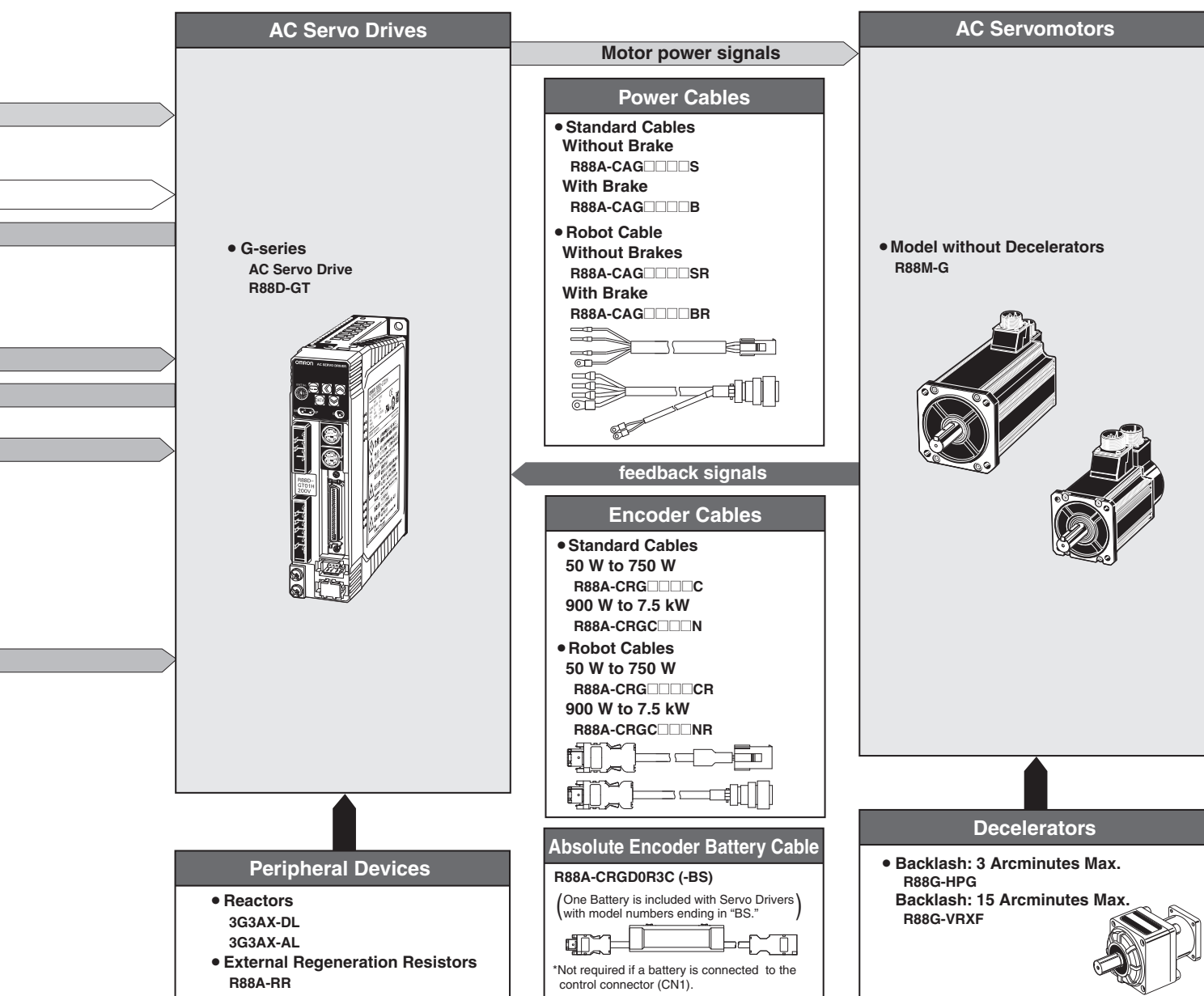


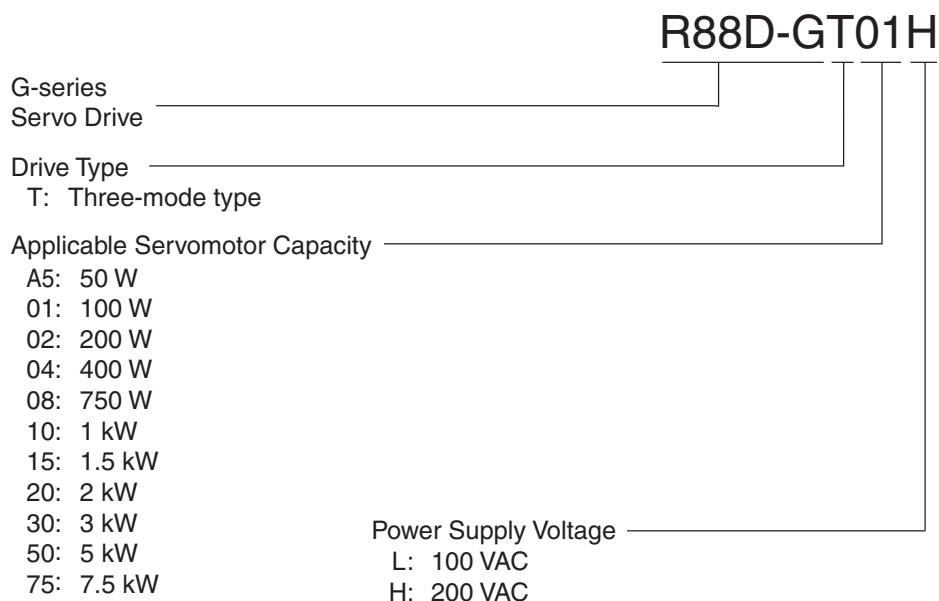
- **Command Control Mode Switching**
Operation can be performed by switching between two of the following control modes: Position control, speed control (including internal speed) and torque control. Therefore, a variety of applications can be supported by one Servo Drive.
- **Simplified Speed Control with Internal Speed Settings**
Eight internal speed settings allow you to change the speed easily by using external signals.



