

# Single Axis Robots RS3 - Motor Folded



See notes on CE Marking. P456

Controller

Actuator

Cable

Instruction Manual CD-ROM

**Components:** Actuator, Controller, Cable

**Accessory**

Controller I/O Specifications			
A	NPN, PNP	CC-Link	DeviceNet
	Instruction Manual (CD-ROM), Power Connector, Dummy Connector		
Accessory	CC-Link Connector		DeviceNet Connector
	-		

**Robot Material / Surface Treatment**

Components	Guide Rail	Slider	Side Cover
M Material	Steel	Aluminum	Aluminum
S Surface Treatment	-	-	Anodize

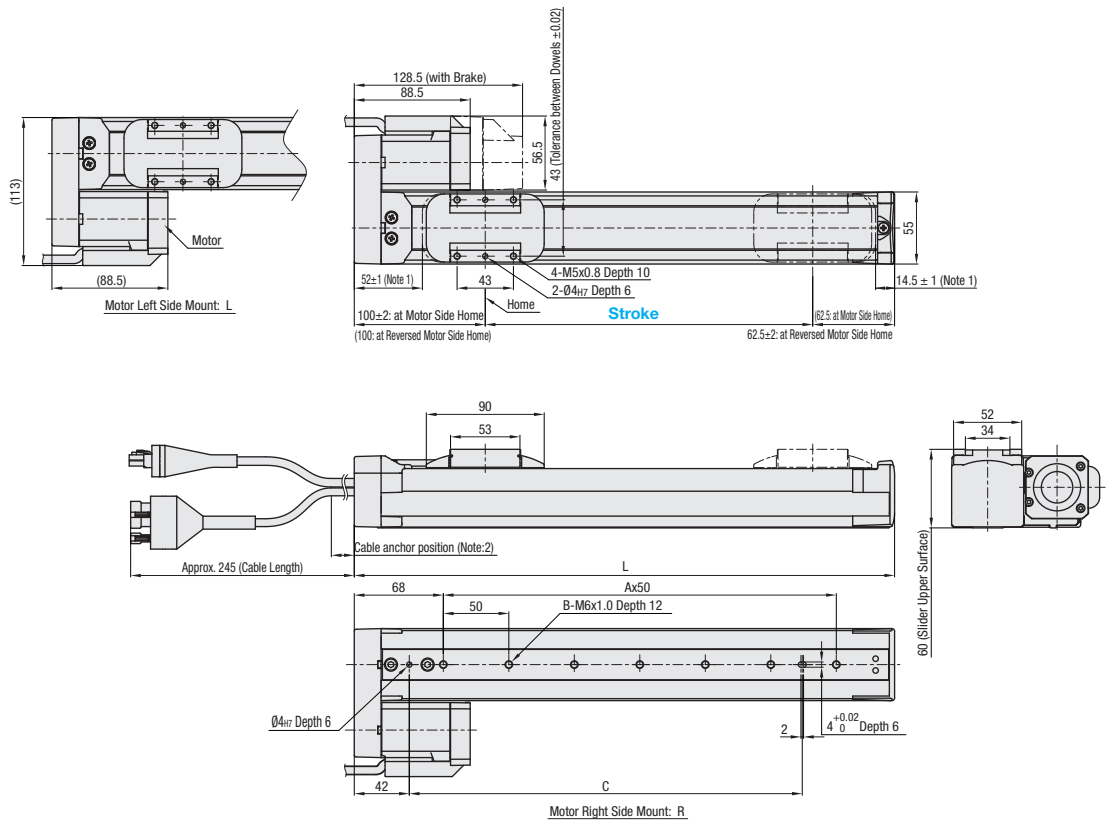
**General Specifications**

Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø12 (C10 Rolled)	Stepping	Resolver (Incremental)	0~40°C, 35~85%RH (No Condensation)

**Standard Specifications** FAQ P503

Type	Lead (mm)	Positioning Repeatability (mm)	Max Load Capacity (kg)		Max. Push Force (N)	Stroke (mm)	Max. Velocity (Note) (mm/sec)	Rated Running Life	Input Power Supply	Maximum Positioning Point
			Horizontal	Vertical						
RS3	06	±0.02	12	4	120	50~800 (50 Pitch)	300~190	10,000 km or More	DC24V ±10%	255 points
	12		8	2	60	600~380				
	20		6	-	36	1000~633				

(Note) Maximum velocities allowed may vary depending on the stroke length selected. Please refer to the "Recommended Maximum Velocities" table.



Note 1. Distances from the ends to the mechanical stoppers

Note 2. The cables should be tied down within 60mm from the ends of the unit avoiding any stress to the cables.

Note 3. The minimum bending radius of the cable is 30mm.

Note 4. These masses are for units without brakes. With brakes, they are 0.2kg heavier.

Note 5. When the stroke is 600mm or more, the resonance of ball screws may occur according to the operating area (critical speed). In such cases, reduce the programmed operational speeds by referring to the maximum velocities shown in the table on the left.

