Note 1. The model with a lead of 20mm cannot select specifications with brake (velocity specifications).

Note 2. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.514 for details on robot cable.

Note 3. Select this selection when using the gateway function. For details, see P.66.

Note 4. Minimum bend radius of motor cable is R50.

Note 5. Weight of models with no brake. The weight of brake-attached models is 0.3 kg heavier than the models with no brake shown in the table.
**F8L**  High lead type: Lead 30

<table>
<thead>
<tr>
<th>Effective stroke</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>350</th>
<th>400</th>
<th>450</th>
<th>500</th>
<th>550</th>
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<th>850</th>
<th>900</th>
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<tr>
<td>L</td>
<td>450</td>
<td>500</td>
<td>550</td>
<td>600</td>
<td>650</td>
<td>700</td>
<td>750</td>
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<td>1300</td>
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<tr>
<td>A</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>5</td>
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<td>B</td>
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<td>100</td>
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<td>100</td>
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<td>D</td>
<td>240</td>
<td>290</td>
<td>340</td>
<td>390</td>
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<td>490</td>
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<td>690</td>
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<td>790</td>
<td>840</td>
<td>890</td>
<td>940</td>
<td>990</td>
<td>1040</td>
<td>1090</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>3.9</td>
<td>4.2</td>
<td>4.5</td>
<td>4.8</td>
<td>5.1</td>
<td>5.4</td>
<td>5.7</td>
<td>6.1</td>
<td>6.4</td>
<td>6.7</td>
<td>7.0</td>
<td>7.3</td>
<td>7.6</td>
<td>7.9</td>
<td>8.2</td>
<td>8.5</td>
<td>8.8</td>
<td>9.2</td>
</tr>
<tr>
<td>Minimum speed (mm/sec)</td>
<td>3.90</td>
<td>4.20</td>
<td>4.50</td>
<td>4.80</td>
<td>5.10</td>
<td>5.40</td>
<td>5.70</td>
<td>6.10</td>
<td>6.40</td>
<td>6.70</td>
<td>7.00</td>
<td>7.30</td>
<td>7.60</td>
<td>7.90</td>
<td>8.20</td>
<td>8.50</td>
<td>8.80</td>
<td>9.20</td>
</tr>
<tr>
<td>Speed setting</td>
<td>85%</td>
<td>75%</td>
<td>85%</td>
<td>75%</td>
<td>85%</td>
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<td>75%</td>
<td>85%</td>
<td>75%</td>
<td>85%</td>
<td>75%</td>
</tr>
</tbody>
</table>

Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. When installing the robot, do not use washers inside the robot body.
Note 3. Minimum bend radius of motor cable is R50.
Note 4. When using this φ10 knock-pin hole to position the robot body, the knockpin must not protrude more than 10mm inside the robot body.

---

**Controller**

- **SR1-X**: 540
- **TS-X**: 514
- **RDV-X**: 528

---

**Articulated robots**

- YA
- Linear conveyor modules
- LCM100
- Compact single-axis robots
- TRANSERVO
- Motor-less single axis actuator
- Robonity
- Single-axis robots
- FLIP-X
- Linear motor single-axis robots
- Phaser
- Cartesian robots
- XY-X
- SCARA robots
- YK-X
- Pick & place robots
- YP-X

---

**Cross-section E.E**

- C-φ5.5 See cross-section E-E.
- φ10H7 Plate thickness 10 (Note 4)
- Greasing hole

---

**Note**

- Recommended plate nut M3 (7 * t 1.6)
- M5 x 0.8 hex socket head bolt with length (under head) of 16mm or more.

---

**Effective stroke**

- 212±1/4: When origin is on motor side
- 209.5: When origin is on non-motor side
- 30±0.02
- 44±1.1
- 90.5±1/4: When origin is on non-motor side

---

**Weight**

- 3.9 kg
- 4.2 kg
- 4.5 kg
- 4.8 kg
- 5.1 kg
- 5.4 kg
- 5.7 kg
- 6.1 kg
- 6.4 kg
- 6.7 kg
- 7.0 kg
- 7.3 kg
- 7.6 kg
- 7.9 kg
- 8.2 kg
- 8.5 kg
- 8.8 kg
- 9.2 kg
- 9.5 kg

---

**Maximum speed**

- Note 5. When the stroke is longer than 650mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table above.
### Ordering method

**F8LH**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unit price (Jpy)</th>
<th>Origin position change</th>
<th>Grease type</th>
<th>Stroke (mm)</th>
<th>Care length (mm)</th>
<th>TSX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Non-motor side</td>
<td>Zic Clean</td>
<td>60</td>
<td>550</td>
<td></td>
</tr>
</tbody>
</table>

- **Motor:**
  - Linear conveyor modules
  - LCM100
- **Compact single-axis robots:**
  - TRANSERVO
  - Motor-less single axis robots
  - PHASER
- **Cartesian robots:**
  - Transverse type
  - XY-X
  - SCARA robots
  - YK-X
- **Pick & place robots:**
  - YP-X

#### Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke (mm)</td>
<td>Usable for CE</td>
</tr>
<tr>
<td>Allowable overhang</td>
<td>Note</td>
</tr>
<tr>
<td>Regenerative unit</td>
<td></td>
</tr>
</tbody>
</table>

#### Allowable overhang

- **Horizontal installation (Unit: mm):**
  - A: 10kg 573 256 176 |
  - B: 10kg 147 215 515 |
  - C: 20kg 53 75 295 |

- **Wall installation (Unit: mm):**
  - A: 10kg 279 70 50 |
  - B: 20kg 80 99 546 |
  - C: 40kg 15 19 270 |

Note: Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.

