

NEW PRODUCTS

High Performance AC Servo Motor

SANMOTION R

AC SERVO SYSTEMS

R1 Servo Motor 200 V model



100 mm sq. Motor Rated Output 1, 1.5, 2, 2.5 kW

130 mm sq. Motor Rated Output 3, 4, 5 kW

Applications: spring forming machines, PCB drilling machines, robots

High Speed

High Torque

Small and Lightweight

For the optimized motor selection,
these are available in two types of maximum speed:
a 6,000 min⁻¹ type and a 3,000 min⁻¹ type.



SANYO DENKI

Specifications

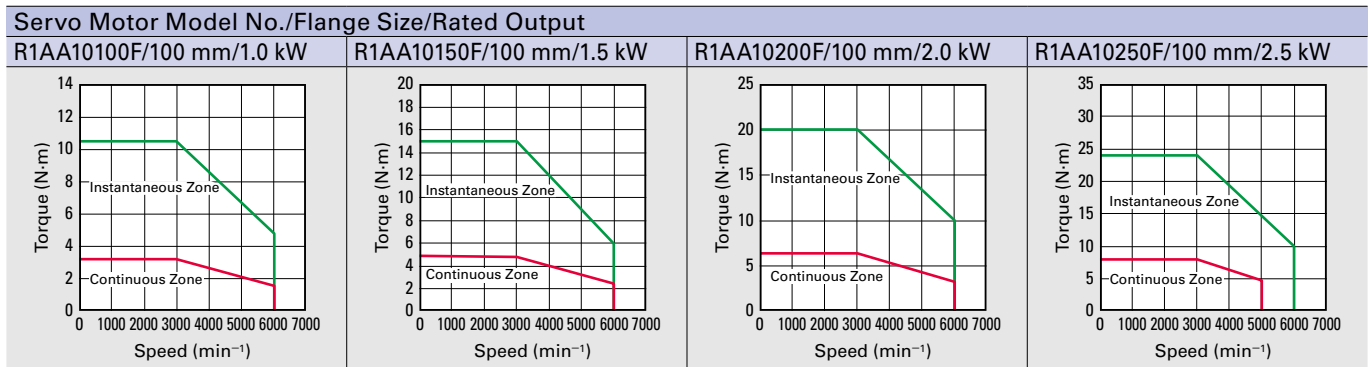
R1 Servo Motors High Power Rate (Low Inertia) RoHS

Input voltage **200 VAC**

100 mm sq.

| Servo Amplifier Model No. | R 3E Model | RS3A05 <input type="checkbox"/> <input type="checkbox"/> <50 A> | | RS3A07 <input type="checkbox"/> <input type="checkbox"/> <75 A> | |
|---|--|---|----------------------------|---|----------------------------|
| Servo Motor Model No. with flange size in () | Unit | R1AA10100F (100 mm sq.) | R1AA10150F (100 mm sq.) | R1AA10200F (100 mm sq.) | R1AA10250F (100 mm sq.) |
| Rated Output | kW | 1.0 | 1.5 | 2.0 | 2.5 |
| Rated Speed | min ⁻¹ | 3000 | 3000 | 3000 | 3000 |
| Maximum Speed | min ⁻¹ | 6000 | 6000 | 6000 | 6000 |
| Rated Torque | N·m | 3.2 | 4.8 | 6.37 | 7.97 |
| Peak Torque | N·m | 10.5 | 15.0 | 20.0 | 24.0 |
| Rotor Inertia | × 10 ⁻⁴ kg · m ² | 1.4 | 2.0 | 2.3 | 2.8 |
| Mass w/out brake (with brake) | kg | 3.8 (5.3) | 5.0 (6.6) | 5.7 (7.2) | 6.7 (8.2) |

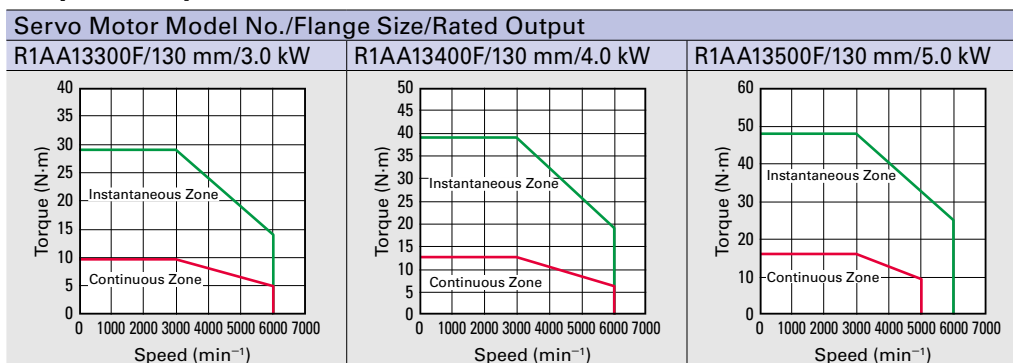
Speed-Torque Characteristics



130 mm sq.

