

# NACHI

**NACHI**  
NACHI-FUJIKOSHI CORP.

#### **Safety precautions**

- Before using the robots, review all documentation including operating instructions and other attached documents. Familiarize yourself with the contents in order to ensure proper robot operation.
- When a robot is to be used for an application where robot trouble or operating errors may directly threaten the life or cause physical harm to personnel, a careful examination of its intended use is required. Contact a NACHI-FUJIKOSHI sales representative to provide details of the intended use.
- Photos used in this document show the robots without safety fences, equipment, and devices that are required to comply with the applicable laws and regulations for ensuring safety. These photos are only provided to illustrate what is being described.
- The external appearances, specifications, etc. of the products portrayed in this catalog are subject to change without notice due to improvements in performance.

CATALOG NO.	R7001E-8
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2013.11.Q-ABE-ABE

# Robot

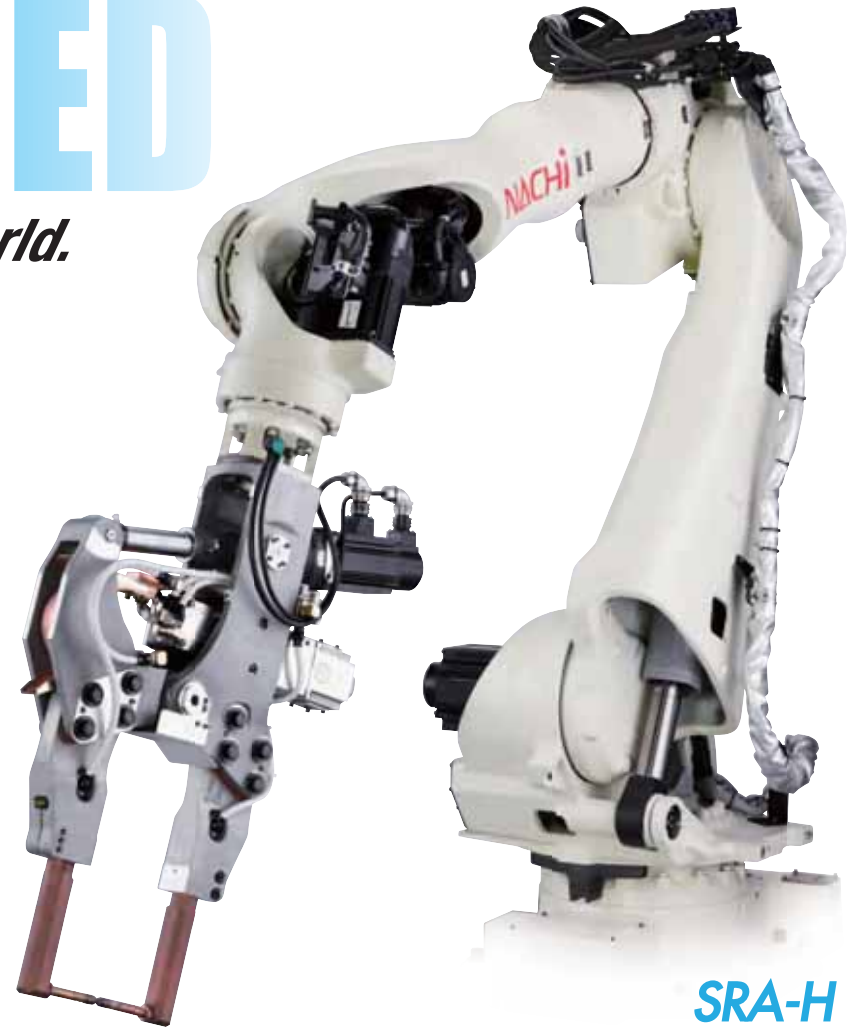
## Total Robot Catalog

# ALL FOR SPEED

*Phenomenal speed to astound the world.*



MZ07












SRA-H

**Nachi Fujikoshi's industrial robots are breaking new ground in the era of advanced manufacturing.**

Nachi Fujikoshi started producing robots in 1968, leveraging the know-how from the hydraulic and machine tool divisions. Since then, Nachi Fujikoshi has been introducing products built on its technological excellence and innovative strength to accurately respond to market demands. Nowadays, as an irreplaceable partner working on automotive production lines with the strength and vision to support the industrial machinery market, Nachi Fujikoshi has grown and advanced to earn the trust and respect in facilities around the world. The world comes to Nachi Fujikoshi for all its needs, from compact precision operation to lifting heavy loads in a full range of assembly and welding solutions. Nachi Fujikoshi's robots are revolutionizing production facilities with their incredible speed. We will continue to evolve with customers to meet the challenge of the world's automation needs.

# NACHI's full robot series lineup supports worksites throughout the world of manufacturing with the latest in technology.

## NACHI ROBOT SERIES

Series  Process and application	MZ	MC/MR	ST-TP	MC and SC Heavy Loader		LP/MC470P	ST-C/SC-C	SJ	SRA-H/SRA	NB/NV	Controller support software P13  List of specifications P15  Service network P27
	 P5 Number of controlled axes: 5 or 6 axes Payload capacity: 7 kg Maximum reach : 723 to 913 mm	 P5 - 6 Number of controlled axes: 6 or 7 axes Payload capacity: 10 to 70 kg Maximum reach: 1,260 to 2,050 mm	 P7 Number of controlled axes: 6 or 7 axes Payload capacity: 80 to 100 kg Maximum reach : 3,106 mm	 P8 Number of controlled axes: 6 axes Payload capacity: 280 to 700 kg Maximum reach: 2,503 to 3,972 mm		 P9 Number of controlled axes: 4 or 6 axes Payload capacity: 130 to 470 kg Maximum reach: 2,503 to 3,972 mm	 P10 Number of controlled axes: 6 axes Payload capacity: 133 to 400 kg Maximum reach: 2,654 to 3,623 mm	 P10 Number of controlled axes: 4 or 5 axes Payload capacity: 25 to 120 kg	 P11 Number of controlled axes: 6 axes Payload capacity: 100 to 250 kg Maximum reach: 1,634 to 3,951 mm	 P12 Number of controlled axes: 6 axes Payload capacity: 4 to 6 kg Maximum reach: 1,402 to 2,008 mm	
Spot and seam welding											Automotive, automotive parts, metalworking, agricultural machinery, construction machinery
Arc welding											
Die casting											
Resin molding											Automotive parts, plastic, electric and electronics
Press operation handling											
Machine loading											
Deburring and polishing											Automotive, automotive parts, machine tools, plastic, pharmaceuticals and cosmetics, electric and electronics, metalworking, chemistry, medical equipment, foodstuffs, agricultural machinery, construction machinery
Sealing											
General assembling											
Tightening nuts											
Picking, aligning, packaging											
Shipping and receiving (palletizing)											
Measuring, inspection, testing											
Material handling											
Glass substrate loading											Electric and electronics

## Handling applications

### Machine loading, picking, loading, palletizing, assembling, deburring/polishing, and sealing

World's fastest lightweight compact robot

MZ07 Series

- Number of controlled axes: 5 or 6 axes
- Payload capacity: 7 kg
- Maximum reach : 723 to 913 mm

MZ07 (6 axes)

MZ07L (6 axes, long arm)

MZ07P (5 axes)

MZ07LP (5 axes, long arm)

World's fastest operating performance, lightweight, compact, dust-proof and drip-proof specifications, plus installation specifications are flexible for an all-around compact high performance robot. Contributes to better productivity and is applicable for automating a variety of processes. Hollow wrist construction means wiring for the hand is streamlined for doing work in narrow locations.



MZ07

Powerful and compact multi-purpose robot

MC Series

- Number of controlled axes: 6 axes
- Payload capacity: 10 to 70 kg
- Maximum reach : 1,400 to 2,050 mm

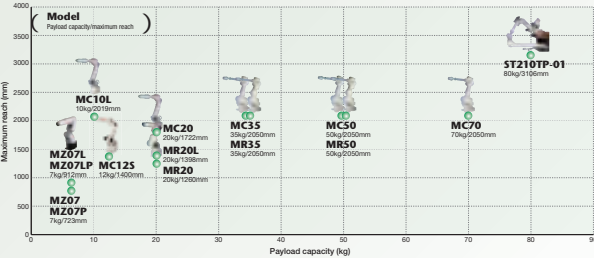
MC20 MC10L MC12S

MC35 MC50 MC70

High dust and drip proofing, top level operating performance, and a full range of functions to handle a variety of applications keep these robots working in a variety of production environments.



MC20



Flexible motion "Arm" robot with 7-axes

MR Series

- Number of controlled axes: 7 axes
- Payload capacity: 20 to 50 kg
- Maximum reach : 1,260 to 2,050 mm

MR20 MR20L

MR35 MR50

With a rotating approach, this 7-axis construction can handle complex motions to flexibly work doing processes that existing robots cannot. The compact robot arm really helps to reduce the amount of space needed for installations.



MR20

Options

- FLEXhand FH360, FH150-F2, FH150-F3

Servo hand controlled as an additional axis by the robot controller. Capable of handling many shapes without changing out the hand. This is an excellent tool for small-lot multiple item production.

- Force sensor

This function controls the robot by accurately detecting the applied force. This powerful tool makes it possible for robots to do delicate operations at high speed, such as following, pushing, loading (press fitting), detecting position and phase during assembly and production processes.

