

HG-KN Series (Low Inertia, Small Capacity) Specifications

Servo motor model	HG-SN	52(B)J	102(B)J	152(B)J	202(B)J	302(B)J
Compatible servo amplifier model		Refer to "Combinations of Servo Motor and Servo Amplifier" on p. 2-1 in this catalog.				
Power supply capacity *1		1.0	1.7	2.5	3.5	4.8
Continuous running duty	Rated output [kW]	0.5	1.0	1.5	2.0	3.0
	Rated torque (Note 3) [N · m]	2.39	4.77	7.16	9.55	14.3
Maximum torque [N · m]		7.16	14.3	21.5	28.6	42.9
Rated speed [r/min]		2000				
Maximum speed [r/min]		3000				2500
Permissible instantaneous speed [r/min]		3450				2875
Power rate at continuous rated torque	Standard [kW/s]	7.85	19.7	32.1	19.5	26.1
	With electromagnetic brake []	6.01	16.5	28.2	16.1	23.3
Rated current [A]		2.9	5.6	9.4	9.6	11
Maximum current [A]		9.0	17	29	31	33
Regenerative braking frequency *2, *3 [times/min]		62	38	139	47	28
Moment of inertia J	Standard [x 10 ⁻⁴ kg · m ²]	7.26	11.6	16.0	46.8	78.6
	With electromagnetic brake [x 10 ⁻⁴ kg · m ²]	9.48	13.8	18.2	56.5	88.2
Recommended load to motor inertia ratio (Note 1)		15 times or less				
Speed/position detector	Combination with MR-JE-B	Absolute/incremental 17-bit encoder (resolution: 131072 pulses/rev)				
	Combination with MR-JE-A	Incremental 17-bit encoder (resolution: 131072 pulses/rev)				
Oil seal		Installed				
Insulation class		155 (F)				
Structure		Totally enclosed, natural cooling (IP rating: IP67) (Note 2)				
Environment *4	Ambient temperature	Operation: 0 °C to 40 °C (non-freezing), storage: -15 °C to 70 °C (non-freezing)				
	Ambient humidity	Operation: 80 %RH maximum (non-condensing), storage: 90 %RH maximum (non-condensing)				
	Ambience	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust				
	Altitude	1000 m or less above sea level				
Vibration resistance *5		X: 24.5 m/s ² Y: 24.5 m/s ²			X: 24.5 m/s ² Y: 49 m/s ²	
Vibration rank		V10 *7				
Compliance to global standards		Refer to "Conformity with global standards and regulations" on p. 19 in this catalog.				
Permissible load for the shaft *6	L [mm]	55	55	55	79	79
	Radial [N]	980	980	980	2058	2058
	Thrust [N]	490	490	490	980	980
Mass	Standard [kg]	4.8	6.2	7.3	11	16
	With electromagnetic brake []	6.7	8.2	9.3	17	22

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. Refer to the asterisk 8 of "Annotations for Servo Motor Specifications" on p. 2-6 in this catalog 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. When the servo motor decelerates to a stop from the maximum speed, the regenerative frequency will not be limited if the load to motor inertia ratio is 11 times or less.

5. When the servo motor decelerates to a stop from the rated speed, the regenerative frequency will not be limited if the load to motor inertia ratio is 9 times or less. When the servo motor decelerates to a stop from the maximum speed, the regenerative frequency will not be limited if the load to motor inertia ratio is 3 times or less.