| Servo Amplifier Model No. | R 3E Model | RS3A10 <input type="checkbox"/> <input type="checkbox"/> <100 A> | | RS3A15 <input type="checkbox"/> <input type="checkbox"/> <150 A> | |
|---|--|--|----------------------------|--|--|
| Servo Motor Model No. with flange size in () | Unit | R1AA13300F (130 mm sq.) | R1AA13400F (130 mm sq.) | R1AA13500F (130 mm sq.) | |
| Rated Output | kW | 3.0 | 4.0 | 5.0 | |
| Rated Speed | min ⁻¹ | 3000 | 3000 | 3000 | |
| Maximum Speed | min ⁻¹ | 6000 | 6000 | 6000 | |
| Rated Torque | N·m | 9.7 | 12.8 | 16.0 | |
| Peak Torque | N·m | 29.0 | 39.0 | 48.0 | |
| Rotor Inertia | × 10 ⁻⁴ kg · m ² | 7.0 | 8.8 | 10.6 | |
| Mass w/out brake (with brake) | kg | 9.7 (11.8) | 12.2 (14.7) | 14.3 (16.8) | |

Speed-Torque Characteristics

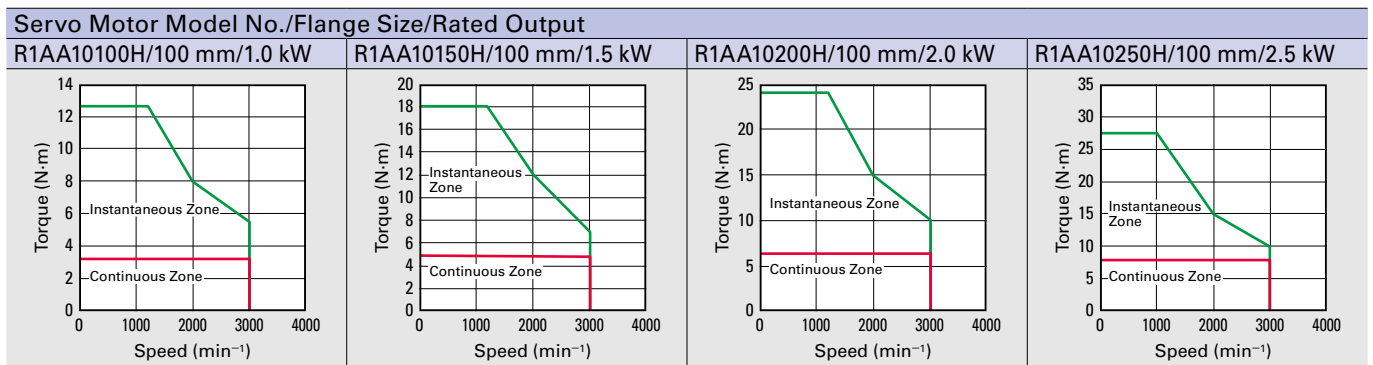




100 mm sq.

| RS3A03 □ □ <30 A> | | RS3A05 □ □ <50 A> | | R 3E Model | Servo Amplifier Model No. |
|----------------------------|----------------------------|----------------------------|----------------------------|---|-------------------------------|
| R1AA10100H (100 mm sq.) | R1AA10150H (100 mm sq.) | R1AA10200H (100 mm sq.) | R1AA10250H (100 mm sq.) | Servo Motor Model No. with flange size in () | |
| 1.0 | 1.5 | 2.0 | 2.5 | Unit | |
| 3000 | 3000 | 3000 | 3000 | kW | Rated Output |
| 3000 | 3000 | 3000 | 3000 | min ⁻¹ | Rated Speed |
| 3.2 | 4.8 | 6.37 | 7.97 | min ⁻¹ | Maximum Speed |
| 12.6 | 18.0 | 24.0 | 27.5 | N·m | Rated Torque |
| 1.4 | 2.0 | 2.3 | 2.8 | N·m | Peak Torque |
| 3.8 (5.3) | 5.0 (6.6) | 5.7 (7.2) | 6.7 (8.2) | × 10 ⁻⁴ kg · m ² | Rotor Inertia |
| | | | | kg | Mass w/out brake (with brake) |

