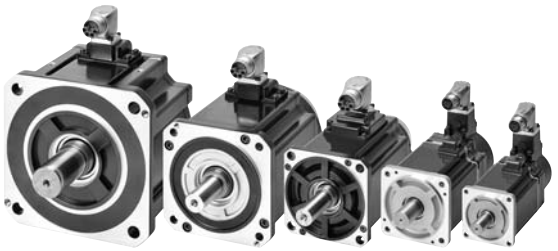
R88M-1AL□/-1AM□

Contents

- Ordering Information
- Specifications
- Names and Functions
- External Dimensions



Ordering Information

Refer to the Ordering Information.

Specifications

General Specifications

Item			Specifications
Operating ambient temperature and humidity			0 to 40°C 20% to 90% (with no condensation)
Storage ambient temperature and humidity			-20 to 65°C 20% to 90% (with no condensation)
Operating and storage atmosphere			No corrosive gases
Vibration resistance ✻			Acceleration of 49 m/s^2 24.5 m/s^2 max. in X, Y, and Z directions when the motor is stopped
Impact resistance			Acceleration of 98 m/s^2 max. 3 times each in X, Y, and Z directions
Insulation resistance			Between power terminals and FG terminals: 10 MΩ min. (at 500 VDC Megger)
Dielectric strength			Between power terminals and FG terminals: 1,500 VAC for 1 min (voltage 200 V) Between power terminals and FG terminals: 1,800 VAC for 1 min (voltage 400 V) Between brake terminal and FG terminals: 1,000 VAC for 1 min
Insulation class			Class F
Protective structure			IP67 (except for the through-shaft part and connector pins)
International standard	**EU Directives and UK legislation**	**Low Voltage**	EN 60034-1/-5
	UL standards		UL 1004-1/-6
	CSA standards		CSA C22.2 No.100 (with cUR mark)

✻ The amplitude may be increased by machine resonance. As a guideline, 80% of the specified value must not be exceeded.

Note: 1. Do not use the cable when it is laying in oil or water.

2. Do not expose the cable outlet or connections to stress due to bending or its own weight.

Encoder Specifications

Item	Specifications
Encoder system	Optical batteryless absolute encoder
Resolution per rotation	20 bits
Multi-rotation data hold	12 bits
Output signal	Serial communications
Output interface	RS485 compliant

Note: It is possible to use an absolute encoder as an incremental encoder.
Refer to the *AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT® Communications and Safety Functionality User's Manual* (Cat.No.I621) for details.

Characteristics

3,000-r/min Servomotors

Item			Model (R88M-) / Unit	200 VAC		
				1AM20030T	1AM40030T	1AM75030T
Rated output ✻1✻2			W	200	400	750
Rated torque ✻1✻2			N·m	0.637	1.27	2.39
Rated rotation speed ✻1✻2			r/min	3000		
Maximum rotation speed			r/min	6000		
Momentary maximum torque ✻1✻3			N·m	2.2 ✻4	4.5 ✻4	8.4 ✻4
Rated current ✻1✻2			A(rms)	1.5	2.5	4.6
Momentary maximum current ✻1			A(rms)	5.6	9.1	16.9
Rotor inertia		Without brake	$\times 10^{-4}$ kg·m^2	0.224	0.446	1.825
		With brake	$\times 10^{-4}$ kg·m^2	0.284	0.506	2.075
Applicable load inertia			$\times 10^{-4}$ kg·m^2	4.80	8.40	19.4
Torque constant ✻1			N·m/A(rms)	0.48	0.56	0.59
Power rate ✻1✻5			kW/s	18.1	36.2	31.3
Mechanical time constant ✻5			ms	0.79	0.58	0.66
Electrical time constant			ms	2.4	2.6	3.3
Allowable radial load ✻6			N	245	245	490
Allowable thrust load ✻6			N	88	88	196
Weight		Without brake	kg	1.3	1.8	3.2
		With brake	kg	1.7	2.2	4.1
Radiator plate dimensions (material)			mm	250 × 250 × t6 (aluminum)		
Brake specifications ✻7	Excitation voltage ✻8		V	24 DC ±10%		
	Current consumption (at 20°C)		A	0.32	0.32	0.37
	Static friction torque		N·m	1.37 min.	1.37 min.	2.55 min.
	Attraction time		ms	30 max.	30 max.	40 max.
	Release time ✻9		ms	20 max.	20 max.	35 max.
	Backlash		°	1.2 max.	1.2 max.	1.0 max.
	Allowable braking work		J	60	60	250
	Allowable total work		J	60,000	60,000	250,000
	Allowable angular acceleration		rad/s^2	10,000 max.		
	Brake lifetime (acceleration/ deceleration)		---	10 million times min.		
	Brake lifetime (ON/OFF), B10d		---	1 million times min.		
	Insulation class		---	Class F		

For models with an oil seal the following derating is used due to increase in friction torque.

Item	Unit	Model (R88M-) 1AM20030T-O/ -OS2/-BO/-BOS2	1AM40030T-O/ -OS2/-BO/-BOS2	1AM75030T-O/ -OS2/-BO/-BOS2
Derating rate	%	95	80	90
Rated output	W	190	320	675
Rated current	A (rms)	1.5	2.1	4.2

Item			Model (R88M-)	200 VAC			
			Unit	1AL1K030T	1AL1K530T	1AL2K030T	1AL2K630T
Rated output ✻1✻2			W	1,000	1,500	2,000	2,600
Rated torque ✻1✻2			N·m	3.18	4.77	6.37	8.28
Rated rotation speed ✻1✻2			r/min	3,000			
Maximum rotation speed			r/min	5,000			
Momentary maximum torque ✻1✻3			N·m	9.55	14.3	19.1	24.8
Rated current ✻1✻2			A(rms)	5.2	8.8	12.5	14.8
Momentary maximum current ✻1			A(rms)	16.9	28.4	41.0	47.3
Rotor inertia		Without brake	$\times 10^{-4}$ kg·m^2	2.105	2.105	2.405	6.813
		With brake	$\times 10^{-4}$ kg·m^2	2.555	2.555	2.855	7.313
Applicable load inertia			$\times 10^{-4}$ kg·m^2	35.3	47.6	60.2	118
Torque constant ✻1			N·m/A(rms)	0.67	0.58	0.56	0.62
Power rate ✻1✻5			kW/s	48	108	169	101
Mechanical time constant ✻5			ms	0.58	0.58	0.50	0.47
Electrical time constant			ms	5.9	6.1	6.4	11
Allowable radial load ✻6			N	490			
Allowable thrust load ✻6			N	196			
Weight		Without brake	kg	5.8	5.8	6.5	11.5
		With brake	kg	7.5	7.5	8.2	13.5
Radiator plate dimensions (material)			mm	400 × 400 × t20 (aluminum)		470 × 470 × t20 (aluminum)	
Brake specifications ✻7	Excitation voltage ✻8		V	24 VDC±10%			
	Current consumption (at 20°C)		A	0.70	0.70	0.70	0.66
	Static friction torque		N·m	9.3 min.	9.3 min.	9.3 min.	12 min.
	Attraction time		ms	100 max.	100 max.	100 max.	100 max.
	Release time ✻9		ms	30 max.	30 max.	30 max.	30 max.
	Backlash		°	1.0 max.	1.0 max.	1.0 max.	0.8 max.
	Allowable braking work		J	500	500	500	1000
	Allowable total work		J	900,000	900,000	900,000	3000,000
	Allowable angular acceleration		rad/s^2	10,000 max.			
	Brake lifetime (acceleration/ deceleration)		---	10 million times min.			
	Brake lifetime (ON/OFF), B10d		---	1 million times min.			
	Insulation class		---	Class F			

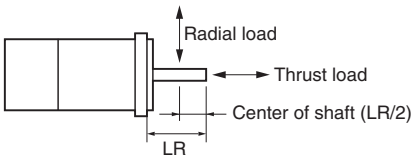
Note: 1. For the models listed in the table above, there is no derating for models with an oil seal.

Item			Model (R88M-)	AC400V		
			Unit	1AL75030C	1AL1K030C	1AL1K530C
Rated output ✻1✻2			W	750	1,000	1,500
Rated torque ✻1✻2			N·m	2.39	3.18	4.77
Rated rotation speed ✻1✻2			r/min	3,000		
Maximum rotation speed			r/min	5,000		
Momentary maximum torque ✻1✻3			N·m	7.16	9.55	14.3
Rated current ✻1✻2			A(rms)	3.0	3.0	4.5
Momentary maximum current ✻1			A(rms)	9.6	9.6	14.1
Rotor inertia		Without brake	$\times 10^{-4}$ kg·m^2	1.305	2.105	2.105
		With brake	$\times 10^{-4}$ kg·m^2	1.755	2.555	2.555
Applicable load inertia			$\times 10^{-4}$ kg·m^2	38.6	35.3	47.6
Torque constant ✻1			N·m/A(rms)	0.91	1.17	1.17
Power rate ✻1✻5			kW/s	44	48	108
Mechanical time constant ✻5			ms	1.1	0.58	0.58
Electrical time constant			ms	4.3	5.9	5.9
Allowable radial load ✻6			N	490		
Allowable thrust load ✻6			N	196		
Weight		Without brake	kg	4.2	5.8	5.8
		With brake	kg	5.9	7.5	7.5
Radiator plate dimensions (material)			mm	305 × 305 × t20 (aluminum)	400 × 400 × t20 (aluminum)	
Brake specifications ✻7	Excitation voltage ✻8		V	24 VDC±10%		
	Current consumption (at 20°C)		A	0.70	0.70	0.70
	Static friction torque		N·m	9.3 min.	9.3 min.	9.3 min.
	Attraction time		ms	100 max.	100 max.	100 max.
	Release time ✻9		ms	30 max.	30 max.	30 max.
	Backlash		°	1.0 max.	1.0 max.	1.0 max.
	Allowable braking work		J	500	500	500
	Allowable total work		J	900,000	900,000	900,000
	Allowable angular acceleration		rad/s^2	10,000 max.		
	Brake lifetime (acceleration/ deceleration)		---	10 million times min.		
	Brake lifetime (ON/OFF), B10d		---	1 million times min.		
	Insulation class		---	Class F		

Note: 1. For the models listed in the table above, there is no derating for models with an oil seal.

