MR-J4 Rotary Servo Motors

X = Available
- = Not Available

Rotary Servo Motor Series		Rated Speed (Max. r/min)	Rated Output Capacity (kW) (*1)	Servo Motor Type			Protective Degree (*3)	Compatible Series	Features	Application Examples
				Electromagnetic Brake Available	With Reducer (G1) (*2)	With Reducer (G5, G7) (*2)				
Small Capacity	HG-KR 	3000 (6000)	5 Types 0.05, 0.1, 0.2, 0.4, 0.75	X	X	X	IP65	HF-KP	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
	HG-MR 	3000 (6000)	5 Types 0.05, 0.1, 0.2, 0.4, 0.75	X	-	-	IP65	HF-MP	Ultra-low inertia Well suited for high-throughput operations	• Inserters • Mounters
Medium Capacity	HG-SR 	1000 (1500)	6 Types 0.5, 0.85, 1.2, 2.0, 3.0, 4.2	X	-	-	IP67	HF-SP	Medium inertia This series is available with two rated speeds	• Material handling systems • Robots • X-Y tables
		2000 (3000)	14 types 0.5, 1.0, 1.5, 2.0, 3.5, 5.0, 7.0 0.5, 1.0, 1.5, 2.0, 3.5, 5.0, 7.0	X	X	X	IP67			
Medium/Large Capacity	HG-JR 	3000 (6000: 0.5~5 kW 5000: 7, 9 kW)	18 types 0.5, 0.75, 1.0, 1.5, 2.0, 3.5, 5.0, 7.0, 9.0 0.5, 0.75, 1.0, 1.5, 2.0, 3.5, 5.0, 7.0, 9.0	X	-	-	IP67	HF-JP	Low inertia Well suited for high-throughput and high-acceleration/deceleration operations	• Food packaging machines • Printing machines
		1500 (3000: 11~15 kW 2500: 22 kW_)	14 types 7.0, 11, 15, 22, 30, 37 7.0, 11, 15, 22, 30, 37, 45, 55	X (*5)	-	-	IP67/ IP44 (*4)	HF-JP HA-LP		• Injection molding machines • Press machines
		1000 (2000: 6~12 kW 1500: 15~37 kW_)	16 types 6.0, 8.0, 12, 15, 20, 25, 30, 37 6.0, 8.0, 12, 15, 20, 25, 30, 37	X (*5)	-	-	IP67/ IP44 (*4)	HA-LP		
Medium Capacity	HG-RR 	3000 (4500)	5 types 1.0, 1.5, 2.0, 3.5, 5.0	X	-	-	IP65	HC-RP	Ultra-low inertia Well suited for high-throughput operations	• Ultra-high-throughput material handling systems
Medium capacity, flat type	HG-UR 	2000 (3000: 0.75~2 kW 2500: 3.5, 5 kW)	5 types 0.75, 1.5, 2.0, 3.5, 5.0	X	-	-	IP65	HC-UP	Flat type The flat design makes this unit well suited for situations where the installation space is limited	• Robots • Food processing machines

Notes:
1. For 400 V.
2. G1 for general industrial machines. G5 and G7 for high precision applications.
3. The shaft-through portion is excluded. Refer to the asterisk 7 of "Annotations for Rotary Servo Motor Specifications" in the MR-J4 Brochure. For geared Servo Motor, IP rating of the reducer portion is equivalent to IP44.
4. For HG-JR1500 r/min series, 15 kW or smaller is rated IP67, and 22 kW or larger is rated IP44. For HG-JR 1000 r/min series, 12 kW or smaller is rated IP67, and 15 kW or lager is rated IP44.
5. The Servo Motor with electromagnetic brake is not available for HG-JR 1500 r/min series 22 kW or larger, and 1000 r/min series 15 kW or larger.

Servo Motor Selection 200V/100V (Example Part No. = HG-KR053BG1)
Not all options available for every motor.

HG-□ □□□□□□□

Symbol	Shaft End
None	Standard (Straight shaft)(*6)
K	Key shaft (with/without key)(*7)
D	D-cut shaft (*7)

Symbol	Reducer (*5)
None	None
G1	With reducer for general industrial machines, flange mounting
G1H	With reducer for general industrial machines, foot mounting (*6)
G5	With flange-output type reducer for high precision applications, flange mounting
G7	With shaft-output type reducer for high precision applications, flange mounting

Symbol	Oil Seal
None	None(*9)
J	Installed (*2, *3, *4)

Symbol	Electromagnetic Brake
None	None
B	Installed (*1)

Symbol	Rated Speed [r/min]
1	1000
1M	1500
2	2000
3	3000

Symbol	Rated Output [kW]	Symbol	Rated Output [kW]
05	0.05	50	5.0
1	0.1	60	6.0
2	0.2	70	7.0
4	0.4	80	8.0
5	0.5	90	9.0
7	0.75	11K	11
8	0.85	12K	12
10	1.0	15K	15
12	1.2	20K	20
15	1.5	22K	22
20	2.0	25K	25
30	3.0	30K	30
35	3.5 (*9)	37K	37
42	4.2		

Symbol	Inertia/Capacity
HG-KR	Low inertia, small capacity
HG-MR	Ultra-low inertia, small capacity
HG-SR	Medium inertia, medium capacity
HG-JR	Low inertia, medium-large capacity
HG-RR	Ultra low inertia, medium capacity
HG-UR	Flat type, medium capacity

Notes:
1. Refer to electromagnetic brake specifications of each Servo Motor series in this catalog for the available models and detailed specifications.
2. Available in 0.1 kW or larger HG-KR/HG-MR series and all HG-SR series.
3. Oil seal is not installed in the geared Servo Motor. Oil seal is installed in HG-JR series as a standard.
4. Dimensions for HG-KR/HG-MR series with oil seal are different from those for the standard models. Contact your local sales office for more details.
5. Refer to "Geared Servo Motor Specifications" in this catalog for the available models and detailed specifications.
6. Standard HG-SR G1/G1H has a key shaft (with key).
7. Refer to special shaft end specifications of each Servo Motor series in this catalog for the available models and detailed specifications.
8. Oil seal is installed in HG-JR, HG-RR, and HG-UR series as a standard.
9. For HG-JR353(B), the rated output varies depending on the servo amplifier to be combined. Refer to "HG-JR 3000 r/min Series (Low Inertia, Medium Capacity) (200 VClass) Specifications" for details.

Stocked Motors

Model Number
HG-KR053
HG-KR053B
HG-KR053D
HG-KR053BD
HG-KR13D
HG-KR13BD
HG-KR23K
HG-KR23BK
HG-KR43K
HG-KR43BK
HG-KR73K
HG-KR73BK
HG-MR053
HG-MR053B
HG-MR053D
HG-MR053BD
HG-MR13D
HG-MR13BD
HG-MR23K
HG-MR23BK
HG-MR43K
HG-MR43BK
HG-MR73K
HG-MR73BK

Model Number
HG-JR53K
HG-JR53BK
HG-JR73K
HG-JR73BK
HG-JR103K
HG-JR103BK
HG-JR153K
HG-JR153BK
HG-JR203K
HG-JR203BK
HG-JR353K
HG-JR353BK
HG-JR503K
HG-JR503BK
HG-JR703K
HG-JR703BK
HG-JR903K
HG-JR903BK

Model Number
HG-SR52
HG-SR52B
HG-SR102
HG-SR102B
HG-SR152
HG-SR152B
HG-SR202
HG-SR202B
HG-SR352K
HG-SR352BK
HG-SR502K
HG-SR502B
HG-SR702
HG-SR702B
HG-SR52K
HG-SR52BK
HG-SR102K
HG-SR102BK
HG-SR152K
HG-SR152BK
HG-SR202K
HG-SR202BK
HG-SR502K
HG-SR502BK
HG-SR702K
HG-SR702BK

Model Number
HG-RR103K
HG-RR103BK
HG-RR153K
HG-RR153BK
HG-RR353K
HG-RR503K

Model Number
HG-UR72K
HG-UR72BK
HG-UR152K
HG-UR152BK
HG-UR202K
HG-UR202BK
HG-UR352K
HG-UR352BK
HG-UR502K
HG-UR502BK

Servo Motor Selection 400V (Example Part No. = HG-KR0534BG1)
Not all options available for every motor.

HG-□ □□ 4 □□ □ □

Symbol	Shaft End
None	Standard (Straight shaft)(*6)
K	Key shaft (with/without key)(*7)

Symbol	Reducer(*5)
None	None
G1	With reducer for general industrial machines, flange mounting
G1H	With reducer for general industrial machines, foot mounting
G5	With flange-output type reducer for high precision applications, flange mounting
G7	With shaft-output type reducer for high precision applications, flange mounting

Symbol	Oil Seal
None	None(*9)
J	Installed (*2, *3, *4)

Symbol	Electromagnetic Brake
None	None
B	Installed(*1)

400V

Symbol	Rated Speed [r/min]
1	1000
2	2000
3	3000

Symbol	Rated Output [kW]	Symbol	Rated Output [kW]
5	0.5	5	0.5
7	0.75	7	0.75
10	1.0	10	1.0
15	1.5	15	1.5
20	2.0	20	2.0
35	3.5 (*8)	35	3.5 (*8)
50	5.0	50	5.0
60	6.0	60	6.0
70	7.0	70	7.0
80	8.0	80	8.0
90	9.0	90	9.0

Symbol	Inertia/Capacity
HG-SR	Medium inertia, medium capacity
HG-JR	Low inertia, medium-large capacity

Stocked Motors

Model Number	Model Number
HG-JR534K	HG-SR524K
HG-JR534BK	HG-SR524BK
HG-JR734K	HG-SR1024K
HG-JR734BK	HG-SR1024BK
HG-JR1034K	HG-SR1524K
HG-JR1034BK	HG-SR1524BK
HG-JR1534K	HG-SR2024K
HG-JR1534BK	HG-SR2024BK
HG-JR5034K	HG-SR3524K
HG-JR5034BK	HG-SR3524BK
HG-JR7034K	HG-SR5024K
HG-JR7034BK	HG-SR5024BK
HG-JR9034K	HG-SR7024K
HG-JR9034BK	HG-SR7024BK
HG-JR11K1M4K	
HG-JR11K1M4BK	

Notes:
1. Refer to electromagnetic brake specifications of each Servo Motor series in this catalog for the available models and detailed specifications.
2. Available in HG-SR series.
3. Oil seal is not installed in the geared Servo Motor.
4. Oil seal is installed in HG-JR series as a standard.
5. Refer to "Geared Servo Motor Specifications" in this catalog for the available models and detailed specifications.
6. Standard HG-SR G1/G1H has a key shaft (with key).
7. Refer to special shaft end specifications of each Servo Motor series in this catalog for the available models and detailed specifications.
8. For HG-JR3534(B), the rated output varies depending on the servo amplifier to be combined. Refer to "HG-JR 3000 r/min Series (Low Inertia, Medium Capacity) (400 V Class) Specifications" for details.