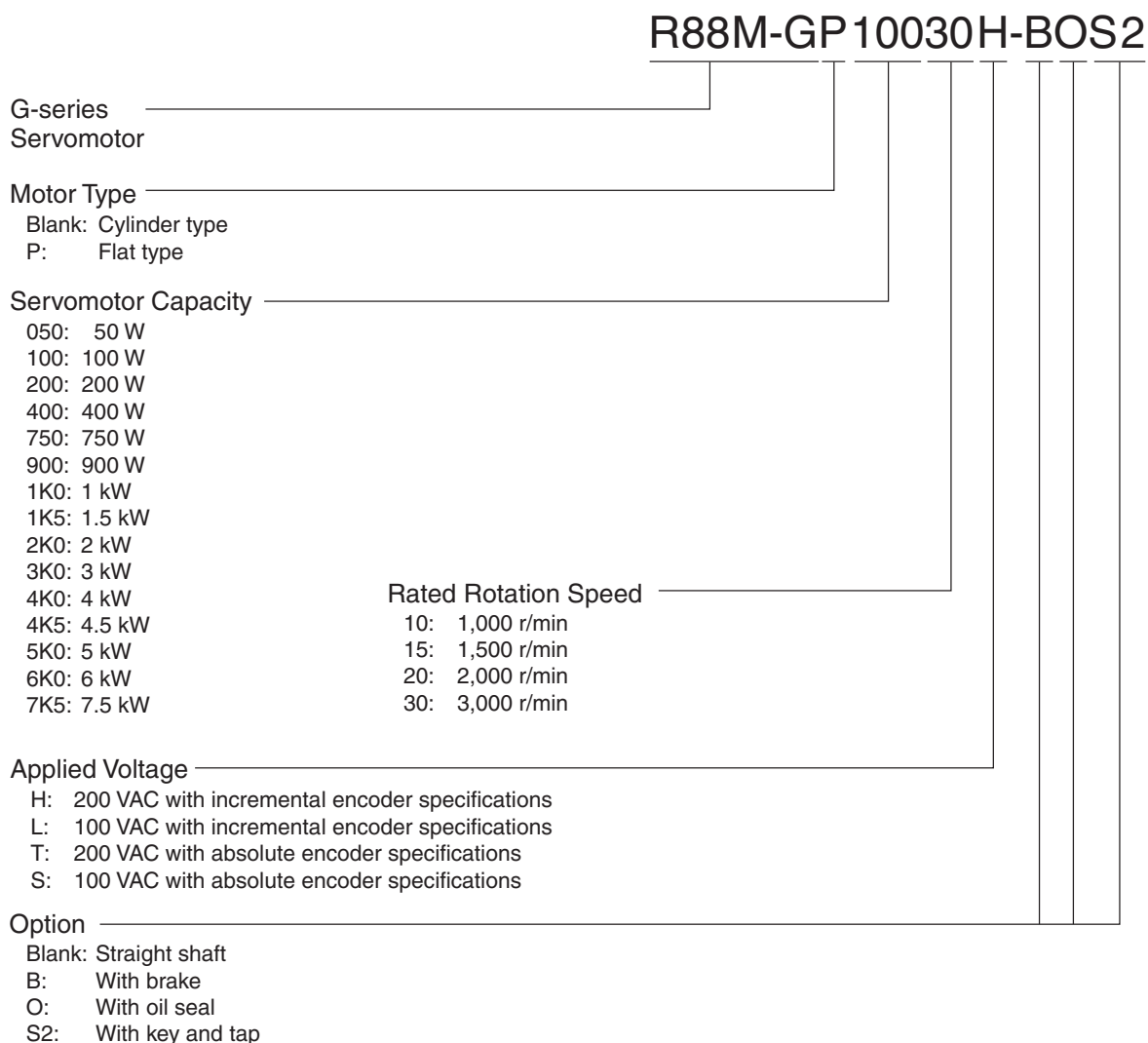
Interpreting Model Numbers

● Servo Drive Model Numbers

The model number provides information such as the Servo Drive type, the applicable Servomotor capacity, and the power supply voltage.



● Servomotor Model Numbers



Ordering Information

● Servo Drives

Specifications		Model
Single-phase 100 VAC	50 W	R88D-GTA5L
	100 W	R88D-GT01L
	200 W	R88D-GT02L
	400 W	R88D-GT04L
Single-phase 200 VAC	50 W	R88D-GT01H
	100 W	
	200 W	R88D-GT02H
	400 W	R88D-GT04H
Single-phase/three-phase 200 VAC	750 W	R88D-GT08H
	1 kW	R88D-GT10H
	900 W	R88D-GT15H
	1 kW	
Three-phase 200 VAC	1.5 kW	R88D-GT50H
	2 kW	
	2 kW	
	3 kW	
	3 kW	R88D-GT75H
	4 kW	
	4.5 kW	
	5 kW	
	6 kW	R88D-GT75H
	7.5 kW	

● Servomotors

INC 3,000-r/min Cylindrical Servomotors

Specifications			Model	
			Straight shaft	Straight shaft with key and tap
Without brake	100 V	50 W	R88M-G05030H	R88M-G05030H-S2
		100 W	R88M-G10030L	R88M-G10030L-S2
		200 W	R88M-G20030L	R88M-G20030L-S2
		400 W	R88M-G40030L	R88M-G40030L-S2
	200 V	50 W	R88M-G05030H	R88M-G05030H-S2
		100 W	R88M-G10030H	R88M-G10030H-S2
		200 W	R88M-G20030H	R88M-G20030H-S2
		400 W	R88M-G40030H	R88M-G40030H-S2
With brake	100 V	750 W	R88M-G75030H	R88M-G75030H-S2
	100 V	50 W	R88M-G05030H-B	R88M-G05030H-BS2
		100 W	R88M-G10030L-B	R88M-G10030L-BS2
		200 W	R88M-G20030L-B	R88M-G20030L-BS2
	200 V	400 W	R88M-G40030L-B	R88M-G40030L-BS2
		50 W	R88M-G05030H-B	R88M-G05030H-BS2
		100 W	R88M-G10030H-B	R88M-G10030H-BS2
		200 W	R88M-G20030H-B	R88M-G20030H-BS2
		400 W	R88M-G40030H-B	R88M-G40030H-BS2
		750 W	R88M-G75030H-B	R88M-G75030H-BS2
		750 W	R88M-G75030H-B	R88M-G75030H-BS2

Note: Models with oil seals are also available.