Item			Model (R88M-)	AC400V	
			Unit	1AL2K030C	1AL3K030C
Rated output ✻1✻2			W	2,000	3,000
Rated torque ✻1✻2			N·m	6.37	9.55
Rated rotation speed ✻1✻2			r/min	3,000	
Maximum rotation speed			r/min	5,000	
Momentary maximum torque ✻1✻3			N·m	19.1	28.7
Rated current ✻1✻2			A(rms)	6.3	8.7
Momentary maximum current ✻1			A(rms)	19.8	27.7
Rotor inertia		Without brake	$\times10^{-4}$ kg·m^2	2.405	6.813
		With brake	$\times10^{-4}$ kg·m^2	2.855	7.313
Applicable load inertia			$\times10^{-4}$ kg·m^2	60.2	118
Torque constant ✻1			N·m/A(rms)	1.15	1.23
Power rate ✻1✻5			kW/s	169	134
Mechanical time constant ✻5			ms	0.52	0.49
Electrical time constant			ms	6.3	11
Allowable radial load ✻6			N	490	
Allowable thrust load ✻6			N	196	
Weight		Without brake	kg	6.5	11.5
		With brake	kg	8.2	13.5
Radiator plate dimensions (material)			mm	470 × 470 × t20 (aluminum)	
Brake specifications ✻7	Excitation voltage ✻8		V	24 VDC±10%	
	Current consumption (at 20°C)		A	0.70	0.66
	Static friction torque		N·m	9.3 min.	12 min.
	Attraction time		ms	100 max.	100 max.
	Release time ✻9		ms	30 max.	30 max.
	Backlash		°	1.0 max.	0.8 max.
	Allowable braking work		J	500	1,000
	Allowable total work		J	900,000	3,000,000
	Allowable angular acceleration		rad/s^2	10,000 max.	
	Brake lifetime (acceleration/ deceleration)		---	10 million times min.	
	Brake lifetime (ON/OFF), B10d		---	1 million times min.	
	Insulation class		---	Class F	

✻**1.** This is a typical value for when the Servomotor is used at a normal temperature (20°C, 65%) in combination with a Servo Drive.
✻**2.** The rated values are the values with which continuous operation is possible at an ambient temperature of 40°C when the Servomotor is horizontally installed on a specified radiator plate.
✻**3.** The momentary maximum torque is approximately 300% of the rated torque, except for some models.
✻**4.** The momentary maximum torque is approximately 350% of the rated torque. Output at the momentary maximum torque shortens detection time of the overload protection function. Refer to Electronic Thermal Function in the *AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT® Communications and Safety Functionality User's Manual* (Cat. No. I621) for details.
✻**5.** This value is for models without options.
✻**6.** The allowable radial and thrust loads are the values determined for a limit of 20,000 hours at normal operating temperatures. The allowable radial loads are applied as shown in the following diagram.

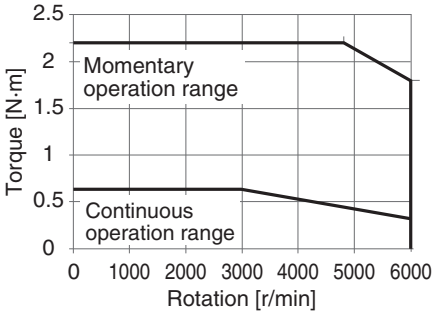


✻**7.** When the brake is released for a vertical axis, refer to the *AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT® Communications and Safety Functionality User's Manual* (Cat. No. I621) to set an appropriate value for Brake Interlock Output (4610 hex).
✻**8.** This is a non-excitation brake. It is released when excitation voltage is applied.
✻**9.** This value is a reference value.
Note: 1. For the models listed in the table above, there is no derating for models with an oil seal.

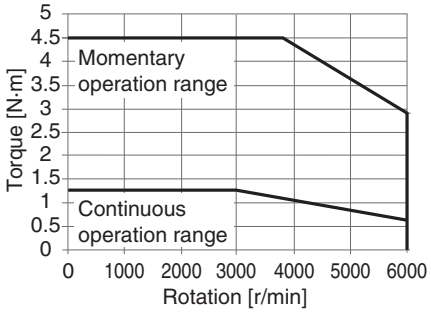
Torque-Rotation Speed Characteristics for 3,000-r/min Servomotors (200 VAC)

The following graphs show the characteristics with a 3-m standard cable and a 3-phase 200-VAC or single-phase 220-VAC input.

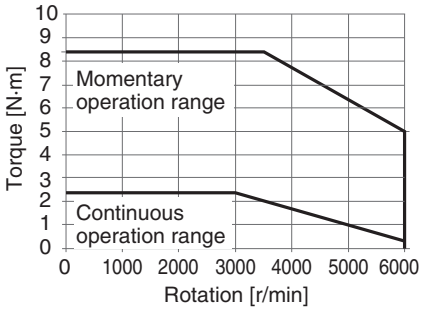
· R88M-1AM20030T



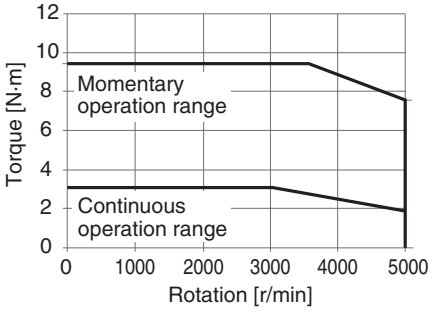
· R88M-1AM40030T



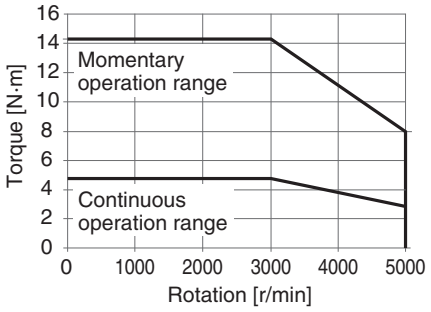
· R88M-1AM75030T



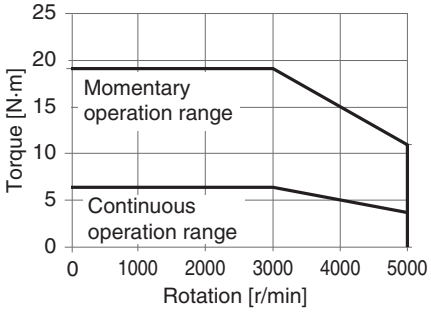
· R88M-1AL1K030T



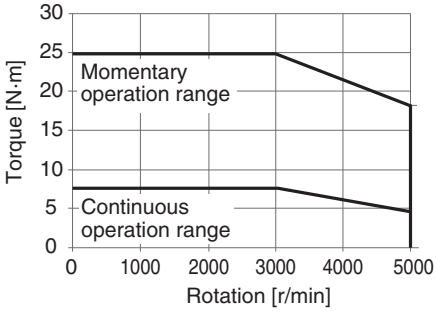
· R88M-1AL1K530T



· R88M-1AL2K030T



· R88M-1AL2K630T

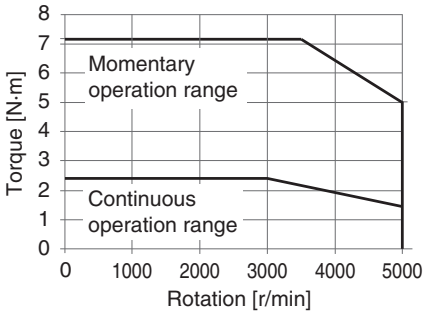


Note: The continuous operation range is the range in which continuous operation is possible at an ambient temperature of 40°C when the Servomotor is horizontally installed on a specified radiator plate.
Continuous operation at the maximum speed is also possible. However, doing so will reduce the output torque.

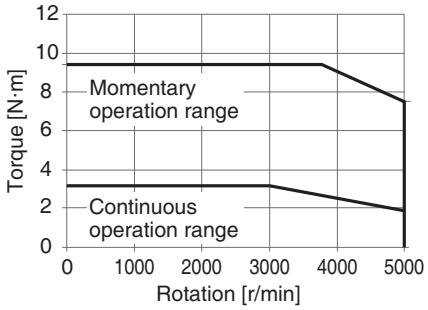
Torque-Rotation Speed Characteristics for 3,000-r/min Servomotors (400 VAC)

The following graphs show the characteristics with a 3-m standard cable and a 3-phase 400-VAC input.

