

STEP[®]

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STEP[®]
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Robot · Intelligence · Factory

Shanghai STEP Robotics Co., Ltd.

Company Introduction

SHANGHAI STEP ELECTRIC CORPORATION

STEP is a high-tech enterprise specializing in designing, integrating and applying industrial automation control system. The products are widely applied in equipment manufacturing, energy saving and renovating projects, mainly concerned with elevator, harbor crane, hoisting, rubber & plastic, mining, metallurgy cement, solar power/wind power generation, CNC, package, municipal administration etc. The products mainly include high/medium/low voltage inverter, integrated controller, servo driver and motor; elevator control system, elevator parts, elevator wire and cables; industrial robots, etc. In December 2010, STEP was listed in Shenzhen Stock Exchange with stock name STEP and code 002527.

SHANGHAI STEP ROBOTICS CO., LTD.

Shanghai STEP Robotics.,Ltd.(short for STEP Robotics) is a fully-owned subsidiary by Shanghai STEP Electric Corporation. STEP Robotics has established modernized manufacturing facility in Shanghai. The product range covers from 3kg to 275kg.

STEP Robotics strives for promoting the development of intellectualization in manufacturing industry. Relying on lead-edge technologies such as robotic controller, driver, and software system, STEP Robotics are capable to provide optimal integrated automatic solutions for our clients. Ideal for a variety of applications such as welding, bending, cutting, polishing, cleaning, handling, assembly, palletizing etc., STEP Robots are widely applied in elevator industry, metal processing, machinery construction, packaging, logistics, automobile industry etc.



Certificates





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■ SD 500

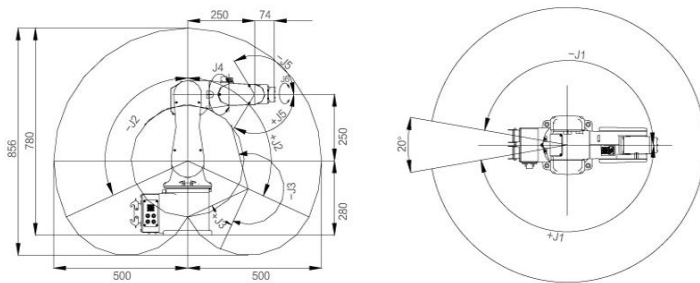
● Product Introduction

SD Series robots are compact, small and lightweight, ideal for material handling, picking up and sorting, and assembly applications with fast speed and high accuracy. With build-in cables, SD Series robots can fit in narrow working space and can be floor mounted, inverted or tilted in any angle.

● Main Applications

- ▲ Material handling
- ▲ Assembly

● Working Space



● Technical Specifications

Model		SD 500
Wrist Payload		1kg(Rated)
		3kg(Max.)
Max Working Radius		500 mm
Number of axis		6
Max Speed	J1	375° /s
	J2	375° /s
	J3	430° /s
	J4	460° /s
	J5	460° /s
	J6	600° /s
Max Operation Area	J1	± 170°
	J2	± 115°
	J3	+40° ~ -220°
	J4	± 185°
	J5	± 125°
	J6	± 360°
The Max Moment Allowable Torque	J5	35 Nm
	J6	24 Nm
Weight		26 kg
Position Repeatability		± 0.015 mm
Working Temperature		0 ~ 45°C



■ SD 700

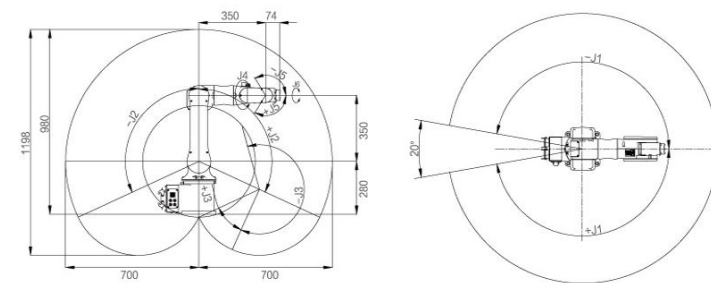
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● Main Applications

- ▲ Material handling
- ▲ Assembly

● Working Space



● Technical Specifications

Model		SD 700
Wrist Payload		1kg(Rated)
		3kg(Max.)
Max Working Radius		700 mm
Number of axis		6
Max Speed	J1	250° /s
	J2	185° /s
	J3	290° /s
	J4	460° /s
	J5	460° /s
	J6	600° /s
Max Operation Area	J1	± 170°
	J2	± 115°
	J3	+40° ~ -220°
	J4	± 185°
	J5	± 125°
	J6	± 360°
The Max Moment Allowable Torque	J5	35 Nm
	J6	24 Nm
Weight		28 kg
Position Repeatability		± 0.02 mm
Working Temperature		0 ~ 45°C



SA 1400

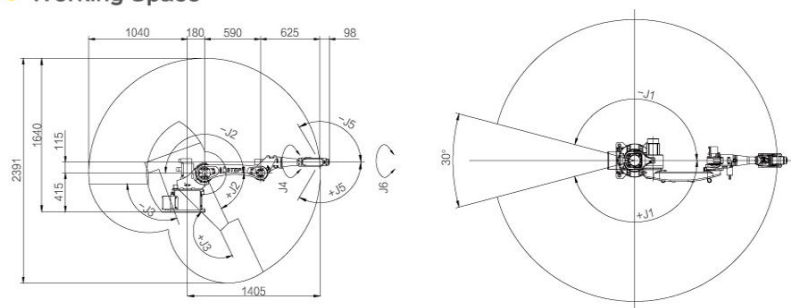
Product Introduction

SA Series robots are compact, small and lightweight, ideal for welding application due to its high stability. It can realize high welding-path accuracy, considerably reduce welding cycle-time, and extend the lifetime of tubes and cables. In addition, SA Series robots can fit in narrow working space and can be floor mounted, inverted or tilted in any angle.