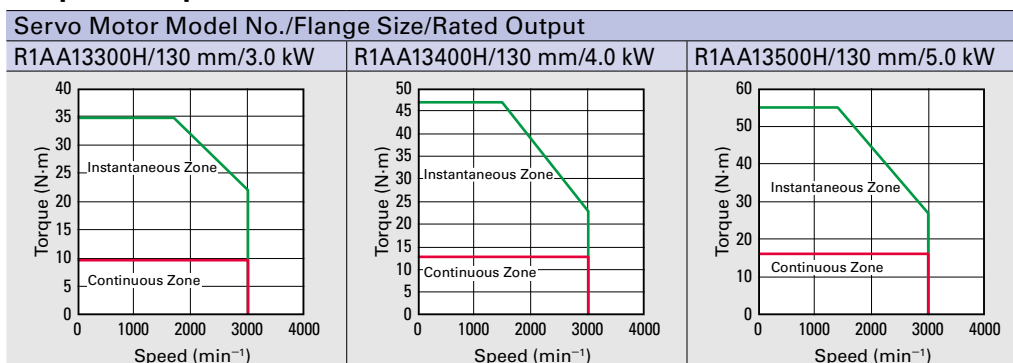
Speed-Torque Characteristics



130 mm sq.

| RS3A07 □ □ <75 A> | | RS3A10 □ □ <100 A> | | R 3E Model | Servo Amplifier Model No. |
|----------------------------|----------------------------|----------------------------|--|---|-------------------------------|
| R1AA13300H (130 mm sq.) | R1AA13400H (130 mm sq.) | R1AA13500H (130 mm sq.) | | Servo Motor Model No. with flange size in () | |
| 3.0 | 4.0 | 5.0 | | Unit | |
| 3000 | 3000 | 3000 | | kW | Rated Output |
| 3000 | 3000 | 3000 | | min ⁻¹ | Rated Speed |
| 9.7 | 12.8 | 16.0 | | min ⁻¹ | Maximum Speed |
| 34.8 | 47.0 | 55.0 | | N·m | Rated Torque |
| 7.0 | 8.8 | 10.6 | | N·m | Peak Torque |
| 9.7 (11.8) | 12.2 (14.7) | 14.3 (16.8) | | × 10 ⁻⁴ kg · m ² | Rotor Inertia |
| | | | | kg | Mass w/out brake (with brake) |

Speed-Torque Characteristics



Encoders

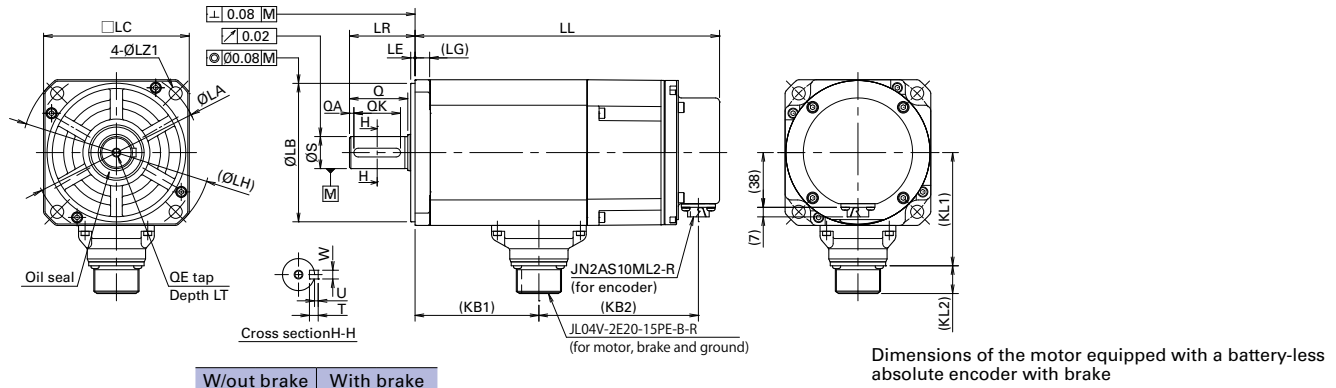
Available encoders

- Battery-less optical absolute encoder [Model No.HA035]
- Optical absolute encoder for incremental systems [Model No.PA035S]

Other encoders are available as options. Please contact us for details.

Dimensions [Unit: mm]