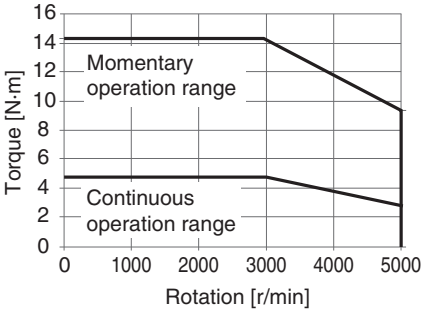
· R88M-1AL75030C



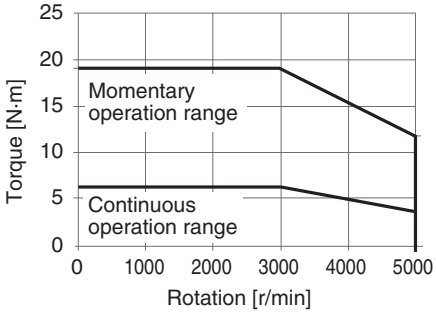
· R88M-1AL1K030C



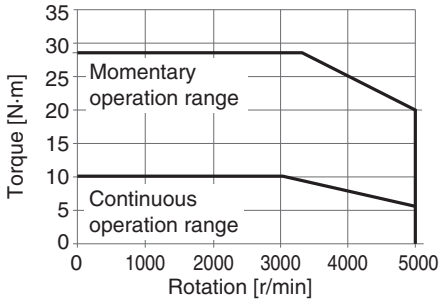
· R88M-1AL1K530C



· R88M-1AL2K030C



· R88M-1AL3K030C



Note: The continuous operation range is the range in which continuous operation is possible at an ambient temperature of 40°C when the Servomotor is horizontally installed on a specified radiator plate.
Continuous operation at the maximum speed is also possible. However, doing so will reduce the output torque.

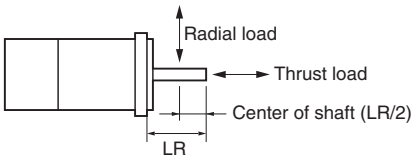
1,500-r/min Servomotors

Item			Model (R88M-)	AC200V	
			Unit	1AM1K515T	1AM2K715T
Rated output ✻1✻2			W	1,500	2,700
Rated torque ✻1✻2			N·m	9.55	17.2
Rated rotation speed ✻1✻2			r/min	1,500	
Maximum rotation speed			r/min	3,000	
Momentary maximum torque ✻1			N·m	28.7	51.6
Rated current ✻1✻2			A(rms)	8.6	14.6
Momentary maximum current ✻1			A(rms)	28.4	49.3
Rotor inertia		Without brake	$\times10^{-4}$ kg·m^2	12.413	40.013
		With brake	$\times10^{-4}$ kg·m^2	13.013	45.113
Applicable load inertia			$\times10^{-4}$ kg·m^2	127.05	270.63
Torque constant ✻1			N·m/A(rms)	1.11	1.29
Power rate ✻1✻3			kW/s	73	74
Mechanical time constant ✻3			ms	0.75	1.0
Electrical time constant			ms	17	19
Allowable radial load ✻4			N	490	1176
Allowable thrust load ✻4			N	196	490
Weight		Without brake	kg	11	18
		With brake	kg	13	22
Radiator plate dimensions (material)			mm	470 × 470 × t20 (aluminum)	
Brake specifications ✻5	Excitation voltage ✻6		V	24 VDC±10%	
	Current consumption (at 20°C)		A	0.66	1.20
	Static friction torque		N·m	12 min.	22 min.
	Attraction time		ms	100 max.	120 max.
	Release time ✻7		ms	30 max.	50 max.
	Backlash		°	0.6 max.	0.8 max.
	Allowable braking work		J	1,000	1,400
	Allowable total work		J	3,000,000	4,600,000
	Allowable angular acceleration		rad/s^2	10,000 max.	
	Brake lifetime (acceleration/ deceleration)		---	10 million times min.	
	Brake lifetime (ON/OFF), B10d		---	1 million times min.	
	Insulation class		---	Class F	

Note: 1. For the models listed in the table above, there is no derating for models with an oil seal.

Item			Model (R88M-)	AC400V	
			Unit	1AM1K515C	1AM3K015C
Rated output ✻1✻2			W	1,500	3,000
Rated torque ✻1✻2			N·m	9.55	19.1
Rated rotation speed ✻1✻2			r/min	1,500	
Maximum rotation speed			r/min	3,000	
Momentary maximum torque ✻1			N·m	28.7	57.3
Rated current ✻1✻2			A(rms)	4.4	8.5
Momentary maximum current ✻1			A(rms)	14.1	28.3
Rotor inertia		Without brake	$\times10^{-4}$ kg·m^2	12.413	40.013
		With brake	$\times10^{-4}$ kg·m^2	13.013	45.113
Applicable load inertia			$\times10^{-4}$ kg·m^2	127.05	270.63
Torque constant ✻1			N·m/A(rms)	2.21	2.46
Power rate ✻1✻3			kW/s	73	91
Mechanical time constant ✻3			ms	0.75	1.2
Electrical time constant			ms	17	16
Allowable radial load ✻4			N	490	1176
Allowable thrust load ✻4			N	196	490
Weight		Without brake	kg	11	18
		With brake	kg	13	22
Radiator plate dimensions (material)			mm	470 × 470 × t20 (aluminum)	
Brake specifications ✻5	Excitation voltage ✻6		V	24 VDC±10%	
	Current consumption (at 20°C)		A	0.66	1.20
	Static friction torque		N·m	12 min.	22 min.
	Attraction time		ms	100 max.	120 max.
	Release time ✻7		ms	30 max.	50 max.
	Backlash		°	0.6 max.	0.8 max.
	Allowable braking work		J	1,000	1,400
	Allowable total work		J	3,000,000	4,600,000
	Allowable angular acceleration		rad/s^2	10,000 max.	
	Brake lifetime (acceleration/ deceleration)		---	10 million times min.	
	Brake lifetime (ON/OFF), B10d		---	1 million times min.	
	Insulation class		---	Class F	

✻1. This is a typical value for when the Servomotor is used at a normal temperature (20°C, 65%) in combination with a Servo Drive.
✻2. The rated values are the values with which continuous operation is possible at an ambient temperature of 40°C when the Servomotor is horizontally installed on a specified radiator plate.
✻3. This value is for models without options.
✻4. The allowable radial and thrust loads are the values determined for a limit of 20,000 hours at normal operating temperatures. The allowable radial loads are applied as shown in the following diagram.

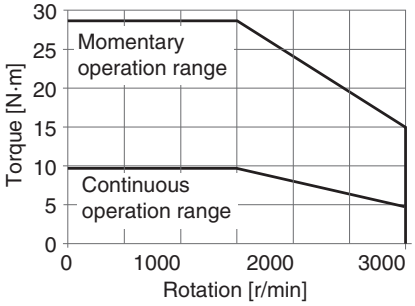


✻5. When the brake is released for a vertical axis, refer to the *AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT® Communications and Safety Functionality User's Manual* (Cat. No. I621) to set an appropriate value for Brake Interlock Output (4610 hex).
✻6. This is a non-excitation brake. It is released when excitation voltage is applied.
✻7. This value is a reference value.
Note: 1. For the models listed in the table above, there is no derating for models with an oil seal.

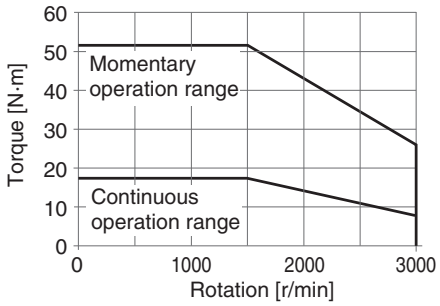
Torque-Rotation Speed Characteristics for 1,500-r/min Servomotors (200 VAC)

The following graphs show the characteristics with a 3-m standard cable and a 3-phase 200-VAC or single-phase 220-VAC input.

· R88M-1AM1K515T



· R88M-1AM2K715T

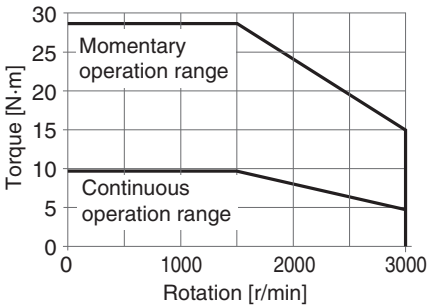


Note: The continuous operation range is the range in which continuous operation is possible at an ambient temperature of 40°C when the Servomotor is horizontally installed on a specified radiator plate.
Continuous operation at the maximum speed is also possible. However, doing so will reduce the output torque.

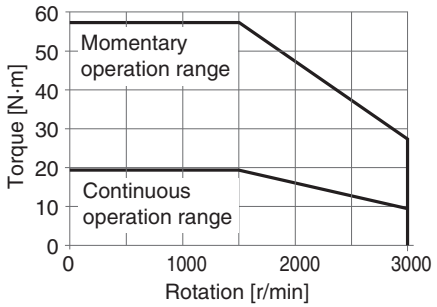
Torque-Rotation Speed Characteristics for 1,500-r/min Servomotors (400 VAC)

The following graphs show the characteristics with a 3-m standard cable and a 3-phase 400-VAC input.