Combinations of Rotary Servo Motor and Servo Amplifier (200V/100V Class)

Rotary Servo Motor	Servo Amplifier		
	MR-J4	MR-J4W2 (*1)	MR-J4W3 (*1)
HG-KR053(B)	MR-J4-10B(-RJ), MR-J4-10B1(-RJ), MR-J4-10B-RJ010, MR-J4-10A(-RJ), MR-J4-10A1(-RJ)	MR-J4W2-22B, MR-J4W2-44B	MR-J4W3-222B, MR-J4W3-444B
HG-KR13(B)	MR-J4-10B(-RJ), MR-J4-10B1(-RJ), MR-J4-10B-RJ010, MR-J4-10A(-RJ), MR-J4-10A1(-RJ)	MR-J4W2-22B, MR-J4W2-44B	MR-J4W3-222B, MR-J4W3-444B
HG-KR23(B)	MR-J4-20B(-RJ), MR-J4-20B1(-RJ), MR-J4-20B-RJ010, MR-J4-20A(-RJ), MR-J4-20A1(-RJ)	MR-J4W2-22B, MR-J4W2-44B	MR-J4W3-222B, MR-J4W3-444B
HG-KR43(B)	MR-J4-40B(-RJ), MR-J4-40B1(-RJ), MR-J4-40B-RJ010, MR-J4-40A(-RJ), MR-J4-40A1(-RJ)	MR-J4W2-44B, MR-J4W2-77B, MR-J4W2-1010B	MR-J4W3-444B
HG-KR73(B)	MR-J4-70B(-RJ), MR-J4-70B-RJ010, MR-J4-70A(-RJ)	MR-J4W2-77B, MR-J4W2-1010B	-
HG-MR053(B)	MR-J4-10B(-RJ), MR-J4-10B1(-RJ), MR-J4-10B-RJ010, MR-J4-10A(-RJ), MR-J4-10A1(-RJ)	MR-J4W2-22B, MR-J4W2-44B	MR-J4W3-222B, MR-J4W3-444B
HG-MR13(B)	MR-J4-10B(-RJ), MR-J4-10B1(-RJ), MR-J4-10B-RJ010, MR-J4-10A(-RJ), MR-J4-10A1(-RJ)	MR-J4W2-22B, MR-J4W2-44B	MR-J4W3-222B, MR-J4W3-444B
HG-MR23(B)	MR-J4-20B(-RJ), MR-J4-20B1(-RJ), MR-J4-20B-RJ010, MR-J4-20A(-RJ), MR-J4-20A1(-RJ)	MR-J4W2-22B, MR-J4W2-44B	MR-J4W3-222B, MR-J4W3-444B
HG-MR43(B)	MR-J4-40B(-RJ), MR-J4-40B1(-RJ), MR-J4-40B-RJ010, MR-J4-40A(-RJ), MR-J4-40A1(-RJ)	MR-J4W2-44B, MR-J4W2-77B, MR-J4W2-1010B	MR-J4W3-444B
HG-MR73(B)	MR-J4-70B(-RJ), MR-J4-70B-RJ010, MR-J4-70A(-RJ)	MR-J4W2-77B, MR-J4W2-1010B	-
HG-SR51(B)	MR-J4-60B(-RJ), MR-J4-60B-RJ010, MR-J4-60A(-RJ)	MR-J4W2-77B, MR-J4W2-1010B	-
HG-SR81(B)	MR-J4-100B(-RJ), MR-J4-100B-RJ010, MR-J4-100A(-RJ)	MR-J4W2-1010B	-
HG-SR121(B)	MR-J4-200B(-RJ), MR-J4-200B-RJ010, MR-J4-200A(-RJ)	-	-
HG-SR201(B)	MR-J4-200B(-RJ), MR-J4-200B-RJ010, MR-J4-200A(-RJ)	-	-
HG-SR301(B)	MR-J4-350B(-RJ), MR-J4-350B-RJ010, MR-J4-350A(-RJ)	-	-
HG-SR421(B)	MR-J4-500B(-RJ), MR-J4-500B-RJ010, MR-J4-500A(-RJ)	-	-
HG-SR52(B)	MR-J4-60B(-RJ), MR-J4-60B-RJ010, MR-J4-60A(-RJ)	MR-J4W2-77B, MR-J4W2-1010B	-
HG-SR102(B)	MR-J4-100B(-RJ), MR-J4-100B-RJ010, MR-J4-100A(-RJ)	MR-J4W2-1010B	-
HG-SR152(B)	MR-J4-200B(-RJ), MR-J4-200B-RJ010, MR-J4-200A(-RJ)	-	-
HG-SR202(B)	MR-J4-200B(-RJ), MR-J4-200B-RJ010, MR-J4-200A(-RJ)	-	-
HG-SR352(B)	MR-J4-350B(-RJ), MR-J4-350B-RJ010, MR-J4-350A(-RJ)	-	-
HG-SR502(B)	MR-J4-500B(-RJ), MR-J4-500B-RJ010, MR-J4-500A(-RJ)	-	-
HG-SR702(B)	MR-J4-700B(-RJ), MR-J4-700B-RJ010, MR-J4-700A(-RJ)	-	-
HG-JR53(B)	MR-J4-60B(-RJ), MR-J4-60B-RJ010, MR-J4-60A(-RJ)	MR-J4W2-77B	-
HG-JR73(B)	MR-J4-70B(-RJ), MR-J4-70B-RJ010, MR-J4-70A(-RJ)	MR-J4W2-77B, MR-J4W2-1010B	-
HG-JR103(B)	MR-J4-100B(-RJ), MR-J4-100B-RJ010, MR-J4-100A(-RJ)	MR-J4W2-1010B	-

Note 1: Any combination of the Servo Motors is possible as long as the Servo Motors are compatible with the servo amplifier. Refer to "Combinations of Multi-Axis Servo Amplifier and Servo Motors" in this guide.

Combinations of Rotary Servo Motor and Servo Amplifier (200V Class)

Rotary Servo Motor	Servo Amplifier		
	MR-J4	MR-J4W2 (*1)	MR-J4W3 (*1)
HG-JR153(B)	MR-J4-200B(-RJ), MR-J4-200B-RJ010, MR-J4-200A(-RJ)	-	-
HG-JR203(B)	MR-J4-200B(-RJ), MR-J4-200B-RJ010, MR-J4-200A(-RJ)	-	-
HG-JR353(B)	MR-J4-350B(-RJ), MR-J4-350B-RJ010, MR-J4-350A(-RJ)	-	-
HG-JR503(B)	MR-J4-500B(-RJ), MR-J4-500B-RJ010, MR-J4-500A(-RJ)	-	-
HG-JR703(B)	MR-J4-700B(-RJ), MR-J4-700B-RJ010, MR-J4-700A(-RJ)	-	-
HG-JR903(B)	MR-J4-11KB(-RJ), MR-J4-11KB-RJ010, MR-J4-11KA(-RJ)	-	-
HG-JR601(B)	MR-J4-700B(-RJ), MR-J4-700B-RJ010, MR-J4-700A(-RJ)	-	-
HG-JR801(B)	MR-J4-11KB(-RJ), MR-J4-11KB-RJ010, MR-J4-11KA(-RJ)	-	-
HG-JR12K1(B)	MR-J4-11KB(-RJ), MR-J4-11KB-RJ010, MR-J4-11KA(-RJ)	-	-
HG-JR15K1	MR-J4-15KB(-RJ), MR-J4-15KB-RJ010, MR-J4-15KA(-RJ)	-	-
HG-JR20K1	MR-J4-22KB(-RJ), MR-J4-22KB-RJ010, MR-J4-22KA(-RJ)	-	-
HG-JR25K1	MR-J4-22KB(-RJ), MR-J4-22KB-RJ010, MR-J4-22KA(-RJ)	-	-
HG-JR30K1	MR-J4-DU30KB(-RJ), MR-J4-DU30KA(-RJ)	-	-
HG-JR37K1	MR-J4-DU37KB(-RJ), MR-J4-DU37KA(-RJ)	-	-
HG-JR701M(B)	MR-J4-700B(-RJ), MR-J4-700B-RJ010, MR-J4-700A(-RJ)	-	-
HG-JR11K1M(B)	MR-J4-11KB(-RJ), MR-J4-11KB-RJ010, MR-J4-11KA(-RJ)	-	-
HG-JR15K1M(B)	MR-J4-15KB(-RJ), MR-J4-15KB-RJ010, MR-J4-15KA(-RJ)	-	-
HG-JR22K1M	MR-J4-22KB(-RJ), MR-J4-22KB-RJ010, MR-J4-22KA(-RJ)	-	-
HG-JR30K1M	MR-J4-DU30KB(-RJ), MR-J4-DU30KA(-RJ)	-	-
HG-JR37K1M	MR-J4-DU37KB(-RJ), MR-J4-DU37KA(-RJ)	-	-
HG-RR103(B)	MR-J4-200B(-RJ), MR-J4-200B-RJ010, MR-J4-200A(-RJ)	-	-
HG-RR153(B)	MR-J4-200B(-RJ), MR-J4-200B-RJ010, MR-J4-200A(-RJ)	-	-
HG-RR203(B)	MR-J4-350B(-RJ), MR-J4-350B-RJ010, MR-J4-350A(-RJ)	-	-
HG-RR353(B)	MR-J4-500B(-RJ), MR-J4-500B-RJ010, MR-J4-500A(-RJ)	-	-
HG-RR503(B)	MR-J4-500B(-RJ), MR-J4-500B-RJ010, MR-J4-500A(-RJ)	-	-
HG-UR72(B)	MR-J4-70B(-RJ), MR-J4-70B-RJ010, MR-J4-70A(-RJ)	MR-J4W2-77B MR-J4W2-1010B	-
HG-UR152(B)	MR-J4-200B(-RJ), MR-J4-200B-RJ010, MR-J4-200A(-RJ)	-	-
HG-UR202(B)	MR-J4-350B(-RJ), MR-J4-350B-RJ010, MR-J4-350A(-RJ)	-	-
HG-UR352(B)	MR-J4-500B(-RJ), MR-J4-500B-RJ010, MR-J4-500A(-RJ)	-	-
HG-UR502(B)	MR-J4-500B(-RJ), MR-J4-500B-RJ010, MR-J4-500A(-RJ)	-	-

Note 1: Any combination of the Servo Motors is possible as long as the Servo Motors are compatible with the servo amplifier. Refer to "Combinations of Multi-Axis Servo Amplifier and Servo Motors" in this guide.

3rd Party Motor Solutions for Food and Beverage, Pharmaceutical, and Life Sciences Applications

We are now able to offer stainless steel and food grade white Servo Motors from Kollmorgen for food and beverage, pharmaceutical, and life sciences applications. These motors are exclusive to Mitsubishi Electric and are available through our distribution channels. Please visit www.kollmorgen.com for full motor specifications.

Stainless Steel Washdown Food Grade Servo Motors

- UL / CE / IP69K certifications
- 316L stainless steel construction
- Superior to 303/304 for hygiene and corrosion resistance
- FDA approved food grade components, shaft seal, and o-rings
- Food-grade lubrication
- Surface finish meets EHEDG and 3A criteria
- Hygienic permanent markings (name plate data)
- Single NFPA 79 cable for motor and absolute encoder

