

NACHI ROBOTICS

Robot Features

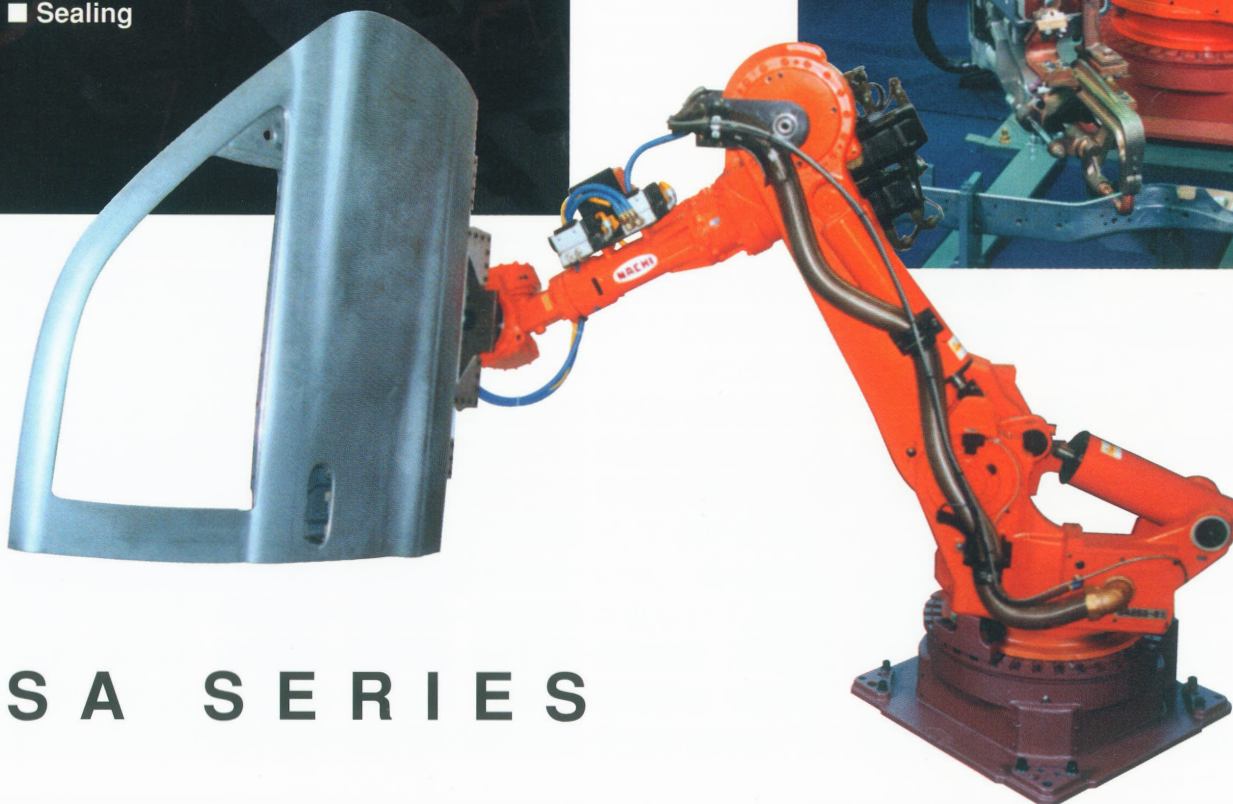
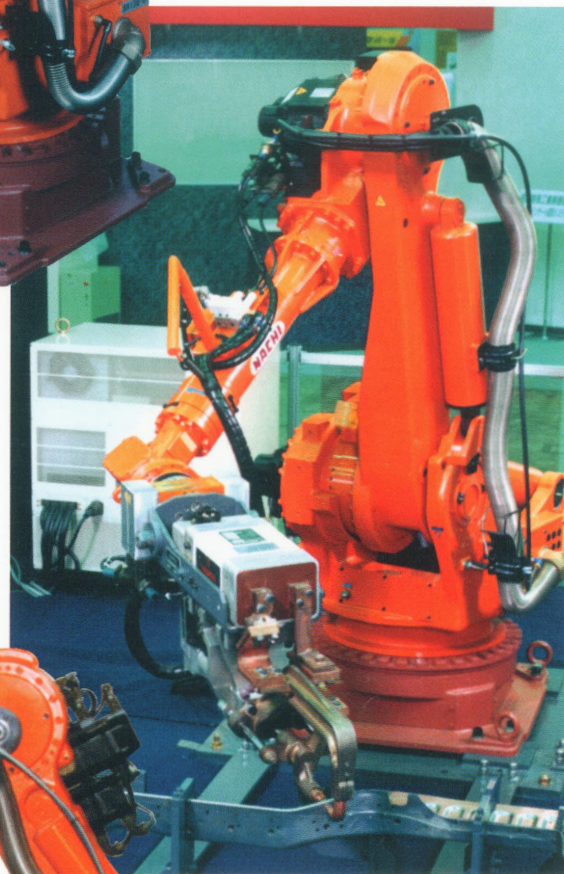
- Space-saving design
- Large working envelope
- Improved accuracy and speed
- Fewer grease points
- Reduced cable and hose wear
- Lightweight design