· R88M-1AM1K515C



· R88M-1AM3K015C

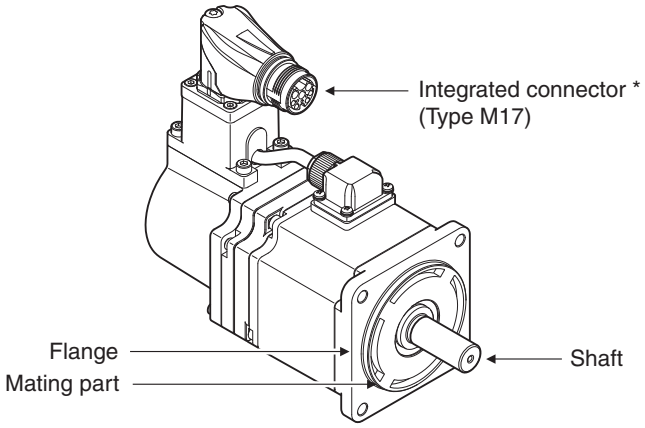


Note: The continuous operation range is the range in which continuous operation is possible at an ambient temperature of 40°C when the Servomotor is horizontally installed on a specified radiator plate.
Continuous operation at the maximum speed is also possible. However, doing so will reduce the output torque.

Part Names

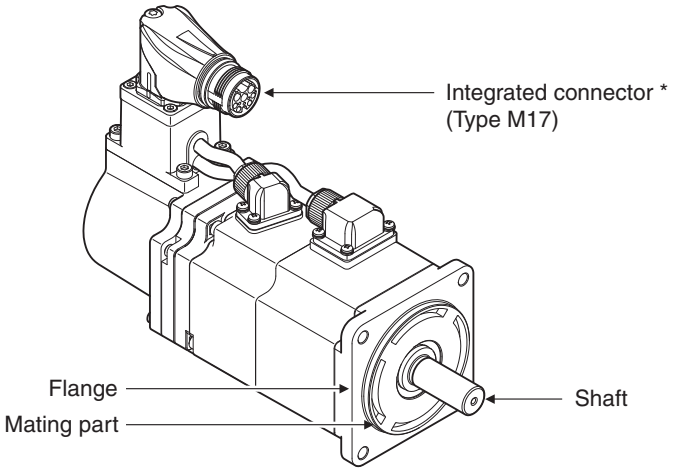
Servomotor Part Names

Flange Size of 60×60, 80×80



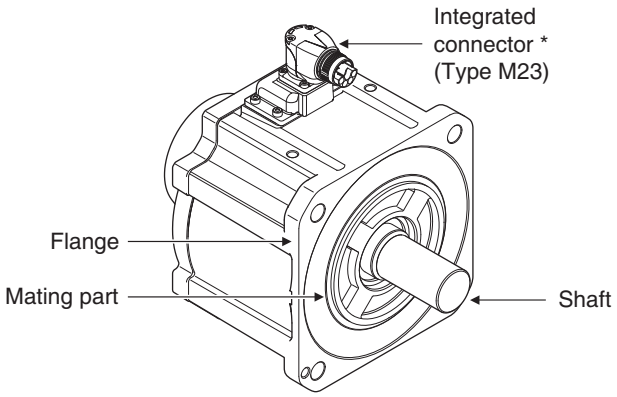
* For servomotors without Brake, brake wire signals are not use (terminal open).

200 VAC 200 W Servomotors (without Brake)



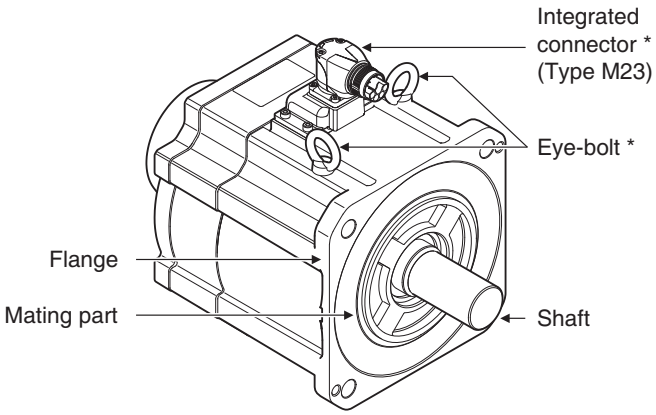
200 VAC 200 W Servomotors (with Brake)

Flange Size of 100×100, 130×130, 180×180



* For servomotors without Brake, brake wire signals are not use (terminal open).

400 VAC 3 kW Servomotors (without Brake)



* In some cases, eye bolts are not equipped, depending on the Servomotor's mass.

400 VAC 3 kW Servomotors (with Brake)

Servomotor Functions

Shaft

The load is mounted on this shaft.
The direction which is in parallel with the shaft is called the thrust direction, and the direction which is perpendicular to the shaft is called the radial direction.

Flange

Used for mounting the Servomotor on the equipment.
Fit the mating part into the equipment and use the mounting holes to screw the Servomotor.

Integrated Connector

This is an integrated connector that can connect each cable for power, encoder and brake all at once.
The power cable supplies power to the phases U, V, and W of the Servomotor.
The encoder cable supplies power to the encoder of the Servomotor and communicates with the Servo Drive.
The brake cable supplies power to the brake coil.
The cable outlet direction can be selected. The change of the cable outlet direction shall be up to five times.

Eye-bolt

Used for lifting and moving the motor by putting a wire rope, for example, through the shaft.

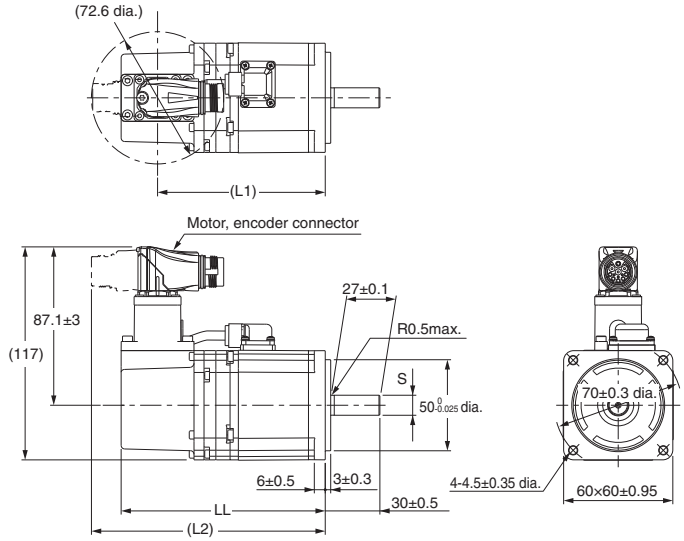
External Dimensions

(Unit: mm)

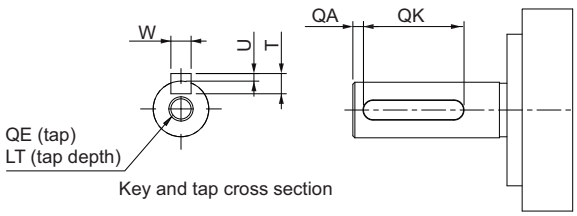
3,000-r/min Servomotors (200 V)

200 W/400 W (without Brake)

R88M-1AM20030T(-O/-S2/-OS2), R88M-1AM40030T(-O/-S2/-OS2)



Shaft-end with key and tap



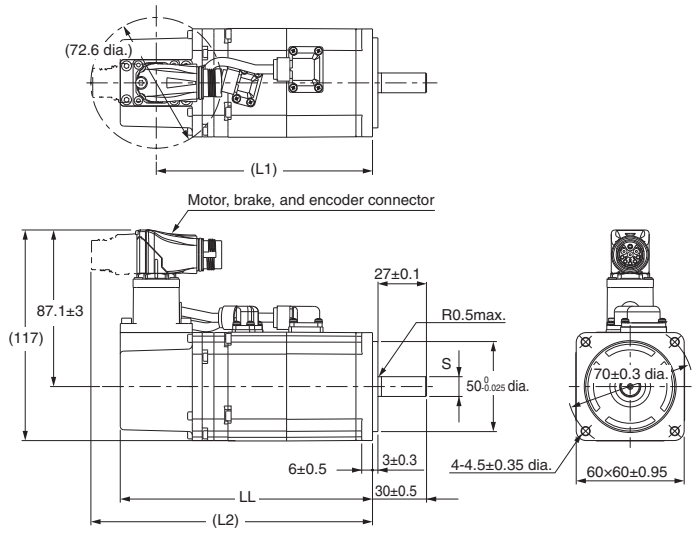
Model	Dimensions [mm]			
	S	LL	L1	L2
R88M-1AM20030T(-S2)	11 dia. 0 -0.011	112±1	92	128
R88M-1AM40030T(-S2)	14 dia. 0 -0.011	138±1	118	154
R88M-1AM20030T-O(S2)	11 dia. 0 -0.011	119±1	99	135
R88M-1AM40030T-O(S2)	14 dia. 0 -0.011	145±1	125	161

Model	Dimensions [mm]						
	QA	QK	W	T	U	QE	LT
R88M-1AM20030T(-S2/-OS2)	2	20	4 0 -0.03	4	1.5 0 -0.2	M4	10
R88M-1AM40030T(-S2/-OS2)	2	20	5 0 -0.03	5	2 0 -0.2	M5	12

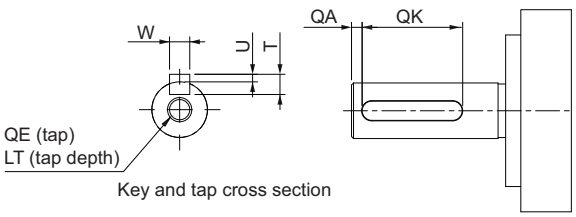
Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