Motor / Drive Combinations

Motor Model Number	200V Drives	400V Drives	Cable	Connector	Encoder Converter
AKMH31C-CNLNGF-2K	MR-J4-40A-RJJ001 MR-J4-40B-RJJ001 MR-J4-40TM-ECT MR-J4-40TM-EIP	MR-J4-60A4-RJJ001 MR-J4-60B4-RJJ001 MR-J4-60TM4-ECT MR-J4-60TM4-EIP	2m, Integrated with motor (no separate cable)	CD-MX9M (DB9 Male Terminal Block) CD-MX915HH (Half Hood for CD-MX9M)	MR-ENCOM-SET (Encoder Converter with Cable) MR-ENCOM (Encoder Converter) MR-ENCOMCBL03M (Converter Cable)
AKMH31C-CNLNGF-5K	MR-J4-40A-RJJ001 MR-J4-40B-RJJ001 MR-J4-40TM-ECT MR-J4-40TM-EIP	MR-J4-60A4-RJJ001 MR-J4-60B4-RJJ001 MR-J4-60TM4-ECT MR-J4-60TM4-EIP	5m, Integrated with motor (no separate cable)		
AKMH32C-CNLNGF-2K	MR-J4-40A-RJJ001 MR-J4-40B-RJJ001 MR-J4-40TM-ECT MR-J4-40TM-EIP	MR-J4-60A4-RJJ001 MR-J4-60B4-RJJ001 MR-J4-60TM4-ECT MR-J4-60TM4-EIP	2m, Integrated with motor (no separate cable)		
AKMH32C-CNLNGF-5K	MR-J4-40A-RJJ001 MR-J4-40B-RJJ001 MR-J4-40TM-ECT MR-J4-40TM-EIP	MR-J4-60A4-RJJ001 MR-J4-60B4-RJJ001 MR-J4-60TM4-ECT MR-J4-60TM4-EIP	5m, Integrated with motor (no separate cable)		
AKMH33E-CNLNGF-2K	MR-J4-60A-RJJ001 MR-J4-60B-RJJ001 MR-J4-60TM-ECT MR-J4-60TM-EIP	MR-J4-100A4-RJJ001 MR-J4-100B4-RJJ001 MR-J4-100TM4-ECT MR-J4-100TM4-EIP	2m, Integrated with motor (no separate cable)		
AKMH33E-CNLNGF-5K	MR-J4-60A-RJJ001 MR-J4-60B-RJJ001 MR-J4-60TM-ECT MR-J4-60TM-EIP	MR-J4-100A4-RJJ001 MR-J4-100B4-RJJ001 MR-J4-100TM4-ECT MR-J4-100TM4-EIP	5m, Integrated with motor (no separate cable)		
AKMH42E-CNLNGF-2K	MR-J4-70A-RJJ001 MR-J4-70B-RJJ001 MR-J4-70TM-ECT MR-J4-70TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	2m, Integrated with motor (no separate cable)		
AKMH42E-CNLNGF-5K	MR-J4-70A-RJJ001 MR-J4-70B-RJJ001 MR-J4-70TM-ECT MR-J4-70TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP"	5m, Integrated with motor (no separate cable)		
AKMH43E-CNLNGF-2K	MR-J4-70A-RJJ001 MR-J4-70B-RJJ001 MR-J4-70TM-ECT MR-J4-70TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP"	2m, Integrated with motor (no separate cable)		
AKMH43E-CNLNGF-5K	MR-J4-70A-RJJ001 MR-J4-70B-RJJ001 MR-J4-70TM-ECT MR-J4-70TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP"	5m, Integrated with motor (no separate cable)		
AKMH43H-CNLNGF-2K	MR-J4-200A-RJJ001 MR-J4-200B-RJJ001 MR-J4-200TM-ECT MR-J4-200TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	2m, Integrated with motor (no separate cable)		
AKMH43H-CNLNGF-5K	MR-J4-200A-RJJ001 MR-J4-200B-RJJ001 MR-J4-200TM-ECT MR-J4-200TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	5m, Integrated with motor (no separate cable)		
AKMH44E-CNLNGF-2K	MR-J4-70A-RJJ001 MR-J4-70B-RJJ001 MR-J4-70TM-ECT MR-J4-70TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	2m, Integrated with motor (no separate cable)		
AKMH44E-CNLNGF-5K	MR-J4-70A-RJJ001 MR-J4-70B-RJJ001 MR-J4-70TM-ECT MR-J4-70TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	5m, Integrated with motor (no separate cable)		
AKMH52H-CNLNGF-2K	MR-J4-100A-RJJ001 MR-J4-100B-RJJ001 MR-J4-100TM-ECT MR-J4-100TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	2m, Integrated with motor (no separate cable)		
AKMH52H-CNLNGF-5K	MR-J4-100A-RJJ001 MR-J4-100B-RJJ001 MR-J4-100TM-ECT MR-J4-100TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	5m, Integrated with motor (no separate cable)		
AKMH54L-CNLNGF-2K	MR-J4-200A-RJJ001 MR-J4-200B-RJJ001 MR-J4-200TM-ECT MR-J4-200TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	2m, Integrated with motor (no separate cable)		

Stainless Steel Washdown Food Grade Servo Motors - continued

Motor Model Number	200V Drives	400V Drives	Cable	Connector	Encoder Converter
AKMH54L-CNLNGF-5K	MR-J4-200A-RJJ001 MR-J4-200B-RJJ001 MR-J4-200TM-ECT MR-J4-200TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	5m, Integrated with motor (no separate cable)	CD-MX9M (DB9 Male Terminal Block) CD-MX915HH (Half Hood for CD-MX9M)	MR-ENCOM-SET (Encoder Converter with Cable) MR-ENCOM (Encoder Converter) MR-ENCOMCBL03M (Converter Cable)
AKMH62L-CNLNGF-2K	MR-J4-350A-RJJ001 MR-J4-350B-RJJ001 MR-J4-350TM-ECT MR-J4-350TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	2m, Integrated with motor (no separate cable)		
AKMH62L-CNLNGF-5K	MR-J4-350A-RJJ001 MR-J4-350B-RJJ001 MR-J4-350TM-ECT MR-J4-350TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP	5m, Integrated with motor (no separate cable)		
AKMH64L-CNLNGF-2K	MR-J4-350A-RJJ001 MR-J4-350B-RJJ001 MR-J4-350TM-ECT MR-J4-350TM-EIP	MR-J4-500A4-RJJ001 MR-J4-500B4-RJJ001 MR-J4-500TM4-ECT MR-J4-500TM4-EIP	2m, Integrated with motor (no separate cable)		
AKMH64L-CNLNGF-5K	MR-J4-350A-RJJ001 MR-J4-350B-RJJ001 MR-J4-350TM-ECT MR-J4-350TM-EIP	MR-J4-500A4-RJJ001 MR-J4-500B4-RJJ001 MR-J4-500TM4-ECT MR-J4-500TM4-EIP	5m, Integrated with motor (no separate cable)		
AKMH65M-CNLNGF-2K	MR-J4-350A-RJJ001 MR-J4-350B-RJJ001 MR-J4-350TM-ECT MR-J4-350TM-EIP	MR-J4-700A4-RJJ001 MR-J4-700B4-RJJ001 MR-J4-700TM4-ECT MR-J4-700TM4-EIP	2m, Integrated with motor (no separate cable)		
AKMH65M-CNLNGF-5K	MR-J4-350A-RJJ001 MR-J4-350B-RJJ001 MR-J4-350TM-ECT MR-J4-350TM-EIP	MR-J4-700A4-RJJ001 MR-J4-700B4-RJJ001 MR-J4-700TM4-ECT MR-J4-700TM4-EIP	5m, Integrated with motor (no separate cable)		

White Washdown Food Grade Servo Motors

- UL / CE / RoHS / FDA / IP67 certifications
- 316L stainless steel construction superior to 303/304 for hygiene and corrosion resistance
- FDA approved food grade components
- PTFE shaft seal
- Food-grade lubrication
- White surface finish including flange
- Stainless steel shaft, fasteners, and connectors
- Corrosion proof against common cleaning & disinfecting chemicals
- For applications where motor is lateral or below food
- Not for direct food contact

Motor / Drive Combinations

Motor Model Number	200V Drives	400V Drives	Cable	Connector	Encoder Converter
AKM22C-WNDNGF0F	MR-J4-40A-RJJ001 MR-J4-40B-RJJ001 MR-J4-40TM-ECT MR-J4-40TM-EIP	MR-J4-60A4-RJJ001 MR-J4-60B4-RJJ001 MR-J4-60TM4-ECT MR-J4-60TM4-EIP	WCX2A1-025-002-00 (Cable for AKM White Servo, 2M) WCX2A1-025-005-00 (Cable for AKM White Servo, 5M)	CD-MX9M (DB9 Male Terminal Block) CD-MX915HH (Half Hood for CD-MX9M)	MR-ENCOM-SET (Encoder Converter with Cable) MR-ENCOM (Encoder Converter) MR-ENCOMCBL03M (Converter Cable)
AKM31C-WNDNGF0F	MR-J4-40A-RJJ001 MR-J4-40B-RJJ001 MR-J4-40TM-ECT MR-J4-40TM-EIP	MR-J4-60A4-RJJ001 MR-J4-60B4-RJJ001 MR-J4-60TM4-ECT MR-J4-60TM4-EIP			
AKM32D-WNDNGF0F	MR-J4-60A-RJJ001 MR-J4-60B-RJJ001 MR-J4-60TM-ECT MR-J4-60TM-EIP	MR-J4-100A4-RJJ001 MR-J4-100B4-RJJ001 MR-J4-100TM4-ECT MR-J4-100TM4-EIP			
AKM32E-WNDNGF0F	MR-J4-70A-RJJ001 MR-J4-70B-RJJ001 MR-J4-70TM-ECT MR-J4-70TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP			
AKM33E-WNDNGF0F	MR-J4-60A-RJJ001 MR-J4-60B-RJJ001 MR-J4-60TM-ECT MR-J4-60TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP			
AKM42E-WNDNGF0F	MR-J4-60A-RJJ001 MR-J4-60B-RJJ001 MR-J4-60TM-ECT MR-J4-60TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP			
AKM44G-WNDNGF0F	MR-J4-200A-RJJ001 MR-J4-200B-RJJ001 MR-J4-200TM-ECT MR-J4-200TM-EIP	MR-J4-200A4-RJJ001 MR-J4-200B4-RJJ001 MR-J4-200TM4-ECT MR-J4-200TM4-EIP			
AKM52H-WNDNGF0F	MR-J4-200A-RJJ001 MR-J4-200B-RJJ001 MR-J4-200TM-ECT MR-J4-200TM-EIP	MR-J4-350A4-RJJ001 MR-J4-350B4-RJJ001 MR-J4-350TM4-ECT MR-J4-350TM4-EIP			
AKM54K-WNDNGF0F	MR-J4-350A-RJJ001 MR-J4-350B-RJJ001 MR-J4-350TM-ECT MR-J4-350TM-EIP	MR-J4-500A4-RJJ001 MR-J4-500B4-RJJ001 MR-J4-500TM4-ECT MR-J4-500TM4-EIP			
AKM65M-WNDNGF0F	MR-J4-350A-RJJ001 MR-J4-350B-RJJ001 MR-J4-350TM-ECT MR-J4-350TM-EIP	MR-J4-700A4-RJJ001 MR-J4-700B4-RJJ001 MR-J4-700TM4-ECT MR-J4-700TM4-EIP			

HG-KR Series 3000 r/min (Low Inertia, Small Capacity) Specifications 200V

Servo Motor Model HG-KR_		053(B)	13(B)	23(B)	43(B)	73(B)
Servo Amplifier Model	MR-J4-_	Refer to "Combinations of Servo Motor and Servo Amplifier" in this selection guide				
	MR-J4W_-_					
Power Supply 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) (Note 3)	0.16	0.32	0.64	1.3	2.4
Maximum Torque (N•m)		0.56	1.1	2.2	4.5	8.4
Rated Speed (r/min)		3000				
Maximum Speed (r/min)		6000				
Permissible Instantaneous Speed (r/min)		6900				
Power Rate Continuous Rated Torque	Standard (kW/s)	5.63	13.0	18.3	43.7	45.2
	With Electromagnetic Brake (kW/s)	5.37	12.1	16.7	41.3	41.6
Rated Current (A)		0.9	0.8	1.3	2.6	4.8
Maximum Current (A)		3.2	2.5	4.6	9.1	17
Regenerative Braking Frequency (*2)	MR-J4- (times/min)	(*4)	(*4)	453	268	157
	MR-J4W_- (times/min)	2500	1350	451	268	393
Moment of inertia J (x10^{-4}kg•m^2)	Standard	0.0450	0.0777	0.221	0.371	1.26
	With Electromagnetic Brake	0.0472	0.0837	0.243	0.393	1.37
Recommended Load/Motor Inertia Ratio (Note 1)		17 times or less		26 times or less	25 times or less	17 times or less
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)				
Oil Seal		None	None (Servo Motors with oil seal are available. (HG-KR_J))			
Insulation Class		130 (B)				
Structure		Totally enclosed, natural cooling (IP rating: IP65) (Note 2)				
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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 (*4)	1000 m or less above sea level; X: 49 m/s^2 Y: 49 m/s^2				
Vibration Rank		V10 (*6)				
Permissible Load for the Shaft (*5)	L (mm)	25	25	30	30	40
	Radial (N)	88	88	245	245	392
	Thrust (N)	59	59	98	98	147
Weight (kg)	Standard	0.34	0.54	0.91	1.4	2.8
	With Electromagnetic Brake	0.54	0.74	1.3	1.8	3.8

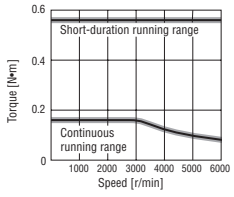
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-KR Series Electromagnetic Brake Specifications (*1)

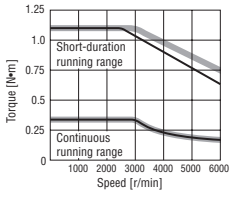
Servo Motor Model HG-KR_		053B	13B	23B	43B	73B
Type		Spring actuated type safety brake				
Rated Voltage		24 VDC $^{0}_{-10}$ %				
Power Consumption (W) at 20 °C		6.3	6.3	7.9	7.9	10
Electromagnetic Brake Static Friction Torque (N•m)		0.32	0.32	1.3	1.3	2.4
Permissible Braking Work	Per Braking (J)	5.6	5.6	22	22	64
	Per Hour (J)	56	56	220	220	640
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000				
	Work Per Braking (J)	5.6	5.6	22	22	64

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

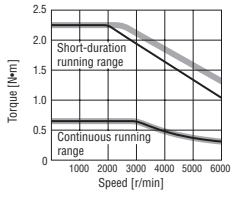
HG-KR053(B) (*1, *2)



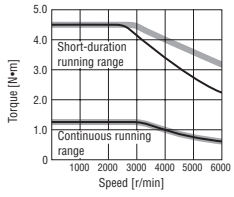
HG-KR13(B) (*1, *2)



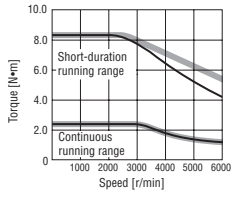
HG-KR23(B) (*1, *2)



HG-KR43(B) (*1, *2)



HG-KR73(B) (*1, *2)



Notes: 1. ▬ : For 3-phase 200 VAC or 1-phase 230 VAC.
2. ——— : For 1-phase 200 VAC.
3. Torque drops when the power supply voltage is below the specified value.

