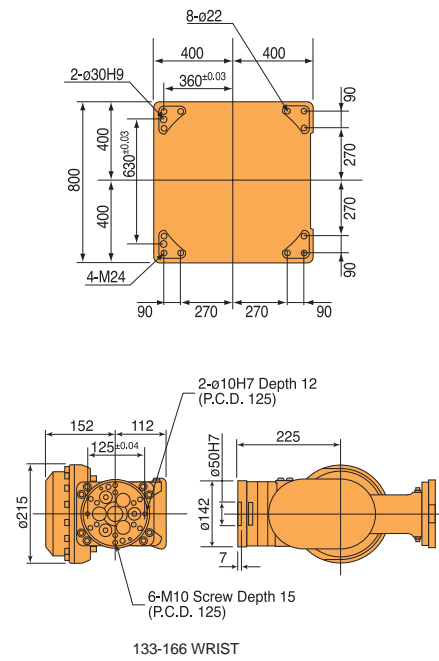
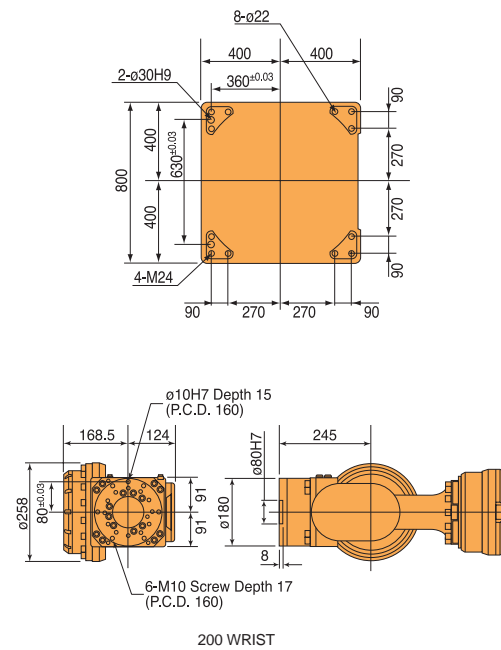


FOOTPRINTS & WRIST MOUNTING CONFIGURATIONS

SH133-03, SH133T-03, SH166-03 & SH166T-03



SH 200-03 & SH200T-03



Nachi Robotic Systems Inc. reserves the right to change specifications without notice.
Rev 05/03

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SH
SERIES



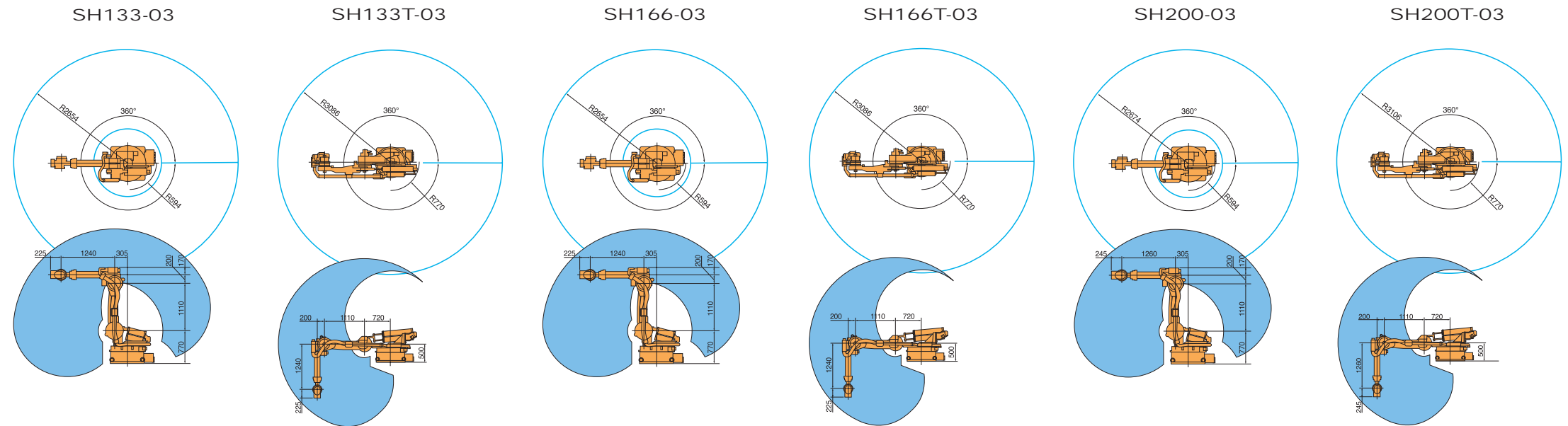
NACHI
NACHI ROBOTIC SYSTEMS INC.

