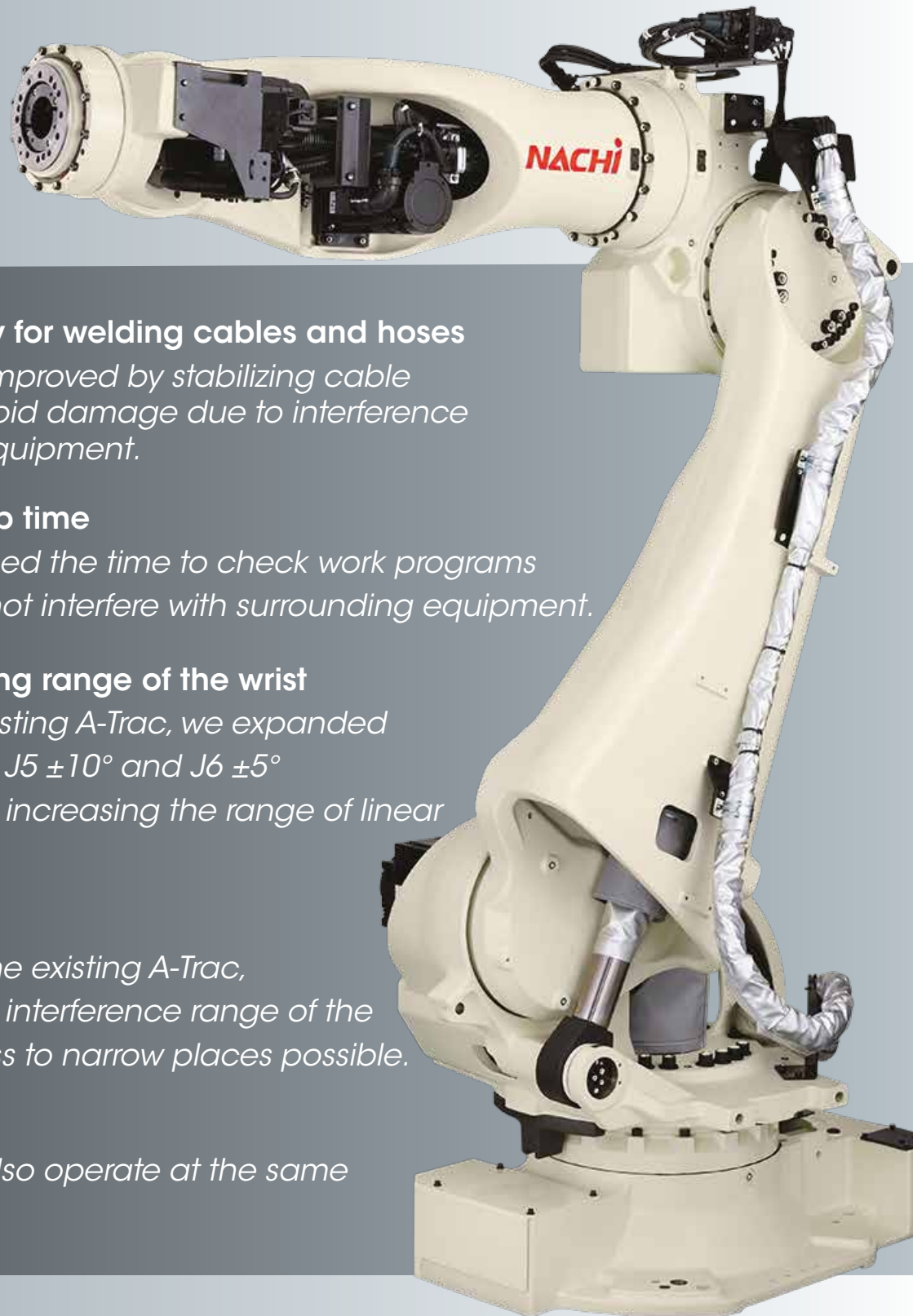


Spot welding robot with built-in cables

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.*

Robot specifications

Robot model	SRA133H	SRA166H	SRA210H	
Structure	Articulated			
Number of axes	6			
Drive system	AC servo system			
Max. working envelope	J1	±3.14rad (±180°)		
	J2	-1.40 to +1.05rad (-80° ~ +60°)		
	J3	-2.56 to +2.62rad (-146.5° to +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 ²	100kg·m ²	200kg·m ²
	J5	85kg·m ²	100kg·m ²	200kg·m ²
	J6	45kg·m ²	50kg·m ²	155kg·m ²
Position repeatability *3	±0.1mm		±0.15mm	
Installation	Floor			
Ambient conditions	Ambient temperature : 0 to 45°C *4 Ambient humidity : 20to85%RH (without condensation) Vibration : Not more than 0.5G (4.9m/s ²)			
Noise level*5	79.6dB			
Robot Mass	1040kg	1100kg		

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

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

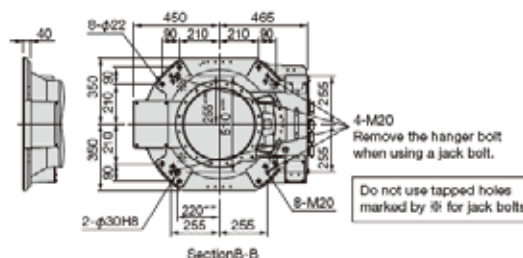
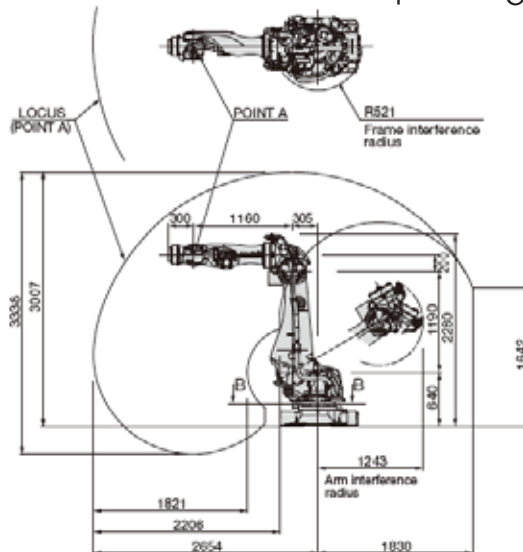
*2:The Allowable moment of inertia of a wrist changes with load conditions of a wrist.

*3:This value conforms to JIS B 8432.

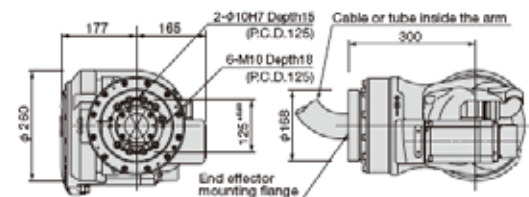
*4:Permitted height is not higher than 1,000m above sea level. If used in higher place, permitted temperature is affected by height.

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

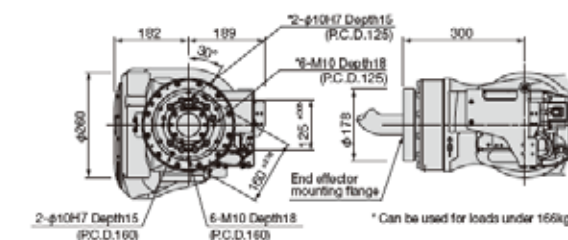
Exterior dimensions and operating envelope



SRA133H-01



SRA166H-01/SRA210H-01



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