- Vision sensor NV-Pro

Our vision sensor was developed in-house at NACHI. Excellent interfacing with robot because it is possible to check images, operations, and program the robot by using the teach pendant. Excellent for picking up parts that have not been positioned because robot is aware of position of part in 2 or 3 dimensions. Can be equipped with functions to detect models of products (or detect abnormal products).

Press operation handling robots

ST210TP

- Number of controlled axes: 6 or 7 axes
- Payload capacity: 80 to 100 kg
- Maximum reach : 3,106 mm

ST210TP-01 (with press arm)

ST210TP-02 (without press arm)

Highly rigid design and vibration dampening give this robot its great speed. Newly developed specialized press arm attachment gives this robot a much larger reach that can be used for a maximum eight meter press pitch. Moves parts horizontally at high speed.



ST210TP-01

Example application

**Handling and transport**

Robots load work pieces into machining centers and move parts between processes during parts manufacturing. A single robot can monitor multiple machines by synchronizing the various cycle times. Selecting the right robot for the job means a compact operation with excellent maintainability.

Example application

**Deburring and polishing**

Robots de-bur cast parts and machined parts and grind welding beads. They maintain consistent quality without variations in polishing or left over burrs.

Example application

**Press operation handling**

Robots load and unload presses. Frees workers from the dangerous job of handling the sharp edges of sheet metal parts. Helps increase productivity by quickly loading parts ranging in size from large to small.

Solving your automation needs for assembly, loading, and other jobs with a lineup of high performance and highly functional product applications such as vision sensors and our FLEXhand series for our high-speed and super precise robots.

- Heavy loader robot
- MC Heavy Loader Series
- Number of controlled axes: 6 axes
  - Payload capacity: 280 to 350 kg
  - Maximum reach : 2,771 to 3,101 mm

**MC280L MC350**

These are our new innovative link-less type heavy load bearing robots. With plenty of wrist torque and working envelope, these robots are opening up a new era of heavy loading robots.



MC350

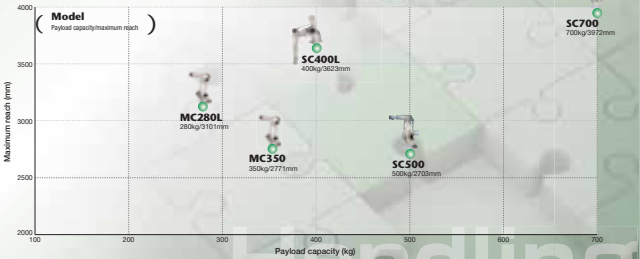


SC400L

- Super heavy loader robot
- SC Heavy Loader Series
- Number of controlled axes: 6 axes
  - Payload capacity: 400 to 700 kg
  - Maximum reach : 2,503 to 3,972 mm

**SC400L SC500 SC700**

The SC heavy loader robots, with huge load capacity and reach, are excellent for jobs that require heavy loading. Their vertical stroke is especially big, so they can help create more flexible production lines by replacing conventional specialized machinery, such as auto body loaders, with robots.



Handling

Palletizing (shipping and receiving)

Palletizing robots

By improving productivity, these robots handle manufacturing jobs that produce more products in a shorter time NACHI's palletizing robots help with intricate stacking work for shipping and receiving processes.

- High-speed palletizing robot
- LP Series
- Number of controlled axes: 4 axes
  - Payload capacity: 130 to 210 kg
  - Maximum reach : 2,503 to 3,972 mm

**LP130 LP180 LP210**

The LP series of specialized palletizing robots do large movements quickly. They can stack boxes of products, such as cardboard boxes, or products in bags, such as foodstuffs or chemicals, onto pallets at high speeds. Loaded with palletizing functions, they can handle a variety of stacking patterns.



LP130



**Palletizing**

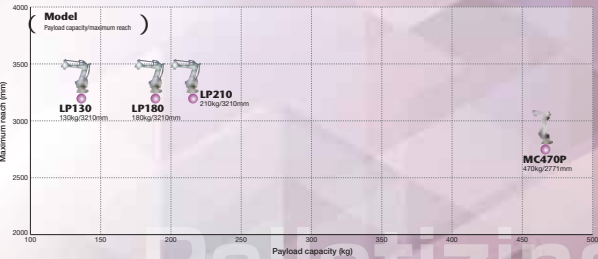
Robots stack goods of various sizes in specified patterns on pallets. They help to automate a wide range of logistics operations with their high speeds and variety of stacking patterns.

- Heavy loader palletizing robot
- MC470P
- Number of controlled axes: 6 axes
  - Payload capacity: 470 kg
  - Maximum reach: 2,771 mm

This robot has enough lifting power to handle jobs loading and stacking beverages, bricks, plastic resins, concrete and other heavy goods. While having only 6 controlled axes, it can handle large and heavy loads with a wrist that is always directed downward.



MC470P



Palletizing

Clean-room loading (glass substrate loading)

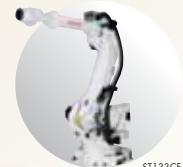
Clean-room Robots

Our series of clean-room robots suppress the dust created by arm movements and are designed to be used in clean rooms. These high-performance loading robots support the heart of the flat panel display production process.

- Clean-room loading robot
- ST-C/SC-C Series
- Number of controlled axes: 6 axes
  - Payload capacity: 133 to 400 kg
  - Maximum reach : 2,654 to 3,623 mm

**ST133CF ST166CF ST210CF SC400LC**

Six-axis articulated construction with excellent flexibility and a large reach make these robots excellent for a variety of loading work in large glass substrate production processes.



ST133CF



SC400LC

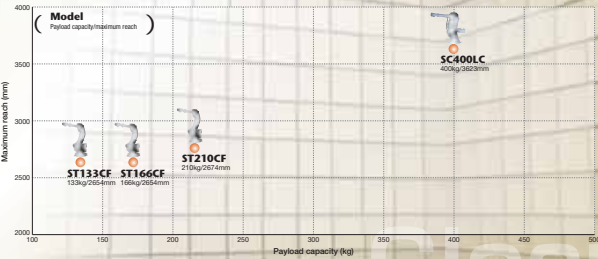
- Robots for glass substrate loading
- SJ Series
- Number of controlled axes: 4 or 5 axes
  - Payload capacity: 25 to 120 kg

**SJ80C SJ120C**

These robots have been loading large glass substrates for flat panel displays ranging from the fifth through the eighth generation. Our flexing and extending construction enables extremely clean performance, which is excellent for work in clean rooms where particle control is necessary.



SJ120C



Clean

## Welding applications

## Spot welding, arc welding, and seam welding

### Spot welding robot with built-in cables

#### SRA-H Series

- Number of controlled axes: 6 axes
- Payload capacity: 100 to 220 kg
- Maximum reach : 2,575 to 3,951 mm

#### SRA100H SRA133HL (Long arm)

#### SRA220H SRA220HV (Inverted mount)

The next generation of hollow arm construction spot welding robots. Cables for welding gun are fully enclosed to increase cable reliability and improve rate of operation.

Contributes to installing directly in the assembly line and improves operational accuracy of offline programming, including welding cables.



SRA100H

### Ultra-fast spot welding robot

#### SRA Series

- Number of controlled axes: 6 axes
- Payload capacity: 100 to 250 kg
- Maximum reach : 1,634 to 3,099 mm

#### SRA100

#### SRA166

#### SRA210

#### SRA240

#### SRA250

#### SRA100B (Short arm)

#### SRA100J (Extra-short arm)

#### SRA133L (Long arm)

#### SRA120EL (Extra-long arm)

#### SRA166L (Long arm)

#### SRA166T (Shelf mount)

#### SRA166TL (Shelf mount long arm)

#### SRA210T (Shelf mount)

The Ultimate Spot Welding Robot. Pursuing higher speeds and vibration damping properties, we greatly improved productivity by shortening cycle times 30% (compared to our existing models) through improvements in three areas, weight reduction, higher rigidity, and faster controls. The compact design allows for dense installation layouts plus maintenance is streamlined making periodic inspections and parts replacement easy to do. The lighter weight and latest in motor drive controls have reduced power consumption by 15% over existing models. This reduces environmental impact too.



SRA166

### Example application



Spot welding

Spot welding guns are mounted on robots and used to spot weld steel plates. They are used to assemble auto bodies, parts, and frames. Welding guns are controlled by the robots so sputter does not occur for high quality welds and high productivity in a clean and quite environment.



SRA210T

Welding robots are the central element of automobile production, especially the auto body welding lines. The performance, functionality, and reliability of the NACHI lineup of spot welding robots are supporting the world of manufacturing.

### Arc Welding Robot

#### NB/NV Series

- Number of controlled axes: 6 axes
- Payload capacity: 4 to 6 kg
- Maximum reach : 1,402 to 2,008 mm

#### NB04 NB04L NV06 NV06L

By housing the arc welding cable in the arm, these robots optimize layout by eliminating interference with peripheral equipment and they have consistent wire feed.