### Static loading moment

- **MY:** 128
- **MP:** 163
- **MR:** 143

### Controller

- **SRX-105**
  - Programming / (Incremental) DN: DeviceNet TM
  - Remote command / (Absolute) E: CE marking

### Other Information

- **Battery (** without battery **):** Standard
- **Motor cable:** Standard cable (3L/5L/10L), but can be changed to flexible cable (50mm pitch).
- **Position detectors (resolvers):** Common to incremental and absolute specifications.
- **Position repeatability:** In one direction.
- **Ball screw lead:** 4 rows of circular arc grooves × 1 rail
- **Position detector:** Linear guide type
- **Resolution (Pulse/rotation):** 16384
- **Grounding terminal:** M4
- **Use:** 5.8 hex socket head bolt with length (under head) of 15mm or more.

---

**Note:**

1. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable (50mm pitch).
2. When installing the robot, do not use washers inside the robot body.
3. Minimum bend radius of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table below.
4. When using a φ10 knock-pin hole to position the robot body, the knockpin must not protrude more than 10mm inside the robot body.
5. When the stroke is longer than 600mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table above.
Articulated robots

Linear conveyor modules

Compact single-axis robots

TRANSERVO

Motor-less single-axis robots

PHASER

Cartesian robots

XY-X

SCARA robots

YK-X

Pick & place robots

YP-X

CLEANCONTROLLERINFORMATION

Note 1. The model with a lead of 30mm cannot select specifications with brake (vertical specifications).

Note 2. If selecting 5mm lead specifications then the origin point cannot be changed to the non-motor side.

Note 3. The robot cable is standard cable (SL3/5L10L), but can be changed to flexible cable. See P.614 for details on robot cable.

Note 4. See P.522 for DIN rail mounting bracket.

Note 5. Select this selection when using the gateway function. For details, see P.66.

Note 4. Position detectors (resolvers) are common to incremental and absolute specifications.

Note 2. When the stroke is longer than 700mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table below. Strokes longer than 1050mm are available only for high lead (Lead 30). (Special order item).

Note 4. Position detectors (resolvers) are common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.

Note 1. When installing the unit, washer, etc., cannot be used in the φ5.5 counter bore hole.

Note 6. Minimum bend radius of motor cable is R50.

Note 7. The maximum stroke in the non-motor side is longer than the motor side. The maximum stroke is longer than the motor side by 165mm.

Note 8. Weight of motor only with brake. The weight of brake-attached models is 3.5kg heavier than the models with no brake shown in the table.

Note 10. Strokes longer than 1050mm are special order items. Please consult us for delivery time.

Controller operation method

Controller operation method

SR1-X

RCX320

RCX221/222

RCX4340

Controller Operation method

Programming / I/O point trace / Remote command

Operation using RS-232C communication

Remote command

Note. Regenerative unit is required when the models used vertically and with 700mm or larger stroke.

Note 6.  Select this selection when using the gateway function. For details, see P.66.

Note 4.  See P.522 for DIN rail mounting bracket.

Note 5.  Select this selection when using the gateway function. For details, see P.66.

Note 1.  The model with a lead of 30mm cannot select specifications with brake (vertical specifications).

Note 2.  If selecting 5mm lead specifications then the origin point cannot be changed to the non-motor side.

Note 3.  The robot cable is standard cable (SL3/5L10L), but can be changed to flexible cable. See P.614 for details on robot cable.

Note 4.  See P.522 for DIN rail mounting bracket.

Note 5.  Select this selection when using the gateway function. For details, see P.66.

Note 4.  Position detectors (resolvers) are common to incremental and absolute specifications.

Note 2.  When the stroke is longer than 700mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table below. Strokes longer than 1050mm are available only for high lead (Lead 30). (Special order item).

Note 4.  Position detectors (resolvers) are common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.

Note 1.  Stop positions are determined by the mechanical stoppers at both ends. Note 2.  φ17.5×1.4 when the high lead specification (Lead 30) is used. Note 4.  4.4×5.1 when the high lead specification (Lead 30) is used.

Note 5.  When installing the unit, washer, etc., cannot be used in the φ5.5 counter bore hole.

Note 6.  Minimum bend radius of motor cable is R50.

Note 7.  The maximum stroke in the non-motor side is longer than the motor side. The maximum stroke is longer than the motor side by 165mm.

