



Single Axis Robots Clean Spec. RSH3C - Straight



CE Compliant

See notes on CE Marking. P.49

CAD Data Folder Name: 07_Actuator

When placing order, select part numbers and values by proceeding through Selection Steps 1~7.

Ordering Example: Part Number (Type, 1 Lead, 2 With or w/o Brake) - 3 Controller - 4 I/O Module - 5 W/ or w/o Nose Filter - 6 Cable - 7 Stroke

RSH3C05 - C22A - N - F1 - 3 - 400

Features: The fitting for air suction is included with as the standard equipment, and the low dust generation grease is adopted.

Components: Actuator, Controller, Cable, (Battery), (Noise Filter)

Accessory

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

Robot Material / Surface Treatment

Components	Base Frame	Guide Rail	Slider	Side Cover
Material	Aluminum	Steel	Aluminum	Aluminum
Surface Treatment	Anodize	-	Anodize	Anodize

General Specifications

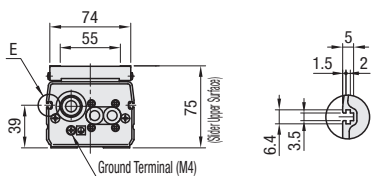
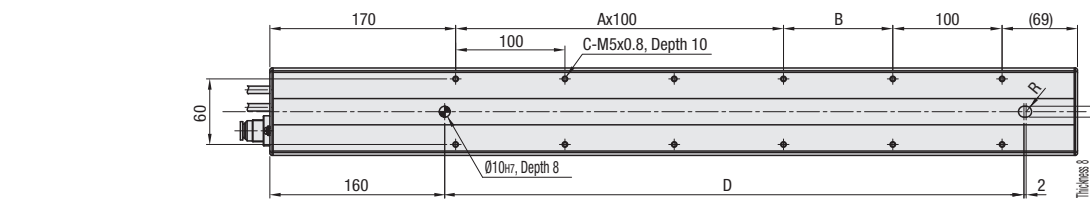
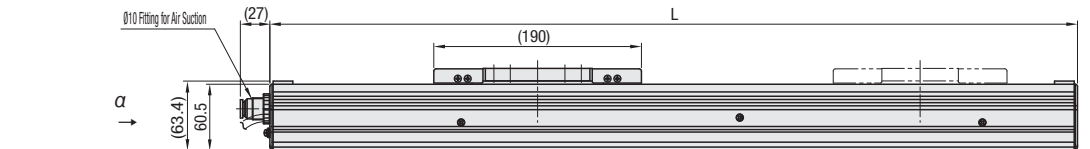
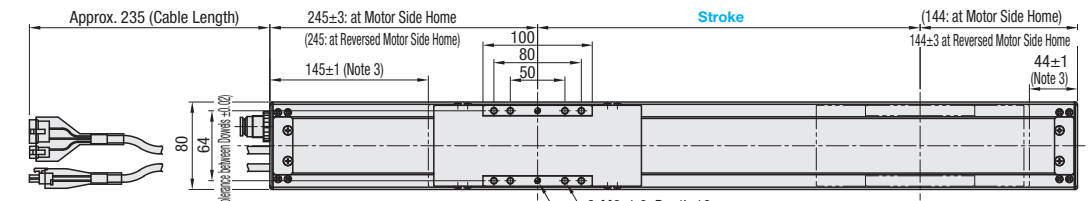
Ball Screw	Motor	Position Detector	Operating Ambient Temperature, Humidity
Ø15 (C7 Rolled)	AC Servo 100W	Resolver	0~40°C, 35~85%RH (No Condensation)

Controller Specifications P.103~112

Standard Specifications P.110

Type	Lead (mm)	Repeatability (mm)	Max. Load Capacity (kg)			Rated Force (N)	Max. Velocity (Note 1) (mm/sec)	Stroke (mm)	Rated Running Life	Controller Input Power Supply	Maximum Positioning Point	Cleanliness (Note 2)	Sucked Amount (ℓ/min)
			Horizontal	Vertical	Vertical								
RSH3C	05	±0.01	80	339	300~105	150~1050 (50 Pitch)	10,000 km or More	100~115V 200~230V ±10%	255 points	CLASS10 (Based on 0.1µm particle per 1cf)	44±1	90	
	10		60	169	600~210								
	20		30	84	1000~450								

(Note 1) Maximum velocities allowed may vary depending on the stroke length selected. Please refer to the "Max. Velocity" table on the next page. (Note 2) When the Suction Blower is used with the sucked amount of 90ℓ/min



Arrow View α

* Recommended Flat Nut Size: M3 (6x6x1.6) Part E: Detail of T Slot

(Note 3) Distances from the ends to the mechanical stoppers
(Note 4) The minimum bending radius of the cable is 50mm.