NB04

### Seam welding robots

#### Robot seam welding package

#### Seam welders are mounted on robots

- Capable of seam welding on work surfaces in three dimensions
- Fast and consistent welding
- Equipped with various application functions such as electrode polishing, electrode wear compensation, and others

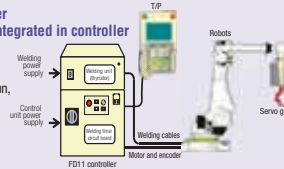


### Options

#### • Integrated timer Welder timer integrated in controller

##### - All-in-one package

Package includes robot, timer, servo gun, and peripheral equipment.



#### • Slider

Slider controlled as an additional axis by the robot controller. Expands possibilities of automated systems and working envelope of robots.



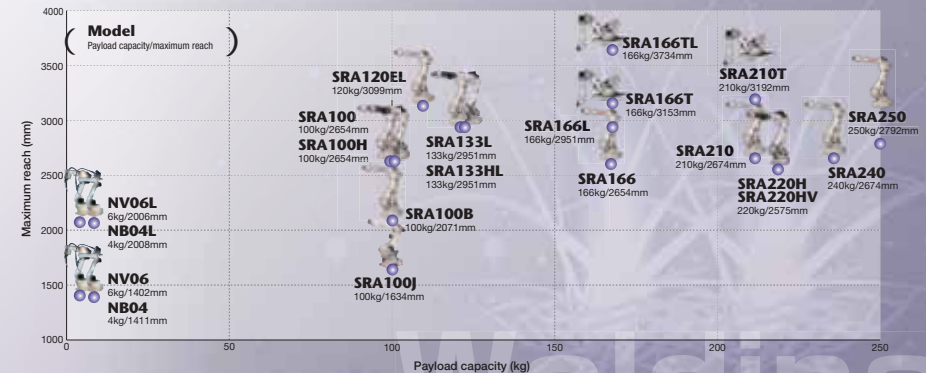
#### • Revolving worktable TT2000/TT4000

Revolving table controlled as an additional axis by the robot controller. Full-circle revolving table holds heavy loads, such as jigs, that helps streamline production processes with multi-operation configurations combining production of multiple types of products.



#### • Lifter LF Series

Lifter is controlled by the robot controller for vertical movement. Each pillar can handle up to 580 kg. A maximum of 4 pillars can operate simultaneously to lift heavy and long items.



# Controller support software

## FD Controller

### Fast processing

High-speed CPU brings huge improvement to control performance such as cycle time, trajectory control, and internal processing time.

### Teach pendant is compact and lightweight

Compact and lightweight with re-tooled key operations. Touch panel is standard equipment making operations even easier.

### Improved maintainability

Maintainability improved by integrating units in base and rewiring configuration. Faster parts replacement.



### Controller Standard specifications (domestic specifications: FD11-0000)

Item	Specifications
Number of controlled axes	Simultaneous 6 axes (maximum 8 axes as option)
Servo motors	AC servo motors
Position reader	Absolute encoder
Programming system	Teaching playback
Program number	9,999 programs
Memory capacity	256 MB (equivalent to 2,560,000 steps)
Memory format	Flash memory
External memory	USB memory supported (USB memory not included)
Operation panel	Mode switch (teach/playback) Emergency stop button, motors on button, start button, stop button
Safety functions	PLd (category 3 compliant)
Cable between robot and controller	5 m (controller cable specifications)
User interface	User panels: On back, side, and inside door (Some panels may not be usable if hardware options are added)
Serial interface	RS232C 1ch
Construction	Fully enclosed cabinet
Dust proof, drip proof	IP54 equivalent
Cooling method	Indirect cooling
Primary power supply specifications	200 VAC to 220 VAC $\pm 10\%$ (3 phase, 50/60 Hz) D type ground Breaker capacity 40 A, maximum current leakage 100 mA
Standby power consumption <sup>1)</sup>	0.13 kVA (cooling fan on), 0.08 kVA (cooling fan off)
Ambient temperature	0 to 45°C (50/60 Hz)
Ambient humidity	20 to 85% (without condensation)
Exterior dimensions	W 580 × D 542 × H 590 (mm) (not including 60 mm height of feet)
Weight	Approx. 62 kg
Color of paint	Munsell 100Y9/1

<sup>1)</sup> The standby power consumption is when in energy-saving mode. In energy-saving mode the brakes temporarily lock, power to servo motors turns off, and the robot freezes its configuration. Refer to the basic specification sheet of a robot for the electric power requirements.

## CFD controller (for MZ07 series only)

### Compact cabinet

Just 369 mm wide. Can be stored inside robot raiser.

### Wide-variety of applications supported

- Supports addition of one axis (slider axis, jig axis, etc.)
- Vision sensor NV-Pro
- Force sensor applications
- Built in software PLC
- Protective box for controller (dust proof, drip proof)

### Outstanding functionality

Excellent software functions carried over from AX controller. Easily adapts to many various applications.

### Full lineup of safety functions

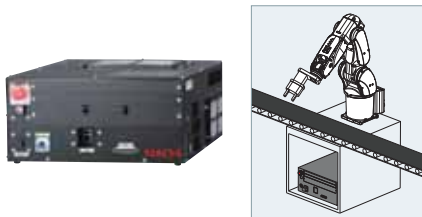
Support for PL (Performance Level) d is standard. Also compliant with American and European safety standards.

### Options

Item	Specifications
Overseas compliance	North American specifications FD11-1101: ANSI/RIA compliant European specifications FD11-2101: CE mark compliant
Primary power voltage conversion (external dimensions of controller)	380/400/420/440/460/480 VAC $\pm 10\%$ (3 phase, 50/60 Hz) D type ground Breaker capacity 30 A, maximum current leakage 100 mA W 580 × D 542 × H 1,180 (mm) (not including 60 mm height of feet)
Cable between robot and controller	Extension (total): 10 m, 15 m, 20 m, 25 m (controller cable specifications)
Additional axes	Gun axis, slider axis, jig axis, hand axis
External memory	USB memory (1 GB)
Fieldbus	Device-Net, Profibus, FL-net, CC-Link and others supported Maximum 4 channels can be installed
Additional input/output signals	Input 32 points/output 32 points or input 64 points/output 64 points
Output signal relay contact specifications	32 or 64 points (available with "Additional input/output signals" option)
Analog input/output	Input 2 channels, output 4 channels
Vision sensor function	Built-in vision sensor NV-Pro
Conveyor tracking function	Conveyor tracking control
Palletize function	Palletize and de-palletize support functions
Robot language	JIS SLIM language compliant
PLC function	Software PLC IEC 1131-3 compliant

### Teaching pendant display specifications

Item	Specifications
Display	5.7 inch color LCD (640 × 480 pixels, with backlight, 65,536 colors) Touch panel
Language specifications (Option)	Japanese (kanji, hiragana, katakana, alphanumeric characters) English/Chinese/Korean
Enable SW	One-handed enable switch, three positions, (left hand side)
Operation functions	Axis operation key, value input key, selection/function key Motors on key, emergency stop button
External memory interface	USB port
Cable length (Option)	8 m (controller cable specifications)
Dust proof, Drip proof	IP65 equivalent
Exterior dimensions	W 170 × D 300 × T 65 (mm) (excluding hook and corner guard)
Weight	0.96 kg (excluding cable)



### Controller options

Item	Specifications
Additional axes	Can add control for 1 additional axis motor (motor capacity up to 600 W/12 A)
Fieldbus	DeviceNet, Ethernet/IP, PROFIBUS, PROFINET, CC-Link 32/32 I/O board, maximum 2 boards can be added
Digital I/O	8 photo-coupler inputs, 8 transistor outputs or 8 photo-coupler inputs and 8 relay outputs
External memory	USB memory
Vision sensor function*	NV-Pro
Robot monitoring function*	SIL3, PLd
Protective box for controller	Protection rating: IP54 ingress protection

\*Separate installation type

Introducing the intelligent robot controller based on Windows.

Robots and additional axis are easy to operate by using the teach pendant. The vision and force sensors, as well as the network, can be managed in one place.

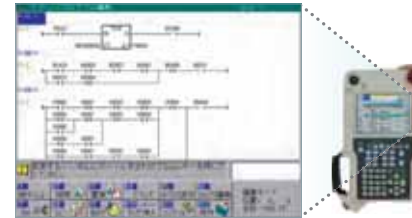
Also, the various support software helps with production processes by providing information on robot conditions and safe operations.

## Easy to use functional configuration

### Software PLC

Standard equipment

- Robot controller equipped with PLC functions. Peripherals can be controlled
- External system control panel not needed



### Graphic user interface FlexGui

Options

- Teach pendant screen can be customized
- Can be used as operation panel for entire system, including peripheral equipment



### User task functions

Standard equipment

- Possible to program processes in parallel with robot operations
- Application example
  - Time consuming calculations and robot operations are processed in parallel to reduce cycle times
  - Various statuses are shown on the screen on the teach pendant

### Supports a variety of fieldbuses

Options

- DeviceNet (master and slave)
- EtherNet/IP (master and slave)
- CC-Link (master and slave)
- PROFIBUS (master and slave)
- PROFINET (slave)

DeviceNet and EtherNet/IP are registered trademarks of ODVA (Open DeviceNet Vendor Association, Inc.).  
CC-Link is a registered trademark of CC-Link Association (CC-Link Partner Association: CLPA).  
PROFIBUS and PROFINET are registered trademarks of PROFIBUS & PROFINET International.