Note 8.  Weight of motor only with brake. The weight of brake-attached models is 3.5kg heavier than the models with no brake shown in the table.

Note 10.  Strokes longer than 1050mm are special order items. Please consult us for delivery time.

Controller operation method

Programming / I/O point trace / Remote command

Operation using RS-232C communication

Remote command

Note. Regenerative unit is required when the models used vertically and with 700mm or larger stroke.

Note 6.  Select this selection when using the gateway function. For details, see P.66.

Note 4.  See P.522 for DIN rail mounting bracket.

Note 5.  Select this selection when using the gateway function. For details, see P.66.

Note 4.  Position detectors (resolvers) are common to incremental and absolute specifications.

Note 2.  When the stroke is longer than 700mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table below. Strokes longer than 1050mm are available only for high lead (Lead 30). (Special order item).

Note 4.  Position detectors (resolvers) are common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.

Note 1.  Stop positions are determined by the mechanical stoppers at both ends. Note 2.  φ17.5×1.4 when the high lead specification (Lead 30) is used. Note 4.  4.4×5.1 when the high lead specification (Lead 30) is used.

Note 5.  When installing the unit, washer, etc., cannot be used in the φ5.5 counter bore hole.

Note 6.  Minimum bend radius of motor cable is R50.

Note 7.  The maximum stroke in the non-motor side is longer than the motor side. The maximum stroke is longer than the motor side by 165mm.

Note 8.  Weight of motor only with brake. The weight of brake-attached models is 3.5kg heavier than the models with no brake shown in the table.

Note 10.  Strokes longer than 1050mm are special order items. Please consult us for delivery time.

Controller operation method

Programming / I/O point trace / Remote command

Operation using RS-232C communication

Remote command

Note. Regenerative unit is required when the models used vertically and with 700mm or larger stroke.

Note 6.  Select this selection when using the gateway function. For details, see P.66.

Note 4.  See P.522 for DIN rail mounting bracket.

Note 5.  Select this selection when using the gateway function. For details, see P.66.

Note 4.  Position detectors (resolvers) are common to incremental and absolute specifications.

Note 2.  When the stroke is longer than 700mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table below. Strokes longer than 1050mm are available only for high lead (Lead 30). (Special order item).

Note 4.  Position detectors (resolvers) are common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.

Note 1.  Stop positions are determined by the mechanical stoppers at both ends. Note 2.  φ17.5×1.4 when the high lead specification (Lead 30) is used. Note 4.  4.4×5.1 when the high lead specification (Lead 30) is used.

Note 5.  When installing the unit, washer, etc., cannot be used in the φ5.5 counter bore hole.

Note 6.  Minimum bend radius of motor cable is R50.

Note 7.  The maximum stroke in the non-motor side is longer than the motor side. The maximum stroke is longer than the motor side by 165mm.

Note 8.  Weight of motor only with brake. The weight of brake-attached models is 3.5kg heavier than the models with no brake shown in the table.

Note 10.  Strokes longer than 1050mm are special order items. Please consult us for delivery time.
Note 1. The model with a lead of 30mm cannot select specifications with brake (vertical specifications).

Note 2. If selecting 5mm lead specifications then the origin point cannot be changed to the non-motor-side.

Note 3. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.564 for details on robot cable.

Note 4. See P.522 for DIN rail mounting bracket.

Note 5. Select this selection when using the gateway function. For details, see P.66.

### Specifications

- **AC servo motor output (W)**: 200
- **Repeatability (mm)**: ±0.01
- **Deceleration mechanism**: Ball screw 915
- **Linear conveyor modules**: LCM100
- **Compact single-axis robots**: TRANSERVO
- **Motor-less single-axis robots**: PHASER
- **Cartesian robots**: XY-X
- **SCARA robots**: YK-X
- **Pick & place robots**: YP-X
- **CLEAN CONTROLLER INFORMATION**: 200
- **LCD monitor**:
- **Battery**: GF 54+/-1 (Note 1)
- **I/O selection**:
- **Grease type**: L
- **Cable entry**: A
- **Allowable overhang**: Note

### Ordering method

- **Model**: F10H
- **Ordering method**:
  - **Motor cable length**: 150 to 1000
  - **Stroke (mm)**: 150 to 1000
  - **Rated thrust (N)**: 113 170 341 683
  - **Maximum speed (mm/sec)**: 40kg 60kg 80kg 100kg
  - **Speed setting**: 101% 100% 90% 80% 70% 60% 50% 40%

### Allowable overhang

<table>
<thead>
<tr>
<th>Horizontal installation (Unit: mm)</th>
<th>Wall installation (Unit: mm)</th>
<th>Vertical installation (Unit: mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke 10</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>10kg</td>
<td>193</td>
<td>570</td>
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<tr>
<td>20kg</td>
<td>102</td>
<td>283</td>
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<tr>
<td>30kg</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

### Static loading moment

<table>
<thead>
<tr>
<th>MY</th>
<th>MP</th>
<th>MR</th>
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</thead>
<tbody>
<tr>
<td>348</td>
<td>348</td>
<td>160</td>
</tr>
</tbody>
</table>

### Controller

- **Controller**: SR1-X 10
- **Operation method**:
  - **Controller Driver**: Power capacity
  - **Driver Power-supply voltage**: 220V
  - **Driver: Power capacity**: 10: 500W
  - **Regenerative unit**: RDV-X 2 10
  - **RDV-X 10**: RBR1

Note 1. Positioning repeatability in one direction.