Type	Part Number		Selection																																														
	1 Lead (mm)	2 With or w/o Brake (☑)	3 Controller (☑2)	4 I/O Module	5 Nose Filter (☑3)	6 Cable	7 Stroke (mm)																																										
RSH3C	05	W/o Brake: Leave blank With Brake: B	<table border="1"> <tr> <td>Specifications</td> <td>Absolute Encoders w/ Data Storage Battery</td> <td>Incremental Type</td> </tr> <tr> <td>AC100~115V</td> <td>C21A</td> <td>C21B</td> </tr> <tr> <td>AC200~230V</td> <td>C22A</td> <td>C22B</td> </tr> </table>	Specifications	Absolute Encoders w/ Data Storage Battery	Incremental Type	AC100~115V	C21A	C21B	AC200~230V	C22A	C22B	<table border="1"> <tr> <td>NPN: N</td> <td>Not Provided: F0</td> <td>Standard</td> <td>Flexible</td> </tr> <tr> <td>PNP: P</td> <td>Provided: F1</td> <td>3.5m: 3</td> <td>3.5m: R3</td> </tr> <tr> <td>CC-Link: C</td> <td>Specifications P.115</td> <td>5m: 5</td> <td>5m: R5</td> </tr> <tr> <td>DeviceNet: D</td> <td></td> <td>10m: 10</td> <td>10m: R10</td> </tr> </table>	NPN: N	Not Provided: F0	Standard	Flexible	PNP: P	Provided: F1	3.5m: 3	3.5m: R3	CC-Link: C	Specifications P.115	5m: 5	5m: R5	DeviceNet: D		10m: 10	10m: R10	<table border="1"> <tr> <td>150</td> <td>200</td> <td>250</td> <td>300</td> <td>350</td> <td>400</td> <td>450</td> <td>500</td> <td>550</td> <td>600</td> <td>650</td> <td>700</td> <td>750</td> <td>800</td> <td>850</td> <td>900</td> <td>950</td> <td>1000</td> <td>1050</td> </tr> </table>	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
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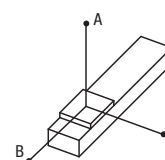
☑1) Controllers are shipped with preset parameters for each type. Data storage batteries are outside the scope of RoHS Directive.
☑2) A noise filter is required for this product. When the customer is purchasing the noise filter separately, please select "none". Be sure to install a surge absorber on the primary side of a noise filter. For details, please see the Instruction Manual.

Dimensions / Mass

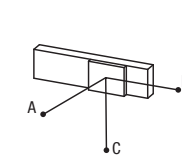
Type	Stroke (mm)	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
RSH3C	L	539	589	639	689	739	789	839	889	939	989	1039	1089	1139	1189	1239	1289	1339	1389	1439
	A	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10
	B	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100
	C	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
	D	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230
	Mass (kg)	4.7	5.0	5.3	5.6	5.9	6.2	6.6	6.9	7.2	7.5	7.8	8.1	8.4	8.7	9.0	9.3	9.7	10.0	10.3

Allowable Overhang Load

• Horizontal Use

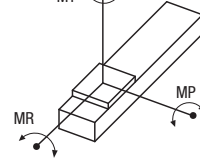


• Wall Mounted Use



Allowable Static Moment

• Moment Diagram



N·m		
MY	MP	MR
128	163	143

Max. Velocity (mm/sec)

Lead	Mass	Stroke (mm)																				
		150-600	650	700	750	800	850	900	950	1000	1050											
05	80kg	594	20	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	60kg	707	34	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	40kg	844	63	54	15	18	505	20k	1087	148	127	89	104	974	60kg	375	30	25	0	0	0	
10	40kg	472	57	47	8	11	196	20k	622	137	111	74	90	517	40kg	472	57	47	8	11	196	
	20k	622	137	111	74	90	517	30k	338	76	57	30k	20	27	182	20k	622	137	111	74	90	517
	10k	687	274	200	163	225	617	20k	401	125	92	56	76	302	10k	687	274	200	163	225	617	

☑ When the overhang equals 0, use externally mounted linear guides to support the load mass.

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 P.109.

FAQ

- Q1. The actuator does not move.
A1. When activating an actuator using Support Software or Handset Terminal, invalidate Option Parameter (No. 80). (Option Valid = I/O Terminal Valid, Option Invalid = I/O Terminal Invalid). Then turn the servo status "ON" and operate the homing procedure. After the completion of homing, start the operation by turning on "Operation".
- Q2. LED light is on. Is there a controller defect?
A2. Blue: PWR OFF: Control Power Shutoff, Blink: Servo OFF, ON: Servo ON, Red: ERR (OFF: Control Power Shutoff / No Error Alarm, Blink: Error Alarm On (External Factor), ON: Error Alarm On (Internal Factor))
- Q3. Teaching cannot be conducted by via I/O.
A3. To conduct teaching via I/O, the status needs to be ON for MANUAL Input and OFF for Interlock Input. Note that it does not function in the state of "Homing Incomplete".
- Q4. Is low-speed operation possible?
A4. Possible, however, 10 to 20% of max. velocity is the limit depending on the lead.

Days to Ship: 7 Days

Alterations: Part Number - RSH3C05 - Controller Type - C22A - I/O Type - N - Noise Filter Presence - F1 - Cable - 3 - Stroke - 400 - (E, H...etc.) - E-H

Alterations	Grease Type Alteration	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
Code	G	E	H	D	S	R	T	C	ME5/KE3
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 P.109, 113	Handset Terminal w/ Deadman's Switch is included. Specifications P.109, 113	Support Software w/ USB Communication Cable is included. Specifications P.109, 113	Support Software w/ D-Sub Communication Cable is included. Specifications P.109, 113	I/O Cable is included. Required for NPN/PNP configurations. Specifications P.109, 113	A cable to connect multiple controllers. Up to 16 controllers can be connected. Specifications P.111, 113	Operation Manual is included.

☑ For optional items, see P.113. ☑ 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.