Servomotor Specifications (R88M-G)

● Characteristics

3,000-r/min Cylindrical Servomotors

100-VAC Input Power

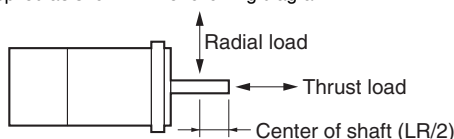
Model (R88M-)		G05030H	G10030L	G20030L	G40030L
Item	Unit	G05030T	G10030S	G20030S	G40030S
Rated output ^{*1}	W	50	100	200	400
Rated torque ^{*1}	N·m	0.16	0.32	0.64	1.3
Rated rotation speed	r/min	3000			
Max. momentary rotation speed	r/min	5000			
Max. momentary torque ^{*1}	N·m	0.45	0.93	1.78	3.6
Rated current ^{*1}	A (rms)	1.1	1.7	2.5	4.6
Max. momentary current ^{*1}	A (rms)	3.4	5.1	7.6	13.9
Rotor inertia	kg·m ² (GD ² /4)	2.5×10^{-6}	5.1×10^{-6}	1.4×10^{-5}	2.6×10^{-5}
Applicable load inertia	—	30 times the rotor inertia max. ^{*2}			
Torque constant ^{*1}	N·m/A	0.14	0.19	0.26	0.28
Power rate ^{*1}	kW/s	10.4	20.1	30.3	62.5
Mechanical time constant	ms	1.56	1.11	0.72	0.55
Electrical time constant	ms	0.7	0.8	2.5	2.9
Allowable radial load ^{*3}	N	68	68	245	245
Allowable thrust load ^{*3}	N	58	58	98	98
Weight	Without brake	kg	Approx. 0.3	Approx. 0.5	Approx. 0.8
	With brake	kg	Approx. 0.5	Approx. 0.7	Approx. 1.3
Radiation shield dimensions (material)		100 × 80 × t10 (Al)		130 × 120 × t12 (Al)	
Applicable Servo Drives (R88D-)		GTA5L	GT01L	GT02L	GT04L
Brake specifications	Brake inertia	kg·m ² (GD ² /4)	2×10^{-7}	2×10^{-7}	1.8×10^{-6}
	Excitation voltage ^{*4}	V	24 VDC ±5%		
	Power consumption (at 20°C)	W	7	7	9
	Current consumption (at 20°C)	A	0.3	0.3	0.36
	Static friction torque	N·m	0.29 min.	0.29 min.	1.27 min.
	Attraction time ^{*5}	ms	35 max.	35 max.	50 max.
	Release time ^{*5}	ms	20 max.	20 max.	15 max.
	Backlash		±1°		
	Allowable work per braking	J	39.2	39.2	137
	Allowable total work	J	4.9×10^3	4.9×10^3	44.1×10^3
	Allowable angular acceleration	rad/s ²	30,000 max. (Speed of 2,800 r/min or more must not be changed in less than 10 ms)		
	Brake life	—	10,000,000 operations min.		
	Rating	—	Continuous		
	Insulation grade	—	Type F		

*1. These are the values when the Servomotor is combined with a Servo Drive at room temperature (20°C, 65%). The maximum momentary torque shown above indicates the standard value.

*2. Applicable Load Inertia:

- The operable load inertia ratio (load inertia/rotor inertia) depends on the mechanical configuration and its rigidity. For a machine with high rigidity, operation is possible even with high load inertia. Select an appropriate motor and confirm that operation is possible.
- If the dynamic brake is activated frequently with high load inertia, the dynamic brake resistor may burn. Do not repeatedly turn the Servomotor ON and OFF while the dynamic brake is enabled.
- The dynamic brake is designed only for emergency stops. Design the system so that the Servomotor remains stopped for at least 3 minutes after applying the dynamic brake. Otherwise the dynamic brake circuits may fail.

*3. The allowable radial and thrust loads are the values determined for a service life of 20,000 hours at normal operating temperatures. The allowable radial loads are applied as shown in the following diagram.



*4. This is an OFF brake. (It is reset when excitation voltage is applied).

*5. The operation time is the value (reference value) measured with a surge suppressor (CR50500 manufactured by Okaya Electric Industries Co., Ltd.).

