

# SR04 Rod type

- CE compliance
- Origin on the non-motor side is selectable: Lead 6, 12



## Ordering method

### SR04

Model	Lead	Model	Brake	Origin position	Bracket plate	Stroke	Cable length
	12: 12mm 06: 6mm 02: 2mm	S: Straight model R: Space-saving model (motor installed on right) L: Space-saving model (motor installed on left)	N: With no brake B: With brake	N: Standard Z: Non-motor side	N: No plate H: With plate V: With flange	50 to 300 (50mm pitch)	1K: 1m 3K: 3m 5K: 5m 10K: 10m

### S2

Robot positioner	I/O
S2: TS-S2	NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board

### SH

Robot positioner	I/O	Battery
SH: TS-SH	NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board	B: With battery (Absolute) N: None (Incremental)

### SD

Robot driver	I/O cable
SD: TS-SD	1: 1m

Note 1. See P.129 for grease gun nozzles.  
 Note 2. When "2mm lead" is selected, the origin position cannot be changed (to non-motor side).  
 Note 3. If changing from the origin position at the time of purchase, the machine reference amount must be reset. For details, refer to the manual.

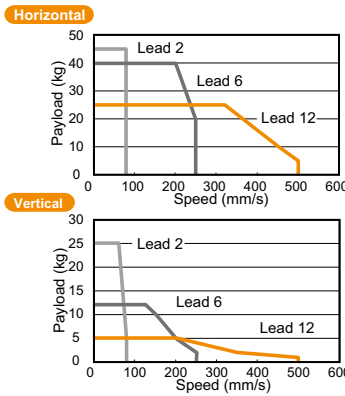
Note 4. The robot cable is flexible and resists bending.  
 Note 5. See P.498 for DIN rail mounting bracket.  
 Note 6. Select this selection when using the gateway function. For details, see P.60.

## Basic specifications

Motor	42 Step motor	
Resolution (Pulse/rotation)	20480	
Repeatability (mm)	±0.02	
Deceleration mechanism	Ball screw φ8 (Class C10)	Ball screw φ10 (Class C10)
Ball screw lead (mm)	12	6
Maximum speed (mm/sec)	500	250
Maximum payload (kg)	Horizontal: 25 Vertical: 5	Horizontal: 40 Vertical: 12
Max. pressing force (N)	150	300
Stroke (mm)	50 to 300 (50pitch)	
Lost motion	0.1mm or less	
Rotating backlash (°)	±1.0	
Overall length (mm)	Stroke+263	
Maximum outside dimension of body cross-section (mm)	W48 × H58	
Cable length (m)	Standard: 1 / Option: 3, 5, 10	

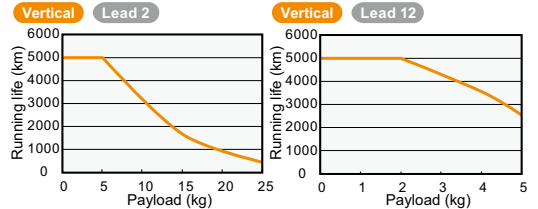
Note 1. The maximum speed needs to be changed in accordance with the payload. See the "Speed vs. payload" graph shown on the right. For details, see P. 128. Additionally, when the stroke is long, the maximum speed is decreased due to the critical speed of the ball screw. See the maximum speed table shown at the lower portion of the drawing.

## Speed vs. payload



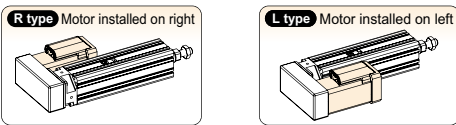
## Running life

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.129 for running life distance to life time conversion example.