HG-MR Series 3000 r/min (Ultra Low Inertia, Small Capacity) Specifications 200V

Servo Motor Model HG-MR_		053(B)	13(B)	23(B)	43(B)	73(B)
Servo Amplifier Model	MR-J4-_	Refer to "Combinations of Servo Motor and Servo Amplifier" in this selection guide				
	MR-J4W_-_					
Power Supply 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) (Note 3)	0.16	0.32	0.64	1.3	2.4
Maximum Torque (N•m)		0.48	0.95	1.9	3.8	7.2
Rated Speed (r/min)		3000				
Maximum Speed (r/min)		6000				
Permissible Instantaneous Speed (r/min)		6900				
Power Rate Continuous Rated Torque	Standard (kW/s)	15.6	33.8	46.9	114.2	97.3
	With Electromagnetic Brake (kW/s)	11.3	28.0	37.2	98.8	82.1
Rated Current (A)		1.0	0.9	1.5	2.6	5.8
Maximum Current (A)		3.1	2.5	5.3	9.0	20.0
Regenerative Braking Frequency (*2)	MR-J4- (times/min)	(Note 4)	(Note 4)	1180	713	338
	MR-J4W_- (times/min)	7310	3640	1170	710	846
Moment of Inertia J ($x10^{-4}$kg•m^2)	Standard	0.0162	0.0300	0.0865	0.142	0.586
	With Electromagnetic Brake	0.0224	0.0362	0.109	0.164	0.694
Recommended Load/Motor Inertia Ratio (Note 1)		35 times or less	32 times or less			
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)				
Oil Seal		None	None (Servo Motors with oil seal are available. (HG-MR_J))			
Insulation Class		130 (B)				
Structure		Totally enclosed, natural cooling (IP rating: IP65) (Note 2)				
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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 (*4)	1000 m or less above sea level; X: 49 m/s^2 Y: 49 m/s^2				
Vibration Rank		V10 (*6)				
Permissible Load for the Shaft (*5)	L (mm)	25	25	30	30	40
	Radial (N)	88	88	245	245	392
	Thrust (N)	59	59	98	98	147
Weight (kg)	Standard	0.34	0.54	0.91	1.4	2.8
	With Electromagnetic Brake	0.54	0.74	1.3	1.8	3.8

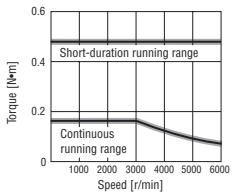
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-MR Series Electromagnetic Brake Specifications (*1)

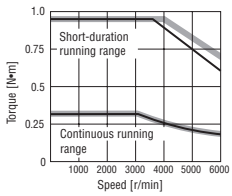
Servo Motor Model HG-MR_		053B	13B	23B	43B	73B
Type		Spring actuated type safety brake				
Rated Voltage		24 VDC $^{0}_{-10}$%				
Power Consumption (W) at 20°C		6.3	6.3	7.9	7.9	10
Electromagnetic Brake Static Friction Torque (N•m)		0.32	0.32	1.3	1.3	2.4
Permissible Braking Work	Per Braking (J)	5.6	5.6	22	22	64
	Per Hour (J)	56	56	220	220	640
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000				
	Work Per Braking (J)	5.6	5.6	22	22	64

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

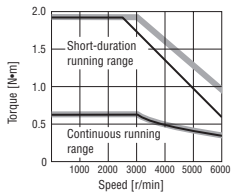
HG-MR053(B) (*1, *2)



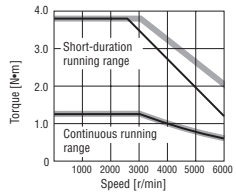
HG-MR13(B) (*1, *2)



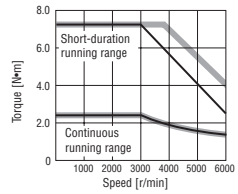
HG-MR23(B) (*1, *2)



HG-MR43(B) (*1, *2)



HG-MR73(B) (*1, *2)



Notes: 1. ▬ : For 3-phase 200 VAC or 1-phase 230 VAC.
2. ——— : For 1-phase 200 VAC.
3. Torque drops when the power supply voltage is below the specified value.

HG-SR 1000 r/min Series (Medium Inertia, Medium Capacity) Specifications 200V

Servo Motor Model HG-SR_		51(B)	81(B)	121(B)	201(B)	301(B)	421(B)
Servo Amplifier Model	MR-J4-_	Refer to "Combinations of Servo Motor and Servo Amplifier" in this selection guide					
	MR-J4W_-_						
Power Supply Capacity (kVA) (*1)		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) (Note 3)	4.8	8.1	11.5	19.1	28.6	40.1
Maximum Torque (N•m)		14.3	24.4	34.4	57.3	85.9	120
Rated Speed (r/min)		1000					
Maximum Speed (r/min)		1500					
Permissible Instantaneous Speed (r/min)		1725					
Power Rate Continuous Rated Torque	Standard (kW/s)	19.7	41.2	28.1	46.4	82.3	107
	With Electromagnetic Brake (kW/s)	16.5	36.2	23.2	41.4	75.3	99.9
Rated Current (A)		2.8	5.2	7.1	9.4	13	19
Maximum Current (A)		9.0	17	23	30	42	61
Regenerative Braking Frequency (*2)	MR-J4- (times/min)	77	114	191	113	89	76
	MR-J4W_- (times/min)	392	286	-	-	-	-
Moment of Inertia J (x10^{-4}kg•m^2)	Standard	11.6	16.0	46.8	78.6	99.7	151
	With Electromagnetic Brake	13.8	18.2	56.5	88.2	109	161
Recommended Load/Motor Inertia Ratio (Note 1)		17 times or less	15 times or less				
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)					
Oil Seal		None (Servo Motors with oil seal are available. (HG-SR_J))					
Insulation Class		155 (F)					
Structure		Totally enclosed, natural cooling (IP rating: IP67) (Note 2)					
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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	1000 m or less above sea level					
	Vibration (*4)	X: 24.5 m/s² Y: 24.5 m/s²		X: 24.5 m/s² Y: 49 m/s²		X: 24.5 m/s² Y: 29.4 m/s²	
Vibration Rank		V10 (*6)					
Permissible Load for the Shaft (*5)	L (mm)	55	55	79	79	79	79
	Radial (N)	980	980	2058	2058	2058	2058
	Thrust (N)	490	490	980	980	980	980
Weight (kg)	Standard	6.2	7.3	11	16	20	27
	With Electromagnetic Brake	8.2	9.3	17	22	26	33

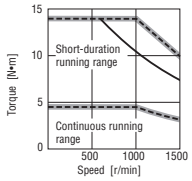
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-SR 1000 Series Electromagnetic Brake Specifications (*1)

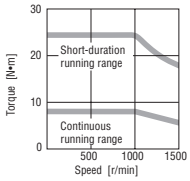
Servo Motor Model HG-SR_		51B	81B	121B	201B	301B	421B
Type		Spring actuated type safety brake					
Rated Voltage		24 VDC $^{0}_{-10}$ %					
Power Consumption (W) at 20°C		20	20	34	34	34	34
Electromagnetic Brake Static Friction Torque (N•m)		8.5	8.5	44	44	44	44
Permissible Braking Work	Per Braking (J)	400	400	4500	4500	4500	4500
	Per Hour (J)	4000	4000	45000	45000	45000	45000
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000					
	Work Per Braking (J)	200	200	1000	1000	1000	1000

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

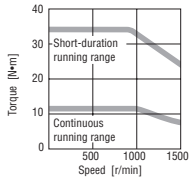
HG-SR51(B) (*1, *2, *3)



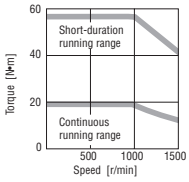
HG-SR81(B) (*1)



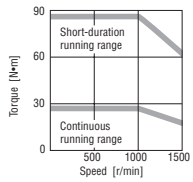
HG-SR121(B) (*1)



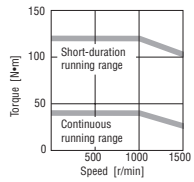
HG-SR201(B) (*1)



HG-SR301(B) (*1)



HG-SR421(B) (*1)



Notes: 1. ——— : For 3-phase 200 V AC.
2. - - - - : For 1-phase 230 V AC.
3. ——— : For 1-phase 200 V AC.
This line is drawn only where differs from the other two lines.
4. Torque drops when the power supply voltage is below the specified value.

HG-SR 2000 r/min Series (Medium Inertia, Medium Capacity) Specifications 200V

Servo Motor Model HG-SR_		52(B)	102(B)	152(B)	202(B)	352(B)	502(B)	702(B)
Servo Amplifier Model	MR-J4-	Refer to "Combinations of Servo Motor and Servo Amplifier" in this guide.						
	MR-J4W_-_							
Power Supply 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) (Note 3)	2.4	4.8	7.2	9.5	16.7	23.9	33.4
Maximum Torque (N•m)		7.2	14.3	21.5	28.6	50.1	71.6	100
Rated Speed (r/min)		2000						
Maximum Speed (r/min)		3000						
Permissible Instantaneous Speed (r/min)		3450						
Power Rate Continuous Rated Torque (kW/s)	Standard (kW/s)	7.85	19.7	32.1	19.5	35.5	57.2	74.0
	With Electromagnetic Brake (kW/s)	6.01	16.5	28.2	16.1	31.7	52.3	69.4
Rated Current (A)		2.9	5.6	9.4	9.6	14	22	26
Maximum Current (A)		9.0	17.4	29	31	45	70	83
Regenerative Braking Frequency (*2)	MR-J4- (times/min)	31	38	139	47	28	29	25
	MR-J4W_- (times/min)	154	96	-	-	-	-	-
Moment of Inertia J ($x10^{-4}$kg•m^2)	Standard	7.26	11.6	16.0	46.8	78.6	99.7	151
	With Electromagnetic Brake	9.48	13.8	18.2	56.5	88.2	109	161
Recommended Load/Motor Inertia Ratio (Note 1)		15 times or less	17 times or less		15 times or less			
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)						
Oil Seal		None (Servo Motors with oil seal are available. (HG-SR_J))						
Insulation Class		155 (F)						
Structure		Totally enclosed, natural cooling (IP rating: IP67) (Note 2)						
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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	1000 m or less above sea level						
	Vibration (*4)	X: 24.5 m/s² Y: 24.5 m/s²			X: 24.5 m/s² Y: 49 m/s²		X: 24.5 m/s² Y: 29.4 m/s²	
Vibration Rank		V10 (*6)						
Permissible Load for the Shaft (*5)	L (mm)	55	55	55	79	79	79	79
	Radial (N)	980	980	980	2058	2058	2058	2058
	Thrust (N)	490	490	490	980	980	980	980
Weight (kg)	Standard	4.8	6.2	7.3	11	16	20	27
	With Electromagnetic Brake	6.7	8.2	9.3	17	22	26	33

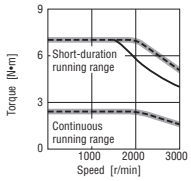
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-SR 2000 Series Electromagnetic Brake Specifications (*1)