200 W/400 W (with Brake)

R88M-1AM20030T-B(O/S2/OS2), R88M-1AM40030T-B(O/S2/OS2)



Shaft-end with key and tap



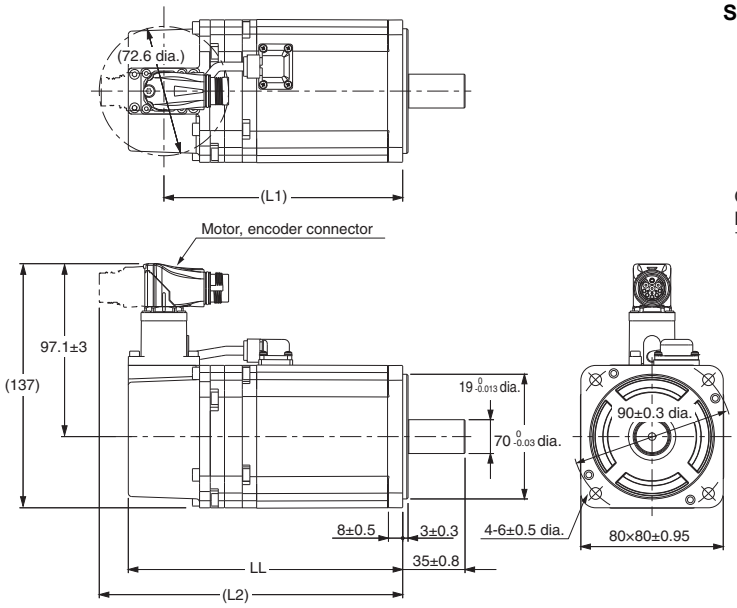
Model	Dimensions [mm]			
	S	LL	L1	L2
R88M-1AM20030T-B(S2)	11 dia. 0 -0.011	140±1	120	156
R88M-1AM40030T-B(S2)	14 dia. 0 -0.011	166±1	146	182
R88M-1AM20030T-BO(S2)	11 dia. 0 -0.011	147±1	127	163
R88M-1AM40030T-BO(S2)	14 dia. 0 -0.011	173±1	153	189

Model	Dimensions [mm]						
	QA	QK	W	T	U	QE	LT
R88M-1AM20030T-B(S2/OS2)	2	20	4 0 -0.03	4	1.5 0 -0.2	M4	10
R88M-1AM40030T-B(S2/OS2)	2	20	5 0 -0.03	5	2 0 -0.2	M5	12

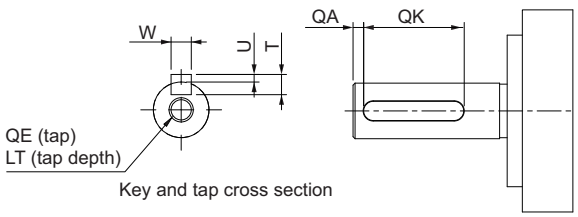
Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

750 W (without Brake)

R88M-1AM75030T(-O/-S2/-OS2)



Shaft-end with key and tap



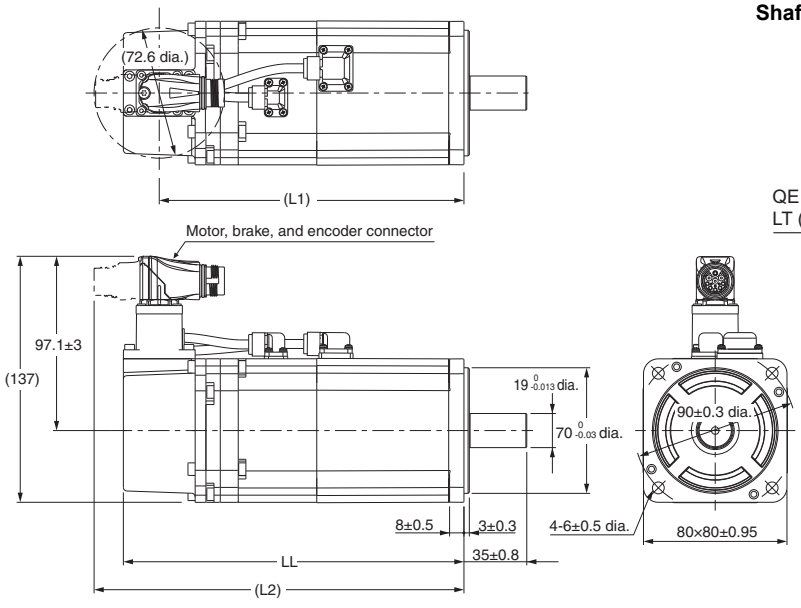
Model	Dimensions [mm]		
	LL	L1	L2
R88M-1AM75030T(-S2)	154±1	134	170
R88M-1AM75030T-O(S2)	161±1	141	177

Model	Dimensions [mm]						
	QA	QK	W	T	U	QE	LT
R88M-1AM75030T(-S2/-OS2)	3	24	$6^{0}_{-0.03}$	6	$2.5^{0}_{-0.2}$	M5	12

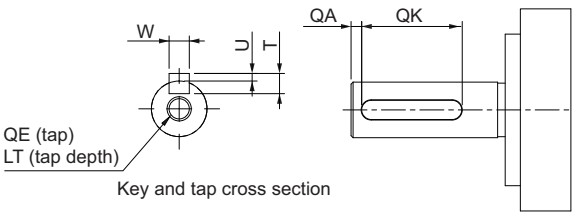
Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

750 W (with Brake)

R88M-1AM75030T-B(O/S2/OS2)



Shaft-end with key and tap



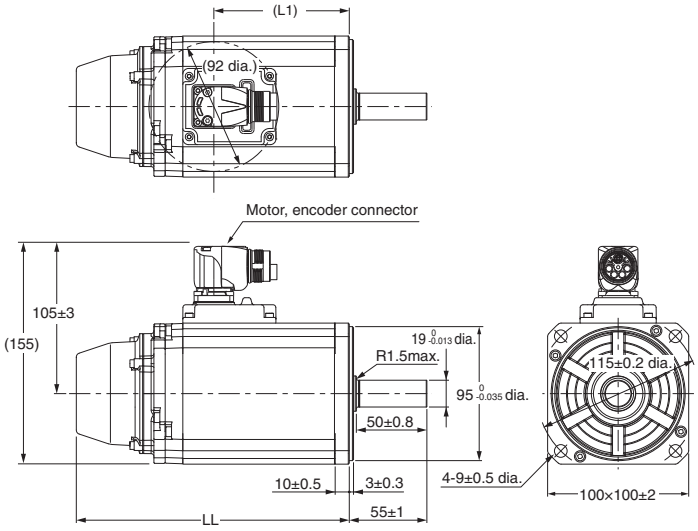
Model	Dimensions [mm]		
	LL	L1	L2
R88M-1AM75030T-B(S2)	189.8±2	170	206
R88M-1AM75030T-BO(S2)	196.8±2	177	213

Model	Dimensions [mm]						
	QA	QK	W	T	U	QE	LT
R88M-1AM75030T-B(S2/OS2)	3	24	$6^{0}_{-0.03}$	6	$2.5^{0}_{-0.2}$	M5	12

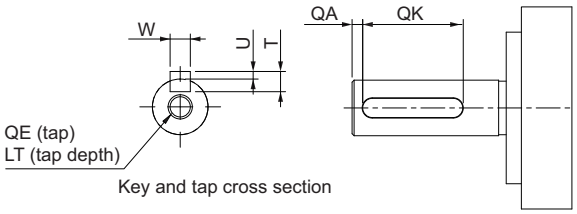
Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

1 kW/1.5 kW/2 kW (without Brake)

R88M-1AL1K030T(-O/-S2/-OS2), R88M-1AL1K530T(-O/-S2/-OS2), R88M-1AL2K030T(-O/-S2/-OS2)



Shaft-end with key and tap



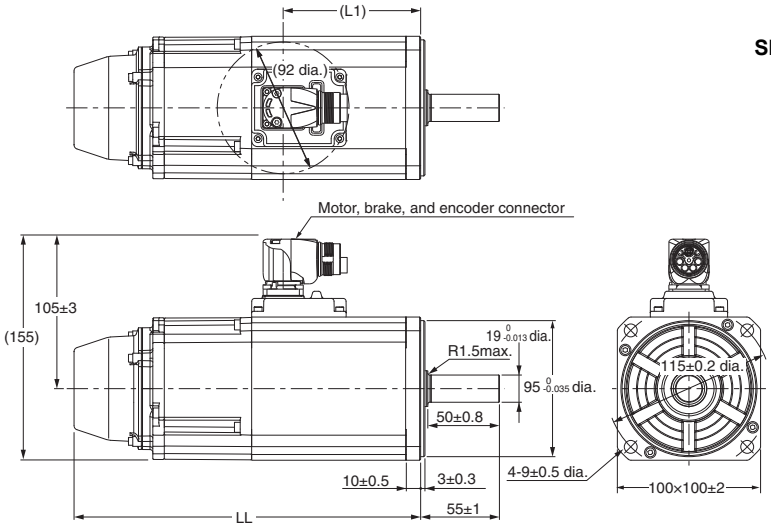
Model	Dimensions [mm]	
	LL	L1
R88M-1AL1K030T(-O/-S2/-OS2)	193.5±2	96
R88M-1AL1K530T(-O/-S2/-OS2)	193.5±2	96
R88M-1AL2K030T(-O/-S2/-OS2)	204.5±3	107