\*The MZ series now has FD on Desk Light (CFD controller only) as standard equipment.  
(Functions are the same as FD on Desk Regular)

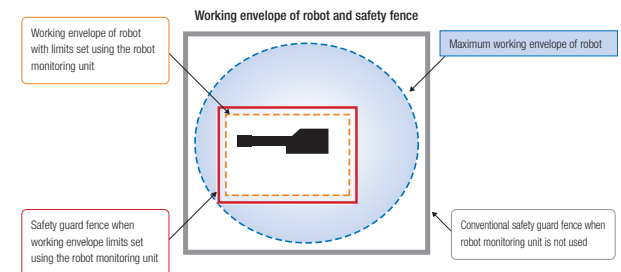
### Robot Monitoring Unit RMU

Options



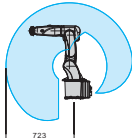
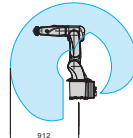
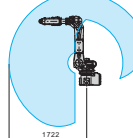
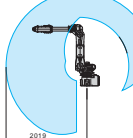
- Safety control unit monitors robot conditions (position and speed)
- Possible to reduce costs and space

Facilities are safer because the positions and speeds of robots are monitored



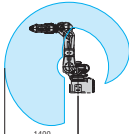
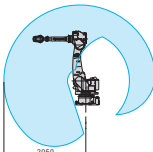
Limit working envelope of robot  
Minimize size of safety fences



# List of specifications



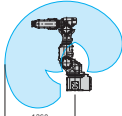
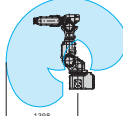
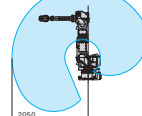
						
Model			MZ07 (MZ07P)	MZ07L (MZ07LP)	MC20	MC10L
No. of axes			6(5)		6	
Max. working envelope	Arm	J1 Swivel 1	$\pm 170^\circ$		$\pm 180^\circ$	
		J2 Horizontal	$-135 \sim +80^\circ$		$-145 \sim +60^\circ$	
		J7 Swivel 2	—		—	
		J3 Vertical	$-136 \sim +270^\circ$	$-139 \sim +270^\circ$	$-163 \sim +242^\circ$	
	Wrist	J4 <sup>1</sup> Rotation 2	$\pm 190^\circ$		$\pm 180^\circ$	
		J5 Bend	$\pm 120^\circ$		$\pm 139^\circ$	
Max. speed	Arm	J6 Rotation 1	$\pm 360^\circ$		$\pm 360^\circ$	
		J1 Swivel 1	450°/s	300°/s	170°/s	150°/s
		J2 Horizontal	380°/s	280°/s	170°/s	
		J7 Swivel 2	—		—	
	Wrist	J3 Vertical	520°/s	360°/s	170°/s	
		J4 <sup>1</sup> Rotation 2	550°/s		360°/s	
Maximum load	Wrist	J5 Bend	550°/s		360°/s	
		J6 Rotation 1	1000°/s		600°/s	
		Wrist	7kg		20 (max. 22) kg	10kg
Allowable static load torque for wrist	Load capacity on forearm		—		—	
	Upper of J3		—		—	
	J4	Rotation 2	16.6N·m		49N·m	24.5N·m
Allowable moment of inertia for wrist	J5	Bend	16.6N·m		49N·m	24.5N·m
	J6	Rotation 1	9.4N·m		23.5N·m	12N·m
	J4	Rotation 2	0.47kg·m <sup>2</sup>		1.6kg·m <sup>2</sup>	1.6kg·m <sup>2</sup>
Maximum reach	J5	Bend	0.47kg·m <sup>2</sup>		1.6kg·m <sup>2</sup>	1.6kg·m <sup>2</sup>
	J6	Rotation 1	0.15kg·m <sup>2</sup>		0.8kg·m <sup>2</sup>	0.7kg·m <sup>2</sup>
	J4	Rotation 2	0.15kg·m <sup>2</sup>		0.8kg·m <sup>2</sup>	0.7kg·m <sup>2</sup>
Position repeatability	723mm		912mm		1,722mm	2,019mm
Ambient temperature <sup>2</sup> /humidity	$\pm 0.02\text{mm}$		$\pm 0.03\text{mm}$		$\pm 0.06\text{mm}$	
Vibration	0 to 45°C/20 to 85% RH (without condensation)		0.5 G or less			
Installation	Floor, wall, inverted, tilted mount		Floor, inverted mount			
Dust proof, Drip proof	IP67 equivalent		IP65 equivalent			
Weight	30kg		32kg		220kg	225kg
Power consumption	0.4KVA		1.7KVA			
Working envelope						

\* Maximum speeds are maximum values, they will vary depending on the wrist load conditions and operating program.  
<sup>1</sup>: For the 5-axis specifications (MZ07P and MZ07LP), the configuration does not have the J4 axis.  
<sup>2</sup>: When used at less than 1,000 m above sea level. Exceeding the allowable altitude limits the acceptable ambient temperature.



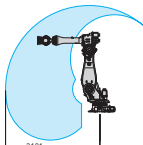
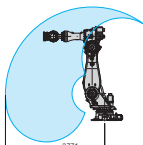
			
MC12S	MC35	MC50	MC70
6			
±180°	±165°		
-145 ~ +60°	-135 ~ +80°		
—			
-154 ~ +242°	-146 ~ +260°		
±180°	±360°		
±139°	±125°		
±360°	±450°		
200°/s	185°/s	180°/s	175°/s
170°/s	180°/s		145°/s
—			
170°/s	190°/s	180°/s	165°/s
370°/s	305°/s	255°/s	235°/s
370°/s	305°/s	255°/s	235°/s
700°/s	420°/s	370°/s	350°/s
12kg	35kg	50kg	70kg
—	15kg		
—			
28N·m	160N·m	210N·m	300N·m
28N·m	160N·m	210N·m	300N·m
13N·m	90N·m	130N·m	150N·m
1.3kg·m <sup>2</sup>	16kg·m <sup>2</sup>	30kg·m <sup>2</sup>	
1.3kg·m <sup>2</sup>	16kg·m <sup>2</sup>	30kg·m <sup>2</sup>	
0.47kg·m <sup>2</sup>	5kg·m <sup>2</sup>	12kg·m <sup>2</sup>	
1,400mm	2,050mm		
±0.06mm	±0.07mm		
0 to 45°C/20 to 85% RH (without condensation)			
0.5 G or less			
Floor, inverted mount	Floor mount (OP: inverted, wall, tilted)		
IP65 equivalent	Wrist: IP67 equivalent, main body: IP54 equivalent (OP: IP65/67 equivalent)		
210Kg	640Kg		
1.7KVA	5.0KVA		
			

1[N·m]=1/9.8[kg·m]

# List of specifications

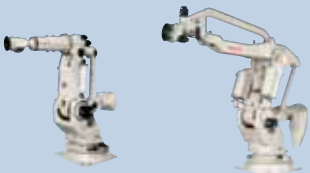

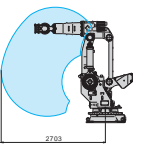
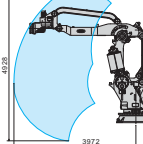
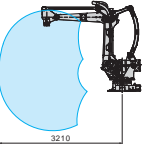
			 				
Model			MR20		MR20L	MR35	MR50
No. of axes			7				
Max. working envelope	Arm	J1 Swivel 1	±180°			±165°	
		J2 Horizontal	-120 ~ +55°				
		J7 Swivel 2	±180°			±190°	
	Wrist	J3 Vertical	-166 ~ +135°			-146 ~ +140°	
		J4 Rotation 2	±180°			±360°	
		J5 Bend	±135°	±139°	±125°		
Max. speed	Arm	J6 Rotation 1	±360°			±450°	
		J1 Swivel 1	170°/s		180°/s	175°/s	
		J2 Horizontal	170°/s		175°/s	140°/s	
	Wrist	J7 Swivel 2	170°/s		130°/s		
		J3 Vertical	170°/s		180°/s	165°/s	
		J4 Rotation 2	250°/s	360°/s	305°/s	255°/s	
Maximum load	Wrist	J5 Bend	250°/s	360°/s	305°/s	255°/s	
		J6 Rotation 1	300°/s	600°/s	420°/s	370°/s	
		Wrist	20 (max. 30) kg	20kg	35kg	50kg	
Maximum load	Wrist	Load capacity on forearm	—			15kg	
		Upper of J3	—				
Allowable static load torque for wrist	Wrist	J4 Rotation 2	80.8N·m	49N·m	160N·m	210N·m	
		J5 Bend	80.8N·m	49N·m	160N·m	210N·m	
		J6 Rotation 1	44.1N·m	23.5N·m	90N·m	130N·m	
Allowable moment of inertia for wrist	Wrist	J4 Rotation 2	6.0kg·m <sup>2</sup>	1.6kg·m <sup>2</sup>	16kg·m <sup>2</sup>	30kg·m <sup>2</sup>	
		J5 Bend	6.0kg·m <sup>2</sup>	1.6kg·m <sup>2</sup>	16kg·m <sup>2</sup>	30kg·m <sup>2</sup>	
		J6 Rotation 1	2.3kg·m <sup>2</sup>	0.8kg·m <sup>2</sup>	5kg·m <sup>2</sup>	12kg·m <sup>2</sup>	
Maximum reach			1,260mm	1,398mm	2,050mm		
Position repeatability			±0.06mm		±0.07mm		
Ambient temperature/humidity			0 to 45°C/20 to 85% RH (without condensation)				
Vibration			0.5 G or less				
Installation			Floor, inverted mount			Floor mount (OP: inverted, wall, tilted)	
Dust proof, Drip proof			IP65 equivalent			IP67 equivalent	
Weight			230Kg			745Kg	
Power consumption			1.0KVA			4.1KVA	
Working envelope							


\*1: When used at less than 1,000 m above sea level. Exceeding the allowable altitude limits the acceptable ambient temperature.