Main Applications

- ▲ Arc welding
- ▲ Material handling
- ▲ Cutting
- ▲ Palletizing

Working Space



Technical Specifications

Model		SA 1400
Wrist Payload		6 kg
Max Working Radius		1405 mm
Number of axis		6
Max Speed	J1	150° /s
	J2	150° /s
	J3	160° /s
	J4	360° /s
	J5	320° /s
	J6	360° /s
Max Operation Area	J1	±150°
	J2	+65° ~ -180°
	J3	+160° ~ -110°
	J4	±170°
	J5	±120°
	J6	±360°
The Max Moment Allowable Torque	J5	54 Nm
	J6	23 Nm
Weight		140 kg
Position Repeatability		±0.05 mm
Working Temperature		0 ~ 45°C



SA 1500

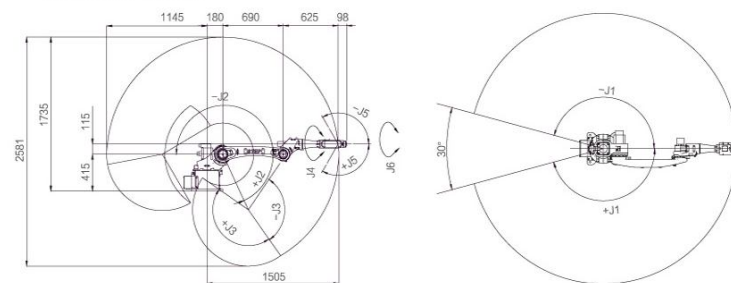
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Main Applications

- ▲ Arc welding
- ▲ Material handling
- ▲ Cutting
- ▲ Palletizing

Working Space



Technical Specifications

Model		SA 1500
Wrist Payload		6 kg
Max Working Radius		1505 mm
Number of axis		6
Max Speed	J1	150° /s
	J2	150° /s
	J3	160° /s
	J4	360° /s
	J5	320° /s
	J6	360° /s
Max Operation Area	J1	±150°
	J2	+65° ~ -180°
	J3	+160° ~ -110°
	J4	±170°
	J5	±120°
	J6	±360°
The Max Moment Allowable Torque	J5	54 Nm
	J6	23 Nm
Weight		145 kg
Position Repeatability		±0.05 mm
Working Temperature		0 ~ 45°C



■ SA 1800

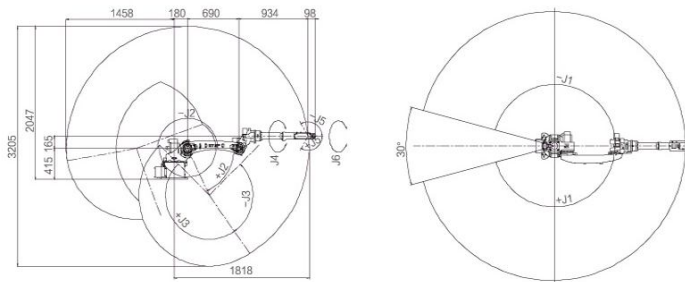
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● Main Applications

- ▲ Arc welding
- ▲ Material handling
- ▲ Cutting
- ▲ Palletizing

● Working Space



● Technical Specifications

Model		SA 1800
Wrist Payload		8 kg
Max Working Radius		1818 mm
Number of axis		6
Max Speed	J1	150° /s
	J2	150° /s
	J3	160° /s
	J4	360° /s
	J5	320° /s
	J6	360° /s
Max Operation Area	J1	± 165°
	J2	+65° ~ -180°
	J3	+170° ~ -100°
	J4	± 185°
	J5	± 120°
	J6	± 360°
The Max Moment Allowable Torque		J5 54 Nm
		J6 29 Nm
Weight		148 kg
Position Repeatability		± 0.05 mm
Working Temperature		0 ~ 45°C



■ SA 2010

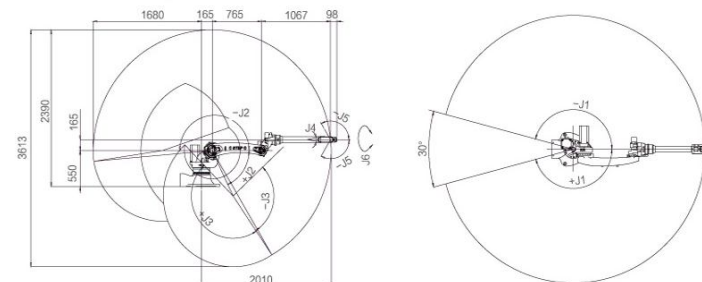
● Product Introduction

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● Main Applications

- ▲ Arc welding
- ▲ Material handling
- ▲ Cutting
- ▲ Palletizing

● Working Space



● Technical Specifications

Model		SA 2010
Wrist Payload		8 kg
Max Working Radius		2010 mm
Number of axis		6
Max Speed	J1	150° /s
	J2	120° /s
	J3	120° /s
	J4	360° /s
	J5	320° /s
	J6	360° /s
Max Operation Area	J1	± 165°
	J2	+65° ~ -180°
	J3	+170° ~ -100°
	J4	± 185°
	J5	± 120°
	J6	± 360°
Weight		232 kg
Position Repeatability		± 0.05 mm
Working Temperature		0 ~ 45°C

