

Spot welding robot with built-in cables

# SRA133H/SRA166H/SRA210H



## Improved reliability for welding cables and hoses

■ The reliability is improved by stabilizing cable performance to avoid damage due to interference with surrounding equipment.

## Shortened the startup time

■ We greatly decreased the time to check work programs because cables do not interfere with surrounding equipment.

## Expanded the operating range of the wrist

■ Compared to the existing A-Trac, we expanded the operating range of J5  $\pm 10^\circ$  and J6  $\pm 5^\circ$  (payload class 210kg), increasing the range of linear movement 20%.

## Improved accessibility

■ When compared to the existing A-Trac, we have decreased the interference range of the wrist 27%, making access to narrow places possible.

## Speed

■ The hollow arm can also operate at the same high speeds as the SRA.

# SRA133H/SRA166H/SRA210H

## Robot specifications

Item	Specifications			
Robot model	SRA133H-01	SRA166H-01	SRA210H-01	
Structure	Articulated			
Number of axes	6			
Drive system	AC servo system			
Max. operating envelope	J1	±3.14rad (±180°)		
	J2	-1.40~+1.05rad (-80~+60°)		
	J3	-2.56~+2.62rad (-146.5~+150°)		
	J4	±3.66rad (±210°)		
	J5	±2.18rad (±125°)		
	J6	±3.66rad (±210°)		
Max. velocity	J1	2.09rad/s (120°/s)	2.01rad/s (115°/s)	
	J2	1.92rad/s (110°/s)	1.83rad/s (105°/s)	
	J3	2.06rad/s (118°/s)	2.00rad/s (115°/s)	1.97rad/s (113°/s)
	J4	3.66rad/s (210°/s)	3.05rad/s (175°/s)	2.27rad/s (130°/s)
	J5	3.05rad/s (175°/s)	2.98rad/s (171°/s)	2.27rad/s (130°/s)
	J6	5.41rad/s (310°/s)	4.88rad/s (280°/s)	3.58rad/s (205°/s)
Payload	Wrist	133kg	166kg	210kg
	Forearm*1	20kg		
Allowable static load torque for wrist	J4	830N·m	960N·m	1337N·m
	J5	830N·m	960N·m	1337N·m
	J6	441N·m	520N·m	720N·m
Allowable moment of inertia for wrist*2	J4	85kg·m <sup>2</sup>	100kg·m <sup>2</sup>	200kg·m <sup>2</sup>
	J5	85kg·m <sup>2</sup>	100kg·m <sup>2</sup>	200kg·m <sup>2</sup>
	J6	45kg·m <sup>2</sup>	50kg·m <sup>2</sup>	155kg·m <sup>2</sup>
Position repeatability*3	±0.06mm			
Installation	Floor			
Ambient conditions	Ambient temperature: 0~45°C*4 Ambient humidity: 20~85%RH (without condensation) Vibration: Not more than 0.5G (4.9m/s <sup>2</sup> )			
Noise level*5	79.6dB			
Robot mass	1040kg	1100kg		

1 [rad] = 180/π[°], 1 [N·m] = 1/9.8 [kgf·m]

\*1: This value changes by placement and load conditions of a wrist.

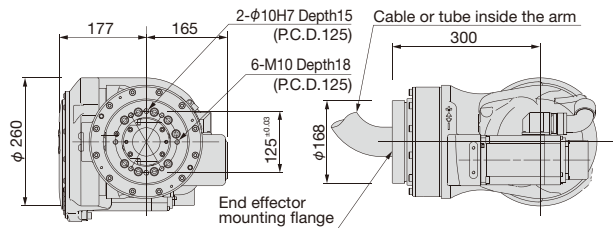
\*2: The Allowable moment of inertia of a wrist changes with load conditions of a wrist.

\*3: This value conforms to "JIS B 8432".

\*4: Permitted height is not higher than 1,000m above sea level. If used in higher place, permitted temperature is affected by height.

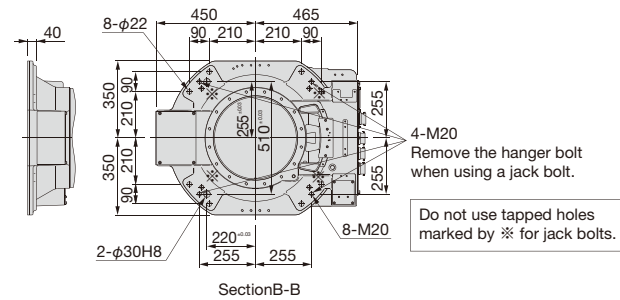
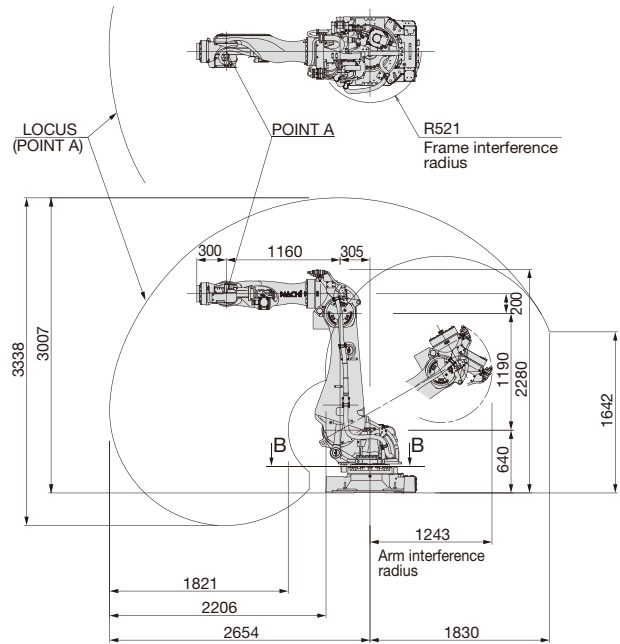
\*5: A-weighted equivalent sound level measured according to JIS Z 8737-1 (ISO 11201). (while operating at maximum speed with rated load)

### SRA133H-01

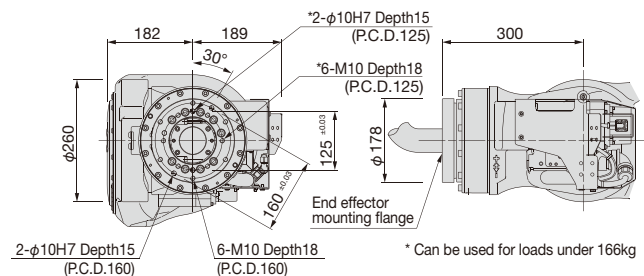


## Exterior dimensions and operating envelope

### SRA133H-01/SRA166H-01/SRA210H-01



### SRA166H-01/SRA210H-01



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