APPLICATION

TRANSERVO
Compact single-axis robots

FLIP-X
Single-axis robots

PHASER
Linear motor single-axis robots

XY-X
Cartesian robots

YK-XG
SCARA robots

YP-X
Pick & place robots

CLEAN

CONTROLLER

INFORMATION

SR04 Rod type

● CE compliance   ● Origin at non-motor side: Lead 6, 12

SR04-S

SR04-R

■ Ordering method

SR04 - [Model] [Lead] [Model] [Brake] [Origin position Note 1] [Bracket plate] [Stroke] [Cable length Note 2] — [S] [I/O]

Model	Lead	Model	Brake	Origin position Note 1	Bracket plate	Stroke	Cable length Note 2
	12: 12mm 06: 6mm 02: 2mm	S: Straight model R: Space-saving model Note 3 (motor installed on right) L: Space-saving model Note 3 (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)	1L: 1m 3L: 3m 5L: 5m 10L: 10m

Controller Note 4
S: TS-S

I/O
NP: NPN
PN: PNP
CC: CC-Link
DN: DeviceNet

SD **1**

Controller
SD: TS-SD

I/O cable
1: 1m

Note 1. When "2mm lead" is selected, the origin position cannot be changed (to non-motor side).
Note 2. The robot cable is flexible and resists bending.
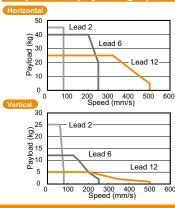Note 3. See P.61 for grease gun nozzles.
Note 4. See P.404 for DIN rail mounting bracket.

■ Basic specifications

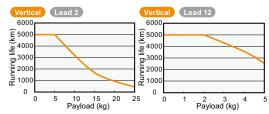| Motor	42☐ Step motor	
Repeatability (mm)	+/-0.02	
Deceleration mechanism	Ball screw φ8 (Class C10)	Ball screw φ10 (Class C10)
Ball screw lead (mm)	12	6	2
Maximum speed Note 1 (mm/sec)	500	250	80
Maximum payload (kg) Horizontal	25	40	45
Vertical	5	12	25
Max. pressing force (N)	150	300	600
Stroke (mm)	50 to 300 (50pitch)	
Lost motion	0.1mm or less	
Rotating backlash (°)	+/-1.0	
Overall length Horizontal	Stroke+263	
(mm) Vertical	Stroke+303	
Maximum outside dimension of body cross-section (mm)	W48 × H58	
Cable length (m)	Standard: 1 / Option: 3, 5, 10	

Note 1. Maximum speed varies with the payload. Maximum speed also decreases due to ball screw critical speed when the stroke is long. For more details, refer to the "Speed – payload" graphs on the right or the maximum speed shown in the lower right table.

■ Speed vs. payload graph

Horizontal

Payload (kg) vs Speed (mm/s)
Lead 2, Lead 6, Lead 12

Vertical

Payload (kg) vs Speed (mm/s)
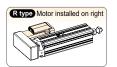Lead 2, Lead 6, Lead 12

■ 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.

Vertical Lead 2
Running life (km) vs Payload (kg)

Vertical Lead 12
Running life (km) vs Payload (kg)

Note. See P.61 for running life distance to life time conversion example.

■ Motor installation (Space-saving model)

R type Motor installed on right
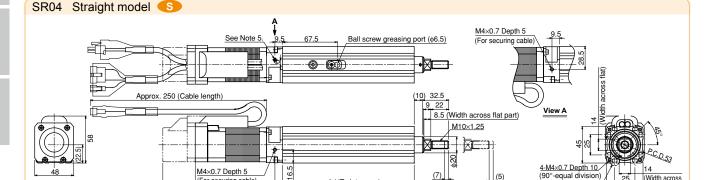
L type Motor installed on left

■ Controller

Controller	Operation method
TS-S	I/O point trace / Remote command

Controller	Operation method
TS-SD	Pulse train control

SR04   Straight model   S

A
See Note 5.   9.5   67.5   Ball screw greasing port (φ6.5)
M4×0.7 Depth 5 (For securing cable)   9.5   28.5