Note 2. When installing the unit, washers, counter bore hole, and tips must not protrude more than 10mm inside the robot body.

Note 3. Positioning accuracy (incremental) is common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.

Note 4. When the stroke is longer than 600mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speed shown in the table below.

Note 5. Positioning repeatability is determined by the mechanical stoppers at both ends.

Note 6. When installing the unit, washers, counter bore hole, and tips must not protrude more than 10mm inside the robot body.

Note 7. Weight of models with no brake. The weight of brake-attached models is 0.5 kg heavier than the models with no brake shown in the table.

Note 8. When the stroke is longer than 600mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speed shown in the table below.
Ordering method

Note. Strokes longer than 1050mm are special order items. Please consult us for delivery time.

Specifications

AC servo motor output (W) 100
Repeatability (mm) ±0.01
Deceleration mechanism Ball screw 95
Ball screw lead (mm) 20 20 10 10
Maximum (kg) 4 10 20
 payload
Rated Thrust (N) 58 84 169 139
Stroke (mm) 150 to 1250 150 to 1050 (50mm pitch)
Overall length (mm) Vertical Z540 2920 2860
Maximum dimensions of cross section of main unit (mm) W138 x H83
Table type Standard 3.5mm 5mm 7.10mm 10mm
Linear guide type Glass or circular air grooves 5/12
Resolution (脈冲/回転) 1.0
Position detector Resolvers ±0.3%

Note 1. Positioning repeatability in one direction.
Note 2. When the stroke is longer than 700mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table below.
Note 3. Strokes longer than 1050mm are available only for high lead (Lead 30). (Special order item)
Note 4. Position detectors (resolvers) are common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.

Allowable overhang

Note 1. Stiffness positions are determined by the mechanical stoppers at both ends.
Note 2. Lead 30 when the high lead specification (Lead 30) is used.
Note 3. 170+3 when the high lead specification (Lead 30) is used.

Static loading moment

Controller

F14

High lead: Lead 30
Origin on the non-motor side is selectable
### Ordering method

<table>
<thead>
<tr>
<th>Model</th>
<th>L</th>
<th>M</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>F14H</td>
<td>100</td>
<td>200</td>
<td>300</td>
</tr>
</tbody>
</table>

#### Specifications

- **AC servo motor output (W)**: 200
- **Repeatability (mm)**: 0.01
- **Deceleration mechanism**: Ball screw
- **Maximum speed (mm/sec)**: 2000
- **Maximum payload (kg)**: Vertical 20, Horizontal 30
- **Rated thrust (N)**: 113
- **Stroke (mm)**: 30 to 1250
- **Overall length (mm)**: Vertical 590, Horizontal 170
- **Outside dimensions of main unit (mm)**: W136 × H83
- **Cable length (m)**: Standard: 3.5, Option: 5, 10
- **Repeatability**: 0.05
- **Position detector**: Resolver
- **Resolution (Pulse/rotation)**: 16384
- **Cross-section**: C-C (The same position on the opposite surface at 2 locations)

#### Allowable overhang

<table>
<thead>
<tr>
<th>Horizontal installation</th>
<th>Vertical installation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td><strong>B</strong></td>
</tr>
<tr>
<td>10kg</td>
<td>15kg</td>
</tr>
<tr>
<td>25kg</td>
<td>35kg</td>
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<tr>
<td>50kg</td>
<td>35kg</td>
</tr>
<tr>
<td>75kg</td>
<td>10kg</td>
</tr>
<tr>
<td>100kg</td>
<td>15kg</td>
</tr>
</tbody>
</table>

Note 1: Positioning repeatability in any direction.
Note 2: When the stroke is longer than 700mm, resonance of the ball screw may occur depending on the operating conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table below.
Note 3: Strokes longer than 1050mm are available only for high lead (Lead 30). (Special order item)
Note 4: Position detectors (resolvers) are common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.

### Controller

<table>
<thead>
<tr>
<th>Controller</th>
<th>Operation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR1-X</td>
<td>Programming / I/O point brake / Remote command</td>
</tr>
<tr>
<td>TS-X</td>
<td>Operation using RS-232C communication</td>
</tr>
</tbody>
</table>

#### Static loading moment

- **Type**: T type
- **Speed setting**: R: With RG1 P: PNP
- **Weight (kg)**: 200
- **Effective stroke**: 150 to 300
- **Maximum speed (mm/sec)**: 500

Note 7: When the stroke is longer than 700mm, resonance of the ball screw may occur depending on the operating conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table above.

