

# SR03 Rod type

- CE compliance
- Origin on the non-motor side is selectable



## Ordering method

### SR03

<b>Model</b>	<b>Lead</b> 12: 12mm 06: 6mm	<b>Model</b> S: Straight model R: Space-saving model (motor installed on right) L: Space-saving model (motor installed on left) U: Space-saving model (motor installed on top)	<b>Brake</b> N: With no brake B: With brake	<b>Origin position</b> N: Standard Z: Non-motor side	<b>Bracket plate</b> N: No plate H: With plate V: With flange	<b>Stroke</b> 50 to 200 (50mm pitch)	<b>Cable length</b> <sup>Note 1</sup> 1L: 1m 3L: 3m 5L: 5m 10L: 10m	<b>Robot positioner</b> S2: TS-S2 <sup>Note 3</sup> SH: TS-SH	<b>I/O</b> NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ GW: No I/O board <sup>Note 4</sup>	<b>Battery</b> <sup>Note 5</sup> B: With battery (Absolute) N: None (Incremental)
								<b>SD</b> Robot driver SD: TS-SD	<b>1</b> I/O cable 1: 1m	

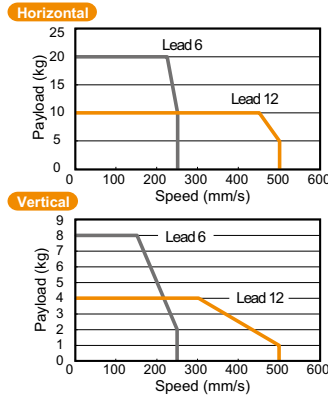
Note 1. The robot cable is flexible and resists bending.  
 Note 2. See P.85 for grease gun nozzles.  
 Note 3. See P.446 for DIN rail mounting bracket.  
 Note 4. Select this selection when using the gateway function. For details, see P.439.  
 Note 5. Select whether or not the battery is provided only when using the TS-SH.

## Basic specifications

<b>Motor</b>	42 □ Step motor
<b>Resolution (Pulse/rotation)</b>	20480
<b>Repeatability (mm)</b>	+/-0.02
<b>Deceleration mechanism</b>	Ball screw φ8 (Class C10)
<b>Ball screw lead (mm)</b>	12
<b>Maximum speed</b> <sup>Note 1</sup> (mm/sec)	500
<b>Maximum payload (kg)</b>	Horizontal: 10 Vertical: 20
<b>Max. pressing force (N)</b>	4
<b>Stroke (mm)</b>	75
<b>Lost motion</b>	50 to 200 (50pitch) 0.1mm or less
<b>Rotating backlash (°)</b>	+/-1.0
<b>Overall length (mm)</b>	Horizontal: Stroke+236.5 Vertical: Stroke+276.5
<b>Maximum outside dimension of body cross-section (mm)</b>	W48 × H56.5
<b>Cable length (m)</b>	Standard: 1 / Option: 3, 5, 10

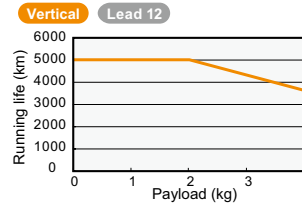
Note 1. The maximum speed needs to be changed in accordance with the payload.  
 See the "Speed vs. payload" graph shown on the right.  
 For details, see P. 84.

## Speed vs. payload



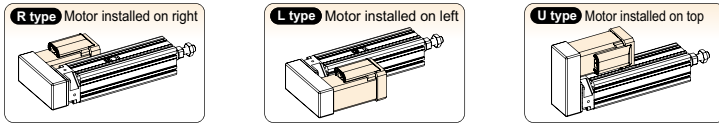
## Running life

5000 km on models other than shown below.  
 Running life of only the model shown below becomes shorter than 5000 km depending on the payload, so check the running life curve.



Note. See P.85 for running life distance to life time conversion example.

