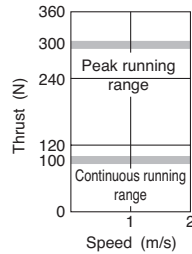
Notes: 1. The linear servo motor's maximum speed or linear encoder's rated speed, whichever is smaller, is the upper limit value of the linear servo motor's speed.

Thrust Characteristics

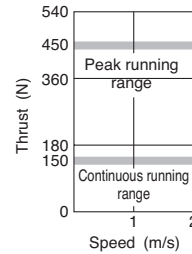
LM-U2PAB-05M-0SS0 (*1)



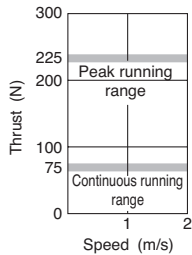
LM-U2PAD-10M-0SS0 (*1)



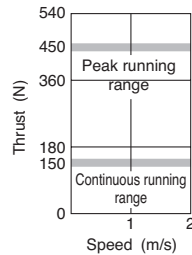
LM-U2PAF-15M-0SS0 (*1)



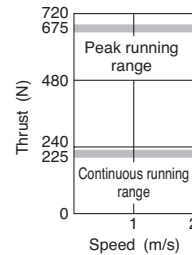
LM-U2PBB-07M-1SS0 (*1)



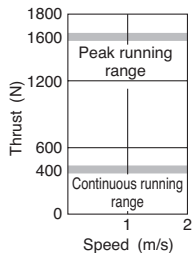
LM-U2PBD-15M-1SS0 (*1)



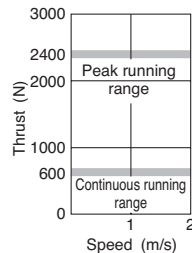
LM-U2PBF-22M-1SS0 (*1)



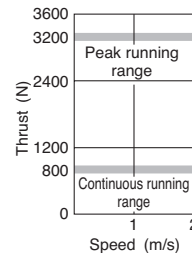
LM-U2P2B-40M-2SS0 (*2)



LM-U2P2C-60M-2SS0 (*2)



LM-U2P2D-80M-2SS0 (*2)



Notes:

1. For 3-phase 200VAC or 1-phase 230VAC.
2. For 3-phase 200VAC.

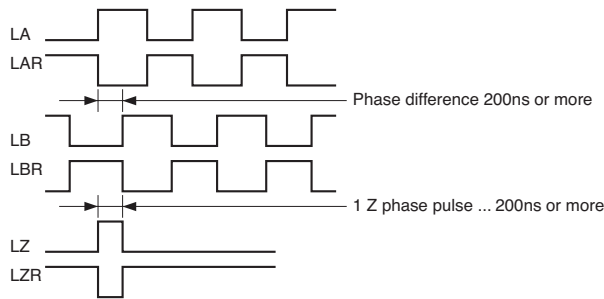
Linear Encoder

Compatible Linear Encoders (*1, *2)

Linear Encoder Type		Manufacturer	Model	Resolution	Rated Speed (*3)	Effective Measurement Length (Maximum)	Communication Method	Position System
Mitsubishi Serial Interface Compatible	Absolute Type	Mitutoyo Corporation	AT3AT343A	0.05mm	2.0m/s	3000mm	2-wire type	Absolute
			AT543A-SC		2.5m/s	2200mm		
			ST741A	0.5mm	4.0m/s	6000mm		
			ST743A (*7)	0.1mm				
		Heidenhain Corporation	LC4LC491M	0.05mm/0.01mm	2.0m/s	2040mm	4-wire type	
			LC1LC192M		3.0m/s	4240mm		
	Incremental Type	Sony Manufacturing Systems Corporation	SL710+PL101-R/RH +MJ830 or MJ831	0.2mm (*4)	6.4m/s	3000mm	2-wire type	Incremental
			SH13 +MJ830 or MJ831	0.005mm (*4)	1.4m/s	1240mm		
		Renishaw Inc.	RGH26P	5mm	4.0m/s	70000mm		
			RGH26Q	1mm	3.2m/s			
			RGH26R	0.5mm	1.6m/s			
		Heidenhain Corporation	LIDA485+APE391M	0.005mm (20/4096mm)	4.0m/s	30040mm	4-wire type	
			LIDA487+APE391M			6040mm		
ABZ Phase Differential Output Type (*5)		Incremental Type	Not designated	—	Within tolerable resolution range (*6)	Depends on linear encoder	Depends on linear encoder	