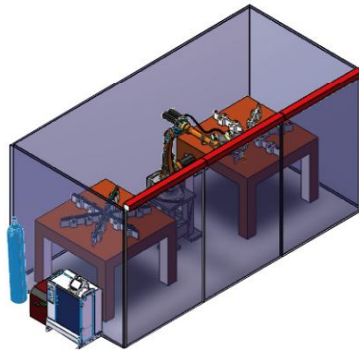


■ SA Robots welding solutions

● SA1800 welding system

1. System description

One SA1800 deals with two welding work stations while manual worker is responsible for material handling. After accurately locate the workpiece by positioner and pneumatic gripper SA1800 starts welding.



2. Technological process

- 1) SA1800 deals with two workstation on its left and right sides.
- 2) Automatic door on the left side is closed and the right side one stays open for material handling by manual worker when SA1800 is welding on the left work station, vice versa.
- 3) In order to plan the welding sequences within welding area, it is important to take into consideration of how to manage the extent of welding deformation (e.g. symmetry welding can greatly decrease deformation), and trying to decrease robot's walking time and the time for changing positions.

3. System characteristics

- 1) Safe and stable;
- 2) Firmly welding, perfect welding seam, high stability;
- 3) Clamping workpieces accurately and conveniently.
- 4) Able to clamp workpieces with similar specifications and sizes and clamber is easy and convenient to adjust.

4. Main configuration

	Device	Function description	Quantity
1	Robot SA1800	Welding Robot	1 Piece
2	Clamper Station	Placing and locating workpieces	2 Sets
3	Wire-feeder, welding machine and accessories	Managing wire-feeder, welding data, power source and accessories	1 set
4	Welding Torch	For welding	1 piece for each working station
5	Button case, Indicator light	Buttons of 'start', 'stop', 'emergency stop', and 'start welding' etc.	1 set
6	Shadow shield (with protection function)	Shielding, protection	1 set
7	Automatic safety door	Shielding, protection	2 sets

■ SP200

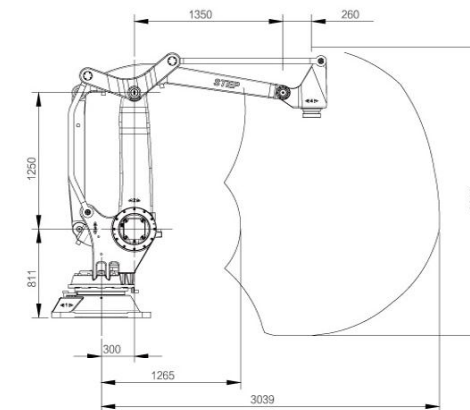
● Product Introduction

SP Series robots are 4-axis robots with simple structure, low failure rate. This model has many advantages such as easy to operate, saving energy, with less area occupation etc. Large payload capability enables the robot to handle materials easily which is suitable for heavy loading and large-scale working environment.

● Main Applications

- ▲ Handling
- ▲ Palletizing

● Working Space



● Technical Specifications

Model	SP200
Wrist Payload	200 kg
Max Working Radius	3039 mm
Number of axis	4
Max Speed	J1 120° /s
	J2 120° /s
	J3 120° /s
	J4 300° /s
Max Operation Area	J1 ± 180°
	J2 +75° ~ -40°
	J3 +115° ~ -20°
	J4 ± 360°
Weight	1815 kg
Position Repeatability	± 0.5 mm
Working Temperature	0 ~ 45°C



■ SP275

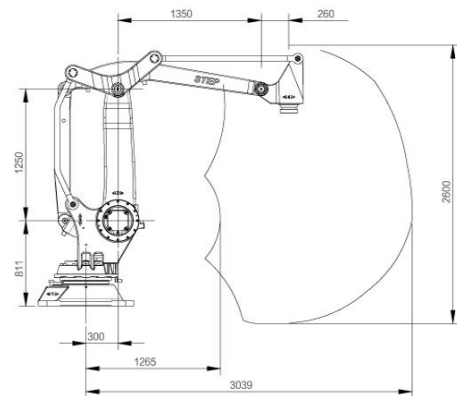
● Product Introduction

SP Series robots are 4-axis robots with simple structure, low failure rate. This model has many advantages such as easy to operate, saving energy, with less area occupation etc. Large payload capability enables the robot to handle materials easily which is suitable for heavy loading and large-scale working environment.