Model	Dimensions [mm]						
	QA	QK	W	T	U	QE	LT
R88M-1AL1K030T(-S2/-OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12
R88M-1AL1K530T(-S2/-OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12
R88M-1AL2K030T(-S2/-OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12

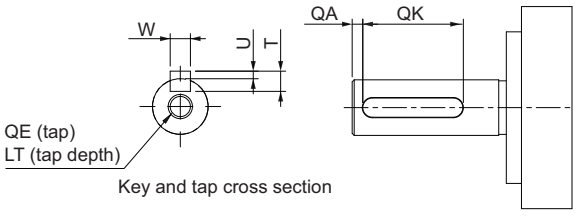
Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

1 kW/1.5 kW/2 kW (with Brake)

R88M-1AL1K030T-B(O/S2/OS2), R88M-1AL1K530T-B(O/S2/OS2), R88M-1AL2K030T-B(O/S2/OS2)



Shaft-end with key and tap



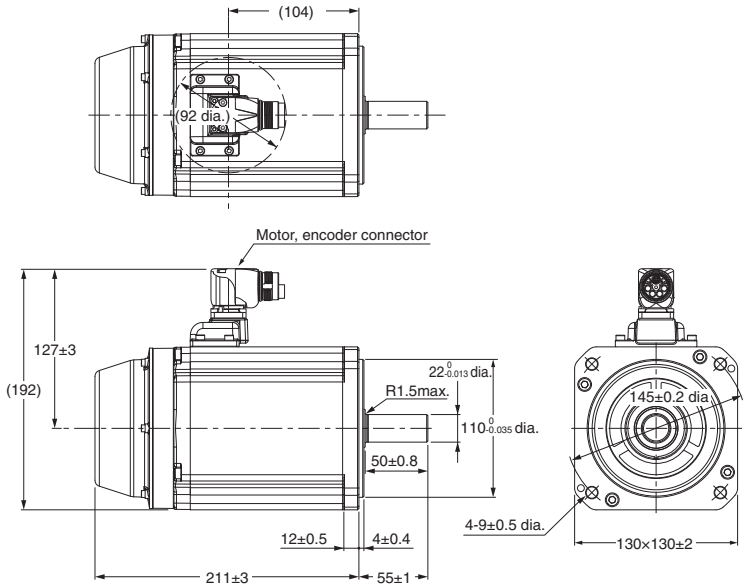
Model	Dimensions [mm]	
	LL	L1
R88M-1AL1K030T-B(O/S2/OS2)	242±3	96
R88M-1AL1K530T-B(O/S2/OS2)	242±3	96
R88M-1AL2K030T-B(O/S2/OS2)	253±3	107

Model	Dimensions [mm]						
	QA	QK	W	T	U	QE	LT
R88M-1AL1K030T-B(S2/OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12
R88M-1AL1K530T-B(S2/OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12
R88M-1AL2K030T-B(S2/OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12

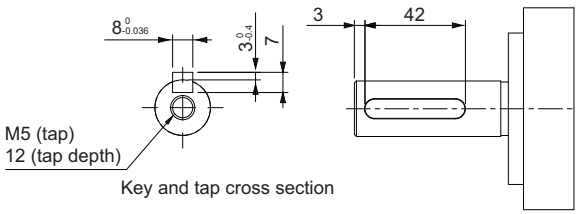
Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

2.6 kW (without Brake)

R88M-1AL2K630T(-O/-S2/-OS2)



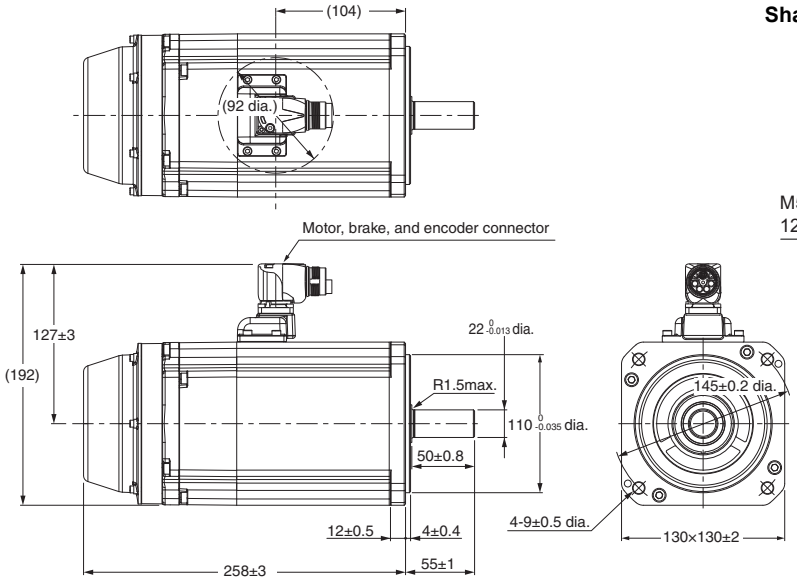
Shaft-end with key and tap



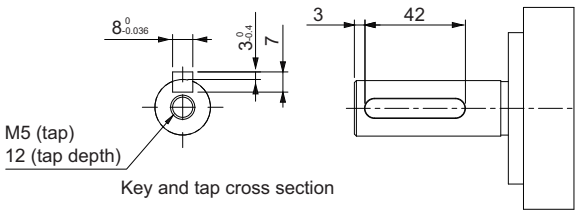
Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

2.6 kW (with Brake)

R88M-1AL2K630T-B(O/S2/OS2)



Shaft-end with key and tap

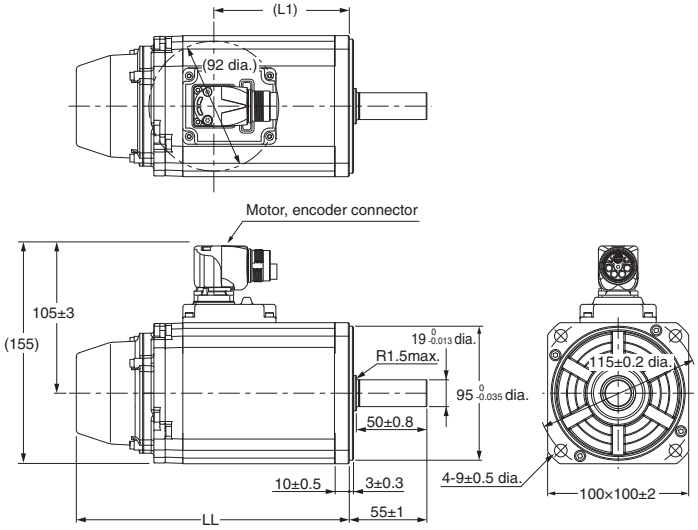


Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

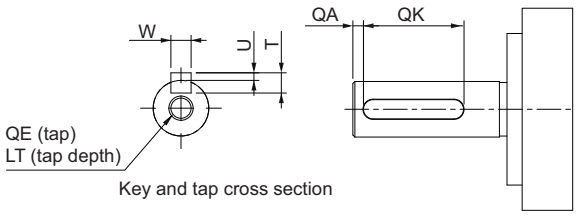
3,000-r/min Servomotors (400 V)

750 W/1 kW/1.5 kW/2 kW (without Brake)

R88M-1AL75030C(-O/ -S2/ -OS2), R88M-1AL1K030C(-O/ -S2/ -OS2)
R88M-1AL1K530C(-O/ -S2/ -OS2), R88M-1AL2K030C(-O/ -S2/ -OS2)



Shaft-end with key and tap



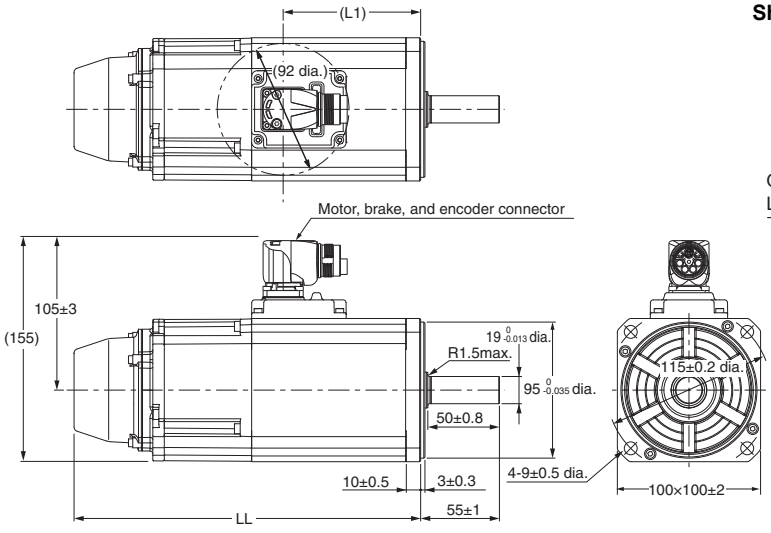
Model	Dimensions [mm]	
	LL	L1
R88M-1AL75030C(-O/-S2/-OS2)	164.5±2	67
R88M-1AL1K030C(-O/-S2/-OS2)	193.5±2	96
R88M-1AL1K530C(-O/-S2/-OS2)	193.5±2	96
R88M-1AL2K030C(-O/-S2/-OS2)	204.5±3	107

Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

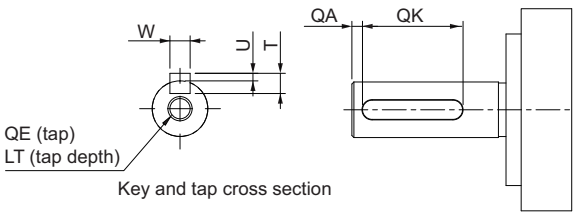
Model	Dimensions [mm]						
	QA	QK	W	T	U	QE	LT
R88M-1AL75030C(-S2/-OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12
R88M-1AL1K030C(-S2/-OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12
R88M-1AL1K530C(-S2/-OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12
R88M-1AL2K030C(-S2/-OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12

750 W/1 kW/1.5 kW/2 kW (with Brake)

R88M-1AL75030C-B(O/S2/OS2), R88M-1AL1K030C-B(O/S2/OS2)
R88M-1AL1K530C-B(O/S2/OS2), R88M-1AL2K030C-B(O/S2/OS2)



Shaft-end with key and tap



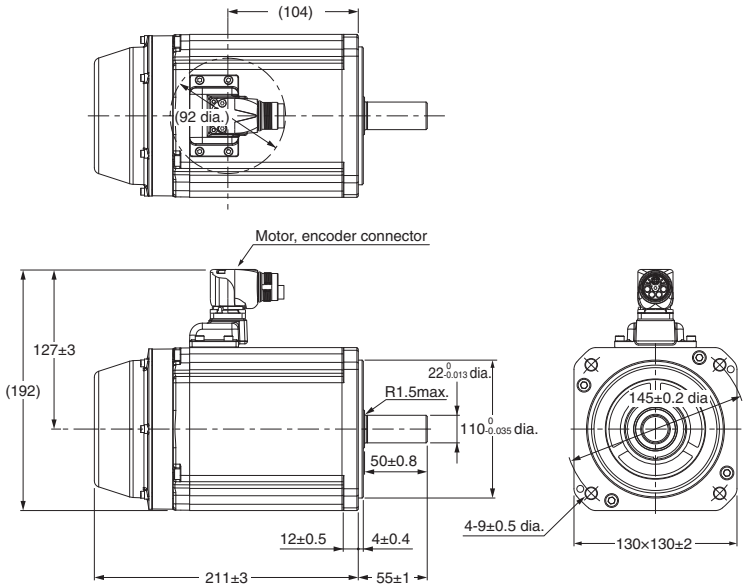
Model	Dimensions [mm]	
	LL	L1
R88M-1AL75030C-B(O/S2/OS2)	213±3	67
R88M-1AL1K030C-B(O/S2/OS2)	242±3	96
R88M-1AL1K530C-B(O/S2/OS2)	242±3	96
R88M-1AL2K030C-B(O/S2/OS2)	253±3	107

Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

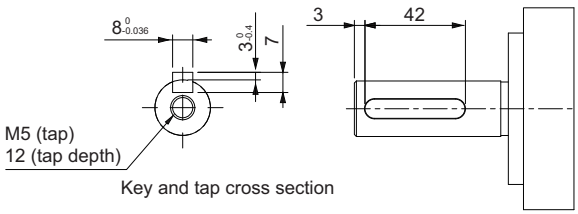
Model	Dimensions [mm]						
	QA	QK	W	T	U	QE	LT
R88M-1AL75030C-B(S2/OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12
R88M-1AL1K030C-B(S2/OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12
R88M-1AL1K530C-B(S2/OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12
R88M-1AL2K030C-B(S2/OS2)	3	42	6 0 -0.03	6	2.5 0 -0.2	M5	12

3 kW (without Brake)

R88M-1AL3K030C(-O/-S2/-OS2)



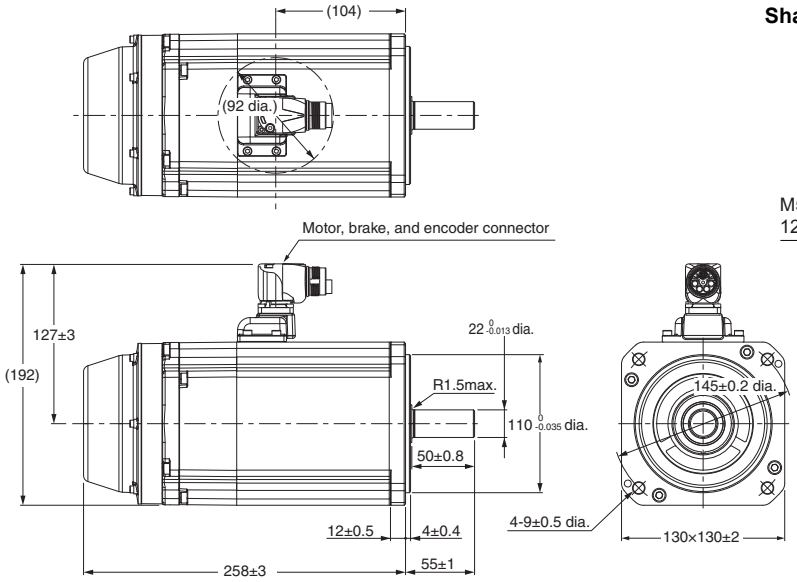
Shaft-end with key and tap



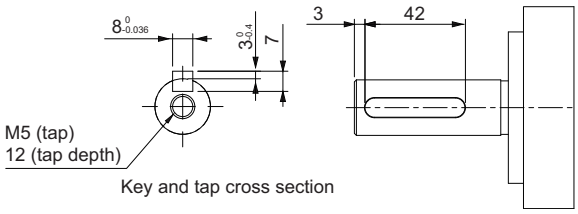
Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

3 kW (with Brake)

R88M-1AL3K030C-B(O/S2/OS2)



Shaft-end with key and tap

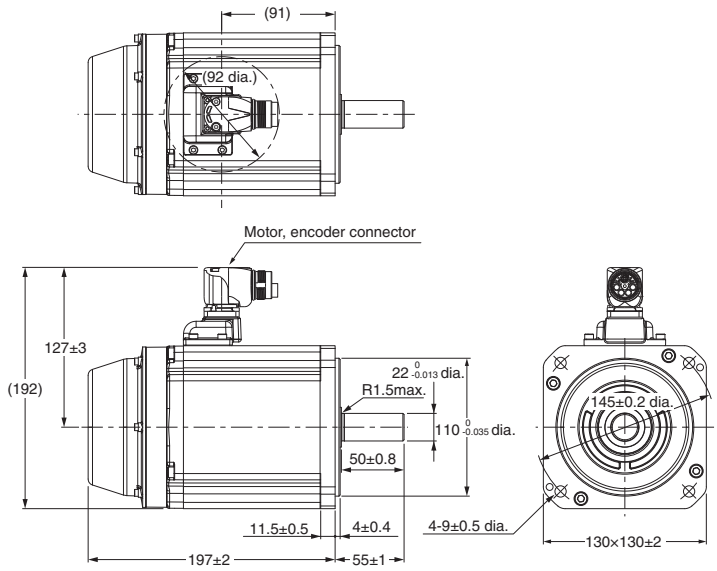


Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

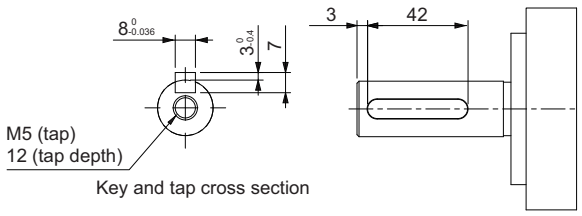
1,500-r/min Servomotors (200 V/400 V)

1.5 kW (without Brake)

R88M-1AM1K515T(-O/-S2/-OS2)
R88M-1AM1K515C(-O/-S2/-OS2)



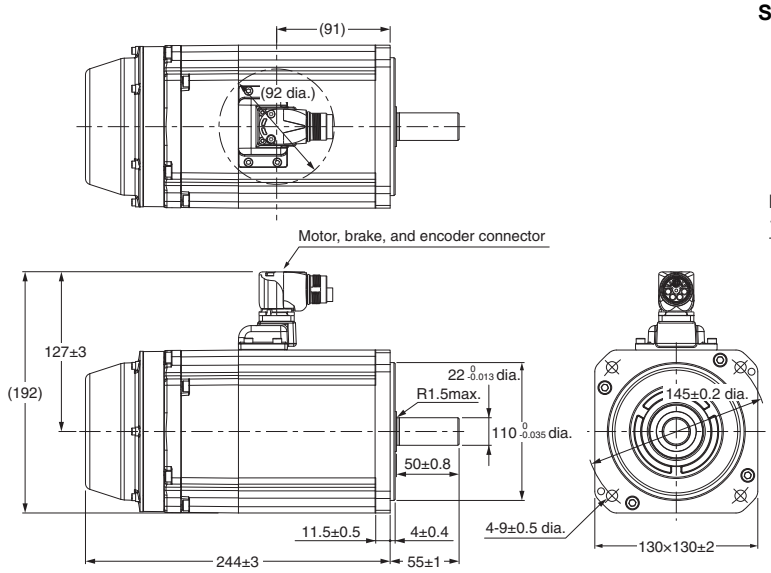
Shaft-end with key and tap



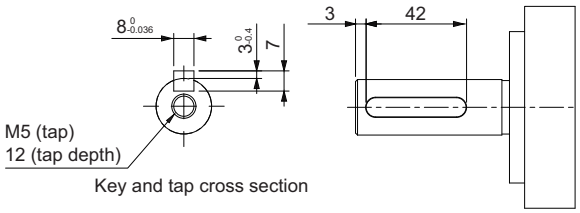
Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

