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

SR03 ⬤ Rod type

⬤ CE compliance   ⬤ Origin at non-motor side

SR03-S

SR03-R

■ Ordering method

SR03 - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] | S | [ ]
                                                  SD | 1

Model	Lead	Model	Brake	Origin position	Bracket plate	Stroke	Cable length Note 1	Controller Note 3	I/O
	12: 12mm	S: Straight model	N: With no brake	N: Standard	N: No plate	50 to 200	1L: 1m	S: TS-S	NP: NPN
	06: 6mm	R: Space-saving model Note 2 (motor installed on right)	B: With brake	Z: Non-motor side	H: With plate	(50mm pitch)	3L: 3m		PN: PNP
		L: Space-saving model Note 2 (motor installed on left)			V: With flange		5L: 5m		CC: CC-Link
		U: Space-saving model Note 2 (motor installed on top)					10L: 10m		DN: DeviceNet

	Controller	I/O cable
SD	SD: TS-SD	1: 1m

Note 1. The robot cable is flexible and resists bending.
Note 2. See P.61 for grease gun nozzles.
Note 3. 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 lead (mm)		12	6
Maximum speed Note 1 (mm/sec)		500	250
Maximum payload (kg)	Horizontal	10	20
	Vertical	4	8
Max. pressing force (N)		75	100
Stroke (mm)		50 to 200 (50pitch)
Lost motion		0.1mm or less
Rotating backlash (°)		+/-1.0
Overall length	Horizontal	Stroke+236.5
(mm)	Vertical	Stroke+276.5
Maximum outside dimension of body cross-section (mm)		W48 × H56.5
Cable length (m)		Standard: 1 / Option: 3, 5, 10

Note 1. Maximum speed varies with the payload.
Refer to the "Speed vs. payload graphs" on the right.

■ Speed vs. payload graph

Horizontal

Vertical

■ 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 12

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

U type Motor installed on top

■ Controller

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

Controller	Operation method
TS-SD	Pulse train control

SR03   Straight model   S

See Note 5.   9.5   68.5   Ball screw greasing port (φ6.5)

Approx. 250 (Cable length)

M4x0.7 Depth 5 (For securing cable)

56.5   (21)   48

(10) 27.5
8 18
7.5 (Width across flat part)
M8×1.25
φ16
(7)   (5)
Origin on motor side
37.5±2   Effective stroke
Origin on non-motor side

11 (Width across flat)
(0.5)
4-M3×0.5 Depth 10 (90°-equal division)
45°
38.5   21
P.C.D.29
35   11 (Width across flat)

15
10   L1
L
L+40 (with brake)

5 13 M8×1.25
(15)
M4×0.7 Depth 5 (For securing cable)

27
25
50
H×50   41
K-M3×0.5 Depth 4

Dimensions of attached nut   View A

Option: Horizontal installation plate (foot)

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

(21)
10
64
15
2-φ5.5   (41)
52   (25)
Hex. socket head cap bolt (M3×0.5), Length under head 10
* Two bolts are required for one plate.
* See the bottom installation tap position.

Option: Vertical installation plate (flange)

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

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

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
Weight (kg) Note 7	1.1	1.3	1.4	1.6

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

APPLICATION

Compact single-axis robots
TRANSERVO

Single-axis robots
FLIP-X

Linear motor single-axis robots
PHASER

Cartesian robots
XY-X

SCARA robots
YK-XG

Pick & place robots
YP-X

CLEAN

CONTROLLER

INFORMATION

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

128 (with brake)
88

Ball screw greasing port (φ6.5)

M8×1.25 13 5

(15)

Dimensions of attached nut

Origin on motor side (7(Note 8))
Origin on non-motor side (5(Note 8))

Effective stroke

37.5+/-2

9.5 68.5 L

Approx. 245 (Cable length)

See Note 5.

6

(40) (24)

(15) (31)

42

94

M8×1.25

φ16

7.5
8 18 (Width across flat part)

(10) 27.5

M4×0.7 Depth 5 (For securing cable)
10

15

M4×0.7 Depth 5 (For securing cable)
10

L1
H×50 41
50

6 25

K-M3×0.5 Depth 4

97
20 53 45°
PCD29

38.5 21 11(Width across flat)
48 56.5

35 48

4-M3×0.5 Depth 10 (90°-equal division)
11(Width across flat)
(0.5)

Option: Horizontal installation plate (foot)

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

(21)

Hex. socket head cap bolt (M3×0.5), Length under head 10
* Two bolts are required for one plate.

15

25 52 64

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

34 24

10 (37.5)
4-φ4.5 drill-through
45 55

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) Note 7	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**

M4×0.7 Depth 5 (For securing cable)
10
27

View A

A
9.5 68.5

See Note 5.