● Main Applications

- ▲ Handling
- ▲ Palletizing

● Working Space



● Technical Specifications

Model		SP275
Wrist Payload		275 kg
Max Working Radius		3039 mm
Number of axis		4
Max Speed	J1	80° /s
	J2	80° /s
	J3	80° /s
	J4	200° /s
Max Operation Area	J1	± 180°
	J2	+75° ~ -40°
	J3	+115° ~ -20°
	J4	± 360°
Weight		1850 kg
Position Repeatability		± 0.5 mm
Working Temperature		0 ~ 45℃

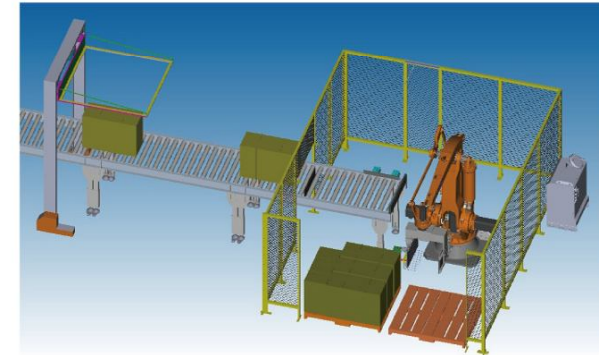


■ SP Robots solutions

● SP200 palletizing system

1. System description

One SP200 works on air-conditioner palletizing. Air-conditioners are feed into packaging area through the roller conveyor then to be send to the end for palletizing.



2. Technological process

- 1) Automatic packaging machine packs the workpieces transported by roller conveyor;
- 2) Robot sit at the end of roller conveyor grips the workpiece rapidly;
- 3) Robot stacks the workpieces based on the set pattern required by clients;
- 4) After one stack, SP200 starts to palletize another one.

3. System characteristics

- 1) Safe and stable;
- 2) By using 4-axis palletizing robot to shorten the cycle-time;
- 3) The precision can be secured by using the gripper with high accuracy and high stability.
- 4) Able to grip workpieces with similar specifications and sizes and gripper is easy and convenient to adjust.

4. Main configuration

	Device	Purpose	Quantity
1	SP200 robot	For palletizing	1 Piece
2	Gripper	For gripping air-conditioner	1 set
3	Stacked plate	For placing air-conditioner	2 Sets
4	Roller conveyor and positioner	For positioning air-conditioner	1 set
5	Security fence and other devices		1 set

■ SR20

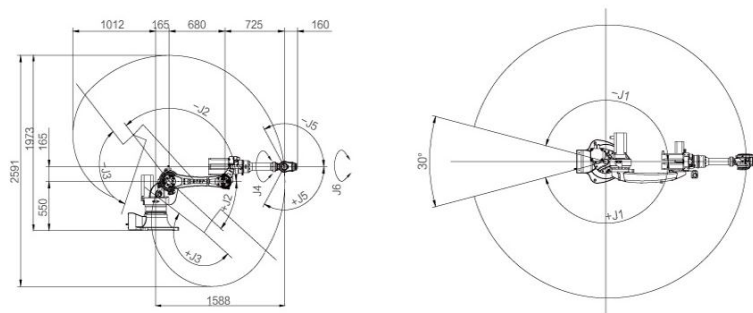
● Product Introduction

With compact structure, SR series robots are equipped with high-precision reducer, allowing the rotating arm can work flexibly within limited space with high speed, suitable for handling, palletizing, assembly etc. In addition, SR robots can be mounted flexibly.

● Main Applications

- ▲ Material handling
- ▲ Assembly
- ▲ Palletizing

● Working Space



● Technical Specifications

Model		SR20
Wrist Payload		20 kg
Max Working Radius		1588 mm
Number of axis		6
Max Speed	J1	150° /s
	J2	120° /s
	J3	120° /s
	J4	360° /s
	J5	300° /s
	J6	450° /s
Max Operation Area	J1	± 165°
	J2	+40° ~ -155°
	J3	+165° ~ -100°
	J4	± 360°
	J5	± 120°
	J6	± 360°
The Max Moment Allowable Torque	J5	186 Nm
	J6	98 Nm
Weight		240 kg
Position Repeatability		± 0.05 mm
Working Temperature		0 ~ 45°C



■ SR25

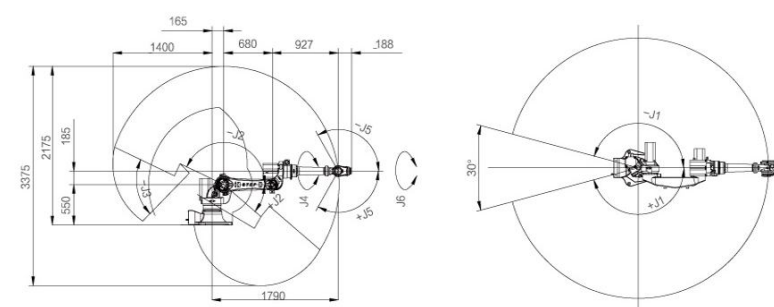
● Product Introduction

SR Series welding dedicated robots are compact, small and lightweight, ideal for welding application due to its high stability. It can acquire high welding-path accuracy, considerably reduce welding cycle-time, and extend the lifetime of tubes and cables. In addition, SR Series robots can fit in narrow working space and can be floor mounted, inverted or on the wall in any angle.