Controller Features

- Improved ergonomic design
- User-friendly, easy operation teach pendant
- Flex Panel®
- Simultaneous 12 axes control
- Hot edit
- Serial interface with PLC
- Menu-driven interactive teaching
- SLIM robot language
- Integrated weld board interface
- Interface with servo gun

Robot Applications

- Spot welding
- Material handling
- Palletizing
- Machine loading/unloading
- Deburring
- Sealing



SA SERIES

SA Fast Series

SA100F/130F/160F/200F

(Spot welding, Material handling)

No.1 Technology of Fast Series

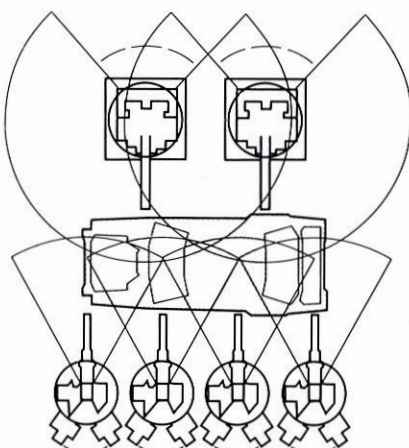
The SA Fast Series features the fastest, a space-saving design, a large work envelope, low maintenance requirements, and improved repeatability. The compact, but powerful, SA Fast Series has a streamlined profile, reduced interference zones, and has a 36% smaller footprint than earlier models. The SA Fast Series also eliminates parallel linkage, resulting in space-saving robots and increased flexibility. Despite their reduced size, the SA Fast robots deliver more power and a larger work envelope than many conventional robots. Additionally, the SA Fast Series lowers maintenance needs through fewer grease points and longer-life components. The SA Fast robots reduce cable and hose wear by incorporating a built-in air hose, with built-in I/O connections, a water hose, and a primary welding cable optionally available. Finally, to ensure accuracy, the SA Fast Series has improved repeatability, from 0.5 to 0.3 millimeters.



Innovative No.1 technology of Fast Series Features:

- ☐ The fastest robot
35% speed up with feed-forward and vibration control
- ☐ Space-Saving Design
- ☐ Larger Working Envelope
(1.9 times larger)
- ☐ Compact body
- ☐ Improved Accuracy
(Repeatability of $\pm 0.3\text{mm}$)
- ☐ Fewer Grease Points
- ☐ Reduced Cable and Hose Wear by using Built-in Air Hose, and Optional Built-in I/O Connections, Water Line, and Primary Welding Cable
- ☐ Small, High-Torque Wrist
- ☐ Larger 50kg. Load Capacity on Forearm
- ☐ Shelf-Mount Model Available