Note 8: Strokes longer than 1050mm are special order items. Please consult us for speed setting.
**Articulated robots**
**YA**

**Linear conveyor modules**
**LCM100**

**Compact single-axis robots**
**TRANSERVO**

Motor-less single-axis robots
**PHASER**

Cartesian robots
**XY**

**SCARA robots**
**YK**

Pick & place robots
**YP**

**CLEANCONTROLLER INFORMATION**

---

**Note**
The model with a lead of 40mm cannot select specifications with brake (vertical specifications).

Note 2. Upper robot cable (U) on models equipped with a brake is a special order item.

Note 3. The robot is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.514 for details on robot cable.

Note 4. See P.522 for DIN rail mounting bracket.

Note 5. The robot with the high lead specifications (lead 40) needs a regenerative unit.

Select this selection when using the gateway function. For details, see P.66.

---

**Specifications**

- **AC servo motor output (W)**: 400
- **Repeatability**: ±0.1
- **Ball screw lead (mm)**: 40, 20, 10
- **Maximum speed**: 2000, 1000, 600, 400
- **Overall length (mm)**: 752, 587, 2516
- **Cable length (m)**: Standard: 3.5 / Option: 5, 10
- **Position detector**: Resolver
- **Notes**
  - Repeatability for single rotation.
  - When the stroke exceeds 800mm, although depending on the moving range, the ball screw may resonate (critical speed). In那种case, make adjustment to lower the speed on the program. The maximum speed is 1,000mm/sec. (Max. speed).
  - To operate the unit at a speed exceeding 1,000mm/sec horizontally.
  - When the stroke is longer than 800mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speed shown in the table above.

---

**Allowable overhang**

Horizontal installation (Unit: mm)

<table>
<thead>
<tr>
<th>Model</th>
<th>Lead 20</th>
<th>Lead 10</th>
<th>Lead 40</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSX</td>
<td>125</td>
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</tr>
<tr>
<td>MR</td>
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<tr>
<td>MY</td>
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<tr>
<td>MP</td>
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<td>41</td>
<td>22</td>
</tr>
<tr>
<td>NP</td>
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<td>36</td>
<td>18</td>
</tr>
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</table>

---

**Static loading moment**

Horizontal installation (Unit: N·m)

<table>
<thead>
<tr>
<th>Model</th>
<th>Lead 20</th>
<th>Lead 10</th>
<th>Lead 40</th>
</tr>
</thead>
<tbody>
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<td>1181</td>
</tr>
<tr>
<td>MR</td>
<td>1600</td>
<td>971</td>
<td>805</td>
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<tr>
<td>MY</td>
<td>971</td>
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<td>454</td>
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<tr>
<td>MP</td>
<td>454</td>
<td>263</td>
<td>222</td>
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<tr>
<td>R</td>
<td>222</td>
<td>123</td>
<td>105</td>
</tr>
<tr>
<td>NP</td>
<td>105</td>
<td>68</td>
<td>58</td>
</tr>
</tbody>
</table>

---

**Controller**

- **Controller Operation method**
  - Remote control or remote control
  - Pulse train control

- **I/O selection**
  - Power supply voltage / origin on motor side
  - Power supply voltage / origin on non-motor side
  - Power supply voltage / origin on non-motor side

---

**Note**

- Stop positions are determined by the mechanical stoppers at both ends.
- When installing the robot, do not use washers inside the robot body.
- The robot with the high lead specifications (lead 40) needs a regenerative unit.
- Select this selection when using the gateway function. For details, see P.66.

---

**F17**

High lead: Lead 40

Origin on the non-motor side is selectable.

Note 1. The model with a lead of 40mm cannot select specifications with brake (vertical specifications).

Note 2. Upper robot cable (U) on models equipped with a brake is a special order item.

Note 3. The robot is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.514 for details on robot cable.

Note 4. See P.522 for DIN rail mounting bracket.

Note 5. The robot with the high lead specifications (lead 40) needs a regenerative unit.

Select this selection when using the gateway function. For details, see P.66.
Articulated robots
YA
Linear conveyor 
modules
LCM100
Compact 
single-axis robots
TRANSERVO
Motor-less single ... robots
PHASER
Cartesian
robots 
XY-X
SCARA
robots
YK-X
Pick & place
robots 
YP-X

F17 High lead type: Lead 40

Approx. 250 (Motor cable length) 240+5: When origin is on motor side

Effective stroke
121+5: When origin is on non-motor side
130: When origin is on motor side

Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. When installing the robot, do not use washers inside the robot body.
Note 3. Minimum bend radius of motor cable is R50.