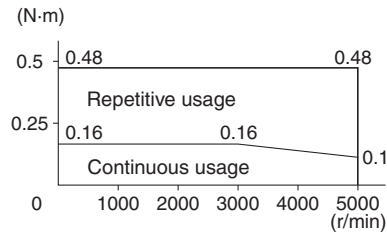
Torque and Rotation Speed Characteristics

3,000-r/min Cylindrical Servomotors

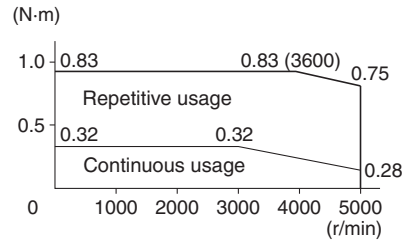
• 3,000-r/min Servomotors with 100-VAC Power Input

The following graphs show the characteristics with a 3-m standard cable and a 100-VAC input.

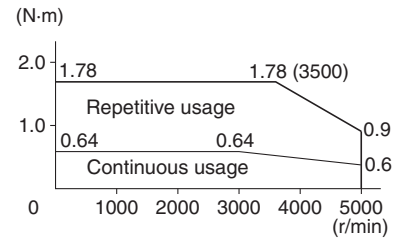
R88M-G05030H/T (50 W)



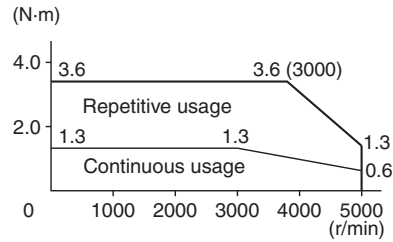
R88M-G10030L/S (100 W)



R88M-G20030L/S (200 W)



R88M-G40030L/S (400 W)



Servomotor Specifications (R88M-G)