Ball screw greasing port (φ6.5)

6

Origin on motor side
Origin on non-motor side

88
128 (with brake)
L

Approx. 245 (Cable length)

(7(Note 8)) (5(Note 8))
37.5+/-2
Effective stroke

M8×1.25 13 5
(15)

Dimensions of attached nut

(40) (24)

(15) (31)

42

94

M8×1.25
φ16

7.5
8 18 (Width across flat part)
(10) 27.5

97
53 20 45°
PCD29

56.5 48
48
35

11(Width across flat)
(0.5)
38.5 21
11 (Width across flat)

4-M3×0.5 Depth 10 (90°-equal division)

K-M3×0.5 Depth 4
6 25

H×50 50 41
10 L1

M4×0.7 Depth 5 (For securing cable)

Option: Horizontal installation plate (foot)

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

(21) 10

Hex. socket head cap bolt (M3×0.5), Length under head 10
* Two bolts are required for one plate.

15

25 52 64

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

24 34

10 (37.5)
4-φ4.5 drill-through
45 55

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) Note 7	1.3	1.5	1.6	1.8

Note1. It is possible to apply only the axial load.
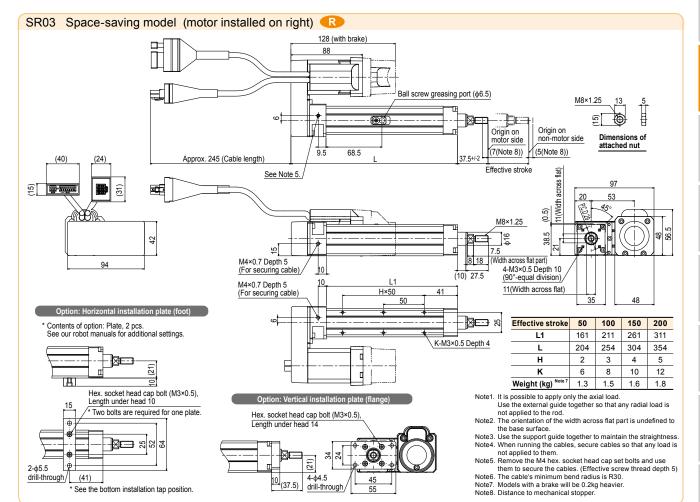Use the external guide together so that any radial load is not applied to the rod.
Note2. The orientation of the width across flat part is undefined to the base surface.
Note3. Use the support guide together to maintain the straightness.
Note4. When running the cables, secure cables so that any load 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.

Controller TS-S ▶ 396 TS-SD ▶ 408

SR03

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

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

M4×0.7 Depth 5
(For securing cable)

10

27

View A

94

1

42

(15)

(40)

(24)

(31)

Approx. 245 (Cable length)

L

111.5

Ball screw greasing
port (φ6.5)

37.5⁺/⁻² Effective stroke (5(Note 8))

(7(Note 8))

Origin on
motor side

Origin on
non-motor side

M8×1.25   13   5

(15)

Dimensions of attached nut

128 (with brake)

88

15

10

M4×0.7 Depth 5
(For securing cable)

M8×1.25

φ16

7.5
(Width across flat part)

8 18

(10) 27.5

56.5

48

21

98

53

45°

21

P.C.D 29

38.5

(0.5)

48

35

11(Width across flat)

11(Width across flat)

4-M3×0.5 Depth 10
(90°-equal division)

Option: Horizontal installation plate (foot)

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

10 (21)

Hex. socket head cap bolt (M3×0.5),
Length under head 10
* Two bolts are required for one plate.

15

25

52

64

2-φ5.5
drill-through

(41)

* See the bottom installation tap position.

6

M4×0.7 Depth 5
(For securing cable)

10

50

H×50

41

L1

25

K-M3×0.5 Depth 4

Option: Vertical installation plate (flange)

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

34

24

(21)

10

(37.5)

4-φ4.5
drill-through

45

55

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) Note 7	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.
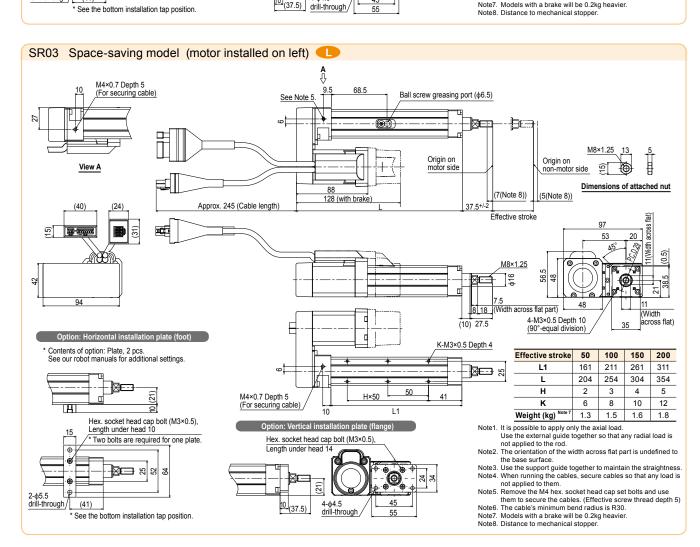Note4. When running the cables, secure cables so that any load is not applied to them.
Note5. Remove the M4 hex. socket head cap set bolts and use them to secure the cables.
(Effective screw thread depth 5)
Note6. The cable's minimum bend radius is R30.
Note7. Models with a brake will be 0.2kg heavier.
Note8. Distance to mechanical stopper.