Notes:

- Consult with the relevant linear encoder manufacturer for details on the linear encoder's working environment and specifications.
- The linear servo motor generates heat. Take the linear encoder's working environment temperature into consideration when configuring the system.
- The indicated values are the linear encoder's rated speed when used in combination with the Mitsubishi linear compatible servo amplifier. The values may differ from each manufacturer's specifications. The linear servo motor's maximum speed or linear encoder's rated speed, whichever is smaller, is the upper limit value of the linear servo motor's speed.
- The resolution varies according to the setting value of the interpolator, MJ830/MJ831 manufactured by Sony Manufacturing Systems Corporation. Set the resolution between the minimum resolution and 5mm.
- Output the A-phase, B-phase and Z-phase signals in the differential line driver. The phase difference of A-phase pulse and B-phase pulse, and the width of Z-phase pulse must be 200ns or wider. Home position return is not possible with a linear encoder which is not equipped with a Z-phase.
- The tolerable resolution range is 0.005 to 5mm. Select the linear encoder within this range.
- Servo amplifier with software version A1 or above is compatible with this linear scale.

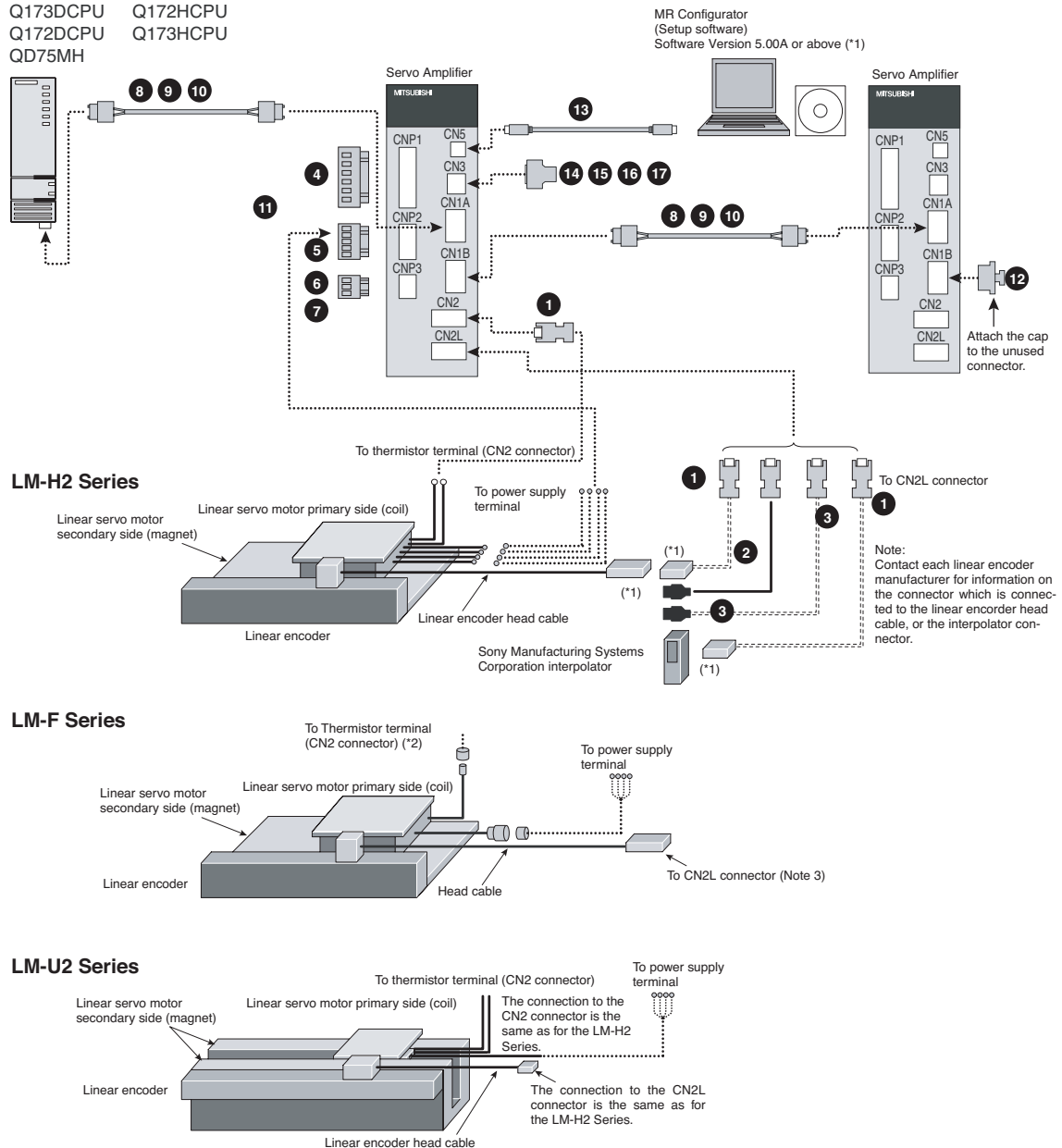


D MR-J3-Linear Cables and Connectors

Options for MR-J3-B type

Controller

Q173DCPU Q172HCPU
Q172DCPU Q173HCPU
QD75MH



Notes:

- Setup software MR- Configurator Software version 5.00A or above is planned to be compatible with MR-J3- □B-RJ004U□. Refer to the following for software versions of Q172HCPU and Q173HCPU compatible with linear servo LM Series.
 - Q172HCPU, Q173HCPU OS software (SW6RN-SV13MM /-SV22MM): Software version: 00D or above
 - Integrated start-up support software MT Developer (SW6RNC-GSVPROE/-GSVSETE): Software version: 00N or above
- The linear encoder, linear encoder head cable and encoder cable are not enclosed with the purchased linear servo motor and must be prepared by the user.