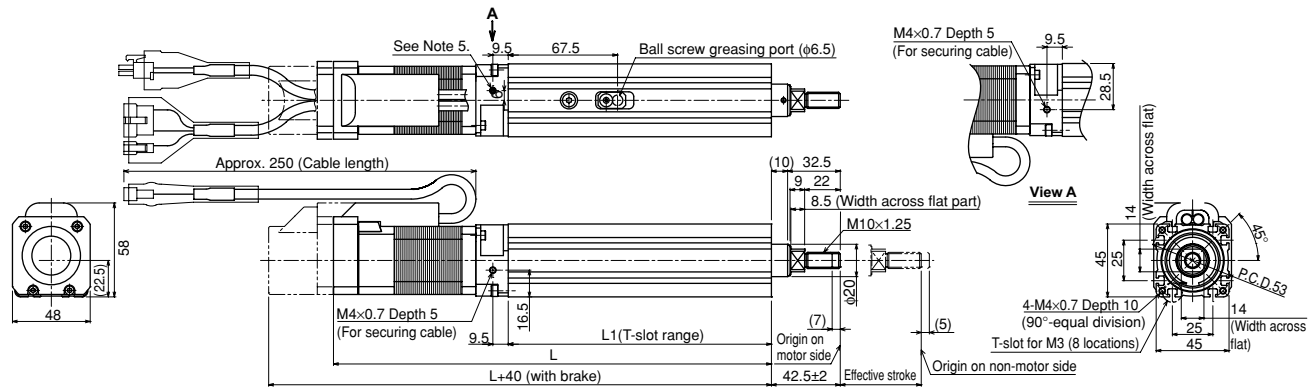
## Motor installation (Space-saving model)



## Controller

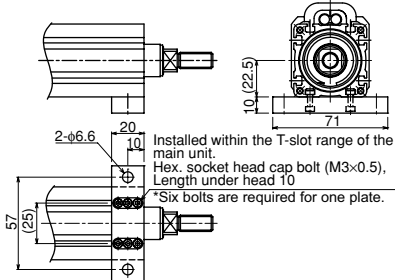
Controller	Operation method	Controller	Operation method
TS-S2	I/O point trace / Remote command	TS-SD	Pulse train control
TS-SH	Remote command		

## SR04 Straight model S



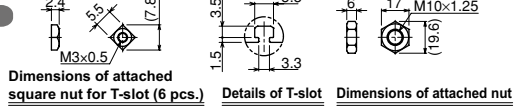
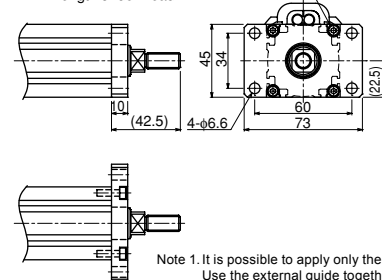
### Option: Horizontal installation plate (foot)

\* Contents of option: Plate, 2 pcs., Nut, 12 pcs. See our robot manuals for additional settings.



### Option: Vertical installation plate (flange)

Hex. socket head cap bolt (M4x0.7). Length under head 14



Effective stroke	50	100	150	200	250	300
L1	162.5	212.5	262.5	312.5	362.5	412.5
L	270.5	320.5	370.5	420.5	470.5	520.5
Weight (kg)	1.4	1.7	1.9	2.2	2.4	2.7
Maximum speed for each stroke (mm/sec)						
Lead 12	500			440		
Lead 6	250			220		
Lead 2	80			72		

Note 1. 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.  
 Note 2. The orientation of the width across flat part is undefined to the base surface.  
 Note 3. Use the support guide together to maintain the straightness.  
 Note 4. For lead 2mm specifications, the origin on the non-motor side cannot be set.  
 Note 5. When running the cables, secure cables so that any load is not applied to them.  
 Note 6. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)  
 Note 7. The cable's minimum bend radius is R30.  
 Note 8. Models with a brake will be 0.2kg heavier.  
 Note 9. Distance to mechanical stopper.

SR04 Space-saving model (motor installed on right) **R**

Approx. 245 (Cable length)

Effective stroke (5)(Note 8)

42.5<sup>+2</sup> (7)(Note 8)

152 (with brake)  
112

Origin on motor side

Origin on non-motor side (Note 9)

5.8  
3.3  
1.5

M10x1.25  
17  
6

Detail of section B

Dimensions of attached nut

67.5

Ball screw greasing port (φ6.5)

L1(T-slot range)

9.5

16.5

M4×0.7 Depth 5 (For securing cable)

9.5

M10×1.25  
φ20

8.5

9 22 (Width across flat part)

14

45

25

45

48

48

102.5

4-M4×0.7 Depth 10 (90°-equal division)

1.5

Option: Horizontal installation plate (foot)

\* Contents of option: Plate, 2 pcs., Nut, 12 pcs.  
See our robot manuals for additional settings.