		
ST210TP-01	MC280L	MC350
7	6	
±180°	±180°	
-35 ~ +120°	-100 ~ +40°	
±65°	-	
-96 ~ +210°	-147 ~ +130°	-180 ~ +130°
±360°	±360°	
±120°	±125°	
±360°	±360°	
110°/s	105°/s	
90°/s	105°/s	95°/s
(Press arm link) 120°/s	-	
95°/s	95°/s	
130°/s	120°/s	110°/s
130°/s	120°/s	110°/s
250°/s	200°/s	180°/s
80kg	280kg	350kg
30kg	25kg	50kg
-	-	
-	1,921N·m	2,750N·m
-	1,921N·m	2,750N·m
-	988N·m	1,235N·m
J7 axis rotation 80 kg·m <sup>2</sup>	400kg·m <sup>2</sup>	
	400kg·m <sup>2</sup>	
	250kg·m <sup>2</sup>	
3,106mm	3,101mm	2,771mm
±0.3mm	±0.2mm	
0 to 45° C/20 to 85% RH (without condensation)		
0.5 G or less		
Shelf mount (installed at 20° angle)	Floor mount	
Wrist has IP67 and main body has IP54 equivalent		Shelf mount
Wrist has IP65 and main body has IP54 equivalent		
1,650kg	1,700kg	1,620kg
7.0KVA	8.6KVA	
6.7KVA		
		
		

1[N·m]=1/9.8[kgf·m]

# List of specifications

												
Model			SC500		SC700		LP130-01		LP180-01			
No. of axes			6				4					
Max. working envelope	Arm	J1 Swivel 1	±150°				±160°				±180°	
		J2 Horizontal	-75 ~ +55°				-85 ~ +45°				-95 ~ +41°	
		J7 Swivel 2	—				—				—	
		J3 Vertical	-125 ~ +30°				-90 ~ +40°				-117 ~ +17°	
	Wrist	J4 Rotation 2	±300°				-10 ~ +90°				±360°	
		J5 Bend	±120°				±125°				—	
Max. speed	Arm	J6 Rotation 1	±360°				±10°				—	
		J1 Swivel 1	80°/s				45°/s				130°/s	
		J2 Horizontal	80°/s				30°/s				115°/s	
		J7 Swivel 2	—				—				—	
	Wrist	J3 Vertical	80°/s				30°/s				115°/s	
		J4 Rotation 2	90°/s				30°/s				105°/s	
Maximum load	Wrist	J5 Bend	90°/s				50°/s				—	
		J6 Rotation 1	145°/s				30°/s				—	
		Wrist	500kg				700kg				130kg	
Allowable static load torque for wrist	Wrist	Load capacity on forearm	30kg				—				25kg	
		Upper of J3	30kg				—				—	
		J4 Rotation 2	1,960N·m				13,800N·m				—	
Allowable moment of inertia for wrist	Wrist	J5 Bend	1,960N·m				3,920N·m				—	
		J6 Rotation 1	980N·m				2,940N·m				—	
		J4 Rotation 2	200kg·m <sup>2</sup>				3,000kg·m <sup>2</sup>				50kg·m <sup>2</sup>	
Maximum reach	Wrist	J5 Bend	200kg·m <sup>2</sup>				1,800kg·m <sup>2</sup>				—	
		J6 Rotation 1	147kg·m <sup>2</sup>				1,000kg·m <sup>2</sup>				—	
		Wrist	2,703mm				3,972mm				3,210mm	
Position repeatability			±0.5mm				±0.3mm				±0.4mm	
Ambient temperature/humidity			0 to 45°C/20 to 85% RH (without condensation)									
Vibration			0.5 G or less									
Installation			Floor mount									
Dust proof, Drip proof			Wrist has IP67 and main body has IP54 equivalent				IP54 equivalent					
Weight			3,000kg				7,000kg				1,150kg	
Power consumption			6.7KVA				7.0KVA				6.2KVA	
Clean rating <sup>2</sup>			—									
Working envelope												





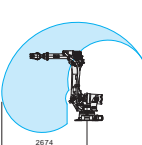
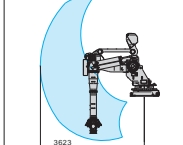
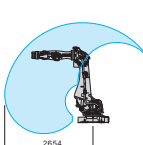
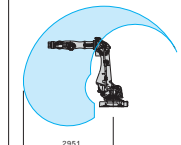
					
LP210		MC470P		ST133CF	ST166CF
4		6		6	
±180°		±180°		±165°	
-95 ~ +41°		-100 ~ +40°		-80 ~ +60°	
—		—		—	
-117 ~ +17°		-180 ~ +35°		-137 ~ +150°	
±360°		±360° <sup>*3</sup>		±360°	
—		±125° <sup>*3</sup>		±135°	
—		±360°		±360°	
105°/s		105°/s		130°/s	110°/s
100°/s		95°/s		130°/s	110°/s
—		—		—	
100°/s		95°/s		130°/s	110°/s
300°/s		110°/s		230°/s	170°/s
—		110°/s		230°/s	170°/s
—		180°/s		305°/s	260°/s
210kg		470kg		133kg	166kg
25kg		30kg		70kg	
—		—		—	
—		2750N·m		745N·m	951N·m
—		2750N·m		745N·m	951N·m
—		0N·m		411N·m	490N·m
100kg·m <sup>2</sup>		400kg·m <sup>2</sup>		60.9kg·m <sup>2</sup>	88.9kg·m <sup>2</sup>
—		400kg·m <sup>2</sup>		60.9kg·m <sup>2</sup>	88.9kg·m <sup>2</sup>
—		250kg·m <sup>2</sup>		30.2kg·m <sup>2</sup>	45.0kg·m <sup>2</sup>
3,210mm		2,771mm		2,654mm	
±0.4mm		±0.2mm		±0.2mm	
0 to 45°C/20 to 85% RH (without condensation)		0 to 45°C/20 to 85% RH (without condensation)		10 to 45°C/20 to 85% RH (without condensation)	
0.5 G or less		0.5 G or less		0.5 G or less	
Floor mount		Floor mount		Floor mount	
IP54 equivalent		Wrist has IP67 and main body has IP54 equivalent		—	
1,150kg		1,620kg		1,120kg	
6.2KVA		8.6KVA		4.2KVA	
—		—		Class 6	
					

\*1: When used at less than 1,000 m above sea level. Exceeding the allowable altitude limits the acceptable ambient temperature.

\*2: Clean rating complies with ISO 14644-1

\*3: Software limits the downward vertical range of axis 5 to ±5°. Axis 4 can move ±360° and axis 5 can move ±125° only when the encoder correction screen or software limit settings screen is open.

# List of specifications


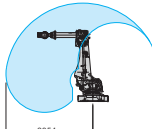
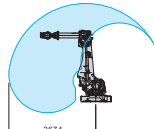
						
Model			ST210CF	SC400LC	SRA100H	SRA133HL
No. of axes			6		6	
Max. working envelope	Arm	J1 Swivel 1	±165°	±150°	±180°	
		J2 Horizontal	-80 ~ +60°	-25 ~ +105°	-80 ~ +60°	
		J7 Swivel 2	—		—	
	Wrist	J3 Vertical	-137 ~ +150°	-25 ~ +120°	-146.5 ~ +150°	-133.4 ~ +150°
		J4 Rotation 2	±360°	±300°	±210°	
		J5 Bend	±130°	±120°	±125°	
Max. speed	Arm	J6 Rotation 1	±360°		±210°	
		J1 Swivel 1	100°/s	80°/s	125°/s	115°/s
		J2 Horizontal	90°/s	68°/s	115°/s	105°/s
	Wrist	J7 Swivel 2	—		—	
		J3 Vertical	95°/s	80°/s	121°/s	113°/s
		J4 Rotation 2	130°/s	90°/s	210°/s	
Maximum load	Wrist	J5 Bend	130°/s	90°/s	175°/s	
		J6 Rotation 1	200°/s	145°/s	310°/s	
		Wrist	210kg	400kg	100kg	133kg
Allowable static load torque for wrist	Load capacity on forearm	Upper of J3	Max. 70 kg	10kg	20kg	
		J4 Rotation 2	1,337N·m	1,960N·m	830N·m	
		J5 Bend	1,337N·m	1,960N·m	830N·m	
Allowable moment of inertia for wrist	J6 Rotation 1	J4 Rotation 2	141.1kg·m <sup>2</sup>	200kg·m <sup>2</sup>	85kg·m <sup>2</sup>	
		J5 Bend	141.1kg·m <sup>2</sup>	200kg·m <sup>2</sup>	85kg·m <sup>2</sup>	
		J6 Rotation 1	79.0kg·m <sup>2</sup>	147kg·m <sup>2</sup>	45kg·m <sup>2</sup>	
Maximum reach		2,674mm		3,623mm	2,654mm	2,951mm
Position repeatability		±0.3mm		±0.5mm	±0.1mm	±0.15mm
Ambient temperature <sup>1</sup> /humidity		10 to 45°C/20 to 85% RH (without condensation)		10 to 30°C/20 to 85% RH (without condensation)	0 to 45°C/20 to 85% RH (without condensation)	
Vibration		0.5 G or less				
Installation		Floor mount		Shelf mount	Floor mount	
Dust proof, Drip proof		—		IP54 equivalent		
Weight		1,160kg		3,800kg	1,040kg	1,070kg
Power consumption		4.2KVA		6.7KVA	7.0KVA	
Clean rating <sup>2</sup>		Class 6			—	
Working envelope						

