STEP®

YIXIN
INTERNATIONAL

Shanghai Yixin International Trade Co., Ltd.
NO.599 Meiyu Road, Jiading District, Shanghai
Zip：201802
TEL: 86-21-3101 0622
FAX: 86-21-3101 0649

Shanghai STEP Electric Corporation
NO.599 Meiyu Road, Jiading District, Shanghai
Zip：201802

Shanghai STEP Robotics Co., Ltd.
NO.599 Meiyu Road, Jiading District, Shanghai
Zip：201802

Shanghai Sigriner STEP Electric Co., Ltd.
NO.1560 Siyi Road, Jiading District, Shanghai
Zip：201801

Shanghai STEP Cable Technology Co., Ltd.
NO.289 Xinqin Road, Jiading District, Shanghai
Zip：201802

Shenzhen ADTECH Technology Co., Ltd.
5/F, Nanshan District,Yiyuan Road Majialong IC Industry Park,
Shenzhen
Zip：518052

Shanghai STEP Automotive Equipment Co., Ltd.
NO.66 Shenxu Road, Songjiang District, Shanghai
Zip：201612

Shanghai Huitong Automation Technology Development Co., Ltd.
Room 3503-3504, CITIC Plaza, No.859, North Sichuan Road,
Shanghai
Zip：200085

Hangzhou Zhishan Intelligent Control Technology Co., Ltd.
NO.9 Xianxin Road, Xianlin Industry Park, Yuhang District,
Hangzhou, Zhejiang
Zip：311112

STEP Sigriner Elektronik Gmbh
Martin-Moser-str.15, 84503 Altoetting, Germany

HONG KONG Inernational STEP Holdings Co., Ltd.
Unit AD, 9/F, Nathan Commercial Building, 430-436 Nathan Road, Kowloon, Hong Kong

SIGRINER Automation (Mfg) Sdn.Bhd.
Lot 5, Japan Asam Jawa 16/15, Section 16, 40200 Shah Alam, Selangor Darul Ehsan,
Malaysia

STEP-SIGRINER DO BRASIL
Rua Alvaro Fragoso, 96-Vila Carioca – Sao Paulo, SP, Brasil CEP 04223-000

STEP ROBOT

VER 2018.08

www.stepelectric.com

Shanghai Yixin International Trade Co,Ltd. was found in April 2011, which is a wholly-owned subsidiary of Shanghai STEP Electric Corporation.
Yixin International is a comprehensive international trading company with multilanguage support of business, including English, Russian, Spanish, German, Japanese and so on. As an elevator part integrated supplier, we provide professional lift solutions.We cooperate with partners from more than 50 different countries such as Germany, Malaysia, Vietnam, Indonesia, Russia, Singapore,Australia, India, Turkey and so on.

Our company creates a global advantage by means of good service.
We have established overseas wholly owned subsidiaries, namely STEP Sigriner Elektronik GmbH in Germany and Hong Kong International STEP Holdings Co., Ltd. as well as two subsidiary joint-venture companies STEP-Sigriner DO BRASIL in Brazil and Sigriner Automation (MFG) SDN. BHD.in Malaysia.

The Middle East and Southeast Asia region have also been in the selection process,planning to set up offices in the coming year.Yixin will continue to expand the business scope all over the world.

1995

Company Information

Contents

STEP Spirit: Strive for global competitiveness, pursue the best practice and always stay ahead of the industry.

STEP Mission: Provide the best controllers, drives and energy-saving products for the sustainable benefits of the society and the employees.

STEP Vision: To be a worldwide leading high-tech enterprise in electrical industry.

STEP Robotics

Shanghai STEP Electric Corporation was founded in 1995 with the registered trademark of STEP , and has been awarded with titles of National High-tech Enterprise, National Innovative Enterprise, National Enterprise Technology Center. STEP is committed to pursuing customers' satisfaction, fostering employees' esteem and creating sustainable benefit to the society. In December of 2010, STEP has been listed in Shenzhen Stock Exchange with stock name STEP and stock code 002527.
STEP Robotics Co., Ltd. is a subsidary company of STEP electric.
The core product ranges cover industrial robot, which are widely used in various industries like elevator, harbor crane, hoisting, rubber & plastic, mining, metallurgy, power generation, CNC, packaging, logistics, 3C and automobile etc.

Certificates

欧洲安全认证 欧洲EN81认证 北美安全认证 美国UL认证 美国NRTL认证 Q+3认证

ISO9001认证 ISO14001认证 OHSMS18001认证 中国强制认证 CNAS-L6430

Robots

Robots

SD500E

Product Info

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 on the wall in any angle.
Robot SD500 has 3kg wrist payload and 500mm maximum working radius.