| Effective stroke | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 | 1350 | 1400 | 1450 |
|------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| L                | 575 | 625 | 675 | 725 | 78 | 825 | 875 | 925 | 975 | 100 | 1075 | 1125 | 1175 | 1225 | 1275 | 1315 | 1375 | 1425 | 1475 | 1525 | 1575 | 1625 | 1675 | 1715 | 1775 | 1825 |
| A                | 50 | 100 | 150 | 200 | 50 | 100 | 150 | 200 | 50 | 100 | 150 | 200 | 50 | 100 | 150 | 200 | 50 | 100 | 150 | 200 | 50 | 100 | 150 | 200 | 50 | 100 | 150 | 200 |
| M                | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| N                | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 16 | 16 | 18 | 18 | 18 | 18 | 20 | 20 |
| C                | 240 | 240 | 420 | 420 | 600 | 600 | 600 | 600 | 750 | 780 | 780 | 780 | 860 | 860 | 860 | 860 | 960 | 960 | 960 | 960 | 1140 | 1140 | 1140 | 1140 | 1320 | 1320 | 1320 |
| Weight (kg)      | 14.7 | 15.5 | 16.4 | 17.2 | 18.6 | 18.8 | 19.7 | 20.5 | 21.3 | 22.1 | 23.0 | 23.8 | 24.6 | 25.4 | 26.3 | 27.1 | 27.9 | 28.7 | 29.6 | 30.4 | 31.2 | 32.0 | 32.8 | 33.6 | 34.4 | 35.2 |

Maximum speed (mm/min) Lead 40

<table>
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<tr>
<th>Speed setting</th>
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<tbody>
<tr>
<td>80%</td>
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</table>

Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. When installing the robot, do not use washers inside the robot body.
Note 3. Minimum bend radius of motor cable is R50.

Note 4. When the stroke is longer than 800mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table above.
### Ordering method

**F17L - 50**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
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<tbody>
<tr>
<td>YA</td>
<td>Articulated robots</td>
</tr>
<tr>
<td>LCM100</td>
<td>Linear conveyor modules</td>
</tr>
<tr>
<td>TRANSERVO</td>
<td>Motor-less single-axis robots</td>
</tr>
<tr>
<td>PHASER</td>
<td>Cartesian robots</td>
</tr>
<tr>
<td>FLIP-X</td>
<td>SCARA robots</td>
</tr>
<tr>
<td>YK-X</td>
<td>Pick &amp; Place robots</td>
</tr>
</tbody>
</table>

**Note:** Upper robot cable (U) on models equipped with a brake is a special-order item. Please see P.614 for details.

### Specifications

- **AC servo motor output (W):** 600
- **Positioning repeatability (mm):** ±0.02
- **Deceleration mechanism:** Ball screw 2x25
- **Ball screw lead (mm):** 50
- **Maximum speed (mm/sec):** 2220
- **Maximum payload (kg):** 50
- **Motor-less single-axis robots:**
  - **Motor:** TRANSERVO
  - **Motor-less single-axis robots:** PHASER
- **Cartesian robots:**
  - **Linear guide type:** 4 rows of circular arc grooves × 2 rail
- **Effective stroke:** 1100 to 2050 (50mm pitch)
- **Overall length:** 2230/2(With brake)
- **Stroke (mm):** 1100 to 2050
- **Rated thrust (N):** 465
- **Rated thrust (N):** 34.1
- **Effect stroke (mm/sec):** 600
- **Positioning repeatability:** ±0.02

### Allowable overhang

- **HORIZONTAL INSTALLATION (Unit: mm):**
  - A: 10kg 6000 7200 7400
  - B: 5kg 2300 2400 2500
  - C: 1kg 2000 2100 2200

- **VERTICAL INSTALLATION (Unit: mm):**
  - A: 10kg 2300 2400 2500
  - B: 5kg 2200 2300 2400
  - C: 1kg 2100 2200 2300

### Static loading moment

- **Rotation moment (Nm):**
  - A: 69.6 72 74.4
  - B: 44.9 46.8 48.7
  - C: 26.5 27.8 29.2

### Controller

- **Controller Models:**
  - SR1-X-R
  - TS-X220-R
  - RDV-X

### Load Information

- **Controller Operation Method:**
  - SR1-X220-R: DeviceNet
  - TS-X220-R: CC-Link
  - RDV-X: EtherCAT

---

**Note:**

1. Upper robot cable (U) on models equipped with a brake is a special order item. Please see P.614 for details.
2. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable.
3. This is the weight of the model without a brake. The weight of the model equipped with a brake is 1.2kg heavier than this value.
4. The controller has a backup function. If the controller has a backup function, it will be activated when the power is turned on. In this case, reduce the speed setting on the program (horizontal) by 10% (incremental) and the speed setting on the program (vertical) by 15% (incremental). When using the gateway function, for details, see P.66.
5. Please consult our sales office or sales representative for assistance. (External dimensions: overall length + 20 mm)
### Ordering method

**F20**
- Model: L, L2, L3, L4, L5
- Guide entry:
  - Ball screw: 200mm
  - Linear motor: 300mm
- Motor-less single-axis robots
  - TRANSERVO
  - Motor-less single-axis robots
    - PHASER
  - Motor-less single-axis robots
    - Cartesian robots
      - XY-X
    - SCARA robots
      - YK-X
  - Pick & place robots
    - YP-X

**Note**
- Upper robot cable (U) on models equipped with brake is a special order item.
- Pick & place robots require a regenerative unit.