SH SERIES

SH ENVELOPES

Benefits

- **High Speed:**
Improved short pitch motion
- **Largest Working Envelope:**
 - A full 2674mm for the 200kg model
 - A full 2902mm for the 166kg long-arm model
- **Versatile Backward Reach:**
1912mm (SH133-03/SH166-03) - 1932mm (SH200-03) allows for quicker material handling
- **Lowered Maintenance Costs:**
High reliability and fewer lubrication points
- **New Modular Design:**
Common platform allows payload changes in the field
- **Larger Payloads:**
Auxiliary payload can be mounted on the upper arm (25kg) or at axis 3 (45kg)
- **Built-in S-TRAC:**
Internal welding cable guide is standard



Applications

- Spot Welding
- Material Handling
- Machine Loading/Unloading
- Sealing
- Palletizing



SPECIFICATIONS				SH133-03	SH133T-03	SH166-03	SH166T-03	SH200-03	SH200T-03
Construction				Articulated	Articulated	Articulated	Articulated	Articulated	Articulated
Degrees of freedom				6	6	6	6	6	6
Drive				AC Servo Motor	AC Servo Motor	AC Servo Motor	AC Servo Motor	AC Servo Motor	AC Servo Motor
Loading Weight	Wrist			133 kg	133 kg	166 kg	166 kg	200 kg	200 kg
	Forearm			45 kg	45 kg	45 kg	45 kg	45 kg	45 kg
Maximum Stroke	Arm	S Swivel	±180°	±180°	±180°	±180°	±180°	±180°	±180°
		H Back & Forth	+80° ~ -60°	+120° ~ -65°	+80° ~ -60°	+120° ~ -65°	+80° ~ -60°	+120° ~ -65°	
		V Up & Down	+258° ~ -132°	+210° ~ -105°	+258° ~ -132°	+210° ~ -105°	+258° ~ -132°	+210° ~ -105°	
	Wrist	R2 Rotation 2	±360°	±360°	±360°	±360°	±360°	±360°	
		B Bend	±135°	±135°	±135°	±135°	±130°	±130°	
		R1 Rotation 1	±360°	±360°	±360°	±360°	±360°	±360°	
Maximum Velocity	Arm	S Swivel	100°/sec	100°/sec	100°/sec	100°/sec	100°/sec	100°/sec	
		H Back & Forth	90°/sec	90°/sec	90°/sec	90°/sec	90°/sec	90°/sec	
		V Up & Down	95°/sec	95°/sec	95°/sec	95°/sec	95°/sec	95°/sec	
	Wrist	R2 Rotation 2	225°/sec	225°/sec	150°/sec	150°/sec	120°/sec	120°/sec	
		B Bend	225°/sec	225°/sec	150°/sec	150°/sec	120°/sec	120°/sec	
		R1 Rotation 1	305°/sec	305°/sec	210°/sec	210°/sec	190°/sec	190°/sec	
Wrist Torque	R2 Rotation 2	76 kg · m	76 kg · m	97 kg · m	97 kg · m	130 kg · m	130 kg · m		
	B Bend	76 kg · m	76 kg · m	97 kg · m	97 kg · m	130 kg · m	130 kg · m		
	R1 Rotation 1	45 kg · m	45 kg · m	50 kg · m	50 kg · m	70 kg · m	70 kg · m		
Allowable Moment of Inertia	R2 Rotation 2	60.9 kg · m ²	60.9 kg · m ²	88.9 kg · m ²	88.9 kg · m ²	117.3 kg · m ²	117.3 kg · m ²		
	B Bend	60.9 kg · m ²	60.9 kg · m ²	88.9 kg · m ²	88.9 kg · m ²	117.3 kg · m ²	117.3 kg · m ²		
	R1 Rotation 1	30.2 kg · m ²	30.2 kg · m ²	44.1 kg · m ²	44.1 kg · m ²	65.9 kg · m ²	65.9 kg · m ²		
Repeatability				±0.3 mm	±0.3 mm	±0.3 mm	±0.3 mm	±0.3 mm	±0.3 mm
Ambient Temperature				0-45°C (32-113°F)	0-45°C (32-113°F)	0-45°C (32-113°F)	0-45°C (32-113°F)	0-45°C (32-113°F)	0-45°C (32-113°F)
Installation				Floor	Shelf	Floor	Shelf	Floor	Shelf
Robot Body Weight				1,260 kg	1,330 kg	1,260 kg	1,330 kg	1,305 kg	1,375 kg