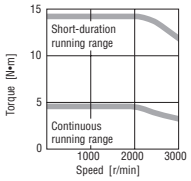
Servo Motor Model HG-SR_		52B	102B	152B	202B	352B	502B	702B
Type		Spring actuated type safety brake						
Rated Voltage		24 VDC $^{0}_{-10}$ %						
Power Consumption (W) at 20 °C		20	20	20	34	34	34	34
Electromagnetic Brake Static Friction Torque (N•m)		8.5	8.5	8.5	44	44	44	44
Permissible Braking Work	Per Braking (J)	400	400	400	4500	4500	4500	4500
	Per Hour (J)	4000	4000	4000	45000	45000	45000	45000
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000						
	Work Per Braking (J)	200	200	200	1000	1000	1000	1000

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

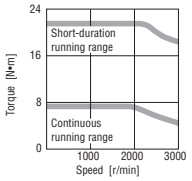
HG-SR52(B) (*1, *2, *3)



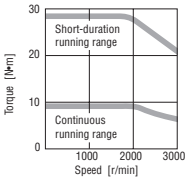
HG-SR102(B) (*1)



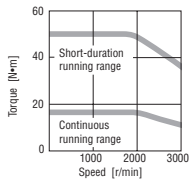
HG-SR152(B) (*1)



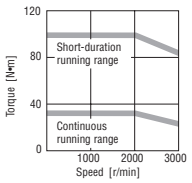
HG-SR202(B) (*1)



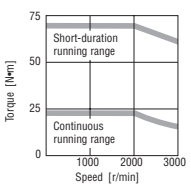
HG-SR352(B) (*1)



HG-SR702(B) (*1)



HG-SR502(B) (*1)



Notes: 1. ——— : For 3-phase 200 V AC.
2. - - - - : For 1-phase 230 V AC.
3. ——— : For 1-phase 200 V AC.
This line is drawn only where differs from the other two lines.
4. Torque drops when the power supply voltage is below the specified value.

HG-SR 2000 r/min Series (Medium Inertia, Medium Capacity) Specifications 400V

Servo Motor Model HG-SR_		524(B)	1024(B)	1524(B)	2024(B)	3524(B)	5024(B)	7024(B)
Servo Amplifier Model	MR-J4-	Refer to "Combinations of Servo Motor and Servo Amplifier" in this guide.						
Power Supply 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) (Note 3)	2.4	4.8	7.2	9.5	16.7	23.9	33.4
Maximum Torque (N•m)		7.2	14.3	21.5	28.6	50.1	71.6	100
Rated Speed (r/min)		2000						
Maximum Speed (r/min)		3000						
Permissible Instantaneous Speed (r/min)		3450						
Power Rate Continuous Rated Torque (kW/s)	Standard (kW/s)	7.85	19.7	32.1	19.5	35.5	57.2	74.0
	With Electromagnetic Brake (kW/s)	6.01	16.5	28.2	16.1	31.7	52.3	69.4
Rated Current (A)		1.5	2.8	4.7	4.9	7	11	13
Maximum Current (A)		4.5	8.9	17	17	27	42	59
Regenerative Braking Frequency (*2)	MR-J4- (times/min)	46	29	139	47	34	29	25
Moment of Inertia J ($x10^{-4}$kg•m^2)	Standard	7.26	11.6	16.0	46.8	78.6	99.7	151
	With Electromagnetic Brake	9.48	13.8	18.2	56.5	88.2	109	161
Recommended Load/Motor Inertia Ratio (Note 1)		15 times or less	17 times or less		15 times or less			
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)						
Oil Seal		None (Servo Motors with oil seal are available. (HG-SR_J))						
Insulation Class		155 (F)						
Structure		Totally enclosed, natural cooling (IP rating: IP67) (Note 2)						
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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	1000 m or less above sea level						
	Vibration (*4)	X: 24.5 m/s² Y: 24.5 m/s²			X: 24.5 m/s² Y: 49 m/s²		X: 24.5 m/s² Y: 29.4 m/s²	
Vibration Rank		V10 (*6)						
Permissible Load for the Shaft (*5)	L (mm)	55	55	55	79	79	79	79
	Radial (N)	980	980	980	2058	2058	2058	2058
	Thrust (N)	490	490	490	980	980	980	980
Weight (kg)	Standard	4.8	6.2	7.3	11	16	20	27
	With Electromagnetic Brake	6.7	8.2	9.3	17	22	26	33

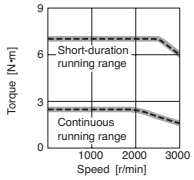
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-SR 2000 Series (400V) Electromagnetic Brake Specifications (*1)

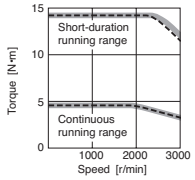
Servo Motor Model HG-SR_		524B	1024B	1524B	2024B	3524B	5024B	7024B
Type		Spring actuated type safety brake						
Rated Voltage		24 VDC $^{0}_{-10}$ %						
Power Consumption (W) at 20°C		20	20	20	34	34	34	34
Electromagnetic Brake Static Friction Torque (N•m)		8.5	8.5	8.5	44	44	44	44
Permissible Braking Work	Per Braking (J)	400	400	400	4500	4500	4500	4500
	Per Hour (J)	4000	4000	4000	45000	45000	45000	45000
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000						
	Work Per Braking (J)	200	200	200	1000	1000	1000	1000

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

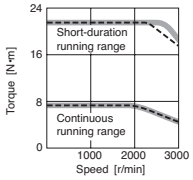
HG-SR524(B) (Note 1, 2)



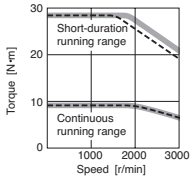
HG-SR1024(B) (Note 1, 2)



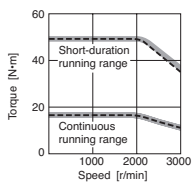
HG-SR1524(B) (Note 1, 2)



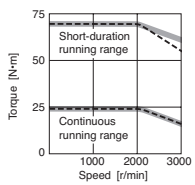
HG-SR2024(B) (Note 1, 2)



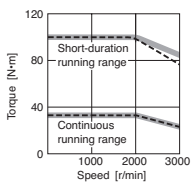
HG-SR3524(B) (Note 1, 2)



HG-SR5024(B) (Note 1, 2)



HG-SR7024(B) (Note 1, 2)



Notes: 1. ▬ : For 3-phase 400 V AC.
2. - - - - : For 3-phase 380 V AC.
3. Torque drops when the power supply voltage is below the specified value.

HG-JR 3000 r/min Series (Low Inertia, Medium Capacity) Specifications 200V

Servo Motor Model HG-JR_		53(B)	73(B)	103(B)	153(B)	203(B)	353(B)	503(B)	703(B)	903(B)
Servo Amplifier Model	MR-J4-	Refer to "Combinations of Servo Motor and Servo Amplifier" in this guide.								
	MR-J4W_-_									
Power Supply Capacity (kVA) (*1)		1.0	1.3	1.7	2.5	3.5	5.5	7.5	10	13
Continuous Running Duty	Rated Output (kW)	0.5	0.75	1.0	1.5	2.0	3.3 <3.5> (Note 5)	5.0	7.0	9.0
	Rated Torque (N•m) (Note 3)	1.6	2.4	3.2	4.8	6.4	10.5 <11.1> (Note 5)	15.9	22.3	28.6
Maximum Torque (N•m) (Note 6)		4.8 <6.4>	7.2 <9.6>	9.6 <12.7>	14.3 <19.1>	19.1 <25.5>	32.0 <44.6>	44.7 <63.7>	66.8	85.8
Rated Speed (r/min)		3000								
Maximum Speed (r/min)		6000							5000	
Permissible Instantaneous Speed (r/min)		6900							5750	
Power Rate Continuous Rated Torque (kW/s)	Standard (kW/s)	16.7	27.3	38.2	60.2	82.4	83.5	133	115	147
	With Electromagnetic Brake (kW/s)	12.5	22.0	32.2	53.1	74.8	71.6	119	93.9	125
Rated Current (A)		3.0	5.6	5.6	11	11	17 <18> (Note 5)	27	34	41
Maximum Current (A) (Note 5)		9.0 <12>	17 <23>	17 <23>	32 <43>	32 <43>	51 <71>	81 <108>	103	134
Regenerative Braking Frequency (*2, Note 5)	MR-J4- (times/min)	67 <137>	98 <511>	76 <396>	271 <271>	206 <206>	73 <98>	68 <89>	56	204 (Note 7)
	MR-J4W_- (times/min)	328 <328>	237	186	-	-	-	-	-	-
Moment of Inertia J ($x10^{-4}$kg•m^2)	Standard	1.52	2.09	2.65	3.79	4.92	13.2	19.0	43.3	55.8
	With Electromagnetic Brake	2.02	2.59	3.15	4.29	5.42	15.4	21.2	52.9	65.4
Recommended Load/Motor Inertia Ratio (Note 1)		10 times or less								
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)								
Oil Seal		Attached								
Insulation Class		155 (F)								
Structure		Totally enclosed, natural cooling (IP rating: IP67) (Note 2)								
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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	1000 m or less above sea level								
	Vibration (*4)	X: 24.5 m/s² Y: 24.5 m/s²							X: 24.5 m/s² Y: 29.4 m/s²	
Vibration Rank		V10 (*6)								
Permissible Load for the Shaft (*5)	L (mm)	40	40	40	40	40	55	55	79	79
	Radial (N)	323	323	323	323	323	980	980	2450	2450
	Thrust (N)	284	284	284	284	284	490	490	980	980
Weight (kg)	Standard	3.0	3.7	4.5	5.9	7.5	13	18	29	36
	With Electromagnetic Brake	4.4	5.1	5.9	7.3	8.9	15	20	35	42

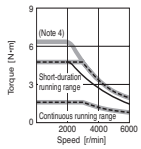
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-JR 3000 Series (200V) Electromagnetic Brake Specifications (*1)

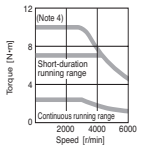
Servo Motor Model HG-SR_		53B	73B	103B	153B	203B	353B	503B	703B	903B
Type		Spring actuated type safety brake								
Rated Voltage		24 VDC $^{0}_{-10}$ %								
Power Consumption (W) at 20°C		11.7	11.7	11.7	11.7	11.7	23	23	34	34
Electromagnetic Brake Static Friction Torque (N•m)		6.6	6.6	6.6	6.6	6.6	16	16	44	44
Permissible Braking Work	Per Braking (J)	64	64	64	64	64	400	400	4500	4500
	Per Hour (J)	640	640	640	640	640	4000	4000	45000	45000
Electromagnetic Brake Life (*2)	Number of Times (Times)	5000							20000	
	Work Per Braking (J)	64	64	64	64	64	400	400	1000	1000

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

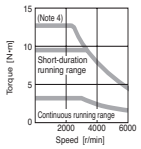
HG-JR53(B) (Note 1, 2, 3)



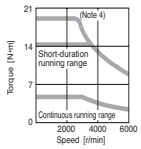
HG-JR73(B) (Note 1)



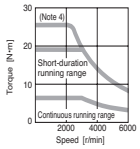
HG-JR103(B) (Note 1)



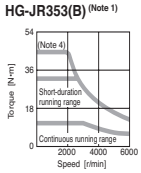
HG-JR153(B) (Note 1)



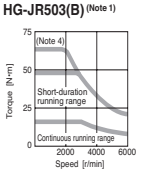
HG-JR203(B) (Note 1)



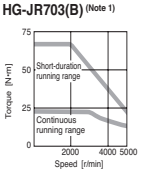
HG-JR353(B) (Note 1)



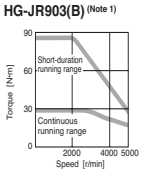
HG-JR503(B) (Note 1)



HG-JR703(B) (Note 1)



HG-JR903(B) (Note 1)



Notes: 1. ——— : For 3-phase 200 V AC.
2. - - - - : For 1-phase 230 V AC.
3. ——— : For 1-phase 200 V AC.
This line is drawn only where differs from the other two lines.
4.This value is applicable when the torque is maximally increased. Refer to MR-J4 Brochure for more specifications.
5. Torque drops when the power supply voltage is below the specified value.