1.5 kW (with Brake)

R88M-1AM1K515T-B(O/S2/OS2)
R88M-1AM1K515C-B(O/S2/OS2)

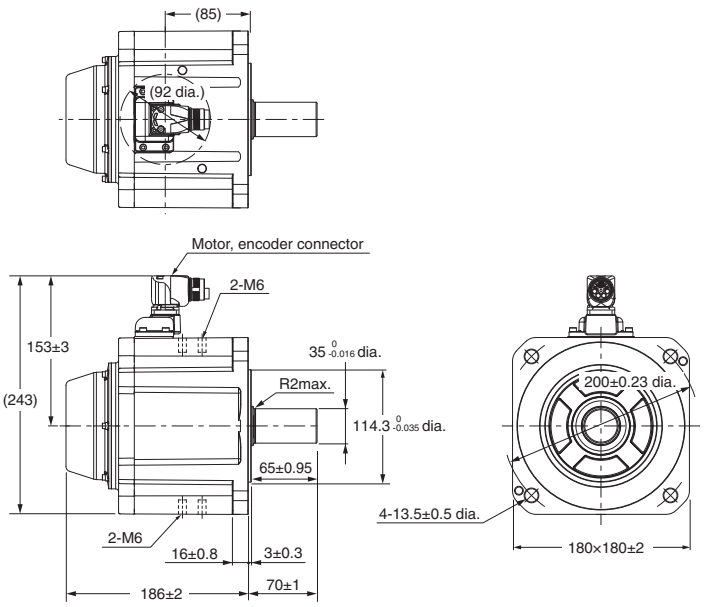


Shaft-end with key and tap

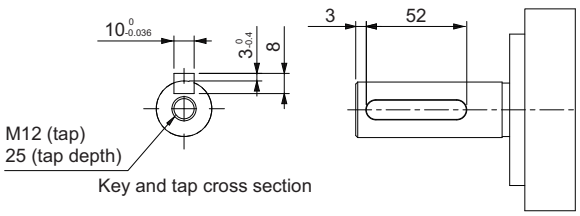


Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

2.7 kW (without Brake) R88M-1AM2K715T(-O/-S2/-OS2)
3 kW (without Brake) R88M-1AM3K015C(-O/-S2/-OS2)

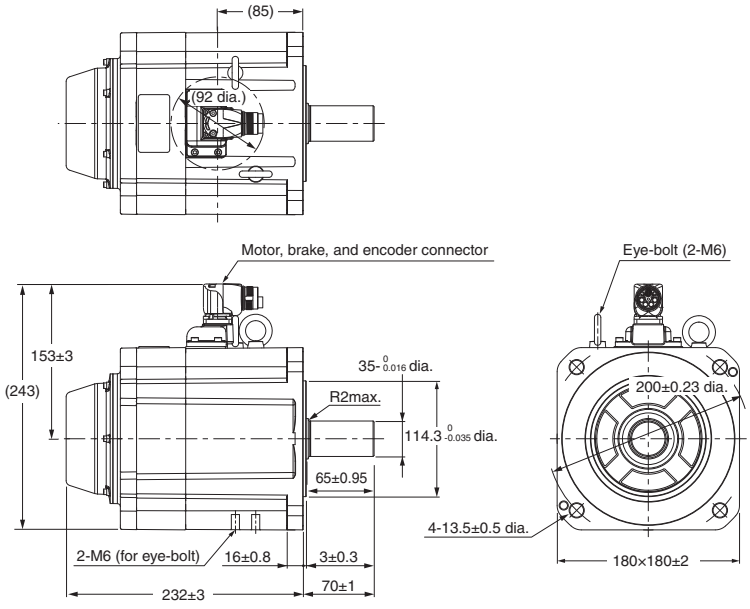


Shaft-end with key and tap

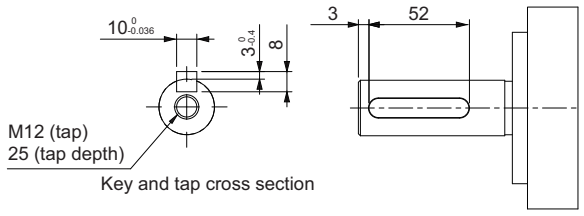


Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

2.7 kW (with Brake) R88M-1AM2K715T-B(O/S2/OS2)
3 kW (with Brake) R88M-1AM3K015C-B(O/S2/OS2)



Shaft-end with key and tap

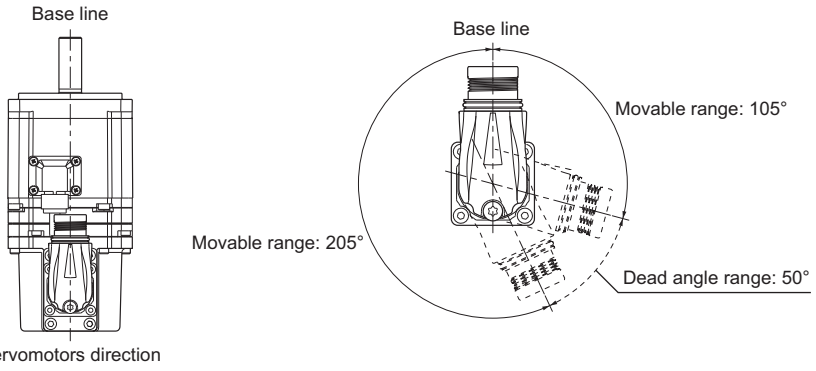


Note: The standard shaft type is a straight shaft. Models with a key and tap are indicated with “S2” at the end of the model number. Models with an oil seal are indicated with “O” at the end of the model number.

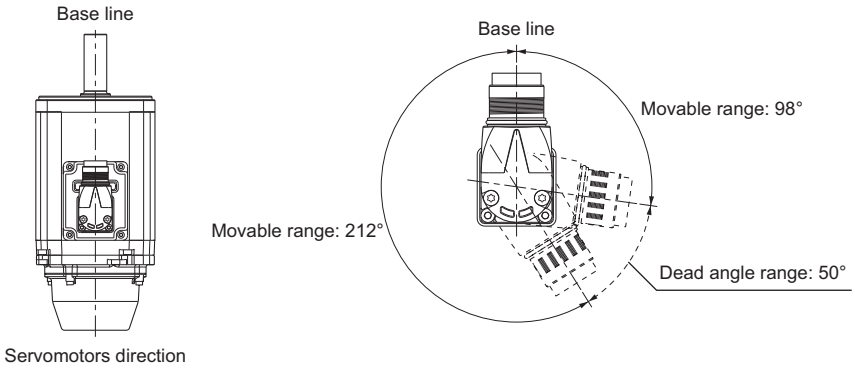
Cable Outlet Direction of Integrated Connector

The cable outlet direction of the servomotor for connector type M17 or M23 can be selected. The below shows the selectable range.
The change of the cable outlet direction shall be up to five times. For a procedure of the change of the cable outlet direction, refer to the *AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT® Communications and Safety Functionality User's Manual* (I621).

Cable Outlet Direction of Connector Type M17



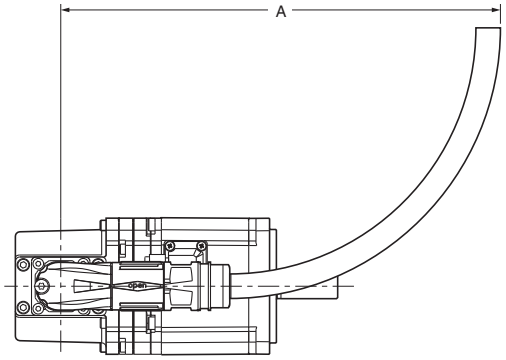
Cable Outlet Direction of Connector Type M23



Cable Wiring Dimension for a Case of Servo Motor Installing

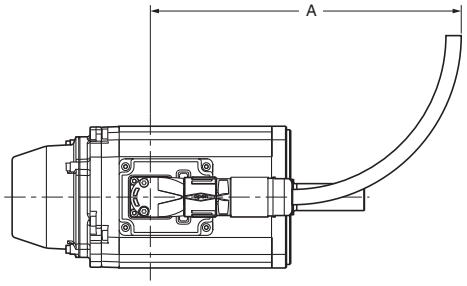
The Integrated cable wiring dimensions are shown below the table according to connector type for Servomotors.
The dimensions from the rotation center of the Integrated connector to the Integrated cable surrounding are indicated as A.

Servo Motor for Connector Type M17



Model	Dimensions [mm]
	A
R88M-1AM20030T(-O/-S2/-OS2)	210
R88M-1AM40030T(-O/-S2/-OS2)	
R88M-1AM75030T(-O/-S2/-OS2)	
R88M-1AM20030T-B(O/S2/OS2)	
R88M-1AM40030T-B(O/S2/OS2)	
R88M-1AM75030T-B(O/S2/OS2)	

Servo Motor for Connector Type M23



Model	Dimensions [mm]
	A
R88M-1AL75030C(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	270
R88M-1AL1K030T(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AL1K030C(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AL1K530T(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AL1K530C(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AL2K030T(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AL2K030C(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AL2K630T(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AL3K030C(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AM1K515T(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AM1K515C(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AM2K715T(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	
R88M-1AM3K015C(-S2/-O/-OS2/-B/-BS2/-BO/-BOS2)	