Note 6. Belt cover is not right-left symmetrical. If the motor mounting orientation is changed, the belt cover can not be reinstalled.

**Dimensions / Mass**

Type	Dimensions / Mass	Stroke (mm)															
		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS3	L (mm)	212.5	262.5	312.5	362.5	412.5	462.5	512.5	562.5	612.5	662.5	712.5	762.5	812.5	862.5	912.5	962.5
	A (mm)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	B (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	C (mm)	100	150	200	250	300	350	400	450	500	500	500	500	500	500	500	500
	Mass (kg)	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6

The brake adds 0.2kg to the total mass.

Part Number			Selection				
Type	Lead (mm)	With or w/o Brake (1)	Motor Mounting Direction	Controller (2)	I/O Module	Cable Length (m)	Stroke (mm)
RS3	06	None : Leave blank Included: B	Right Side Mount: R Left Side Mount: L	Point Control: C1 Pulse Control: P1 (DC24V ±10%)	NPN: N PNP: P CC-Link: C DeviceNet: D	1 3 5 10 (Flexible Cable)	50~800 (50mm Increment)
	12						
	20						

(1) Choose the "Brake" option for use in vertical applications. (The brake option is not available for Lead 20) (2) When the pulse train type controller is selected, the I/O type selection is not required.

**Ordering Example**

Part Number - Motor Mounting Direction - Controller - I/O Module - Cable Length - Stroke

RS306B - L - C1 - N - 3 - 400

RS306B - L - P1 - - - 3 - 400 (Controller: P1)

**Robot Body Price**

Part Number	Unit Price 1 ~ 2 pc(s)															
	Stroke (mm)															
RS3	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RS3																

**Controller Price**

Type	I/O Module	Unit Price
C1	N	
	P	
	C	
	D	
P1	-	

**Cable Price**

Cable Length (m)	Unit Price
1	
3	
5	
10	

**Note**

Power interruption circuit is not provided in this controller in order to provide maximum flexibility for customer specific safety scheme. Please be sure to provide an external power interruption circuit and form an emergency stop circuit. For Circuit examples, see P503

**Allowable Overhang Load**

- Horizontal Use
- Wall Mounted Use
- Vertical Use

**Allowable Static Moment**

Moment Diagram

	MY	MP	MR
N · m	32	38	34

**Max. Velocity (mm/sec)**

Type	Lead (mm)	Stroke (mm)			
		50~600	650	700	800
RS3	06	300(250)	280(250)	250	220
	12	400~600(500)	560(500)	500	440
	20	350~1000	933	833	733

Values in ( ) are for vertical applications. For stroke ranges 650mm or more, ball screws may resonate in certain operation areas (critical speed). In that case, reduce the operation speed by referring to the Max. Velocity shown in the table above.

**Alterations**

Part Number - Motor Mounting Direction - Controller Type - I/O Type - Cable Length - Stroke - (G, E...etc.)

RS306B - L - C1 - N - 3 - 400 - G-E

(Robot Body Price) + (Controller Price) + (Cable Price) + (Grease Type Alteration Charge) + (Home Position Alteration Charge) = Total Price

Alterations	Change of Home Position	Handset Terminal Standard Specification	Handset Terminal w/ Deadman's Switch	Support Software w/ USB Communication Cable	Support Software w/ D-Sub Communication Cable	I/O Cable	Cable for daisy-chain connection	Instruction Manual	Main Body Plastic Color Alterations
Grease Type Alteration	Motor	Handset Terminal	Handset Terminal w/ Deadman's Switch	Communication Specifications: RS200	Communication Specifications: RS200	T: Controller C1 TP: Controller P1	Length: 300mm	MJ5/KJ3/KJ4 KJ3: Controller (C1) KJ4: Controller (P1)	Change the actuator plastic parts color to black.
Code	G	E	H	D	S	R	C	MJ5/KJ3/KJ4	BC
Spec.	Grease is changed to low particle generation grease. (NSK LG2)	The home position is relocated to the opposite side of the motor.	Handset Terminal is included. Specifications: P503, 507	Handset Terminal w/ Deadman's Switch is included. Specifications: P503, 507	Support Software w/ USB Communication Cable is included. Specifications: P503, 507	Support Software w/ D-Sub Communication Cable is included. Specifications: P507	I/O Cable is included. Required for NPW/PNP configurations. Specifications: P507	A cable to connect multiple controllers. It can connect maximum 16 controllers. Specifications: P507	Operation Manual is included. For Actuator MJ5: For Controller KJ3, KJ4.

For optional items, see P507. It is more economical to order the optional items as alterations than purchasing them individually. Entering point data requires the handy terminal or the support software. An I/O Cable is required for Parallel Communication I/O Control. For details on daisy-chain, see P505. Please select the correct I/O cable type for the appropriate controller type.