HG-JR 3000 r/min Series (Low Inertia, Medium Capacity) Specifications 400V

Servo Motor Model HG-JR_		534(B)	734(B)	1034(B)	1534(B)	2034(B)	3534(B)	5034(B)	7034(B)	9034(B)
Servo Amplifier Model	MR-J4-	Refer to "Combinations of Servo Motor and Servo Amplifier" in this guide								
Power Supply Capacity (kVA) (*1)		1.0	1.3	1.7	2.5	3.5	5.5	7.5	10	13
Continuous Running Duty	Rated Output (kW)	0.5	0.75	1.0	1.5	2.0	3.3 <3.5> (Note 5)	5.0	7.0	9.0
	Rated Torque (N•m) (Note 3)	1.6	2.4	3.2	4.8	6.4	10.5 <11.1> (Note 5)	15.9	22.3	28.6
Maximum Torque (N•m) (Note 6)		4.8 <6.4>	7.2 <9.6>	9.6 <12.7>	14.3 <19.1>	19.1 <25.5>	32.0 <44.6>	47.2 <63.7>	66.8	85.8
Rated Speed (r/min)		3000								
Maximum Speed (r/min)		6000							5000	
Permissible Instantaneous Speed (r/min)		6900							5750	
Power Rate Continuous Rated Torque (kW/s)	Standard (kW/s)	16.7	27.3	38.2	60.2	82.4	83.5	133	115	147
	With Electromagnetic Brake (kW/s)	12.5	22.0	32.2	53.1	74.8	71.6	119	93.9	125
Rated Current (A)		1.5	2.8	2.8	5.4	5.4	8.3 <8.8> (Note 5)	14	17	21
Maximum Current (A) (Note 6)		4.5 <6.0>	8.4 <12>	8.4 <12>	17 <22>	17 <22>	26 <36>	41 <54>	52	67
Regenerative Braking Frequency (*2) (Note 6)	MR-J4- (times/min)	99 <100>	72 <489>	56 <382>	265 <275>	203 <209>	75 <98>	68 <89>	56	205 (Note 7)
Moment of Inertia J (x10^{-4}kg•m^2)	Standard	1.52	2.09	2.65	3.79	4.92	13.2	19.0	43.3	55.8
	With Electromagnetic Brake	2.02	2.59	3.15	4.29	5.42	15.4	21.2	52.9	65.4
Recommended Load/Motor Inertia Ratio (Note 1)		10 times or less								
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)								
Oil Seal		Attached								
Insulation Class		155 (F)								
Structure		Totally enclosed, natural cooling (IP rating: IP67) (Note 2)								
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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	1000 m or less above sea level								
	Vibration (*4)	X: 24.5 m/s² Y: 24.5 m/s²							X: 24.5 m/s² Y: 29.4 m/s²	
Vibration Rank		V10 (*6)								
Permissible Load for the Shaft (*5)	L (mm)	40	40	40	40	40	55	55	79	79
	Radial (N)	323	323	323	323	323	980	980	2450	2450
	Thrust (N)	284	284	284	284	284	490	490	980	980
Weight (kg)	Standard	3.0	3.7	4.5	5.9	7.5	13	18	29	36
	With Electromagnetic Brake	4.4	5.1	5.9	7.3	8.9	15	20	35	42

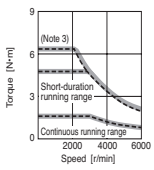
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-JR 3000 Series (400V) Electromagnetic Brake Specifications (*1)

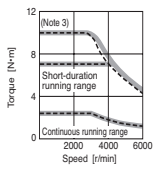
Servo Motor Model HG-SR_		534B	734B	1034B	1534B	2034B	3534B	5034B	7034B	9034B
Type		Spring actuated type safety brake								
Rated Voltage		24 VDC $^{0}_{-10}$ %								
Power Consumption (W) at 20°C		11.7	11.7	11.7	11.7	11.7	23	23	34	34
Electromagnetic Brake Static Friction Torque (N•m)		6.6	6.6	6.6	6.6	6.6	16	16	44	44
Permissible Braking Work	Per Braking (J)	64	64	64	64	64	400	400	4500	4500
	Per Hour (J)	640	640	640	640	640	4000	4000	45000	45000
Electromagnetic Brake Life (*2)	Number of Times (Times)	5000							20000	
	Work Per Braking (J)	64	64	64	64	64	400	400	1000	1000

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

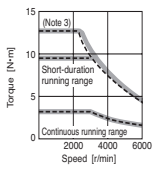
HG-JR534(B) (Note 1, 2)



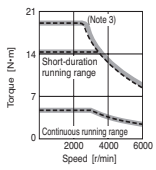
HG-JR734(B) (Note 1, 2)



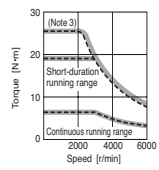
HG-JR1034(B) (Note 1, 2)



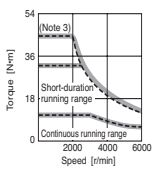
HG-JR1534(B) (Note 1, 2)



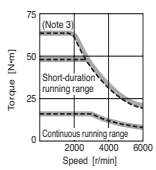
HG-JR2034(B) (Note 1, 2)



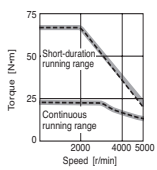
HG-JR3534(B) (Note 1, 2)



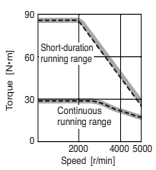
HG-JR5034(B) (Note 1, 2)



HG-JR7034(B) (Note 1, 2)



HG-JR9034(B) (Note 1, 2)



Notes: 1. ▬ : For 3-phase 400 V AC.
2. - - - - : For 3-phase 380 V AC.
3. This value is applicable when the torque is maximally increased. Refer to "Combinations of HG-JR Servo Motor Series and Servo Amplifier (400 V Class) for Increasing the Maximum Torque to 400% of the Rated Torque" on p. 2-6 in this catalog.
4. Torque drops when the power supply voltage is below the specified value.

HG-JR 1000 r/min Series (Low Inertia, Medium/Large Capacity) Specifications 200V

Servo Motor Model HG-JR_			601(B)	801(B)	12K1(B)	15K1	20K1	25K1	30K1	37K1
Servo Amplifier Model	MR-J4-		Refer to "Combinations of Servo Motor and Servo Amplifier" in this guide.							
Power Supply 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) (Note 3)		57.3	76.4	115	143	191	239	286	353
Maximum Torque (N•m)			172	229	345	429	573	717	858	1059
Rated Speed (r/min)			1000							
Maximum Speed (r/min)			2000			1500				
Permissible Instantaneous Speed (r/min)			2300			1725				
Power Rate at Continuous Rated Torque (kW/s)	Standard (kW/s)		187	265	420	418	582	748	594	761
	With Electromagnetic Brake (kW/s)		167	243	394	-	-	-	-	-
Rated Current (A)			31	47	60	67	94	95	121	152
Maximum Current (A)			108	165	208	231	318	313	399	495
Regenerative Braking Frequency (*2)	MR-J4- (times/min)		82	322 (Note 7)	224 (Note 7)	234 (Note 7)	183 (Note 7)	150 (Note 7)	-	-
Moment of Inertia J (x10^{-4}kg•m^2)	Standard		176	220	315	489	627	764	1377	1637
	With Electromagnetic Brake		196	240	336	-	-	-	-	-
Recommended Load/Motor Inertia Ratio (Note 1)			10 times or less							
Speed/Position Detector			Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)							
Oil Seal			Attached							
Insulation Class			155 (F)							
Structure (Note 2)			Totally enclosed, natural cooling (IP rating: IP67)			Totally enclosed, force cooling (IP rating: IP44)				
Environment (*3)	Ambient Temperature		0°C to 40°C (non-freezing), storage: -15°C to 70°C (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		1000 m or less above sea level							
	Vibration (*4)		X: 24.5 m/s^2 Y: 24.5 m/s^2						X: 9.8 m/s^2 Y: 9.8 m/s^2	
Vibration Rank			V10 (*6)							
Permissible Load for the Shaft (*5)	L (mm)		116	116	116	140	140	140	140	140
	Radial (N)		2940	2940	2940	3234	3234	3234	4900	4900
	Thrust (N)		980	980	980	1470	1470	1470	1960	1960
Weight (kg)	Standard		53	62	86	120	145	165	215	240
	With Electromagnetic Brake		65	74	97	-	-	-	-	-
Cooling Fan	Power Supply	Voltage/Frequency	-	-	-	3-phase 200 V AC to 240 V AC, 50 Hz/60 Hz				
		Input (W)	-	-	-	65 (50 Hz)/85 (60 Hz)			120 (50 Hz)/175 (60 Hz)	
	Rated Current (A)		-	-	-	0.20 (50 Hz)/0.22 (60 Hz)			0.39 (50 Hz)/0.52 (60 Hz)	

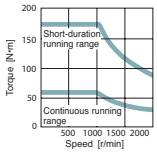
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-JR 1000 r/min Series (200 V Class) Electromagnetic Brake Specifications (*1)

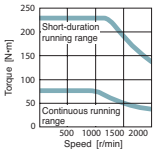
Servo Motor Model HG-JR_		601B	801B	12K1B
Type		Spring actuated type safety brake		
Rated Voltage		24 VDC $^{0}_{-10}$ %		
Power Consumption (W) at 20°C		32	32	32
Electromagnetic Brake Static Friction Torque (N•m)		126	126	126
Permissible Braking Work	Per Braking (J)	5000	5000	5000
	Per Hour (J)	45200	45200	45200
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000	20000	20000
	Work Per Braking (J)	400	400	400

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

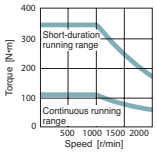
HG-JR601(B) (*1, 2)



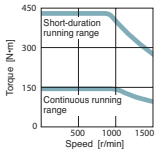
HG-JR801(B) (*1, 2)



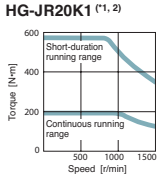
HG-JR12K1(B) (*1, 2)



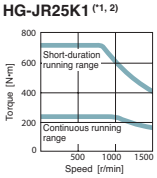
HG-JR15K1 (*1, 2)



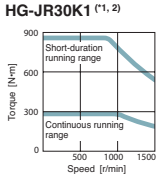
HG-JR20K1 (*1, 2)



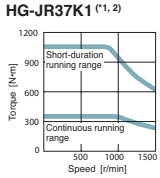
HG-JR25K1 (*1, 2)



HG-JR30K1 (*1, 2)



HG-JR37K1 (*1, 2)



Notes: 1. : For 3-phase 200 V AC.
2. Torque drops when the power supply voltage is below the specified value.

