

NEW EC06 SERIES

Number	Item	Specifications	Parts No.	Remark
1	Built-in solenoid valve	2 valves	EC04-5020-01 EC06-6020-01 EC06-7020-01	2 position single specification type
2	Tools	Zeroing pin & Zeroing block	OP-T2-109	
3	USB flash drive	1GByte 4GByte	FD11-OP93-A FD11-OP93-B	Please select one
4	Compact I/O board	I/O Photo coupler 8 inputs / NPN Transistor 8 outputs I/O Photo coupler 8 inputs / Relay 8 outputs	CFD-OP150-A CFD-OP150-B	Used by stacking on the sequence board in slot A. Please select one of them.
5	EtherNet IP board	Master1CH,Slave1CH,Master1CH+Slave1CH,Slave2CH,Master2CH	CFD-OP130-○*1	Occupies (1) slot
6	DeviceNet board	Master1CH,Slave1CH,Master1CH+Slave1CH,Slave2CH,Master2CH	CFD-OP131-○*1	Occupies (1) slot
7	DeviceNet board (Quick connect)	Master1CH,Slave1CH,Master1CH+Slave1CH,Slave2CH,Master2CH	CFD-OP129-○*1	Occupies (1) slot
8	Digital I/O board	I/O 32 inputs/32 outputs(NPN 1 board)	CFD-OP125-A	Occupies (1) slot
		I/O 64 inputs/64 outputs(NPN 2 boards)	CFD-OP125-B	Occupies (2) slot
		I/O 32 inputs/32 outputs(PNP 1 board)	CFD-OP151-A	Occupies (1) slot
		I/O 64 inputs/64 outputs(PNP 2 boards)	CFD-OP151-B	Occupies (2) slot
9	CC-Link board	TCH for both master and slave	CFD-OP98-B	Occupies (1) slot
10	CC-Link IE Field board	TCH for both master and slave	CFD-OP155-A	Occupies (1) slot
11	PROFIBUS board	Master1CH,Slave1CH,Master1CH+Slave1CH,Slave2CH,Master2CH	CFD-OP132-○*1	Occupies (1) slot
12	PROFINET board	Slave1CH Slave2CH	CFD-OP136-B CFD-OP136-D	Occupies (1) slot Please select one
13	Conveyor synchronized I/F	RS422 differential input encoder counter	CFD-OP47-A	Occupies (1) slot
14	FL-net board	TCH	CFD-OP101-C	Occupies (1) slot
15	EtherCAT board	Slave1CH	CFD-OP169-B	Occupies (1) slot
16	Controller protection BOX	Upgrade to IP54 equivalent by preparing dust-proof and moisture-resistant box	CFD-OP133-A	W640×D700×H270
17	Smart TP	Cable length 4m	CFDTP-10-04M	Please select one of 17,18,19
18	Compact TP	Cable length 4m	MINITP-10-04M	
19	TP short circuit plug	Used when teach pendant is separated from the controller	CFD-OP153-A	
20	Teach Pendant extension cable	5m 10m	CFDTP-RC05M CFDTP-RC10M	Up to one extension (Both ends have a connector). Please select one.
21	Motor/encoder harness	2m,3.5m,5m,10m,15m,20m	ZA101C-J1-○○-A*2	Connects robot to controller
22	I/O harness (A connector on the robot side, Separate cables on the controller side)	2.5m,5.5m,10.5m,15.5m,20.5m,25.5m	IOCABLE-10B-○○M*3	Connects robot to controller*4
23	I/O harness for NPN output. (Connectors on the robot side and the controller side)	2.5m,5.5m,10.5m,15.5m,20.5m,25.5m	IOCABLE-40-○○M*3	I/O harness that connects to the sequence board between the robot and the controller*4
24	I/O harness for relay output (Connectors on the robot side and the controller side)	2.5m,5.5m,10.5m,15.5m,20.5m,25.5m	IOCABLE-40B-○○M*3	I/O harness that connects to the sequence board between the robot and the controller*4
25	I/O harness for 1 additional I/O board 32/32 (A connector on the robot side, Separate cables on the tool side)	2.5m	IOCABLE-30-1-○○M*3	Available for CFD-OP-125-A/CFD-OP-151-A*7
26	I/O harness for 2 additional I/O boards 64/64 (A connector on the robot side, Separate cables on the tool side)	2.5m	IOCABLE-30-2-○○M*3	Available for CFD-OP-125-B/CFD-OP-151-B*7
27	I/O cable on robot arm	1.5m 1.5m	IOCABLE-20E-015M IOCABLE-20F-015M	Cable for CN10A (D-Sub9Pin) Cable for CN10B (D-Sub15Pin)
28	FDonDESK II Pro	Robot Program Simulator	FDONDESK2-PRO	2 additional functions to the FD on desk Light (standard option) ● Programming function from CAD ● Supports multiple controllers