● Main Applications

- ▲ Arc welding
- ▲ Palletizing
- ▲ Material handling

● Working Space



● Technical Specifications

Model		SR25
Wrist Payload		25 kg
Max Working Radius		1790 mm
Number of axis		6
Max Speed	J1	150° /s
	J2	120° /s
	J3	120° /s
	J4	300° /s
	J5	300° /s
	J6	360° /s
Max Operation Area	J1	± 165°
	J2	+40° ~ -155°
	J3	+170° ~ -70°
	J4	± 360°
	J5	± 120°
	J6	± 360°
The Max Moment Allowable Torque	J5	382 Nm
	J6	255 Nm
Weight		288 kg
Position Repeatability		± 0.05 mm
Working Temperature		0 ~ 45°C



SR50

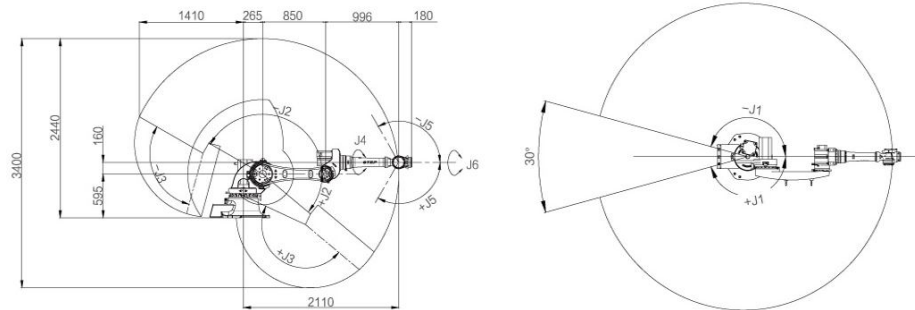
Product Introduction

With compact structure, SR series robots are equipped with high-precision reducer, allowing the rotating arm can work flexibly within limited space with high speed, suitable for handling, palletizing, assembly etc. In addition, SR robots can be mounted flexibly.

Main Applications

- ▲ Material handling
- ▲ Casting
- ▲ Welding
- ▲ Deburring
- ▲ Palletizing
- ▲ Assembly
- ▲ Polishing

Working Space



Technical Specifications

Model		SR50
Wrist Payload		50 kg
Max Working Radius		2110 mm
Number of axis		6
Max Speed	J1	120° /s
	J2	100° /s
	J3	100° /s
	J4	180° /s
	J5	180° /s
	J6	200° /s
Max Operation Area	J1	± 165°
	J2	+40° ~ -150°
	J3	+165° ~ -105°
	J4	± 360°
	J5	± 120°
	J6	± 360°
Weight		510 kg
Position Repeatability		± 0.25 mm
Working Temperature		0 ~ 45°C



SR165

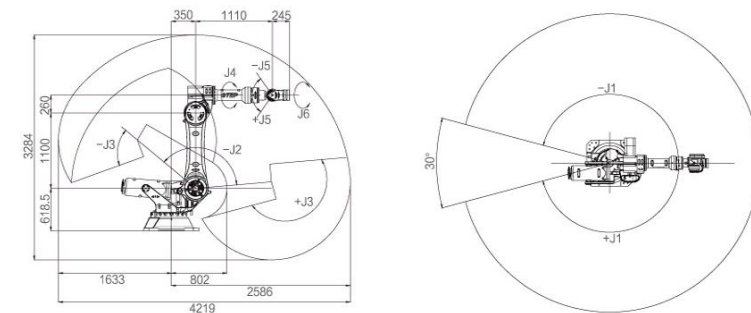
Product Introduction

With compact structure, SR series robots are equipped with high-precision reducer, allowing the rotating arm can work flexibly within limited space with high speed, suitable for handling, palletizing, assembly etc. In addition, SR robots can be mounted flexibly.

Main Applications

- ▲ Material handling
- ▲ Casting
- ▲ Welding
- ▲ Deburring
- ▲ Palletizing
- ▲ Assembly
- ▲ Polishing

Working Space



Technical Specifications

Model		SR165
Wrist Payload		165 kg
Max Working Radius		2586 mm
Number of axis		6
Max Speed	J1	110° /s
	J2	110° /s
	J3	110° /s
	J4	175° /s
	J5	150° /s
	J6	240° /s
Max Operation Area	J1	± 165°
	J2	-5° ~ -140°
	J3	+170° ~ -60°
	J4	± 360°
	J5	± 125°
	J6	± 360°
Weight		1250 kg
Position Repeatability		± 0.25 mm
Working Temperature		0 ~ 45°C



■ SR210

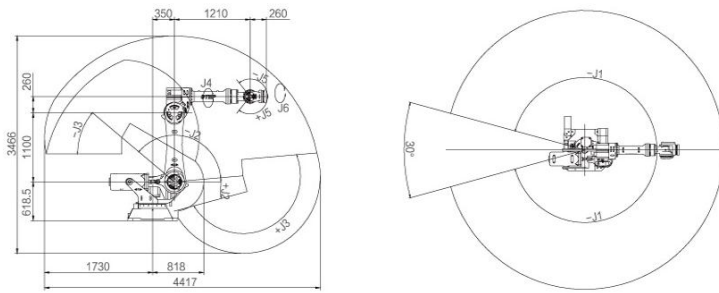
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● Main Applications

- ▲ Material handling
- ▲ Casting
- ▲ Welding
- ▲ Deburring
- ▲ Palletizing
- ▲ Assembly
- ▲ Polishing