- Use the recommended linear encoder manufacturer's products for the linear encoder and linear encoder head cable.
- Consult with the linear encoder manufacturer regarding the working environment and specifications, and select the proper products.

*Cautions regarding the linear encoders

- Linear encoder, head cable and encoder cable are not supplied with the linear servo motor.
- Linear encoder and head cable, manufactured by the recommended manufacturers, must be used.
- Consult relevant manufacturers for details on linear encoder's working environment and specifications.

MR-J3 Linear Servo Cables and Connectors

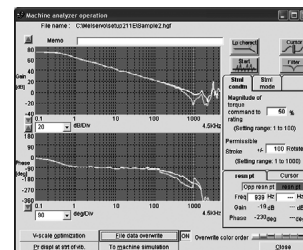
Item		Model	Stocked Lengths	Protection Level	Description
1	CN2 or CN2L Connector	MR-J3CN2	S	IP20	
2	CN2 or CN2L Cable	MR-EKCBLCM-H (□ = cable length 2, 5, 10m)	2, 5, 10	IP20	
3	CN2 or CN2L Connector Set	MR-ECNM	S	IP20	
4	CNP1 Connector 1kW or less (Comes with J3 Amp Standard)	54928-0670	S	—	
	CNP1 Connector 2kW – 3.5kW (Comes with J3 Amp Standard)	PC4/6-STF-7.62	S	—	
5	CNP2 Connector up to 3.5kW (Comes with J3 Amp Standard)	54927-0510	S	—	
6	CNP3 Connector 1kW or less (Comes with J3 Amp Standard)	54928-0370	S	—	
	CNP3 Connector 2kW – 3.5kW (Comes with J3 Amp Standard)	PC4/3-STF-7.62	S	—	
7	CNP1-2-3 Insertion Tool (Comes with J3 Amp Standard)	54932-0000	S	—	
8	SSCNET III Cable (Standard Cord For Inside Panel)	MR-J3BUSCM (□ = cable length 0.15, 0.3, 0.5, 1, 3m)	0.15, 0.3, 0.5, 1, 3	—	
9	SSCNET III Cable (Standard Cable For Outside Panel)	MR-J3BUSCM-A (□ = cable length 5, 10, 20m)	5, 10, 20	—	
10	SSCNET III Cable (Long Distance Cable)	MR-J3BUSCM-B (□ = cable length 30, 40, 50m)	30	—	
12	Connector Cap for SSCNET III	Connector comes with amplifier standard	—	—	
13	Personal Computer Communication Cable USB Cable	MR-J3USBCBL3M (Cable length 3m)	S	—	
14	CN10 or CN3 Signal Connector (20 Pin)	MR-J2CN1	S	—	
15	CN10 or CN3 Pigtail Cable (20 Pin)	MR-CCN1CBLCM (□ = cable length 3, 5m)	3, 5	—	
16	20 Pin Terminal B Lock For J3-B (TB20 Cannot Be Used)	PS7DW-20V14B-F	S	—	
17	Cable for PS7DW-20V14B-F Terminal Block	MR-J2HBUSCM (□ = Cable length 0.5, 1, 3, 5m)	0.5, 1, 3, 5	—	