Approx. 250 (Cable length)
(10) 32.5
9 22
8.5 (Width across flat part)

View A

M10×1.25
φ20

58
(22.5)
48

M4×0.7 Depth 5 (For securing cable)   9.5   16.5   L1(T-slot range)   (7)   (5)
L   Origin on motor side   42.5±2   Effective stroke
L+40 (with brake)   Origin on non-motor side

4-M4×0.7 Depth 10 (90°-equal division)
T-slot for M3 (8 locations)
14 (Width across flat)
45   25   P.C.D. 53   45°

Option: Horizontal installation plate (foot)

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

10 (22.5)
71
2-φ6.6   20   10
57 (25)

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

45 34 (22.5)
(42.5)   60   73   4-φ6.6

2.4   5.5 (7.8)   3.5   5.8   6   17   M10×1.25
M3×0.5   1.5   3.3   (19.6)

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

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) Note 8	1.4	1.7	1.9	2.2	2.4	2.7
Maximum speed for each stroke Note 4 (mm/sec) Lead 12	500				440	320
Lead 6	250				220	160
Lead 2	80				72	53

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. For lead 2mm specifications, the origin on the non-motor side cannot be set.
Note5. When running the cables, secure cables so that any load is not applied to them.
Note6. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)
Note7. The cable's minimum bend radius is R30.
Note8. Models with a brake will be 0.2kg heavier.
Note9. Distance to mechanical stopper.

SR04

APPLICATION
TRANSERVO Compact single-axis robots
FLIP-X Single-axis robots
PHASER Linear motor single-axis robots
XY-X Cartesian robots
YK-XG SCARA robots
YP-X Pick & place robots
CLEAN
CONTROLLER
INFORMATION

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

Approx. 245 (Cable length)
152 (with brake)
112
L
42.5+/-2
(7(Note 8))
Effective stroke (5(Note 8))
Origin on motor side
Origin on non-motor side (Note 9)

Detail of section B
Dimensions of attached nut
M10x1.25
5.8 3.3 1.5 5
17 6
(19.6)

See Note 5.
6
67.5
Ball screw greasing port (φ6.5)
9.5
L1(T-slot range)

M10×1.25
φ20
8.5
9 22 (Width across flat part)
(10) 32.5
14 (Width across flat)

45°
56
T-slot for M3 (8 locations)
P.C.D.53
14 (Width across flat)
25
45
48
56.5 48
1.5
4-M4x0.7 Depth 10 (90°-equal division)
25
45
48
102.5

16.5
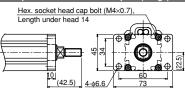M4×0.7 Depth 5 (For securing cable)
9.5

(40) (24)
(15) (31)
44
100 0.5 0.5

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.
(25) 57 71
(22.5) 10

M4×0.7 Depth 5 (For securing cable)
9.5
6
5.5 (7.8)
M3x0.5 2.4
Dimensions of attached square nut for T-slot (6 pcs.)

Option: Vertical installation plate (flange)

Hex. socket head cap bolt (M4×0.7), Length under head 14
(42.5) 73 60
4-φ6.6 drill-through
10
45 34
(22.5)

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) Note 7		1.6	1.9	2.1	2.4	2.6	2.9
Maximum speed for each stroke Note 9 (mm/sec)	Lead 12	500				440	320
	Lead 6	250				220	160
	Lead 2	80				72	53

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.
Note9. For lead 2mm specifications, the origin on the non-motor side cannot be set.
Note10. 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

M4×0.7 Depth 5 (For securing cable)
9.5
28.5
View A

Approx. 245 (Cable length)
A
L
9.5
67.5
See Note 5.
L1(T-slot range)
Ball screw greasing port (φ6.5)
42.5+/-2
(7(Note 8))
Effective stroke (5(Note 8))
Origin on motor side
Origin on non-motor side (Note 9)

M10x1.25
17 6
(19.6)
Dimensions of attached nut
3.3 5.8 1.5 5
Detail of section B

T-slot for M3 (8 locations)
56
45°
P.C.D.53
14 (Width across flat)
56.5 48
25 45
4-M4x0.7 Depth 10 (90°-equal division)
48 25 45
102.5
14 (Width across flat)

M10×1.25
φ20
8.5
9 22 (Width across flat part)
(10) 32.5

(40) (24)
(15) (31)
44
0.5 100 0.5

112
152 (with brake)

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.
(25) 57 71
(22.5) 10

M4×0.7 Depth 5 (For securing cable)
9.5
6
5.5 (7.8)
M3x0.5 2.4
Dimensions of attached square nut for T-slot (6 pcs.)