● Characteristics

3,000-r/min Cylindrical Servomotors

200-VAC Input Power

Model (R88M-)		G05030H	G10030H	G20030H	G40030H	G75030H	—	—	—	—	—	—	
Item	Unit	G05030T	G10030T	G20030T	G40030T	G75030T	G1K030T	G1K530T	G2K030T	G3K030T	G4K030T	G5K030T	
Rated output ^{*1}	W	50	100	200	400	750	1000	1500	2000	3000	4000	5000	
Rated torque ^{*1}	N·m	0.16	0.32	0.64	1.3	2.4	3.18	4.77	6.36	9.54	12.6	15.8	
Rated rotation speed	r/min	3000											
Max. momentary rotation speed	r/min	5000				4500	5000				4500		
Max. momentary torque ^{*1}	N·m	0.45	0.90	1.78	3.67	7.05	9.1	12.8	18.4	27.0	36.3	45.1	
Rated current ^{*1}	A (rms)	1.1	1.1	1.6	2.6	4	7.2	9.4	13	18.6	24.7	28.5	
Max. momentary current ^{*1}	A (rms)	3.4	3.4	4.9	7.9	12.1	21.4	28.5	40	57.1	75	85.7	
Rotor inertia	kg·m ² (GD ² /4)	2.5 × 10 ⁻⁶	5.1 × 10 ⁻⁶	1.4 × 10 ⁻⁵	2.6 × 10 ⁻⁵	8.7 × 10 ⁻⁵	1.69 × 10 ⁻⁴	2.59 × 10 ⁻⁴	3.46 × 10 ⁻⁴	6.77 × 10 ⁻⁴	1.27 × 10 ⁻³	1.78 × 10 ⁻³	
Applicable load inertia	—	30 times the rotor inertia max. ^{*2}				20 times the rotor inertia max. ^{*2}	15 times the rotor inertia max. ^{*2}						
Torque constant ^{*1}	N·m/A	0.14	0.19	0.41	0.51	0.64	0.44	0.51	0.48	0.51	0.51	0.57	
Power rate ^{*1}	kW/s	10.4	20.1	30.3	62.5	66	60	88	117	134	125	140	
Mechanical time constant	ms	1.56	1.1	0.71	0.52	0.45	0.78	0.54	0.53	0.46	0.51	0.46	
Electrical time constant	ms	0.7	0.79	2.6	3	4.6	6.7	10	10.8	20	20	20	
Allowable radial load ^{*3}	N	68	68	245	245	392	392	490	490	490	784	784	
Allowable thrust load ^{*3}	N	58	58	98	98	147	147	196	196	196	343	343	
Weight	Without brake	kg	Approx. 0.3	Approx. 0.5	Approx. 0.8	Approx. 1.2	Approx. 2.3	Approx. 4.5	Approx. 5.1	Approx. 6.5	Approx. 9.3	Approx. 12.9	
	With brake	kg	Approx. 0.5	Approx. 0.7	Approx. 1.3	Approx. 1.7	Approx. 3.1	Approx. 5.1	Approx. 6.5	Approx. 7.9	Approx. 11	Approx. 14.8	
Radiation shield dimensions (material)		100 × 80 × t10 (Al)		130 × 120 × t12 (Al)		170 × 160 × t12 (Al)		320 × 300 × t30 (Al)	320 × 300 × t20 (Al)	380 × 350 × t30 (Al)			
Applicable Servo Drives (R88D-)		GT01H	GT01H	GT02H	GT04H	GT08H	GT15H	GT15H	GT20H	GT30H	GT50H	GT50H	