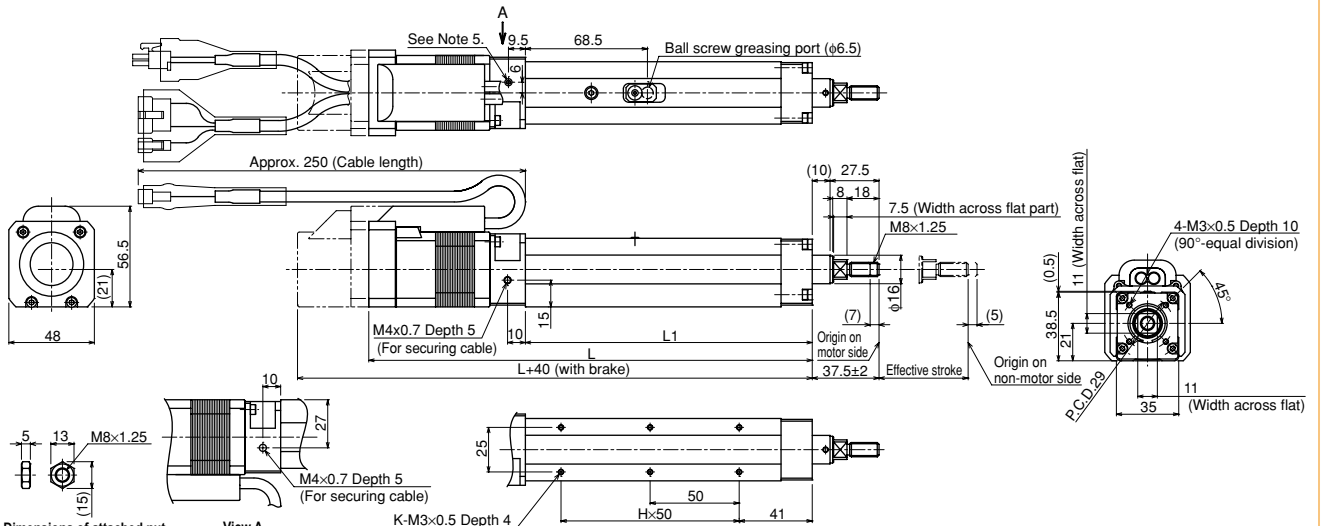
## Motor installation (Space-saving model)



## Controller

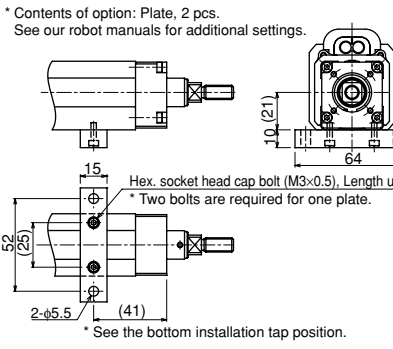
Controller	Operation method	Controller	Operation method
TS-S2	I/O point trace / Remote command	TS-SD	Pulse train control

## SR03 Straight model S



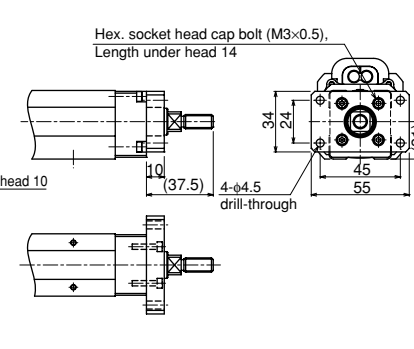
**Option: Horizontal installation plate (foot)**

\* Contents of option: Plate, 2 pcs.  
 See our robot manuals for additional settings.



**Option: Vertical installation plate (flange)**

Hex. socket head cap bolt (M3×0.5), Length under head 14



Effective stroke	50	100	150	200
L1	161	211	261	311
L	249	299	349	399
H	2	3	4	5
K	6	8	10	12
<b>Weight (kg)</b> <sup>Note 7</sup>	1.1	1.3	1.4	1.6

Note1. It is possible to apply only the axial load.  
 Note2. The orientation of the width across flat part is undefined to the base surface.  
 Note3. Use the support guide together to maintain the straightness.  
 Note4. When running the cables, secure cables so that any load is not applied to them.  
 Note5. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)  
 Note6. The cable's minimum bend radius is R30.  
 Note7. Models with a brake will be 0.2kg heavier.  
 Note8. Distance to mechanical stopper.