### Specifications

<table>
<thead>
<tr>
<th>AC servo motor output (W)</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeatability (mm)</td>
<td>±0.01</td>
</tr>
<tr>
<td>Deceleration module</td>
<td>Ball screw: 200mm</td>
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<tr>
<td>Ball screw lead (mm)</td>
<td>40, 60, 80, 100</td>
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<tr>
<td>Maximum speed (mm/min)</td>
<td>2000 (2000/1000/6000)</td>
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<tr>
<td>Maximum payload (kg)</td>
<td>Vertical: 60, 20, 10</td>
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<tr>
<td>Rated thrust (N)</td>
<td>Vertical: 255, 510, 1020</td>
</tr>
<tr>
<td>Stroke (mm)</td>
<td>200 to 1450</td>
</tr>
<tr>
<td>Overall length (mm)</td>
<td>Vertical: -80% 70% 60% 50% 40%</td>
</tr>
<tr>
<td>Linear guide type</td>
<td>4 rows of circular arc grooves × 2 rail</td>
</tr>
<tr>
<td>Position detector</td>
<td>Resolvers</td>
</tr>
</tbody>
</table>

**Note**
- Linear motor: 3.5 / Option: 5, 10
- Upper robot cable (U) on models equipped with brake is a special order item.
- Upper robot cable (U) on models equipped with brake is a special order item.
- Pick & place robots require a regenerative unit.

### Allowable overhang

- **Horizontal installation**
  - Effective stroke: 272+1 When origin is on motor side
  - Vertical installation: 176+2 (Note 1)
- **Effective stroke**
  - Length: 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 900, 1000, 1100, 1150, 1200, 1250

**Note**
- 2: AC200V 20: 600W or less
- RBR1 (Horizontal)
- To move at a speed exceeding 1,000 mm/sec horizontally.
- Using in the upright position.

### Static loading moment

<table>
<thead>
<tr>
<th>Controller</th>
<th>SRX-X &gt; 540</th>
<th>TSX-X &gt; 514</th>
<th>RDV-X &gt; 528</th>
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<tbody>
<tr>
<td>Driver</td>
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<tr>
<td>Power supply voltage</td>
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<td>Driver</td>
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<td>Power capacity</td>
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<tr>
<td>Regenerative unit</td>
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</tbody>
</table>

**Note**
- Controller Driver: RDV-X 2 20
- Controller Operation method: RCX320, RCX221/222, RCX340
- Controller Driver: RDV-X 2 20
- Controller Operation method: RCX320, RCX221/222, RCX340

### Controller

- Programming / I/O point trace / Remote command / Controller Driver: RDV-X 2 20
- Controller Operation method: RCX320, RCX221/222, RCX340
- Programming / I/O point trace / Remote command / Controller Driver: RDV-X 2 20
- Controller Operation method: RCX320, RCX221/222, RCX340

---

**Note**
- Strokes and other specifications are common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.
- The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable.
- The robot with the high lead specifications (lead 40) needs a regenerative unit.
- The model with a lead of 10mm cannot select specifications without brake (horizontal specifications).
- The model with a lead of 40mm cannot select specifications with brake (vertical specifications).
- Pick & place robots require a regenerative unit.
- Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.
- Compression (±0.01 mm)
- Maximum speed (mm/sec)
- Payload (kg)
- Stroke (mm)
- Repeatability (mm)
- Vertical: 60, 20, 10
- Rated thrust (N)
- Linear guide type
- Position detector

---

**High lead: Lead 40**

**Origin on the non-motor side is selectable**

---

**Note**
- Upper robot cable (U) on models with brakes is a special order item, so please consult our sales office or sales representative for assistance.
- External dimensions: overall length ± 20 mm

---

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Overall length (mm)</th>
<th>Linear motor (mm)</th>
<th>Linear motor (mm)</th>
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</table>

---

**Note**
- Upper robot cable (U) on models equipped with brake is a special order item.
- The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable.
- See P.814 for details on robot cable.
- CR522 for DIN rail mounting bracket.
- Acceleration / deceleration is different depending on the Positioner or Controller or Driver.
- The robot with the high lead specifications (lead 40) needs a regenerative unit.
- Select this selection when using the gateway function. For details, see P.66.

---

**Note**
- Upper robot cable (U) on models equipped with brake is a special order item.
- The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable.
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- CR522 for DIN rail mounting bracket.
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---

**Note**
- Upper robot cable (U) on models equipped with brake is a special order item.
- The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable.
- See P.814 for details on robot cable.
- CR522 for DIN rail mounting bracket.
- Acceleration / deceleration is different depending on the Positioner or Controller or Driver.
- The robot with the high lead specifications (lead 40) needs a regenerative unit.
- Select this selection when using the gateway function. For details, see P.66.
F20 High lead type: Lead 40

Approx. 250 (Motor cable length) 277+6. When origin is on motor side
Effective stroke
151+6: When origin is on non-motor side
150: When origin is on motor side

4-M5 x 0.8 DpH15
(The same position on the opposite surface at 2 locations)

Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. When installing the robot, do not use washers inside the robot body.
Note 3. Minimum bend radius of motor cable is R50.