Brake specifications	Brake inertia	kg·m ² (GD ² /4)	2 × 10 ⁻⁷	2 × 10 ⁻⁷	1.8 × 10 ⁻⁶	1.8 × 10 ⁻⁶	7.5 × 10 ⁻⁶	2.5 × 10 ⁻⁵	3.3 × 10 ⁻⁵	3.3 × 10 ⁻⁵	3.3 × 10 ⁻⁵	1.35 × 10 ⁻⁴	
	Excitation voltage ^{*4}	V	24 VDC ±5%					24 VDC ±10%					
	Power consumption (at 20°C)	W	7	7	9	9	10	18	19	19	19	22	
	Current consumption (at 20°C)	A	0.3	0.3	0.36	0.36	0.42	0.74	0.81	0.81	0.81	0.9	
	Static friction torque	N·m	0.29 min.	0.29 min.	1.27 min.	1.27 min.	2.45 min.	4.9 min.	7.8 min.	7.8 min.	11.8 min.	16.1 min.	
	Attraction time ^{*5}	ms	35 max.	35 max.	50 max.	50 max.	70 max.	50 max.	50 max.	50 max.	80 max.	110 max.	
	Release time ^{*5}	ms	20 max.	20 max.	15 max.	15 max.	20 max.	15 max.	15 max.	15 max.	15 max.	50 max.	
	Backlash		±1°										
	Allowable work per braking	J	39.2	39.2	137	137	196	392	392	392	392	1470	1470
	Allowable total work	J	4.9 × 10 ³	4.9 × 10 ³	44.1 × 10 ³	44.1 × 10 ³	147 × 10 ³	2.0 × 10 ⁵	4.9 × 10 ⁵	4.9 × 10 ⁵	4.9 × 10 ⁵	2.2 × 10 ⁶	2.2 × 10 ⁶
	Allowable angular acceleration	rad/s ²	30,000 max. (Speed of 2,800 r/min or more must not be changed in less than 10 ms)					10,000 max. (Speed of 900 r/min or more must not be changed in less than 10 ms)					
	Brake life	—	10,000,000 operations min.										
Rating	—	Continuous											
Insulation grade	—	Type F											

*1. These are the values when the Servomotor is combined with a Servo Drive at room temperature (20°C, 65%). The maximum momentary torque shown above indicates the standard value.

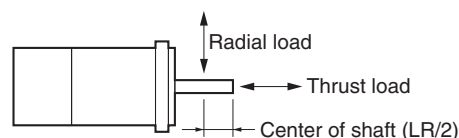
*2. Applicable Load Inertia:

- The operable load inertia ratio (load inertia/rotor inertia) depends on the mechanical configuration and its rigidity. For a machine with high rigidity, operation is possible even with high load inertia. Select an appropriate motor and confirm that operation is possible.
- If the dynamic brake is activated frequently with high load inertia, the dynamic brake resistor may burn. Do not repeatedly turn the Servomotor ON and OFF while the dynamic brake is enabled.
- The dynamic brake is designed only for emergency stops. Design the system so that the Servomotor remains stopped for at least 3 minutes after applying the dynamic brake. Otherwise the dynamic brake circuits may fail.