*1: ○ is the following: A: Master1CH,B: Slave1CH,C: Master1CH+Slave1CH, D: Slave2CH,E: Master2CH
 *2: ○○ is cable length 02.2m,03.5,5m,05.5m,10.10m,15.15m,20.20m
 *3: ○○○ is cable length 02.2.5m,05.5.5m,10.10.5m,15.15.5m,20.20.5m,25.25.5m
 *4: The controller side has separate cables and assembly is required by customer after signal assignment
 *5: Controller unit option: A cable with a connector on both ends that can be directly connected to the CFD-OP-150-A (Compact I/O board).
 *6: Controller unit option: A cable with a connector on both ends that can be directly connected to the CFD-OP-150-B (Compact I/O board).
 *7: Wiring for the application side needs to be done by customer



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A long-awaited SCARA robot appears from Nachi

The EC06 series are simple structure robots with high-speed, high precision that meet for applications such as assembling, handling, and so on.

Maximum reach can be selected from 3 types; 500mm, 600mm, 700mm.

The tip axis is a hollow structure, therefore, tube/hose routing from the robot to the tool is simple.

Complex construction is significantly reduced as well.

EC06 SERIES



EC06 robots have a smooth and flowing design inherited from MZ,EZ series.

CFD controller

Achieved operability similar to previous Nachi robots Abundant controller options are also available