E Software and Manuals

MR Configurator • (MRZJW3-SETUP221E)

This software makes it easy to perform setup, tuning, monitor display, diagnostics, reading and writing of parameters, and test operations with a personal computer. User-satisfying functions that enable the balance with the machine system, optimum control and short start up time are available.

1. This software can set up and tune your servo system easily with a personal computer.
2. Multiple monitor functions
Graphic display functions are provided to display the servo motor status with the input signal triggers, such as the command pulse, droop pulse and speed.
3. Test operations with a personal computer
Test operation of the servo motors can be performed with a personal computer using multiple test mode menus.
4. Further advanced tuning is possible with the improved advanced functions.



(*1)

Description	Model Number	Stocked Item
Windows Communication Software	MR-CONFIGURATOR	S
Communication Cable	MR-J3USBCBL3M	S

Manuals

Hardware Description	Model Number	Stk Item
MR-J3-B-RJ004 Instruction Manual	SH(NA)030054	—

Note: Many of these manuals are available for free download from our website, www.meau.com

F Optional Accessories

RS-422 Distributor (For Multidrop)

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-B-RJ004	BMJ-8	S	

20 Pin Terminal Block (*1)

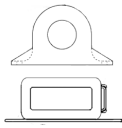
Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-B-RJ004	PS7DW-20V14B-F	S	

Note: MR-TB20 terminal block cannot be used for MR-J3-B.

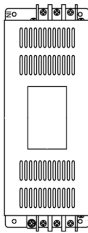
Battery

Item Number	Model Number	Description	Stk Item	Description
Battery	MR-J3BAT	The servo motor's absolute value can be maintained by installing the battery in the servo amplifier. The battery is not required when the servo system is used in an incremental mode.	S	
Battery Connection Relay Cable	MR-J3BTCBL03M	Use this relay cable to hold the absolute value when shipping the product with the machine and servo amplifier removed. The servo motor HF series does not have a super capacitor (for holding an absolute value for short time) in the encoder. When this optional cable is used, the absolute value can be held even when the encoder cable is disconnected from the servo amplifier, making it easy to do maintenance on the servo amplifier.	S	

Line Noise Filter

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-200B-RJ004 or smaller	FR-BSF01	S	
MR-J3-350B-RJ004 or larger	FR-BLF	S	

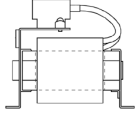
EMC Filter

Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-70B-RJ004 and less	HF3010A-UN	S	
MR-J3-200B-RJ004 ~ 350B-RJ004	HF3030A-UN	S	
MR-J3-500B-RJ004 ~ 700-RJ004	HF3040A-UN	S	
MR-J3-11KB-RJ004 ~ 15K-RJ004	HF3100A-UN	S	

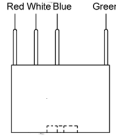
Brake/Resistor Units (Must be used in conjunction with each other)

Servo Amplifier Model	Brake Unit Model Number	Stk Item	Resistor Unit Model Number	Stk Item
MR-J3-500B-RJ004 ~ 700B-RJ004	FR-BU2-15K	S	FR-BR-15K-UL	S
MR-J3-11KB-RJ004 ~ 15K-RJ004	FR-BU2-30K	S	FR-BR-30K-UL	S

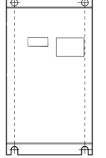
DC Power Improvement Reactor

Servo Amplifier Type	Model Number	Stk Item	
MR-J3-40B-RJ004	DCA000902	—	
MR-J3-70B-RJ004		—	
MR-J3-200B-RJ004	DCA001802	—	
MR-J3-350B-RJ004	DCA003202	—	
MR-J3-500B-RJ004	DCA005001	—	
MR-J3-700B-RJ004 ~ 11K-RJ004	DCA008002	—	
MR-J3-15K-RJ004	DCA011003	—	
MR-J3-22K4-RJ004	DCA008005	—	