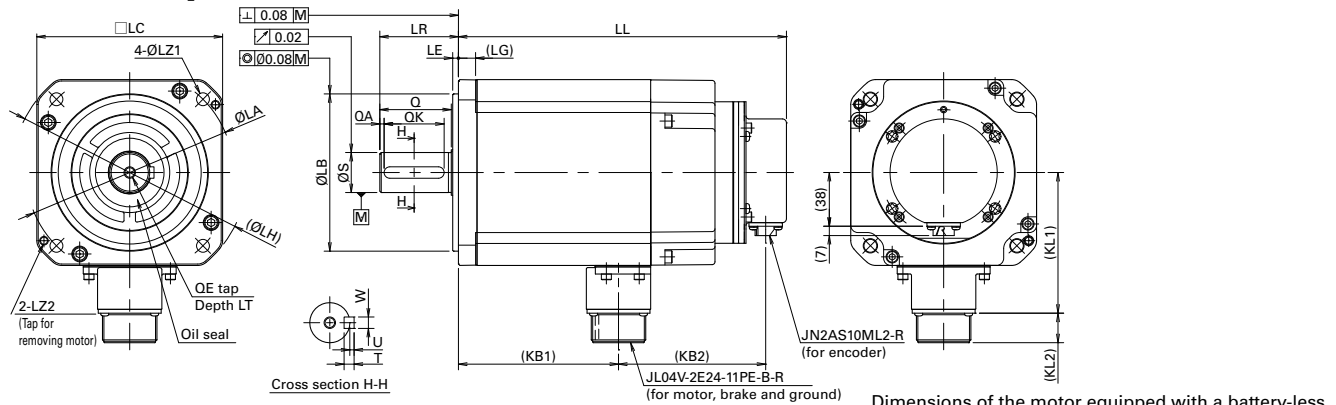
100 mm sq. R1 Servo Motor 1 to 2.5 kW



| Model no. | W/out brake | | With brake | | KB1 | LG | KL1 | KL2 | LA | LB | LE | LH | LC | LZ1 |
|-----------|-------------|-----|------------|-----|-----|----|-----|-----|-----|---------------|----|-----|-----|-----|
| | LL | KB2 | LL | KB2 | | | | | | | | | | |
| R1AA10100 | 145 | | 186 | | 62 | | | | | | | | | |
| R1AA10150 | 168 | 68 | 209 | 109 | 85 | 10 | 78 | 19 | 115 | 0 95-0.035 | 3 | 130 | 100 | 9 |
| R1AA10200 | 179 | | 220 | | 96 | | | | | | | | | |
| R1AA10250 | 199 | | 240 | | 116 | | | | | | | | | |

| Model no. | LR | S | Q | QA | QK | W | T | U | QE | LT |
|-----------|----|---------------|----|----|----|--------------|---|-----|----|----|
| R1AA10100 | 45 | 0 22-0.013 | 40 | 3 | 32 | 0 6-0.030 | 6 | 2.5 | M6 | 20 |
| R1AA10150 | | | | | | | | | | |
| R1AA10200 | | | | | | | | | | |
| R1AA10250 | | | | | | | | | | |

130 mm sq. R1 Servo Motor 3 to 5 kW



| Model no. | W/out brake | | With brake | | KB1 | LG | KL1 | KL2 | LA | LB | LE | LH | LC | LZ1 | LZ2 |
|-----------|-------------|-----|------------|-----|-----|----|-----|-----|-----|----------------|----|-----|-----|-----|-----|
| | LL | KB2 | LL | KB2 | | | | | | | | | | | |
| R1AA13300 | 184 | | 230 | 103 | 112 | | | | | | | | | | |
| R1AA13400 | 208 | 57 | 251 | 100 | 136 | 12 | 98 | 21 | 145 | 0 110-0.035 | 4 | 165 | 130 | 9 | M6 |
| R1AA13500 | 232 | | 275 | | 160 | | | | | | | | | | |

| Model no. | LR | S | Q | QA | QK | W | T | U | QE | LT |
|-----------|----|---------------|----|----|----|--------------|---|---|----|----|
| R1AA13300 | 55 | 0 28-0.013 | 50 | 3 | 42 | 0 8-0.036 | 7 | 3 | M8 | 25 |
| R1AA13400 | | | | | | | | | | |
| R1AA13500 | | | | | | | | | | |

■ Precautions For Adoption



Failure to follow the precautions on the right may cause moderate injury and property damage, or in some circumstances, could lead to a serious accident. Always follow all listed precautions.

⚠ Cautions

- Read the accompanying Instruction Manual carefully prior to using the product.
- If applying to medical devices and other equipment affecting people's lives, please contact us beforehand and take appropriate safety measures.
- If applying to equipment that can have significant effects on society and the general public, please contact us beforehand.
- Do not use this product in an environment where vibration is present, such as in a moving vehicle or shipping vessel.
- Do not perform any retrofitting, re-engineering, or modification to this equipment.
- The products presented in this catalog are meant to be used for general industrial applications. If using for special applications related to aviation and space, nuclear power, electric power, submarine repeaters, etc., please contact us beforehand.

*For any question or inquiry regarding the above, contact our Sales Department.

SANYO DENKI CO., LTD. 3-33-1 Minami-Otsuka, Toshima-ku, Tokyo, 170-8451, Japan TEL: +81 3 5927 1020 <http://www.sanyodenki.com>

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