\*1: When used at less than 1,000 m above sea level. Exceeding the allowable altitude limits the acceptable ambient temperature.  
 \*2: Clean rating complies with ISO 14644-1



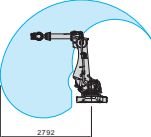
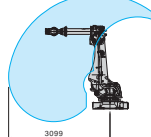
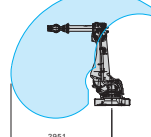
			
SRA220H	SRA220HV-01	SRA100J-01	SRA100B-01
6		6	
±180°		±180°	
-80 ~ +60°		-120 ~ +60°	
-		-	
-154 ~ +150°		-125 ~ +90°	
±210°		±360°	
±130°		±135°	
±210°		±360°	
115°/s		136°/s	
105°/s		115°/s	
-		-	
113°/s		160°/s	
130°/s		240°/s	
130°/s		233°/s	
205°/s		351°/s	
220kg		100kg	
20 kg (maximum 45 kg)		25 kg (maximum 45 kg)	
-		-	
1,337N·m		580N·m	
1,337N·m		580N·m	
720N·m		290N·m	
141.1kg·m <sup>2</sup>		45kg·m <sup>2</sup>	
141.1kg·m <sup>2</sup>		45kg·m <sup>2</sup>	
79.0kg·m <sup>2</sup>		22.7kg·m <sup>2</sup>	
2,575mm		1,634mm	
±0.15mm		±0.1mm	
0 to 45°C/20 to 85% RH (without condensation)			
0.5 G or less			
Floor mount	Inverted mount	Floor mount	
IP54 equivalent		Wrist has IP67 and main body has IP54 equivalent	
1,100kg		670kg	
		690kg	
7.0KVA			
-			
			

1[N·m]=1/9.8[kgf·m]

# List of specifications



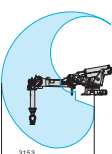
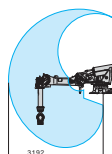
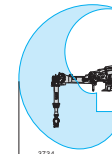

						
Model		SRA100-01(100-01A)	SRA166-01(166-01A)	SRA210-01(210-01A)	SRA240-01	
No. of axes		6				
Max. working envelope	Arm	J1 Swivel 1	±180°			
		J2 Horizontal	-80 ~ +60°			
		J7 Swivel 2	—			
		J3 Vertical	-146.5 ~ +150°			
	Wrist	J4 Rotation 2	±360°	±360(±210)°	±360°	
		J5 Bend	±135°	±135(±120)°	±130(±120)°	
Max. speed	Arm	J6 Rotation 1	±360°	±360(±205)°	±360°	
		J1 Swivel 1	136°/s	125°/s	115°/s	105°/s
		J2 Horizontal	135°/s	115°/s	105°/s	90°/s
		J7 Swivel 2	—			
	Wrist	J3 Vertical	135°/s	121°/s	113°/s	100°/s
		J4 Rotation 2	240°/s	180°/s	140°/s	130°/s
Maximum load	Wrist	J5 Bend	233°/s	173°/s	133°/s	125°/s
		J6 Rotation 1	351°/s	260°/s	200°/s	195°/s
		J6 Rotation 1	351°/s	260°/s	200°/s	195°/s
	Wrist	J6 Rotation 1	351°/s	260°/s	200°/s	195°/s
		J6 Rotation 1	351°/s	260°/s	200°/s	195°/s
		J6 Rotation 1	351°/s	260°/s	200°/s	195°/s
Maximum load	Wrist	100kg	166kg	210kg	240kg	
	Load capacity on forearm	45 kg (maximum 90 kg)			20 kg (maximum 45 kg)	
	Upper of J3	—				
Allowable static load torque for wrist	J4 Rotation 2	580N·m	951N·m	1,337N·m		
	J5 Bend	580N·m	951N·m	1,337N·m		
	J6 Rotation 1	290N·m	490N·m	720N·m		
Allowable moment of inertia for wrist	J4 Rotation 2	60kg·m <sup>2</sup>	88.9kg·m <sup>2</sup>	141.1kg·m <sup>2</sup>		
	J5 Bend	60kg·m <sup>2</sup>	88.9kg·m <sup>2</sup>	141.1kg·m <sup>2</sup>		
	J6 Rotation 1	30kg·m <sup>2</sup>	45kg·m <sup>2</sup>	79.0kg·m <sup>2</sup>		
Maximum reach		2,654mm	2,654mm	2,674mm		
Position repeatability		±0.1mm	±0.15mm		±0.2mm	
Ambient temperature*/humidity		0 to 45°C/20 to 85% RH (without condensation)				
Vibration		0.5 G or less				
Installation		Floor mount				
Dust proof, Drip proof		Wrist has IP67 and main body has IP54 equivalent				
Weight		960kg	960/1,060kg	990/1,090kg	990kg	
Power consumption		7.0KVA				
Working envelope						

\*1: When used at less than 1,000 m above sea level. Exceeding the allowable altitude limits the acceptable ambient temperature.



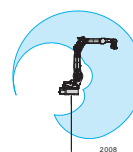
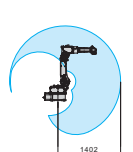
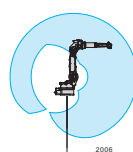
			
SRA250-01	SRA120EL-01	SRA133L-01	SRA166L-01(166L-01A)
6	6		
±180°	±180°		
-80 ~ +60°	-80 ~ +60°		
-	-		
-146.5 ~ +150°	-127.7 ~ +150°	-133.4 ~ +150°	
±360°	±360°		
±130°	±135°		
±360°	±360°		
100°/s	115°/s	125°/s	115°/s
90°/s	105°/s	115°/s	105°/s
-	-		
95°/s	113°/s	121°/s	113°/s
125°/s	140°/s		
125°/s	173°/s		
190°/s	260°/s		
250kg	120kg	133kg	166kg
20 kg (maximum 45 kg)	45 kg (maximum 90 kg)		
-	-		
1,337N·m	687N·m	800N·m	951N·m
1,337N·m	687N·m	800N·m	951N·m
720N·m	353N·m	400N·m	490N·m
141.1kg·m <sup>2</sup>	60kg·m <sup>2</sup>	76kg·m <sup>2</sup>	88.9kg·m <sup>2</sup>
141.1kg·m <sup>2</sup>	60kg·m <sup>2</sup>	76kg·m <sup>2</sup>	88.9kg·m <sup>2</sup>
79.0kg·m <sup>2</sup>	30kg·m <sup>2</sup>	38kg·m <sup>2</sup>	45.0kg·m <sup>2</sup>
2,792mm	3,099mm	2,951mm	
±0.2mm	±0.15mm		
0 to 45°C/20 to 85% RH (without condensation)			
0.5 G or less			
Floor mount			
Wrist has IP67 and main body has IP54 equivalent			
1,030kg	985kg	980kg	
7.0KVA			
			

1[N·m]=1/9.8[kg·m]