● Working Space



● Technical Specifications

Model		SR210
Wrist Payload		210 kg
Max Working Radius		2687 mm
Number of axis		6
Max Speed	J1	95° /s
	J2	85° /s
	J3	95° /s
	J4	125° /s
	J5	125° /s
	J6	190° /s
Max Operation Area	J1	± 165°
	J2	-5° ~ -140°
	J3	+170° ~ -40°
	J4	± 360°
	J5	± 120°
	J6	± 360°
Weight		1250 kg
Position Repeatability		± 0.25 mm
Working Temperature		0 ~ 45°C

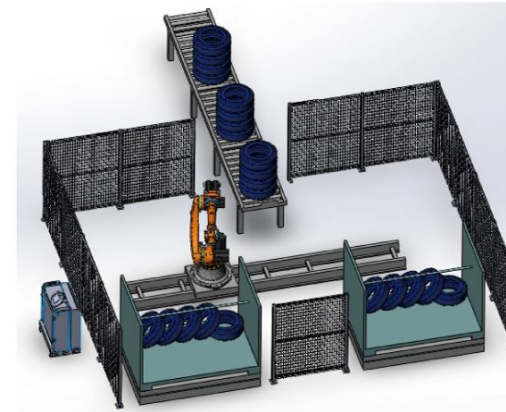


■ SR Robots solutions

● SR50 handling systems

1. System description

Tyre loading and unloading process are completed by SR50 on the track motion moving back and forth with high precision gripper.



2. Technological process

- 1) The end of roller conveyor positions the workpiece;
- 2) SR50 moves from the edge of the track close to roller conveyor to pick up the tyre;
- 3) By moving along the track SR50 places the tyres on rotating stacking plate;
- 4) Forklift truck transports the filled stack to the given area.

3. System characteristics

- 1) Safe and stable;
- 2) Floor-mounted track extends the robot's working range;
- 3) Adopting robots gripper with high precision and high stability ensures the high accuracy to grip workpieces.
- 4) Able to grip workpieces with similar specifications and similar sizes.

4. Main configuration

	Device	Purpose	Quantity
1	SR50 Robot	For tyres handling	1 piece
2	Tyre gripper	For tyres gripping	1 set
3	Robot track	For robot moving and extending working area	1 piece
4	Rotating stacked plate	For rotating stacked plate	2 sets
5	Roller conveyor and positioner	For tyres transporting	1 set
6	Security fence and other devices		1 set

● SR210 Robot palletizing system

1. System description

This system uses SR210 to palletize the doorplate. The robot cell interacts with Salvagnini device to identify and flip workpieces.



2. Technological process

- 1) Salvagnini sends the signal to SR210 after finish bending;
- 2) SR210 flips the workpiece 180°.
- 3) SR210 moves to the unloading point to place the workpiece after received the command and then goes back to the original point.

3. System characteristics

- 1) Safe and stable;
- 2) Robot gripper can adjust to grip workpieces with different specifications;
- 3) Workpieces can be positioned accurately and rapidly.

4. Main configuration

	Device	Purpose	Quantity
1	SR210 Robot	For workpieces handling	1 piece
2	Gripper	Suitable for workpieces with different sizes	1 set
3	Turning table	For turning over the workpieces	2 sets
4	Security fence and other devices		1 set



● SRC control system

- ▲ Innovative modular design, easy for operating and maintaining, maximized availability
- ▲ Integrating robot control, security control, PLC control and motion control
- ▲ Scalable and flexible control system with outstanding performance which not only confine to be used in robots
- ▲ Real-time communication among dedicated controlling modular (Industry EtherNet)
- ▲ High compatibility with other system's software and program, which reduces the cost of upgrading and maintaining.
- ▲ Rapid and convenient operating thanks to tested instruction set for better programming by users
- ▲ Enough external interfaces function extension, meeting the demands of special industry such as welding etc.
- ▲ Higher protection level, brand-new cooling system to fit in harsher environment
- ▲ Optimizing the performance with better cost control

● System characteristics

Specifications			
Electric system	Rated input voltage: 380VAC $\pm$ 10% Power capacity (Max.): 20KVA(Max.) Power frequency: 50Hz Environment temperature: 0~40° Environment humidity: 45~80% RH		
Control	Number of axis: maximum 12 axis Advanced multi-processing control system Advanced robot programming language Portable, extendable, open Pre-installed software with additional disc		
Teaching pendant	1.25kg(excluding cable) 6.5 inch color touch screen(VGA 640X480) Emergency stop function Three-position starting device Supporting operation by both hands Supporting USB memory IP65 Protection IP65		
Maintenance	Status indicated by LED light Diagnosis software and tool Zero position storage function when losing power Reserved remote service function		
Security	Emergency stop function Double channel safety circuit with monitoring function Three-position starting device Reserved external safety interface		
Physical characteristics	Dimension (mm)	Weight	Protection available
Control cabinet	850x 520 x 900	About 150kg	IP54
Extended interface			
Digital	24VDC or electric relay signal		
Analog	0~10V		
Bus communication	EtherCAT		
	CANopen		
	EtherNet/IP		



Automatic bearing beam welding cell

Description:

SR18L8 are used for welding in this case. According to the requirements of welding technology and environment protection, positioner and walk device are adopted to make sure the separation between welding area and manually material handling.

Results:

The number of production team of 8 workers reduced to 2, with capacity up to 50 bearing beams per day.