CONVENTIONAL ROBOTS

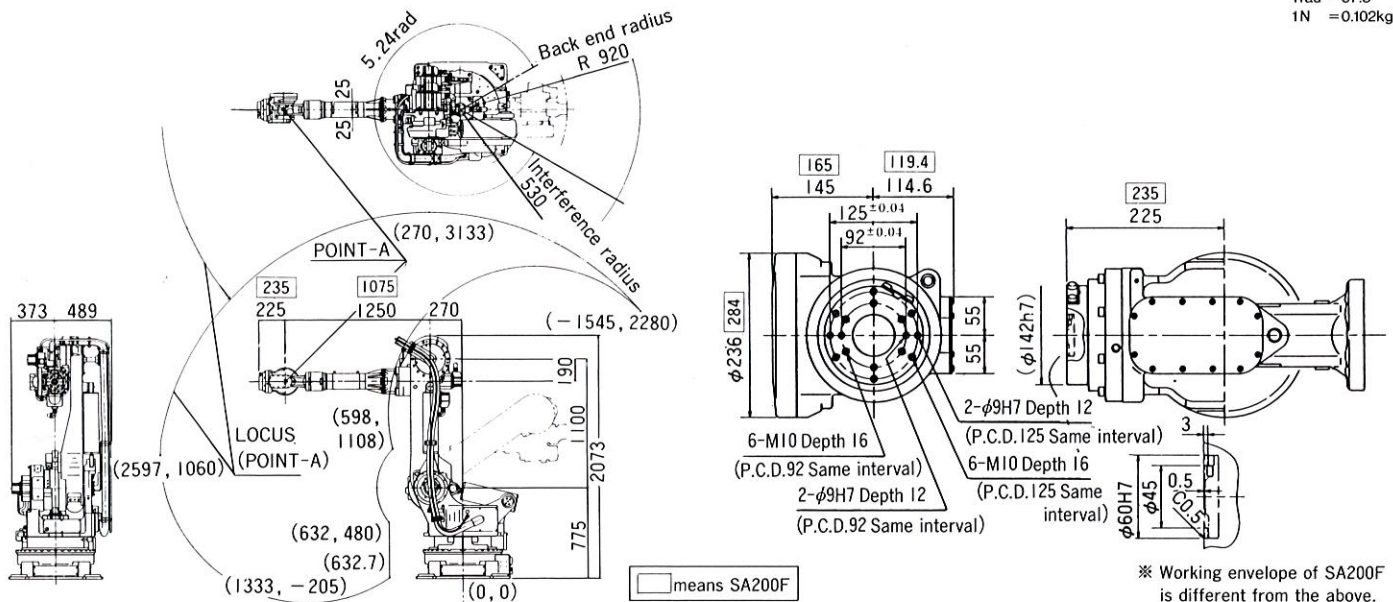


Robot Applications:

- ☐ Spot Welding
- ☐ Material Handling/Palletizing
- ☐ Machine loading and Unloading
- ☐ Plasma Cutting
- ☐ Sealing

■ Basic Specification

Item				Specification			
Robot Model				SA100F	SA130F	SA160F	SA200F
Construction				Articular	Articular	Articular	Articular
Number of Axis				6	6	6	6
Drive				AC servo motor	AC servo motor	AC servo motor	AC servo motor
Maximum Strike	Arm	S	Swivel	±2.62rad	±2.62rad	±2.62rad	±2.62rad
		H	Back & Forth	+1.31～-0.96rad	+1.31～-0.96rad	+1.31～-0.96rad	+1.31～-0.96rad
		V	Up & Down	+2.53～-2.01rad	+2.53～-2.01rad	+2.53～-2.01rad	+2.53～-2.01rad
	Wrist	R2	Rotation 2	±6.28rad	±6.28rad	±6.28rad	±6.28rad
		B	Bend	±2.18rad	±2.18rad	±2.18rad	±2.18rad
		R1	Rotation 1	±6.28rad	±6.28rad	±6.28rad	±6.28rad
Maximum Velocity	Arm	S	Swivel	2.09rad/s	2.09rad/s	1.75rad/s	1.22rad/s
		H	Back & Forth	2.09rad/s	2.09rad/s	1.75rad/s	1.22rad/s
		V	Up & Down	2.09rad/s	2.09rad/s	1.75rad/s	1.22rad/s
	Wrist	R2	Rotation 2	2.79rad/s	2.79rad/s	2.18rad/s	1.75rad/s
		B	Bend	2.79rad/s	2.79rad/s	2.18rad/s	1.75rad/s
		R1	Rotation 1	4.28rad/s	4.28rad/s	3.49rad/s	2.62rad/s
Loading Weight		Wrist	100kg	130kg	160kg	200kg	
		Foream	50kg	25kg	25kg		
Wrist Torque		R2	Rotation 2	559N・m	735N・m	882N・m	1274N・m
		B	Bend	559N・m	735N・m	882N・m	1274N・m
		R1	Rotation 1	343N・m	392N・m	441N・m	686N・m
Repeatability				±0.3mm	±0.3mm	±0.3mm	±0.5mm
Ambient Temperature				0～45℃	0～45℃	0～45℃	0～45℃
Installation				Floor	Floor	Floor	Floor
Robot Body Weight				1280kg	1280kg	1280kg	1330kg

$$\begin{aligned} 1 \text{ rad} &= 57.3^\circ \\ 1 \text{ N} &= 0.102 \text{ kgf} \end{aligned}$$


※ Working envelope of SA200F is different from the above.

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