Effective stroke

<table>
<thead>
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<th>Length (mm)</th>
<th>200</th>
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<tr>
<td>Weight (kg)</td>
<td>21.2</td>
<td>22.2</td>
<td>23.1</td>
<td>24.1</td>
<td>25.1</td>
<td>26.9</td>
<td>27.7</td>
<td>28.7</td>
<td>29.6</td>
<td>30.5</td>
<td>31.4</td>
<td>32.3</td>
<td>33.2</td>
<td>34.2</td>
<td>35.1</td>
<td>36.0</td>
<td>36.9</td>
<td>37.8</td>
<td>38.7</td>
<td>39.6</td>
<td>40.5</td>
<td>41.4</td>
<td>42.3</td>
<td>43.2</td>
<td>44.2</td>
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</table>

Maximum speed (mm/sec) Lead 40

<table>
<thead>
<tr>
<th>Speed setting</th>
<th>2400</th>
<th>1920</th>
<th>1680</th>
<th>1440</th>
<th>1200</th>
<th>960</th>
<th>840</th>
<th>720</th>
</tr>
</thead>
<tbody>
<tr>
<td>80%</td>
<td>2400</td>
<td>1920</td>
<td>1680</td>
<td>1440</td>
<td>1200</td>
<td>960</td>
<td>840</td>
<td>720</td>
</tr>
<tr>
<td>80%</td>
<td>70%</td>
<td>60%</td>
<td>50%</td>
<td>40%</td>
<td>35%</td>
<td>30%</td>
<td></td>
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</tr>
</tbody>
</table>

Note 4. When the stroke is longer than 800mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table above.

Note 5. Longer than 1250mm stroke can be handled by the high lead specification (Lead 40) only.
Note 1. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.614 for details on robot cable.
Note 2. See P.522 for DIN rail mounting bracket.
Note 3. Select this selection when using the gateway function. For details, see P.66.

### Specifcations

<table>
<thead>
<tr>
<th>AC servo motor output (W)</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeatability (mm)</td>
<td>+/-0.04</td>
</tr>
<tr>
<td>Deceleration mechanism</td>
<td>Ball screw 920</td>
</tr>
<tr>
<td>Ball screw lead (mm)</td>
<td>39</td>
</tr>
<tr>
<td>Maximum speed (mm/sec)</td>
<td>1000 (1200 max)</td>
</tr>
<tr>
<td>Rated thrust (N)</td>
<td>339</td>
</tr>
<tr>
<td>Stroke (mm)</td>
<td>1150 to 2050 (100mm pitch)</td>
</tr>
<tr>
<td>Overall length (mm)</td>
<td>Stroke+420</td>
</tr>
<tr>
<td>Maximum dimensions of cross section of main unit (mm)</td>
<td>W202 + H120</td>
</tr>
<tr>
<td>Cable length (m)</td>
<td>Standard: 3.5</td>
</tr>
<tr>
<td>Linear guide type</td>
<td>4 rows of circular arc grooves + 2 rail</td>
</tr>
<tr>
<td>Position detector</td>
<td>Resolvers</td>
</tr>
<tr>
<td>Resolution (Pulse/rotation)</td>
<td>16384</td>
</tr>
</tbody>
</table>

Note 1. Positioning repeatability in one direction.
Note 2. A regenerative unit is needed if using the SR1-X, TS-X at maximum speeds exceeding 1000mm/sec. If using the RDV-X, then the regenerative unit RBR1 is required regardless of the installation conditions.
Note 3. Position detectors (resolvers) are common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.

### Allowable overhang

Note: Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.

### Static loading moment

<table>
<thead>
<tr>
<th>MY</th>
<th>MP</th>
<th>MR</th>
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<tbody>
<tr>
<td>1196</td>
<td>1199</td>
<td>1052</td>
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### Controller

<table>
<thead>
<tr>
<th>Controller</th>
<th>Operation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR1-X</td>
<td>Programming / I/O point trace / Remote command / Operation using RS-232 communication</td>
</tr>
<tr>
<td>TS-X</td>
<td>Remote command / Regenerative unit</td>
</tr>
<tr>
<td>RDV-X</td>
<td>Pulse train control</td>
</tr>
</tbody>
</table>

Note. When the unit is operated at a speed exceeding the maximum speed with a regenerative unit, a regenerative unit is required.

### Cross section detailed chart

Use M x 2.5 hex socket head bolt with length head bolt with length (under head) of 45mm or more.

### Controller Information

- **SR1-X**: 540
- **TS-X**: 514
- **RDV-X**: 528