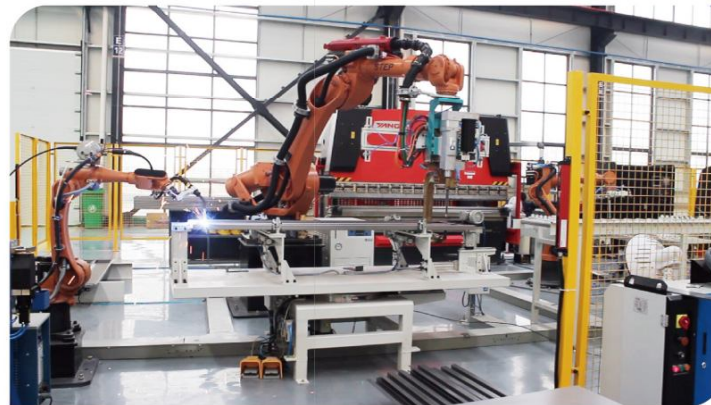
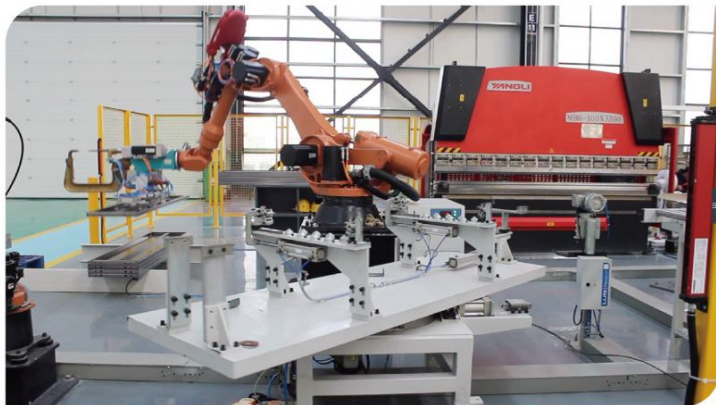
Large safe automatic welding cell

Description:

SR18L8 was adopted in this case for welding. A dedicated welding program package was offered by R&D team to make sure the welding quality. SP275 was followed to unload the finished products.

Results:

Capacity is up to 48 boxes per day, eliminating 6 labors.



Automatic sheet metal processing line

Description:

SR50 works together with punching machine to pierce sheet metal and cooperates with bender to bend doorplates while SR210 and SA1400 is doing spot welding and arc welding job simultaneously.

Results:

The numbers of workers reduced from 6 to 1 for taking care of robots. Un-processed sheet metal was sent in and out as the finished elevator door.



Air-conditioner palletizing station

Description:

SP200 sits the end of air-conditioner assembly line to palletize the finished products.

Results:

2400 sets air-conditioner can be stacked per day and 3 workers' costs were saved.



Stereoscopic warehouse

Description:

Working with visual inspection system, SR50 un-stacks and re-stacks irregular bagged materials.

Results:

Saved 5 workers/shift and capacity up to 3200 bags/8h(before 2000 bags/8h).



Sheet metal bending

Description:

Cooperating with bender, SR50 bends the sheet metal with different specifications. STEP unique bending program package ensures that the flange strictly follows movement orbit of sheet metal for high bending precision.





Automatic palletizing cell

Description:

SR210 (payload 210kg, reach 2700mm) works with Salvagnini sheet metal process line to unload materials.

Results:

Capacity is up to 960 sheet metals/day shift (8 hours), eliminating 4 labors.



■ ADT-400X4H150-011

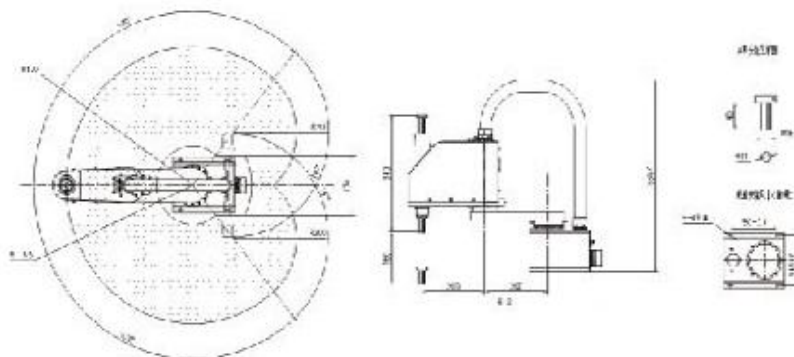
● Product picture & Specifications



Type		ADT-400X4H150-011
Number of axis		4
Reach		400mm
Axis specifications	X-axis	Arm length
		200mm
	Y-axis	Rotation range
		±130°
	Z-axis	Arm length
		200mm
R-axis	Rotation range	±147°
		±147°
Max. Speed	X-axis	Travelling distance
		150mm
	Y-axis	Rotation range
		±360°
Standard cycle time	X-axis	600°/s
		600°/s
	Y-axis	6.1m/s
		1.3m/s
Position Repeatability	X&Y-axis	±0.025mm
		±0.01mm
	Z-axis	±0.03mm
		±0.03mm
Rated/Max. Payload	X&Y-axis	1kg/2kg
		0.002 kg·m ²
	Z-axis	0.005 kg·m ²
		0.15sqx26
Limiting position protection	X&Y-axis	±0.03mm
		±0.015mm
	Z-axis	±0.03mm
		±0.03mm
Weight	X&Y-axis	16kg
		0.001 kg·m ²
	Z-axis	0.004 kg·m ²
		0.15sqx26

