

Single Axis Robots RS3 - Straight



See notes on CE Marking. P456

Controller Specifications [P497-506](#) Cycle Time Graph [P455](#) Clean Room Specifications are available on our website.

Components: Actuator, Controller, Cable

Accessory

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

Robot Material / Surface Treatment

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

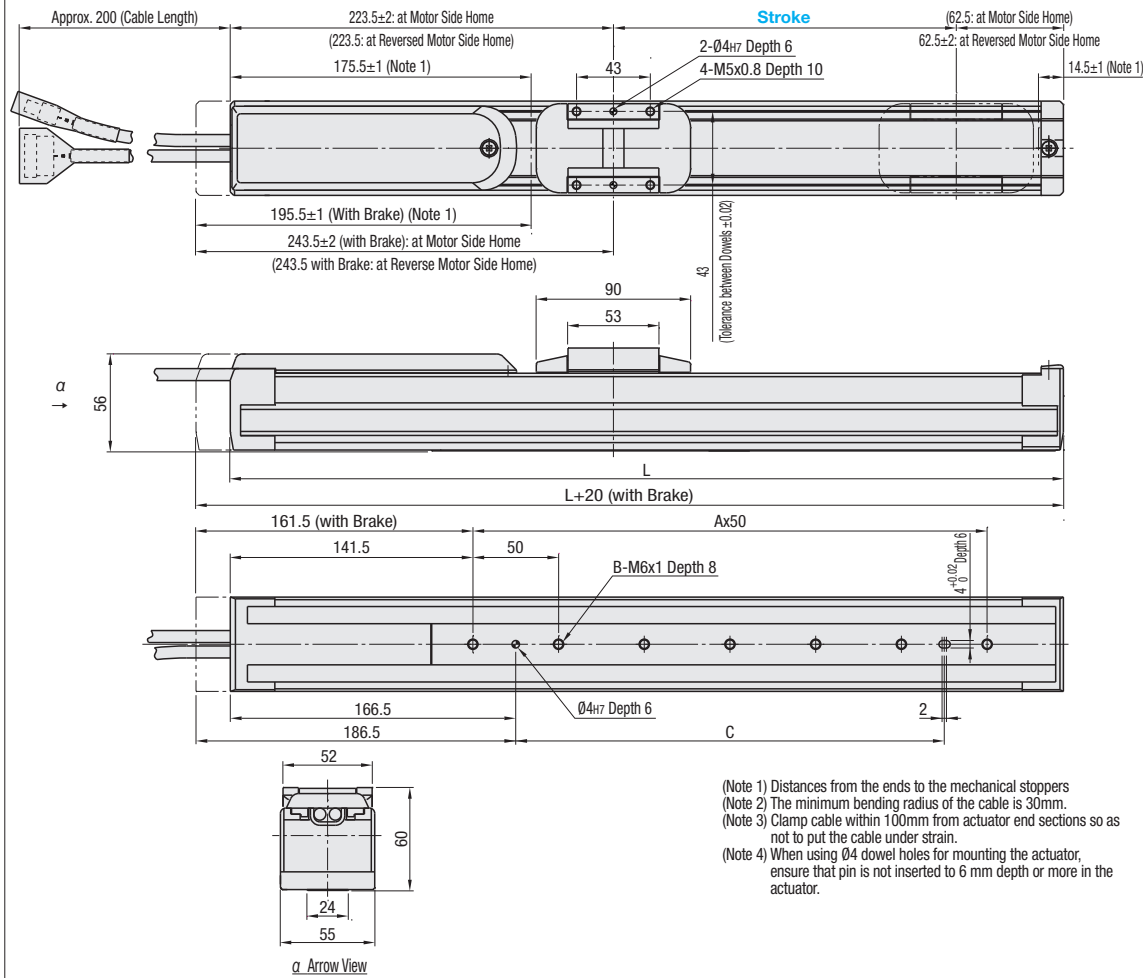
General Specifications

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 P504](#)

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.



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)	336	386	436	486	536	586	636	686	736	786	836	886	936	986	1036	1086	
	A (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	B (mm)	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	C (mm)	100	150	200	250	300	350	400	450	500	500	500	500	500	500	500	500	500
	Mass (kg)	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.5	4.7	4.9	5.1	5.3	

The brake adds 0.2 kg to the total mass.

Part Number			Selection			
Type	Lead (mm)	With or w/o Brake (1)	Controller (2)	I/O Module	Cable Length (m)	Stroke (mm)
RS3	06	None: Leave blank Included: B	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 - Controller - I/O Module - Cable Length - Stroke

RS306B - C1 - N - 3 - 400

RS306B - P1 - - 3 - 400

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

N·m			
MY	MP	MR	
32	38	34	

Max. Velocity (mm/sec) Please confirm the details of the Max. Speeds based on various strokes with Cycle Simulator.

Type	Lead (mm)	Stroke (mm)			
		50~600	650	700	800
RS2	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 application.
 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.

<Price Example> The prices are for the part numbers on the left.
 (Robot Body Price) + (Controller Price) + (Cable Price) +
 (Grease Type Alteration Charge) + (Home Position Alteration Charge) = Total Price

Alterations	Part Number	Controller Type	I/O Type	Cable Length	Stroke	(G, E...etc.)
Grease Type Alteration	RS306B	C1	N	3	400	G-E

Code	G	E	H	D	S	R	T/TP	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/ USB Communication Cable is included. Specifications P507	I/O Cable is included. Required for NPN/PNP configurations. Specifications P507	A cable to connect multiple controllers. Up to 16 controllers can be connected. Specifications P507	Operation Manual is included. For Actuator MJ5; For Controller KJ3; KJ4.	Change the actuator plastic parts color to black.

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.
 Please select the correct I/O cable type for the appropriate controller type.