Radio Noise Filter

Servo Amplifier Type	Model Number	Stocked Item	
All 200VAC J3 Models	FR-BIF	S	
All 400VAC J3 Models	FR-BIF-H	—	

Power Regeneration Converter

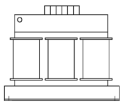
Servo Amplifier Type	Model Number	Stocked Item	
MR-J3-500B-RJ004	FR-RC-15K	—	
MR-J3-700B-RJ004 ~ 15K-RJ004	FR-RC-30K	—	

Power Regeneration Common Converter/Stand-Alone Reactor

(Must be used in conjunction with each other). Up to six servo amplifiers can be connected to one FR-CV, refer to manuals for details.

Servo Amplifier Model	Common Converter Model Number	Stk Item	Reactor Model Number	Stk Item
MR-J3-350B-RJ004	FR-CV-7.5K	—	FR-CVL-7.5K	—
MR-J3-500B-RJ004	FR-CV-11K	—	FR-CVL-15K	—
MR-J3-700B-RJ004	FR-CV-15K	—	FR-CVL-11K	—
MR-J3-11KB-RJ004	FR-CV-22K	—	FR-CVL-22K	—
MR-J3-15KB-RJ004	FR-CV-30K	—	FR-CVL-30K	—
	FR-CV-37K	—	FR-CVL-37K	—

AC Power Factor Improvement Reactor

Servo Amplifier Type	Model Number	Stk Item	
MR-J3-40B-RJ004	MRL-00401	—	
MR-J3-70B-RJ004	MRL-00801	—	
MR-J3-200B-RJ004	MRL-01801	S	
MR-J3-350B-RJ004	MRL-03501	—	
MR-J3-500B-RJ004	MRL-04501	—	
MR-J3-700B-RJ004 ~ 11K-RJ004	MRL-05501	—	
MR-J3-15K-RJ004	MRL-08001	—	
MR-J3-22K4-RJ004	MRL-05502	—	

Optional Regeneration Resistors

Servo Amplifier Model (MR-J3-)	Capacitor Charging (J)	Inverse Efficiency (%)	Built-in Regenerative Resistor/Tolerable Regenerative Power (W)	External Regenerative Resistor/Standard Accessory	Optional Regeneration Resistors/Tolerable Regenerative Power (W)									
					MR-RB									
					032 (40Ω)	12 (40Ω)	30 (13Ω)	31 (6.7Ω)	32 (40Ω)	50 (13Ω) (*1)	51 (6.7Ω)(*1)	5E (6Ω) (*2)	9P (4.5Ω) (*2)	6K-4 (10Ω) (*2)
Stocked Item	N/A	N/A	—	N/A	S	S	S	—	S	S	S	—	—	—
20B-RJ004U	9	70	10	—	30	100	—	—	—	—	—	—	—	—
40B-RJ004U	11	85	10	—	30	100	—	—	—	—	—	—	—	—
60B-RJ004U	11	85	10	—	30	100	—	—	—	—	—	—	—	—
70B-RJ004U	18	80	20	—	30	100	—	—	300	—	—	—	—	—
200B-RJ004U	40	85	100	—	—	—	300	—	—	500	—	—	—	—
350B-RJ004U	40	85	100	—	—	—	300	—	—	500	—	—	—	—
500B-RJ004U	45	90	130	—	—	—	—	300	—	—	500	—	—	—
700B-RJ004U	70	90	170	—	—	—	—	300	—	—	500	—	—	—
11KB-RJ004U	120	90	—	500 (800)	—	—	—	—	—	—	—	500 (800)	—	—
15KB-RJ004U	170	90	—	850 (1300)	—	—	—	—	—	—	—	—	850 (1300)	—
22K4-RJ004U	250	90	—	850 (1300)	—	—	—	—	—	—	—	—	—	850 (1300)

Notes:

- Be sure to install cooling fans. The cooling fan must be prepared by the user.
- The values in () indicate when cooling fans (2 units of 92 x 92 mm, minimum air flow: 1.0³/min) are installed, and the parameter No. PA02 is changed.