2-φ6.6 drill-through

20

10

Installed within the T-slot range of the main unit.  
(Hex. socket head cap bolt (M3×0.5), Length under head 10)  
\* Six bolts are required for one plate.

Option: Vertical installation plate (flange)

Hex. socket head cap bolt (M4×0.7), Length under head 14

4-φ6.6 drill-through

60

73

Dimensions of attached square nut for T-slot (6 pcs.)

M3×0.5 2.4 (7.8)

Effective stroke	50	100	150	200	250	300
L1	162.5	212.5	262.5	312.5	362.5	412.5
L	209.5	259.5	309.5	359.5	409.5	459.5
Weight (kg) <sup>Note 7</sup>	1.6	1.9	2.1	2.4	2.6	2.9
Maximum speed for each stroke (mm/sec)	Lead 12	500		440		320
	Lead 6	250		220		160
	Lead 2	80		72		53

Note 1. 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.  
Note 2. The orientation of the width across flat part is undefined to the base surface.  
Note 3. Use the support guide together to maintain the straightness.  
Note 4. When running the cables, secure cables so that any load is not applied to them.  
Note 5. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)  
Note 6. The cable's minimum bend radius is R30.  
Note 7. Models with a brake will be 0.2kg heavier.  
Note 8. Distance to mechanical stopper.  
Note 9. For lead 2mm specifications, the origin on the non-motor side cannot be set.  
Note 10. This unit can be installed with the motor facing up (turned 90 degrees from the position in this drawing).

SR04 Space-saving model (motor installed on left) **L**

Approx. 245 (Cable length)

Effective stroke (5)(Note 8)

42.5<sup>+2</sup> (7)(Note 8)

Origin on motor side

Origin on non-motor side (Note 9)

5.8  
3.3  
1.5

M10x1.25  
17  
6

Detail of section B

Dimensions of attached nut

67.5

Ball screw greasing port (φ6.5)

L1(T-slot range)

9.5

16.5

M4×0.7 Depth 5 (For securing cable)

9.5

M10×1.25  
φ20

8.5

9 22 (Width across flat part)

14

45

25

45

48

102.5

4-M4×0.7 Depth 10 (90°-equal division)

1.5

Option: Horizontal installation plate (foot)

\* Contents of option: Plate, 2 pcs., Nut, 12 pcs.  
See our robot manuals for additional settings.

2-φ6.6 drill-through

20

10

Installed within the T-slot range of the main unit.  
(Hex. socket head cap bolt (M3×0.5), Length under head 10)  
\* Six bolts are required for one plate.

Option: Vertical installation plate (flange)

Hex. socket head cap bolt (M4×0.7), Length under head 14

4-φ6.6 drill-through

60

73

Dimensions of attached square nut for T-slot (6 pcs.)

M3×0.5 2.4 (7.8)

Effective stroke	50	100	150	200	250	300
L1	162.5	212.5	262.5	312.5	362.5	412.5
L	209.5	259.5	309.5	359.5	409.5	459.5
Weight (kg) <sup>Note 7</sup>	1.6	1.9	2.1	2.4	2.6	2.9
Maximum speed for each stroke (mm/sec)	Lead 12	500		440		320
	Lead 6	250		220		160
	Lead 2	80		72		53

Note 1. 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.  
Note 2. The orientation of the width across flat part is undefined to the base surface.  
Note 3. Use the support guide together to maintain the straightness.  
Note 4. When running the cables, secure cables so that any load is not applied to them.  
Note 5. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)  
Note 6. The cable's minimum bend radius is R30.  
Note 7. Models with a brake will be 0.2kg heavier.  
Note 8. Distance to mechanical stopper.  
Note 9. For lead 2mm specifications, the origin on the non-motor side cannot be set.  
Note 10. This unit can be installed with the motor facing up (turned 90 degrees from the position in this drawing).