*3. The allowable radial and thrust loads are the values determined for a service life of 20,000 hours at normal operating temperatures. The allowable radial loads are applied as shown in the following diagram.

*4. This is an OFF brake. (It is reset when excitation voltage is applied).

*5. The operation time is the value (reference value) measured with a surge suppressor (CR50500 manufactured by Okaya Electric Industries Co., Ltd.).



● Servomotors

INC 3,000-r/min Cylindrical Servomotors

Specifications			Model	
			Straight shaft	Straight shaft with key and tap
Without brake	100 V	50 W	R88M-G05030H	R88M-G05030H-S2
		100 W	R88M-G10030L	R88M-G10030L-S2
		200 W	R88M-G20030L	R88M-G20030L-S2
		400 W	R88M-G40030L	R88M-G40030L-S2
	200 V	50 W	R88M-G05030H	R88M-G05030H-S2
		100 W	R88M-G10030H	R88M-G10030H-S2
		200 W	R88M-G20030H	R88M-G20030H-S2
		400 W	R88M-G40030H	R88M-G40030H-S2
		750 W	R88M-G75030H	R88M-G75030H-S2
With brake	100 V	50 W	R88M-G05030H-B	R88M-G05030H-BS2
		100 W	R88M-G10030L-B	R88M-G10030L-BS2
		200 W	R88M-G20030L-B	R88M-G20030L-BS2
		400 W	R88M-G40030L-B	R88M-G40030L-BS2
	200 V	50 W	R88M-G05030H-B	R88M-G05030H-BS2
		100 W	R88M-G10030H-B	R88M-G10030H-BS2
		200 W	R88M-G20030H-B	R88M-G20030H-BS2
		400 W	R88M-G40030H-B	R88M-G40030H-BS2
		750 W	R88M-G75030H-B	R88M-G75030H-BS2

Note: Models with oil seals are also available.

ABS/INC 3,000-r/min Cylindrical Servomotors

Specifications			Model	
			Straight shaft	Straight shaft with key and tap
Without brake	100 V	50 W	R88M-G05030T	R88M-G05030T-S2
		100 W	R88M-G10030S	R88M-G10030S-S2
		200 W	R88M-G20030S	R88M-G20030S-S2
		400 W	R88M-G40030S	R88M-G40030S-S2
	200 V	50 W	R88M-G05030T	R88M-G05030T-S2
		100 W	R88M-G10030T	R88M-G10030T-S2
		200 W	R88M-G20030T	R88M-G20030T-S2
		400 W	R88M-G40030T	R88M-G40030T-S2
		750 W	R88M-G75030T	R88M-G75030T-S2
		1 kW	R88M-G1K030T	R88M-G1K030T-S2
		1.5 kW	R88M-G1K530T	R88M-G1K530T-S2
		2 kW	R88M-G2K030T	R88M-G2K030T-S2
		3 kW	R88M-G3K030T	R88M-G3K030T-S2
		4 kW	R88M-G4K030T	R88M-G4K030T-S2
		5 kW	R88M-G5K030T	R88M-G5K030T-S2
With brake	100 V	50 W	R88M-G05030T-B	R88M-G05030T-BS2
		100 W	R88M-G10030S-B	R88M-G10030S-BS2
		200 W	R88M-G20030S-B	R88M-G20030S-BS2
		400 W	R88M-G40030S-B	R88M-G40030S-BS2
	200 V	50 W	R88M-G05030T-B	R88M-G05030T-BS2
		100 W	R88M-G10030T-B	R88M-G10030T-BS2
		200 W	R88M-G20030T-B	R88M-G20030T-BS2
		400 W	R88M-G40030T-B	R88M-G40030T-BS2
		750 W	R88M-G75030T-B	R88M-G75030T-BS2
		1 kW	R88M-G1K030T-B	R88M-G1K030T-BS2
		1.5 kW	R88M-G1K530T-B	R88M-G1K530T-BS2
		2 kW	R88M-G2K030T-B	R88M-G2K030T-BS2
		3 kW	R88M-G3K030T-B	R88M-G3K030T-BS2
		4 kW	R88M-G4K030T-B	R88M-G4K030T-BS2
		5 kW	R88M-G5K030T-B	R88M-G5K030T-BS2

Note: Models with oil seals are also available.