Application example

Inspection

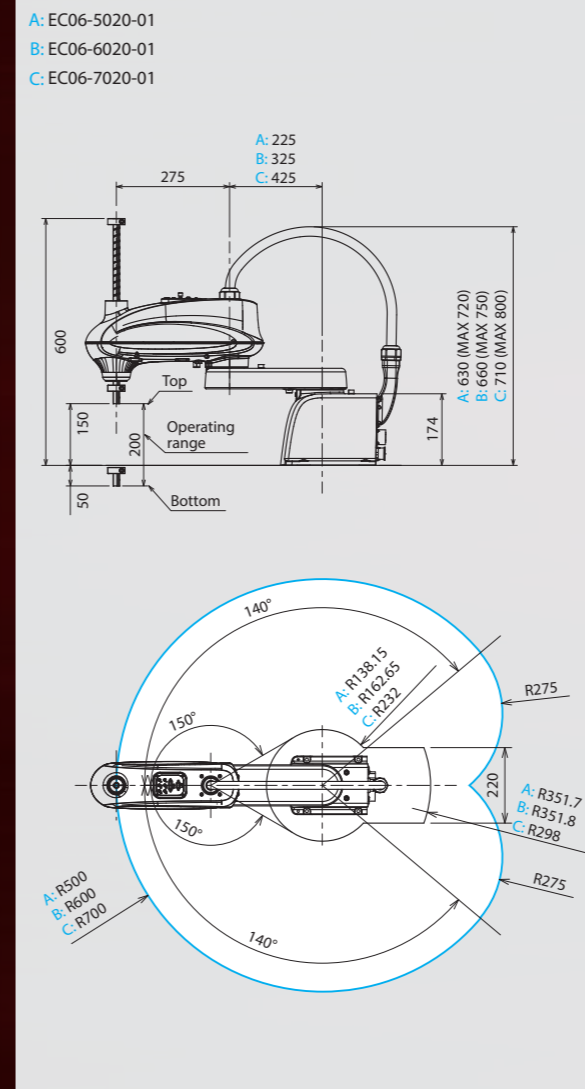


Packing

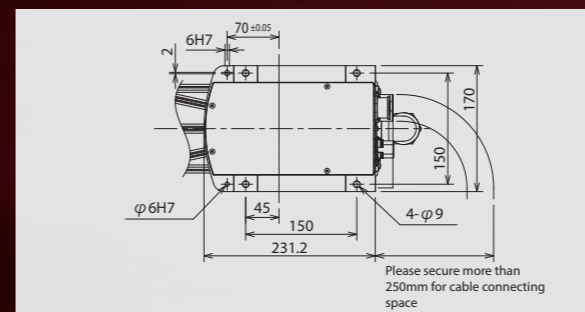


3 different types of reach are available depending on operating range requirement

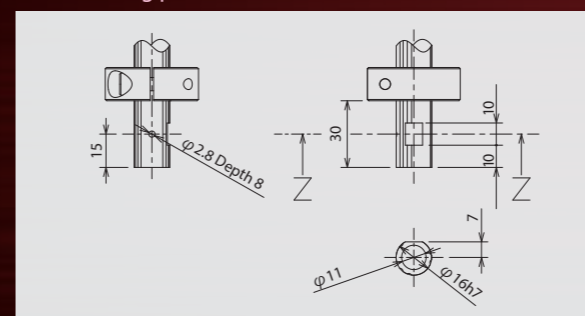
Dimensions and operating range



Robot Base Dimensions



Tool installing part dimensions



Specification

Items	Specification			
Robot type	EC06-5020-01	EC06-6020-01	EC06-7020-01	
Structure	SCARA robot			
Degree of Freedom	4			
Brake	J1, J2, J4 : Without brake J3 : With brake			
Maximum motion range	J1 Swivel1	±2.44rad (±140°)		
	J2 Swivel2	±2.62rad (±150°)		
	J3 Upward/Downward	200mm		
	J4 Rotation	±6.28rad (±360°)		
Maximum Velocity*1	J1+J2	7120mm/s	7850mm/s	8580mm/s
	J1 Swivel1	7.33rad/s (420°/s)		
	J2 Swivel2	12.57rad/s (720°/s)		
	J3 Upward/Downward	1100mm/s		
Payload	Rated	3kg		
	Maximum	6kg		
Axis 3 maximum pressing force	100N*2			
Maximum static load torque*3	0.05kg·m ² (Rated 0.01kg·m ²)			
Maximum reach	500mm	600mm	700mm	
Position repeatability	X-Y composite	±0.02mm		
	J3 (Z)	±0.01mm		
	J4 (θ)	±0.005°		
Standard cycle time*6	0.39sec	0.40sec	0.42sec	
Air tubes	Primary : φ6x2, φ4x2 Secondary : φ6x2, φ4x2 (When a built-in valve is not used) φ6x1, φ4x5 (When a built-in valve is used)*5			
Application cables	24 wires (15 wires + 9 wires)			
Mounting Condition	Floor			
Ambient Temperature	0 ~ 40°C*4			
Ambient Humidity	20 ~ 80%RH (No dew or frost allowed)			
Protection class	IP20			
Robot weight	17kg	17kg	18kg	

*1: The maximum velocity showing in the chart is the maximum value. It will change depending on operation program and the wrist load condition.
*2: Overload error occurs if it is pressing for a long time. Please use the robot under the condition that an error won't occur.
*3: Allowable maximum inertia moment varies by the wrist load condition.
*4: Using at 1000 m or lower sea level. Ambient temperature has limitations when allowable altitude is exceeded.
*5: φ4 of secondary pipes can be obtained by a built-in valve (optional).
*6: Payload : 2kg, Horizontal direction : 300mm, Vertical direction : 25mm, Reciprocating motion (rough positioning)

1 [rad] = 180/π [°], 1 [N·m] = 119.8 [kgf·m]