● ADT-400X4H150-011 (Floor mounted Standard) (Unit: mm)

Working range and external dimension



■ ADT-600X4H300-051

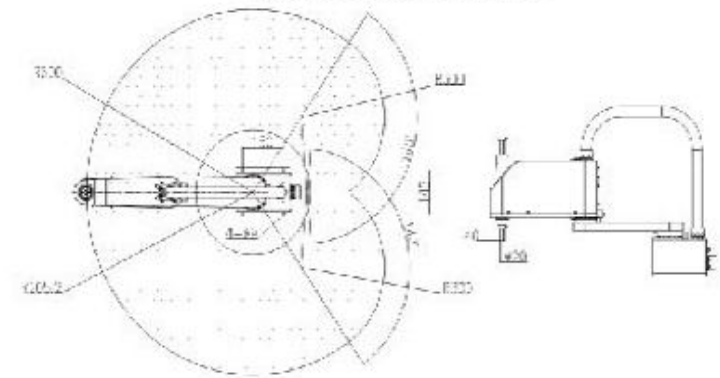
● Product picture & Specifications



Type		ADT-600X4H300-051
Number of axis		4
Reach		600mm
Axis specifications	X-axis	Arm length
		300mm
	Y-axis	Rotation range
		±125°
	Z-axis	Arm length
		200mm
R-axis	Rotation range	±140°
		±140°
Max. Speed	X-axis	Travelling distance
		200mm
	Y-axis	Rotation range
		±360°
Standard cycle time	X-axis	375°/s
		600°/s
	Y-axis	7.1m/s
		1.1m/s
Position Repeatability	X&Y-axis	±0.03mm
		±0.015mm
	Z-axis	±0.03mm
		±0.03mm
Rated/Max. Payload	X&Y-axis	3kg/6kg
		0.001 kg·m ²
	Z-axis	0.004 kg·m ²
		0.15sqx26
Limiting position protection	X&Y-axis	±0.03mm
		±0.015mm
	Z-axis	±0.03mm
		±0.03mm
Weight	X&Y-axis	40kg
		0.001 kg·m ²
	Z-axis	0.004 kg·m ²
		0.15sqx26

● ADT-600X4H300-051 (Floor mounted Standard) (Unit: mm)

Working range and external dimension



Model		SD500	SD700	SA1400	SA1500	SA1800	SA2010
Number of axis		6	6	6	6	6	6
Payload(kg)		1	1	6	6	8	8
Max speed	J1 (° /s)	375	250	150	150	150	150
	J2 (° /s)	375	185	150	150	150	120
	J3 (° /s)	430	290	160	160	160	120
	J4 (° /s)	460	460	360	360	360	360
	J5 (° /s)	460	460	320	320	320	320
	J6 (° /s)	600	600	360	360	360	360
Max operating area	J1 (°)	± 170	± 170	± 150	± 150	± 165	± 165
	J2 (°)	± 115	± 115	+65~-180	+65~-180	+65~-180	+65~-180
	J3 (°)	+40~-220	+40~-220	+160~-110	+160~-110	+170~-100	+170~-100
	J4 (°)	± 185	± 185	± 170	± 170	± 185	± 185
	J5 (°)	± 125	± 125	± 120	± 120	± 120	± 120
	J6 (°)	± 360	± 360	± 360	± 360	± 360	± 360
Max working radius		500	700	1405	1505	1818	2010
Weight		26	28	140	145	148	232
Position repeatability		± 0.015	± 0.02	± 0.05	± 0.05	± 0.05	± 0.05
Mounting condition		floor, tilted, inverted					
Applications		Welding, handling, palletizing, bending, cutting, polishing etc.					
Arm type		Vertically multi-joint					
Control system		SRC4					
Mounting condition	Environment temperature	(0~45) °C					
	Relative humidity	35% ~ 85% Frost free					
	Vibration	below 0.5kg					
	Others	Robot mounting must be away from the disturbance of flammable, corrosive liquids and gas as well as electricity.					

SR20	SR25	SR50	SR165	SR210	SP200	SP275
6	6	6	6	6	4	4
20	25	50	165	210	200	275
150	150	120	110	95	120	80
120	120	100	110	85	120	80
120	120	100	110	95	120	80
360	300	180	175	125	300	200
300	300	180	150	125		
450	360	200	240	190		
± 165	± 165	± 165	± 165	± 165	± 180	± 180
+40~-155	+40~-155	+40~-150	-5~-140	-5~-140	+75~-40	+75~-40
+165~-100	+170~-70	+165~-105	+170~-60	+170~-40	+115~-20	+115~-20
± 360	± 360	± 360	± 360	± 360	± 360	± 360
± 120	± 120	± 120	± 125	± 120		
± 360	± 360	± 360	± 360	± 360		
1588	1790	2110	2586	2687	3039	3039
240	288	510	1250	1250	1815	1850
± 0.05	± 0.05	± 0.25	± 0.25	± 0.25	± 0.5	± 0.5
floor, tilted, inverted		floor				
Welding, handling, palletizing, bending, cutting, polishing etc.						
Vertically multi-joint						
SRC4						
(0~45) °C						
35% ~ 85% Frost free						
below 0.5kg						
Robot mounting must be away from the disturbance of flammable, corrosive liquids and gas as well as electricity.						