HG-JR 1000 r/min Series (Low Inertia, Medium/Large Capacity) Specifications 400V

Servo Motor Model HG-JR_			6014(B)	8014(B)	12K14(B)	15K14	20K14	25K14	30K14	37K14
Servo Amplifier Model	MR-J4-		Refer to "Combinations of Servo Motor and Servo Amplifier" in this guide.							
Power Supply 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) (Note 3)		57.3	76.4	115	143	191	239	286	353
Maximum Torque (N•m)			172	229	345	429	573	717	858	1059
Rated Speed (r/min)			1000							
Maximum Speed (r/min)			2000			1500				
Permissible Instantaneous Speed (r/min)			2300			1725				
Power Rate at Continuous Rated Torque (kW/s)	Standard (kW/s)		187	265	420	418	582	748	594	761
	With Electromagnetic Brake (kW/s)		167	243	394	-	-	-	-	-
Rated Current (A)			16	23	30	33	47	48	60	76
Maximum Current (A)			54	80	104	114	161	160	202	248
Regenerative Braking Frequency (*2)	MR-J4- (times/min)		83	331 (Note 7)	229 (Note 7)	239 (Note 7)	187 (Note 7)	152 (Note 7)	-	-
Moment of Inertia J ($x10^{-4}$kg•m^2)	Standard		176	220	315	489	627	764	1377	1637
	With Electromagnetic Brake		196	240	336	-	-	-	-	-
Recommended Load/Motor Inertia Ratio (Note 1)			10 times or less							
Speed/Position Detector			Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)							
Oil Seal			Attached							
Insulation Class			155 (F)							
Structure (Note 2)			Totally enclosed, natural cooling (IP rating: IP67)			Totally enclosed, force cooling (IP rating: IP44)				
Environment (*3)	Ambient Temperature		0°C to 40°C (non-freezing), storage: -15°C to 70°C (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		1000 m or less above sea level							
	Vibration (*4)		X: 24.5 m/s² Y: 24.5 m/s²						X: 9.8 m/s² Y: 9.8 m/s²	
Vibration Rank			V10 (*6)							
Permissible Load for the Shaft (*5)	L (mm)		116	116	116	140	140	140	140	140
	Radial (N)		2940	2940	2940	3234	3234	3234	4900	4900
	Thrust (N)		980	980	980	1470	1470	1470	1960	1960
Weight (kg)	Standard		53	62	86	120	145	165	215	240
	With Electromagnetic Brake		65	74	97	-	-	-	-	-
Cooling Fan	Power Supply	Voltage/Frequency	-	-	-	3-phase 200 V AC to 240 V AC, 50 Hz/60 Hz			3-phase 380 V AC to 460 V AC, 50 Hz/60 Hz	
		Input (W)	-	-	-	65 (50 Hz)/85 (60 Hz)			110 (50 Hz)/150 (60 Hz)	
	Rated Current (A)		-	-	-	0.12 (50 Hz)/0.14 (60 Hz)			0.20 (50 Hz)/0.22 (60 Hz)	

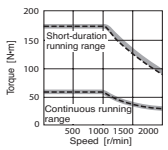
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-JR 1000 r/min Series (400 V Class) Electromagnetic Brake Specifications (*1)

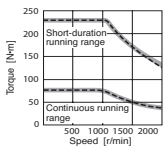
Servo Motor Model HG-JR_		6014B	8014B	12K14B
Type		Spring actuated type safety brake		
Rated Voltage		24 VDC $^{0}_{-10}$ %		
Power Consumption (W) at 20°C		32	32	32
Electromagnetic Brake Static Friction Torque (N•m)		126	126	126
Permissible Braking Work	Per Braking (J)	5000	5000	5000
	Per Hour (J)	45200	45200	45200
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000	20000	20000
	Work Per Braking (J)	400	400	400

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

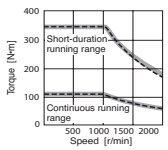
HG-JR6014(B) (Note 1, 2, 3)



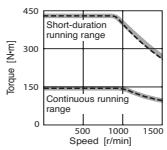
HG-JR8014(B) (Note 1, 2, 3)



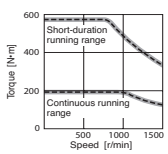
HG-JR12K14(B) (Note 1, 2, 3)



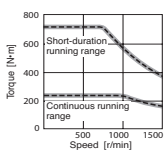
HG-JR15K14 (Note 1, 2, 3)



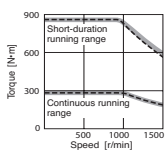
HG-JR20K14 (Note 1, 2, 3)



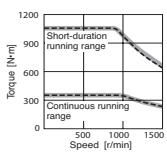
HG-JR25K14 (Note 1, 2, 3)



HG-JR30K14 (Note 1, 2, 3)



HG-JR37K14 (Note 1, 2, 3)



Notes: 1. ▬ : For 3-phase 400 V AC.
2. - - - - : For 3-phase 380 V AC.
3. Torque drops when the power supply voltage is below the specified value.

HG-JR 1500 r/min Series (Low Inertia, Large Capacity) Specifications 200V

Servo Motor Model HG-JR_		701M(B)	11K1M(B)	15K1M(B)	22K1M	30K1M	37K1M
Servo Amplifier Model	MR-J4-	Refer to "Combinations of Servo Motor and Servo Amplifier" in this guide.					
Power Supply 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) (Note 3)	44.6	70.0	95.5	140	191	236
Maximum Torque (N•m)		134	210	286	420	573	707
Rated Speed (r/min)		1500					
Maximum Speed (r/min)		3000			2500		
Permissible Instantaneous Speed (r/min)		3450			2875		
Power Rate Continuous Rated Torque (kW/s)	Standard (kW/s)	113	223	289	401	582	726
	With Electromagnetic Brake (kW/s)	101	204	271	-	-	-
Rated Current (A)		34	61	76	99	139	151
Maximum Current (A)		111	200	246	315	479	561
Regenerative Braking Frequency (*2)	MR-J4- (times/min)	36	143 (Note 7)	162 (Note 7)	104 (Note 7)	-	-
Moment of Inertia J ($x10^{-4}$kg•m^2)	Standard	176	220	315	489	627	764
	With Electromagnetic Brake	196	240	336	-	-	-
Recommended Load/Motor Inertia Ratio (Note 1)		10 times or less					
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)					
Oil Seal		Attached					
Insulation Class		155 (F)					
Structure (Note 2)		Totally enclosed, natural cooling (IP rating: IP67)			Totally enclosed, force cooling (IP rating: IP44)		
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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	1000 m or less above sea level					
	Vibration (*4)	X: 24.5 m/s^2 Y: 24.5 m/s^2					
Vibration Rank		V10 (*6)					
Permissible Load for the Shaft (*5)	L (mm)	116	116	116	140	140	140
	Radial (N)	2940	2940	2940	3234	3234	3234
	Thrust (N)	980	980	980	1470	1470	1470
Weight (kg)	Standard	53	62	86	120	145	165
	With Electromagnetic Brake	65	74	97	-	-	-
Cooling Fan	Voltage/Frequency	-	-	-	3-phase 200 VAC to 240 VAC, 50 Hz/60 Hz		
	Input	-	-	-	65 (50 Hz)/85 (60 Hz)		
	Rated Current	-	-	-	0.20 (50 Hz)/0.22 (60 Hz)		

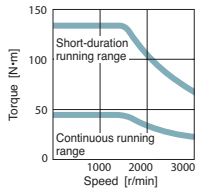
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-JR 1500 Series Electromagnetic Brake Specifications (*1)

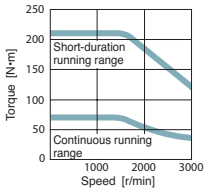
Servo Motor Model HG-JR_		701MB	11K1MB	15K1MB
Type		Spring actuated type safety brake		
Rated Voltage		24 VDC $^{0}_{-10}$ %		
Power Consumption (W) at 20°C		32		
Electromagnetic Brake Static Friction Torque (N•m)		126		
Permissible Braking Work	Per Braking (J)	5000		
	Per Hour (J)	45200		
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000		
	Work Per Braking (J)	400		

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications. 2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

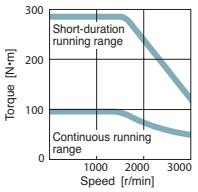
HG-JR701M(B) (*1, *2)



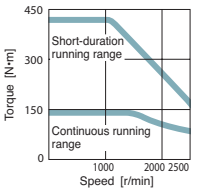
HG-JR11K1M(B) (*1, *2)



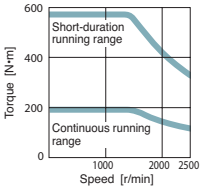
HG-JR15K1M(B) (*1, *2)



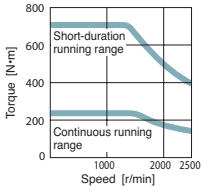
HG-JR22K1M (*1, *2)



HG-JR30K1M (*1, *2)



HG-JR37K1M (*1, *2)



Notes: 1. ▬ : For 3-phase 200 V AC.
2. Torque drops when the power supply voltage is below the specified value.

HG-JR 1500 r/min Series (Low Inertia, Medium/Large Capacity) Specifications 400V

Servo Motor Model HG-JR_		701M4(B)	11K1M4(B)	15K1M4(B)	22K1M4	30K1M4	37K1M4	45K1M4	55K1M4
Servo Amplifier Model	MR-J4-	Refer to "Combinations of Servo Motor and Servo Amplifier" in this guide.							
Power Supply 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	55
	Rated Torque (N•m) (Note *3)	44.6	70.0	95.5	140	191	236	286	350
Maximum Torque (N•m)		134	210	286	420	573	707	859	1050
Rated Speed (r/min)		1500							
Maximum Speed (r/min)		3000			2500				
Permissible Instantaneous Speed (r/min)		3450			2875				
Power Rate Continuous Rated Torque (kW/s)	Standard (kW/s)	113	223	289	401	582	726	596	749
	With Electromagnetic Brake (kW/s)	101	204	271	-	-	-	-	-
Rated Current (A)		17	31	38	50	68	79	85	110
Maximum Current (A)		56	100	123	170	235	263	288	357
Regenerative Braking Frequency (*2)	MR-J4- (times/min)	36	143 (Note 7)	162 (Note 7)	104 (Note 7)	-	-	-	-
Moment of Inertia J (x10^{-4}kg•m^2)	Standard	176	220	315	489	627	764	1377	1637
	With Electromagnetic Brake	196	240	336	-	-	-	-	-
Recommended Load/Motor Inertia Ratio (Note 1)		10 times or less							
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)							
Oil Seal		Attached							
Insulation Class		155 (F)							
Structure (Note 2)		Totally enclosed, natural cooling (IP rating: IP67)			Totally enclosed, force cooling (IP rating: IP44)				
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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	1000 m or less above sea level							
	Vibration (*4)	X: 24.5 m/s^2 Y: 24.5 m/s^2						X: 9.8 m/s^2 Y: 9.8 m/s^2	
Vibration Rank		V10 (*6)							
Permissible Load for the Shaft (*5)	L (mm)	116	116	116	140	140	140	140	140
	Radial (N)	2940	2940	2940	3234	3234	3234	4900	4900
	Thrust (N)	980	980	980	1470	1470	1470	1960	1960
Weight (kg)	Standard	53	62	86	120	145	165	215	240
	With Electromagnetic Brake	65	74	97	-	-	-	-	-
Cooling Fan	Voltage/Frequency	-	-	-	3-phase 380 VAC to 480 VAC, 50 Hz/60 Hz			3-phase 380 VAC to 460 VAC, 50 Hz/60 Hz	
	Input	-	-	-	65 (50 Hz)/85 (60 Hz)			110 (50 Hz)/150 (60 Hz)	
	Rated Current	-	-	-	0.12 (50 Hz)/0.14 (60 Hz)			0.20 (50 Hz)/0.22 (60 Hz)	

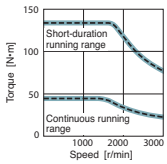
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-JR 1500 Series Electromagnetic Brake Specifications (*1)

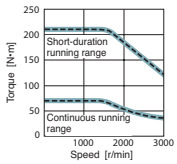
Servo Motor Model HG-SR_		701M4B	11K1M4B	15K1M4B
Type		Spring actuated type safety brake		
Rated Voltage		24 VDC $^{0}_{-10}$ %		
Power Consumption (W) at 20°C		32		
Electromagnetic Brake Static Friction Torque (N•m)		126		
Permissible Braking Work	Per Braking (J)	5000		
	Per Hour (J)	45200		
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000		
	Work Per Braking (J)	400		

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications. 2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

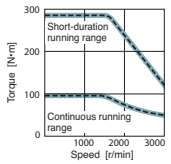
HG-JR701M4(B) (*1, 2, 3)



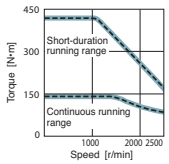
HG-JR11K1M4(B) (*1, 2, 3)



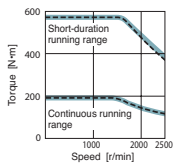
HG-JR15K1M4(B) (*1, 2, 3)



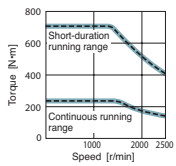
HG-JR22K1M4 (*1, 2, 3)



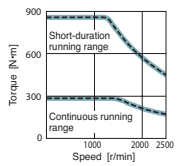
HG-JR30K1M4 (*1, 2, 3)



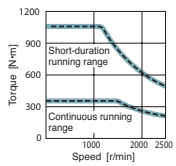
HG-JR37K1M4 (*1, 2, 3)



HG-JR45K1M4 (*1, 2, 3)



HG-JR55K1M4 (*1, 2, 3)



Notes: 1. ——— : For 3-phase 400 V AC.
2. - - - - : For 3-phase 380 V AC.
3. Torque drops when the power supply voltage is below the specified value.