Option: Vertical installation plate (flange)

Hex. socket head cap bolt (M4×0.7), Length under head 14
(42.5) 73 60
4-φ6.6 drill-through
10
34 45
(22.5)

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) Note 7		1.6	1.9	2.1	2.4	2.6	2.9
Maximum speed for each stroke Note 9 (mm/sec)	Lead 12	500				440	320
	Lead 6	250				220	160
	Lead 2	80				72	53

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.
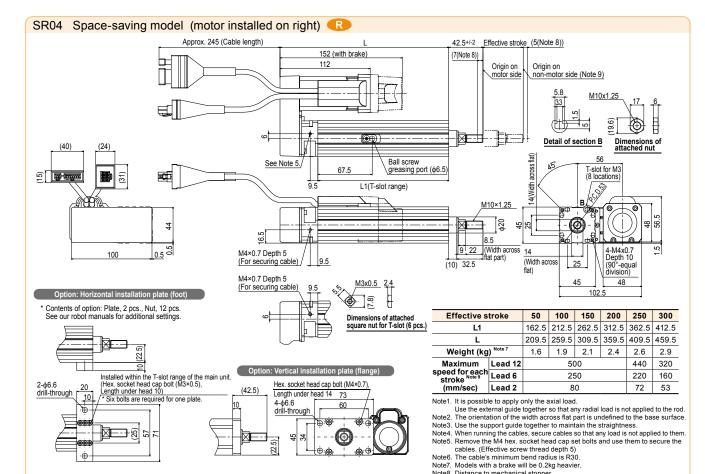Note2. The orientation of the width across flat part is undefined to the base surface.
Note3. Use the support guide together to maintain the straightness.
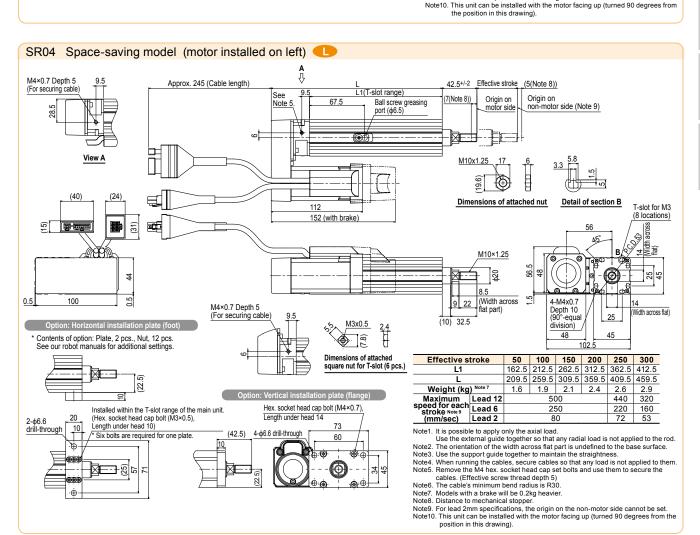Note4. When running the cables, secure cables so that any load is not applied to them.
Note5. Remove the M4 hex. socket head cap set bolts and use them to secure the cables. (Effective screw thread depth 5)
Note6. The cable's minimum bend radius is R30.
Note7. Models with a brake will be 0.2kg heavier.
Note8. Distance to mechanical stopper.
Note9. For lead 2mm specifications, the origin on the non-motor side cannot be set.
Note10. This unit can be installed with the motor facing up (turned 90 degrees from the position in this drawing).

Controller TS-S ▶ 396 | TS-SD ▶ 408