# List of specifications

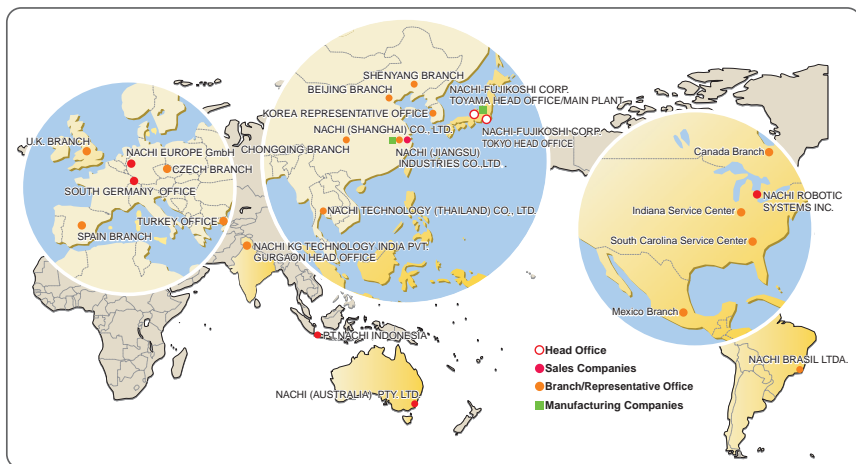
											
Model			SRA166T-01 (166T-01A)		SRA210T-01 (210T-01A)		SRA166TL-01 (166TL-01A)		NB04		
No. of axes			6								
Max. working envelope	Arm	J1 Swivel 1	±180°						±170°		
		J2 Horizontal	-65 ~ +120°						-155 ~ +90°		
		J7 Swivel 2	-						-		
		J3 Vertical	-106 ~ +210°				-90 ~ +210°		-170 ~ +180°		
	Wrist	J4 Rotation 2	±360(±210)°				±360°		±155°		
		J5 Bend	±135(±120)°		±130(±120)°		±135°		-45 ~ +225°		
Max. speed	Arm	J6 Rotation 1	±360(±205)°						±205°		
		J1 Swivel 1	110°/s		100°/s		105°/s		210°/s		
		J2 Horizontal	110°/s		90°/s		90°/s		210°/s		
		J7 Swivel 2	-						-		
		J3 Vertical	115°/s		100°/s		115°/s		210°/s		
		J4 Rotation 2	180°/s		140°/s		140°/s		420°/s		
	Wrist	J5 Bend	173°/s		133°/s		173°/s		420°/s		
		J6 Rotation 1	260°/s		200°/s		260°/s		600°/s		
		Maximum load	Wrist	166kg		210kg		166kg		4kg	
			Load capacity on forearm	45 kg (maximum 90 kg)						10kg	
			Upper of J3	-						-	
		Allowable static load torque for wrist	J4 Rotation 2	951N•m		1,337N•m		951N•m		10.1N•m	
J5 Bend	951N•m		1,337N•m		951N•m		10.1N•m				
J6 Rotation 1	490N•m		720N•m		490N•m		2.94N•m				
Allowable moment of inertia for wrist	J4 Rotation 2	88.9kg•m <sup>2</sup>		141.1kg•m <sup>2</sup>		88.9kg•m <sup>2</sup>		0.38kg•m <sup>2</sup>			
	J5 Bend	88.9kg•m <sup>2</sup>		141.1kg•m <sup>2</sup>		88.9kg•m <sup>2</sup>		0.38kg•m <sup>2</sup>			
	J6 Rotation 1	45.0kg•m <sup>2</sup>		79.0kg•m <sup>2</sup>		45.0kg•m <sup>2</sup>		0.03kg•m <sup>2</sup>			
Maximum reach		3,153mm		3,192mm		3,734mm		1,411mm			
Position repeatability		±0.1mm		±0.15mm		±0.15mm		±0.08mm			
Ambient temperature/humidity			0 to 45°C/20 to 85% RH (without condensation)						0 to 45°C/20 to 80% RH (without condensation)		
Vibration			0.5 G or less								
Installation			Shelf mount						Floor mount (OP: inverted, wall)		
Dust proof, Drip proof			Wrist has IP67 and main body has IP54 equivalent								
Weight			1,210(1,310)kg		1,250(1,350)kg		1,240kg		170kg		
Power consumption			7.0KVA						1.5KVA		
Working envelope											

\*1: When used at less than 1,000 m above sea level. Exceeding the allowable altitude limits the acceptable ambient temperature.

		
NB04L		NV06
		NV06L
		6
		$\pm 170^\circ$
$-155 \sim +100^\circ$		$-155 \sim +90^\circ$
		—
$-170 \sim +190^\circ$		$-170 \sim +190^\circ$
		$\pm 180^\circ$
$\pm 155^\circ$		$-50 \sim +230^\circ$
$-45 \sim +225^\circ$		$\pm 360^\circ$
$\pm 205^\circ$		$\pm 205^\circ$
195°/s		210°/s
200°/s		210°/s
		—
200°/s		210°/s
		420°/s
		420°/s
600°/s		620°/s
4kg		6kg
20kg		10kg
		20kg
		—
10.1N·m		11.8N·m
10.1N·m		9.8N·m
2.94N·m		5.9N·m
0.38kg·m <sup>2</sup>		0.3kg·m <sup>2</sup>
0.38kg·m <sup>2</sup>		0.25kg·m <sup>2</sup>
0.03kg·m <sup>2</sup>		0.06kg·m <sup>2</sup>
2,008mm		1,402mm
		2,006mm
$\pm 0.08\text{mm}$		$\pm 0.08\text{mm}$
		0 to 45°C/20 to 80% RH (without condensation)
		0.5 G or less
		Floor mount (OP: inverted, wall)
		Wrist is IP54 equivalent
280kg		160kg
2.4KVA		1.5KVA
		280kg
		2.4KVA
		
		

1[N·m]=1/9.8[kg]·m]

## World Service Network



### Overseas subsidiaries

#### AMERICA

**NACHI ROBOTIC SYSTEMS INC.**  
42775 West 9 Mile Road, Novi, Michigan, 48375, U.S.A.  
Tel: +1-248-305-6545 Fax: +1-248-305-6542  
URL: <http://www.nachirobotics.com/>

**Indiana Service Center**  
715 Pushville Road, Greenwood, Indiana, 46143, U.S.A.  
Tel: +1-502-517-1553 Fax: +1-317-535-3659

**South Carolina Service Center**  
1310 Garlington Road, Suite L, Greenville, SC 29615, U.S.A.  
Tel: +1-864-458-8000 Fax: +1-864-458-8256

**Canada Branch**  
89 Courtland Ave., Unit No.2, Concord, Ontario, L4K 3T4, CANADA  
Tel: +1-905-760-9542 Fax: +1-905-760-9477

**Mexico Branch**  
Urbina No.54, Parque Industrial Naucalpan, Naucalpan de Juarez, Estado de Mexico C.P. 53370, MEXICO  
Tel: +52-55-5312-6556 Fax: +52-55-5312-7248

**NACHI BRASIL LTDA.**  
**SAO PAULO BRANCH**  
Av. Paulista, 453, Primeiro Andar, Conj.11,12,13 e 14, Cerqueira Cesar, Sao Paulo - SP, CEP-01311-000, BRASIL  
Tel: +55-11-3284-9844 Fax: +55-11-3284-1751

#### EUROPE

**NACHI EUROPE GmbH**  
Bischofsstrasse 99, 47809, Krefeld, GERMANY  
Tel: +49-(0)2151-65046-0 Fax: +49-(0)2151-65046-90  
URL: <http://www.nachirobotics.eu/>

**U.K. BRANCH**  
Unit 3, 92, Kettles Wood Drive Woodgate Business Park, BIRMINGHAM B32 3DB, U.K.  
Tel: +44-(0)121-423-5000 Fax: +44-(0)121-421-7520

**CZECH BRANCH**  
Obchodní 132  
251 01 Cestice, PRAGUE-EAST, Czech Republic  
Tel: +420-255-734-000 Fax: +420-255-734-001

#### TURKEY OFFICE

Karaman Ciftligi Mervik, Agaoglu My Prestige, K.13, D.110, 34746, Atasehir, Istanbul, TURKEY  
Tel: +90-(0)216-688-4457 Fax: +90-(0)216-688-4458

#### SOUTH GERMANY OFFICE

Pleidelsheimer Strasse 47, 74321, Bietigheim-Bissingen  
Tel: +49-(0)7142-77418-0 Fax: +49-(0)7142-77418-20

#### SPAIN BRANCH

P.I. EL MONTALVO C/Segunda, 6. Portal 1-2, Oficina 5 37188-Carbalosa de La Sagra, Salamanca - España, SPAIN  
Tel: +34-(0)923-197-837 Fax: +34-(0)923-197-758

#### ASIA AND OCEANIA

##### PT. NACHI INDONESIA

J.I.H.R. Rasuna Said Kav.X-O Kuningan, Jakarta 12950, INDONESIA  
Tel: +62-021-527-2841 Fax: +62-021-527-3029

##### NACHI (AUSTRALIA) PTY. LTD.

**MELBOURNE OFFICE**  
38 Melverton Drive, Hallam, Victoria, 3803, AUSTRALIA  
Tel: +61-(0)3-9796-4144 Fax: +61-(0)3-9796-3899

##### 那智不二越 上海 貿易有限公司

**NACHI (SHANGHAI) CO., LTD.**  
11F Royal Wealth Center, No.7 Lane 98 Danba Road, Putuo District, Shanghai, 200062, CHINA  
Tel: +86-(0)21-6915-2200 Fax: +86-(0)21-6915-5427

##### 北京分公司

**BEIJING BRANCH**  
Room 1110, Kuntai International Mansion, Building O, Yi No.12 Chao Wai Street, Chao yang District, Beijing 100020, CHINA  
Tel: +86-(0)10-5879-0181 Fax: +86-(0)10-5879-0182

##### 重慶分公司

**CHONGQING BRANCH**  
Room 17-18/17-19, Tower C, Hongding Guoji Mingyuan, Jiangbei District, Chongqing 400020, CHINA  
Tel: +86-(0)23-8816-1967 Fax: +86-(0)23-8816-1968

##### 瀋陽分公司

**SHENYANG BRANCH**  
Room 304, No.1 Yuebin Street, Shenhe District, Shenyang 110000, CHINA  
Tel: +86-(0)24-3120-2252 Fax: +86-(0)24-2250-5316