HG-RR Series 3000 r/min (Ultra-Low Inertia, Medium Capacity) Specifications 200V

Servo Motor Model HG-RR_		103(B)	153(B)	203(B)	353(B)	503(B)
Servo Amplifier Model	MR-J4-_	Refer to "Combinations of Servo Motor and Servo Amplifier" in this selection guide				
Power Supply 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) (Note 3)	3.2	4.8	6.4	11.1	15.9
Maximum Torque (N•m)		8.0	11.9	15.9	27.9	39.8
Rated Speed (r/min)		3000				
Maximum Speed (r/min)		4500				
Permissible Instantaneous Speed (r/min)		5175				
Power Rate Continuous Rated Torque	Standard (kW/s)	67.4	120	176	150	211
	With Electromagnetic Brake (kW/s)	54.8	101	153	105	163
Rated Current (A)		6.1	8.8	14	23	28
Maximum Current (A)		18	23	37	58	70
Regenerative Braking Frequency (*2)	MR-J4- (times/min)	1090	860	710	174	125
Moment of Inertia J ($x10^{-4}$kg•m^2)	Standard	1.5	1.90	2.30	8.30	12.0
	With Electromagnetic Brake	1.85	2.25	2.65	11.8	15.5
Recommended Load/Motor Inertia Ratio (Note 1)		5 times or less				
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)				
Oil Seal		Attached				
Insulation Class		155 (F)				
Structure		Totally enclosed, natural cooling (IP rating: IP65) (Note 2)				
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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	1000 m or less above sea level				
	Vibration (*4)	X: 24.5 m/s² Y: 24.5 m/s²				
Vibration Rank		V10 (*6)				
Permissible Load for the Shaft (*5)	L (mm)	45	45	45	63	63
	Radial (N)	686	686	686	980	980
	Thrust (N)	196	196	196	392	392
Weight (kg)	Standard	3.9	5.0	6.2	12	17
	With Electromagnetic Brake	6.0	7.0	8.3	15	21

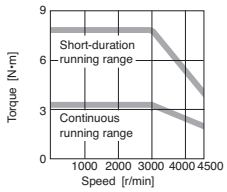
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-RR 1000 Series Electromagnetic Brake Specifications (*1)

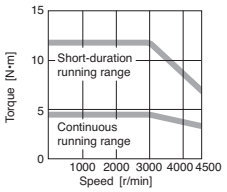
Servo Motor Model HG-SR_		103B	153B	203B	353B	503B
Type		Spring actuated type safety brake				
Rated Voltage		24 VDC $^{0}_{-10}$ %				
Power Consumption (W) at 20°C		19	19	19	23	23
Electromagnetic Brake Static Friction Torque (N•m)		7.0	7.0	7.0	17	17
Permissible Braking Work	Per Braking (J)	400				
	Per Hour (J)	4000				
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000				
	Work Per Braking (J)	200				

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

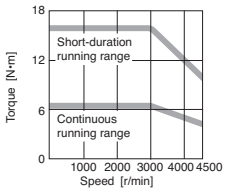
HG-RR103(B) (Note 1)



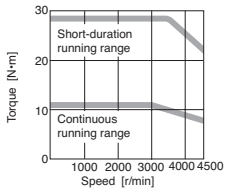
HG-RR153(B) (Note 1)



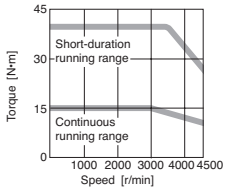
HG-RR203(B) (Note 1)



HG-RR353(B) (Note 1)



HG-RR503(B) (Note 1)



Notes: 1. ▬ : For 3-phase 200 V AC.
2. Torque drops when the power supply voltage is below the specified value.

HG-UR 2000 r/min Series (Flat Type, Medium Capacity) Specifications 200V

Servo Motor Model HG-UR_		72(B)	152(B)	202(B)	352(B)	502(B)
Servo Amplifier Model	MR-J4-_	Refer to "Combinations of Servo Motor and Servo Amplifier" in this selection guide				
	MR-J4W-_					
Power Supply 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) (Note 3)	3.6	7.2	9.5	16.7	23.9
Maximum Torque (N•m)		10.7	21.5	28.6	50.1	71.6
Rated Speed (r/min)		2000				
Maximum Speed (r/min)		3000			2500	
Permissible Instantaneous Speed (r/min)		3450			2875	
Power Rate Continuous Rated Torque	Standard (kW/s)	12.3	23.2	23.9	36.5	49.6
	With Electromagnetic Brake (kW/s)	10.3	21.2	19.5	32.8	46.0
Rated Current (A)		5.4	9.7	14	23	28
Maximum Current (A)		16	29	42	69	84
Regenerative Braking Frequency (*2)	MR-J4- (times/min)	53	124	68	44	31
	MR-J4W_- (times/min)	107	-	-	-	-
Moment of Inertia J ($x10^{-4}$kg•m^2)	Standard	10.4	22.1	38.2	76.5	115
	With Electromagnetic Brake	12.5	24.2	46.8	85.1	124
Recommended Load/Motor Inertia Ratio (Note 1)		15 times or less				
Speed/Position Detector		Absolute/incremental 22-bit encoder (resolution: 4194304 pulses/rev)				
Oil Seal		Attached				
Insulation Class		155 (F)				
Structure		Totally enclosed, natural cooling (IP rating: IP65) (Note 2)				
Environment (*3)	Ambient Temperature	0°C to 40°C (non-freezing), storage: -15°C to 70°C (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	1000 m or less above sea level				
	Vibration (*4)	X: 24.5 m/s² Y: 24.5 m/s²		X: 24.5 m/s² Y: 49 m/s²		
Vibration Rank		V10 (*6)				
Permissible Load for the Shaft (*5)	L (mm)	55	55	65	65	65
	Radial (N)	637	637	882	1176	1176
	Thrust (N)	490	490	784	784	784
Weight (kg)	Standard	8.0	11	16	20	24
	With Electromagnetic Brake	10	13	22	26	30

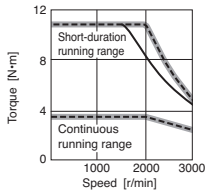
Notes: For MR-J4 Servo Motor notes, please go to page 286

HG-UR 1000 Series Electromagnetic Brake Specifications (*1)

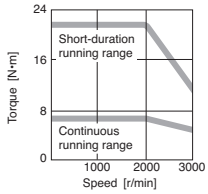
Servo Motor Model HG-SR_		72B	152B	202B	352B	502B
Type		Spring actuated type safety brake				
Rated Voltage		24 VDC $^{0}_{-10}$ %				
Power Consumption (W) at 20°C		19	19	34	34	34
Electromagnetic Brake Static Friction Torque (N•m)		8.5	8.5	44	44	44
Permissible Braking Work	Per Braking (J)	400	400	4500	4500	4500
	Per Hour (J)	4000	4000	45000	45000	45000
Electromagnetic Brake Life (*2)	Number of Times (Times)	20000				
	Work Per Braking (J)	200	200	1000	1000	1000

Notes:
1. The electromagnetic brake is for holding. It should not be used for deceleration applications.
2. Brake gap is not adjustable. Electromagnetic brake life is defined as the time period until the readjustment is needed.

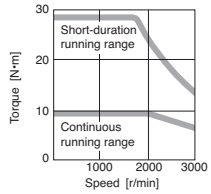
HG-UR72(B) (Note 1, 2, 3)



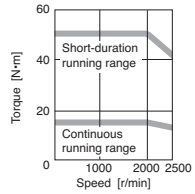
HG-UR152(B) (Note 1)



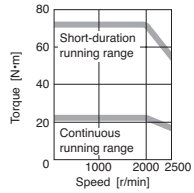
HG-UR202(B) (Note 1)



HG-UR352(B) (Note 1)



HG-UR502(B) (Note 1)



Notes: 1. ▬▬ : For 3-phase 200 V AC.
2. - - - - : For 1-phase 230 V AC.
3. —— : For 1-phase 200 V AC.
This line is drawn only where differs from the other two lines.
4. Torque drops when the power supply voltage is below the specified value.

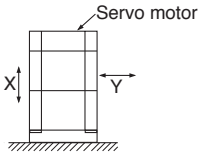
Servo Motor Notes:

1. Contact your local sales office if the load to motor inertia ratio exceeds the value in the table.
2. The shaft-through portion is excluded. For geared Servo Motor, IP rating of the reducer portion is equivalent to IP44. Refer to the *7 below for the shaft-through portion.
3. When unbalanced torque is generated, such as in a vertical lift machine, keep the unbalanced torque of the machine under 70% of the Servo Motor rated torque.
4. When the Servo Motor decelerates to a stop from the rated speed, the regenerative frequency will not be limited if the effective torque is within the rated torque range. When the Servo Motor decelerates to a stop from the maximum speed, the regenerative frequency will not be limited if the following requirements are met.
   • HG-KR053(B): The load to motor inertia ratio is 8 times or less, and the effective torque is within the rated torque range.
   • HG-KR13(B): The load to motor inertia ratio is 4 times or less, and the effective torque is within the rated torque range.
   • HG-MR053(B): The load to motor inertia ratio is 24 times or less, and the effective torque is within the rated torque range.
   • HG-MR13(B): The load to motor inertia ratio is 12 times or less, and the effective torque is within the rated torque range.
5. The value in angle brackets is applicable when the Servo Motor is used with MR-J4-500B/MR-J4-500B-RJ/MR-J4-500B-RJ010/MR-J4-500A/MR-J4-500A-RJ.
6. The value in angle brackets is applicable when the maximum torque is increased. The maximum torque will be increased by changing the servo amplifier to be combined. Refer to "Combinations of HG-JR Servo Motor Series and Servo Amplifier (200 V Class) for Increasing the Maximum Torque to 400% of the Rated Torque" in the User's Guide for the available combinations.
7. The value is applicable when the external regenerative resistors, GRZG400-_Ω (standard accessory) are used with cooling fans (2 units of 92 mm x 92 mm, minimum airflow: 1.0 m^3/min). Note that [Pr. PA02] must be changed.

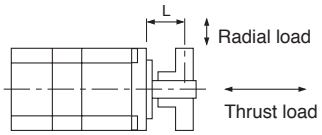
Annotations (*) for Servo Motor Specifications

1. The power supply capacity varies depending on the power supply impedance.
2. The regenerative braking frequency shows the permissible frequency when the Servo Motor, without a load and a regenerative option, 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 = Moment of inertia of load/Moment of inertia of Servo Motor. When the operating speed exceeds the rated speed, the regenerative braking frequency is inversely proportional to the square of (operating speed/rated speed). Take measures to keep the regenerative power [W] during operation below the tolerable regenerative power [W]. Use caution, especially when the operating speed changes frequently or when the regeneration is constant (as with vertical feeds). Select the most suitable regenerative option for your system with our capacity selection software. Refer to "Regenerative Option" in this catalog for the tolerable regenerative power [W] when regenerative option is used.
3. In the environment where the Servo Motor is exposed to oil mist, oil and/or water, a standard specification Servo Motor may not be usable. Contact your local sales office for more details.
4. The vibration direction is shown in the diagram below. The numerical value indicates the maximum value of the component (commonly the bracket in the opposite direction of the Servo Motor shaft).

   Fretting more likely occurs on the bearing when the Servo Motor stops. Thus, maintain vibration level at approximately one-half of the allowable value.

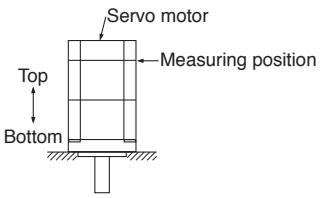


5. Refer to the diagram below for the permissible load for the shaft. Do not apply a load exceeding the value specified in the table on the shaft. The values in the table are applicable when each load is applied singly.



L: Distance between the flange mounting surface and the center of load.

6. V10 indicates that the amplitude of the Servo Motor itself is 10 μm or less. The following shows mounting posture and measuring position of the Servo Motor during the measurement:



7. Refer to the diagram below for shaft-through portion.