## SR03 Space-saving model (motor installed on right) **R**

128 (with brake)  
88  
Ball screw greasing port (φ6.5)  
Origin on motor side (7(Note 8))  
Origin on non-motor side (5(Note 8))  
Dimensions of attached nut  
M8×1.25 13 5  
Approx. 245 (Cable length)  
See Note 5.  
Effective stroke  
9.5 68.5 L 37.5±.2  
M4×0.7 Depth 5 (For securing cable)  
M4×0.7 Depth 5 (For securing cable)  
M8×1.25  
φ16  
7.5  
(Width across flat part)  
4-M3×0.5 Depth 10 (90°-equal division)  
11(Width across flat)  
97  
20 53  
45°  
38.5 (0.5)  
11(Width across flat)  
48  
56.5  
35 48

**Option: Horizontal installation plate (foot)**

\* Contents of option: Plate, 2 pcs.  
See our robot manuals for additional settings.

Hex. socket head cap bolt (M3×0.5),  
Length under head 10  
\* Two bolts are required for one plate.  
2-φ5.5 drill-through (41)  
\* See the bottom installation tap position.

**Option: Vertical installation plate (flange)**

Hex. socket head cap bolt (M3×0.5),  
Length under head 14

4-φ4.5 drill-through  
34 24  
45 55  
10 (37.5) 21

Effective stroke	50	100	150	200
L1	161	211	261	311
L	204	254	304	354
H	2	3	4	5
K	6	8	10	12
Weight (kg) <sup>Note 7</sup>	1.3	1.5	1.6	1.8

Note1. It is possible to apply only the axial load.  
Use the external guide together so that any radial load is not applied to the rod.  
Note2. The orientation of the width across flat part is undefined to the base surface.  
Note3. Use the support guide together to maintain the straightness.  
Note4. When running the cables, secure cables so that any load is not applied to them.  
Note5. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)  
Note6. The cable's minimum bend radius is R30.  
Note7. Models with a brake will be 0.2kg heavier.  
Note8. Distance to mechanical stopper.

## SR03 Space-saving model (motor installed on left) **L**

10  
M4×0.7 Depth 5 (For securing cable)  
View A  
27  
Approx. 245 (Cable length)  
9.5 68.5  
Ball screw greasing port (φ6.5)  
Origin on motor side  
Origin on non-motor side (7(Note 8)) (5(Note 8))  
Dimensions of attached nut  
M8×1.25 13 5  
128 (with brake)  
Effective stroke  
88 L 37.5±.2  
M4×0.7 Depth 5 (For securing cable)  
M4×0.7 Depth 5 (For securing cable)  
M8×1.25  
φ16  
7.5  
(Width across flat part)  
4-M3×0.5 Depth 10 (90°-equal division)  
11(Width across flat)  
97  
20 53  
45°  
38.5 (0.5)  
11(Width across flat)  
48  
56.5  
35 48

**Option: Horizontal installation plate (foot)**

\* Contents of option: Plate, 2 pcs.  
See our robot manuals for additional settings.

Hex. socket head cap bolt (M3×0.5),  
Length under head 10  
\* Two bolts are required for one plate.  
2-φ5.5 drill-through (41)  
\* See the bottom installation tap position.

**Option: Vertical installation plate (flange)**

Hex. socket head cap bolt (M3×0.5),  
Length under head 14

4-φ4.5 drill-through  
34 24  
45 55  
10 (37.5) 21

Effective stroke	50	100	150	200
L1	161	211	261	311
L	204	254	304	354
H	2	3	4	5
K	6	8	10	12
Weight (kg) <sup>Note 7</sup>	1.3	1.5	1.6	1.8

Note1. It is possible to apply only the axial load.  
Use the external guide together so that any radial load is not applied to the rod.  
Note2. The orientation of the width across flat part is undefined to the base surface.  
Note3. Use the support guide together to maintain the straightness.  
Note4. When running the cables, secure cables so that any load is not applied to them.  
Note5. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)  
Note6. The cable's minimum bend radius is R30.  
Note7. Models with a brake will be 0.2kg heavier.  
Note8. Distance to mechanical stopper.

SR03 Space-saving model (motor installed on top) **U**