#### NACHI-FUJIKOSHI CORP.

**KOREA REPRESENTATIVE OFFICE**  
3F A-Youn Digital Tower 314-37, Seongsu-dong 2-ga, Seongdong-gu, Seoul 133-120 KOREA  
Tel: +82-(0)2-469-2254 Fax: +82-(0)2-469-2264

**NACHI TECHNOLOGY (THAILAND) CO., LTD.**  
5/5 M, 2, Rojana Industrial Estate Nongbua, Ban Khai, Rayong, 21120, THAILAND  
Tel: +66-38-961-682 Fax: +66-38-961-683

**NACHI (JIANGSU) INDUSTRIES CO., LTD.**  
39 Nanyuan Road, Economic and Technological Development Zone (south), Zhangjiagang, Jiangsu, CHINA (Zip 215618)  
Tel: +86(0)512-3500-7616 Fax: +86(0)512-3500-7615

#### NACHI KG TECHNOLOGY INDIA PVT.

**GURGAON HEAD OFFICE**  
Unit No.207, Sewa Corporate Park, MG Road, Ifco Chowk, Gurgaon-122001, INDIA  
Tel: +91-124-450-2900 Fax: +91-124-450-2910

### Head office

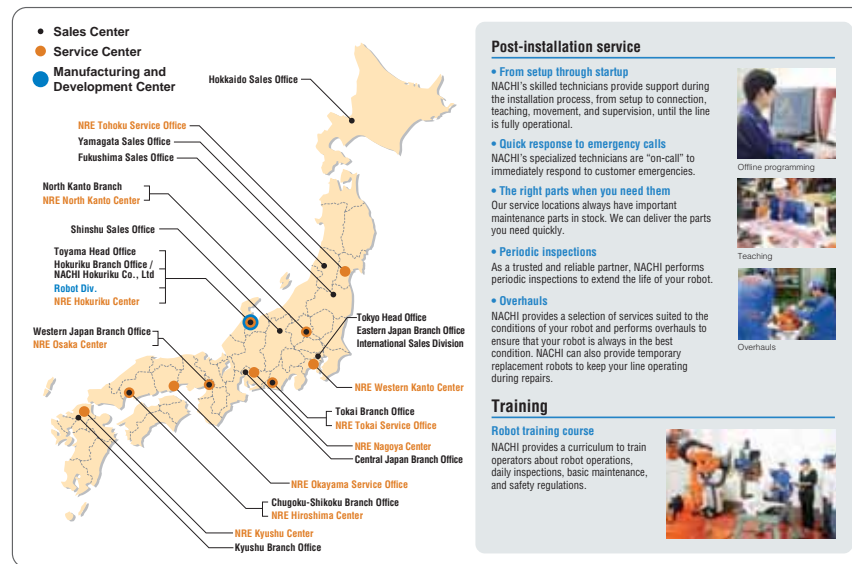
#### TOYAMA PLANT

1-1-1 Fujikoshi-Honmachi, Toyama 930-8511  
Tel: 076-423-5111 Fax: 076-493-5211

#### TOKYO HEAD OFFICE

Shiodome Sumitomo Bldg. 17F, 1-9-2 Higashi-Shinbashi, Minato-ku, Tokyo 105-0021  
Tel: 03-5568-5240 Fax: 03-5568-5236

## Sales and Service Network in Japan



### Sales Centers in Japan

#### NACHI-FUJIKOSHI CORP. <http://www.nachi-fujikoshi.co.jp/>

**Toyama Head Office** 1-1-1 Fujikoshi-Honmachi, Toyama 930-8511  
Tel: 076-423-5111 Fax: 076-493-5211

**Tokyo Head Office** Shiodome Sumitomo Bldg. 17F, 1-9-2 Higashi-Shinbashi, Minato-ku, Tokyo 105-0021  
Tel: 03-5568-5111 Fax: 03-5568-5206  
Tel: 03-5568-5245 Fax: 03-5568-5236  
Tel: 03-5568-5286 Fax: 03-5568-5292

**International Sales Division** 10-4-10 1-jo, Higashi-ku, Sapporo, 065-0041  
Tel: 011-782-0006 Fax: 011-782-0033

**Yamagata Sales Office** 130-1, Yachi Azamaki, Kahoku-cho, Nishimurayama-gun, Yamagata 999-3511, c/o NACHI Tohoku Seiko Co., Ltd.  
Tel: 0237-71-0321 Fax: 0237-72-5212

**Fukushima Sales Office** One Bridge Bldg. 2F, 2-33-1 Kuwano, Koriyama-shi, Fukushima 963-8025  
Tel: 024-991-4511 Fax: 024-935-1450

**North Kanto Branch** 26-2 Hama-cho, Ota-shi, Gunma 373-0853  
Tel: 0276-46-7511 Fax: 0276-46-4599

**Shinshu Sales Office** 248-3 Kamishiojiri, Ueda-shi, Nagano Prefecture 386-0042  
Tel: 0268-28-7663 Fax: 0268-21-1185

**Central Japan Branch Office** NACHI Nagoya Bldg., 2-120-3 Takayashiro, Meitoku-ku, Nagoya 465-0095  
Tel: 052-769-6825 Fax: 052-769-6829

**Tokai Branch Office** 1-20-17 Ebitsuaka, Naka-ku, Hamamatsu 432-8033  
Tel: 053-454-4160 Fax: 053-454-4882

**Hokuriku Branch Office / NACHI Hokuriku Co., Ltd.** NACHI Hokuriku Bldg., 2-3-60 Ishigane, Toyama 930-0966  
Tel: 076-425-8013 Fax: 076-492-4319

**Western Japan Branch Office** Sumitomo Nakanoshima Bldg. 5F, 3-2-18 Nakanoshima, Kita-ku, Osaka 530-0005  
Tel: 06-7178-5105 Fax: 06-7178-5109

**Chugoku-Shikoku Branch Office** Nihonseimei Hiroshima Hikarimachi Bldg. 8F, 1-10-19 Hikarimachi, Higashi-ku, Hiroshima 732-0052  
Tel: 082-568-7460 Fax: 082-568-7465

**Kyushu Branch Office** 1-10-30 Sanno, Hakata-ku, Fukuoka-shi, Fukuoka 812-0015  
Tel: 092-441-2505 Fax: 092-471-6600

**Robot Div. (Manufacturing and Development Center)** 1-1-1 Fujikoshi-Honmachi, Toyama 930-8511  
Tel: 076-423-5135 Fax: 076-483-5251

### Post-installation service

#### From setup through startup

NACHI's skilled technicians provide support during the installation process, from setup to connection, teaching, movement, and supervision, until the line is fully operational.

#### Quick response to emergency calls

NACHI's specialized technicians are "on-call" to immediately respond to customer emergencies.

#### The right parts when you need them

Our service locations always have important maintenance parts in stock. We can deliver the parts you need quickly.

#### Periodic inspections

As a trusted and reliable partner, NACHI performs periodic inspections to extend the life of your robot.

#### Overhauls

NACHI provides a selection of services suited to the conditions of your robot and performs overhauls to ensure that your robot is always in the best condition. NACHI can also provide temporary replacement robots to keep your line operating during repairs.

### Training

#### Robot training course

NACHI provides a curriculum to train operators about robot operations, daily inspections, basic maintenance, and safety regulations.



Offline programming



Teaching



Overhauls



### Service Centers in Japan

#### NACHI Robot Engineering Co., Ltd.

**Head Office** Shiodome Sumitomo Bldg. 17F, 1-9-2 Higashi-Shinbashi, Minato-ku, Tokyo 105-0021  
Tel: 03-5568-5180 Fax: 03-5568-5185

**North Kanto Center** 14-10 Nishi-Shinmachi, Ota-shi, Gunma 373-0847  
Tel: 0276-33-7888 Fax: 0276-33-7885

**Tohoku Service Office** 4-7-7 Izumi-Chuo, Izumi-shi, Sendai-shi, Miyagi 981-3133  
Tel: 022-346-0606 Fax: 022-776-6220

**Western Kanto Center** 2696-15 Hayakawa, Ayase-shi, Kanagawa 252-1123  
Tel: 0467-71-5441 Fax: 0467-71-5441

**Nagoya Center** 6-13-1 Kakimoto-cho, Toyota-shi, Aichi 471-0855  
Tel: 0565-29-5811 Fax: 0565-27-2464

**Tokai Service Office** 1-20-17 Ebitsuaka, Naka-ku, Hamamatsu 432-8033  
Tel: 053-454-4160 Fax: 053-454-4845

**Osaka Center** 4-1-1 Hino, Daito-shi, Osaka 574-0062  
Tel: 072-806-3381 Fax: 072-806-3382

**Hiroshima Center** 3-2-11 Shinonome, Minami-ku, Hiroshima 734-0022  
Tel: 082-284-5175 Fax: 082-284-5230

**Okayama Service Office** 293-1 Monde, Soja-shi, Okayama 719-1156  
Tel: 0866-90-3407 Fax: 0866-90-3408

**Kyushu Center** 1-22 Torioke-cho, Kanda-machi, Miyako-gun, Fukuoka 800-0304  
Tel: 093-434-9133 Fax: 093-434-9144

**Hokuriku Center** 253-1 Yamamura, Toyama 939-8006  
Tel: 076-423-6283 Fax: 076-493-5391