Features

- Light weight
- High running speed
- High position repeats accuracy
- Build-in cable

Application

Material handing

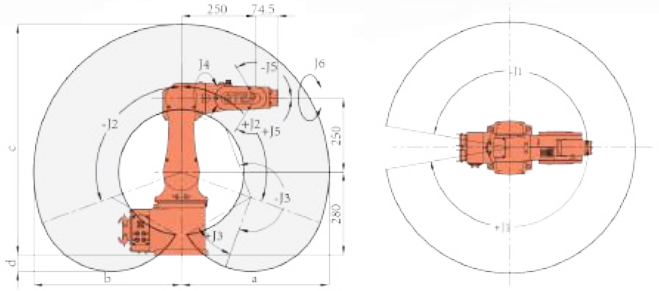
1.More flexible, more stable, less energy consumption
2.High performance of moving stuff
3.Exceptionally long run time
4.Save floor space

Assembly

1.High speed and high repeat positional accuracy
2.Save floor space
3.Exceptionally long run time

Working Space

a	b	c	d
500	500	780	55



Principal Data

Model		SD500E
Wrist Rated Payload		3kg
Max Working Radius		500 mm
DOF		6
Max Speed	J1	370° /s
	J2	370° /s
	J3	430° /s
	J4	300° /s
	J5	460° /s
	J6	600° /s
Max Operation Area	J1	± 170°
	J2	± 110°
	J3	+40° ~ −220°
	J4	± 185°
	J5	± 125°
	J6	± 360°
Wrist Allowable Torque	J4	4.41 Nm
	J5	4.41 Nm
	J6	2.94 Nm
Wrist Allowable Inertia	J4	0.15 kgm^2
	J5	0.15 kgm^2
	J6	0.1 kgm^2
Weight		28 kg
Position Repeat Accuracy		± 0.02mm
Ambient Temperature		0 ~ 40℃

SD700E

Product Info

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 on the wall in any angle.
Robot SD700 has 3kg wrist payload and 700mm maximum working radius.

Features

- Light weight
- High running speed
- High position repeats accuracy
- Build-in cable

Application

Material handing

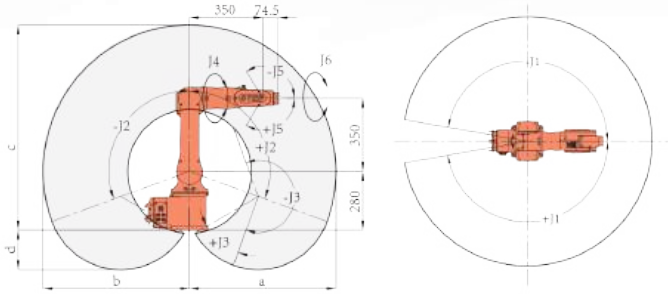
1.More flexible, more stable, less energy consumption
2.High performance of moving stuff
3.Exceptionally long run time
4.Save floor space
5.Larger working area

Assembly

1.High speed and high repeat positional accuracy
2.Save floor space
3.Exceptionally long run time
4.Larger working area

Working Space

a	b	c	d
700	700	980	190



Principal Data

Model		SD700E
Wrist Rated Payload		3kg
Max Working Radius		700 mm
DOF		6
Max Speed	J1	245° /s
	J2	185° /s
	J3	290° /s
	J4	300° /s
	J5	460° /s
	J6	600° /s
Max Operation Area	J1	±170°
	J2	±110°
	J3	+40° ~−220°
	J4	±185°
	J5	±125°
	J6	±360°
Wrist Allowable Torque	J4	4.41 Nm
	J5	4.41 Nm
	J6	2.94 Nm
Wrist Allowable Inertia	J4	0.15 kgm²
	J5	0.15 kgm²
	J6	0.1 kgm²
Weight		30 kg
Position Repeat Accuracy		±0.03mm
Ambient Temperature		0~40℃

SD900

Product Info

SD900 is compact and small, ideal for a mini working station. It can finish material handling, picking up and sorting, casting, gluing and assebling with high speed and accuracy. With build-in cables, SD900 can fit in narrow working space and can be mounted with different ways. SD900 has 8Kg wrist payload and 919 maximun working radius.

Features

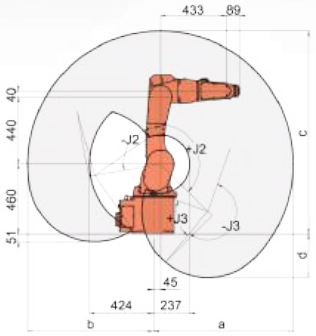
- High position repeats accuracy
- High Stability
- High running speed
- IP67 protection degree

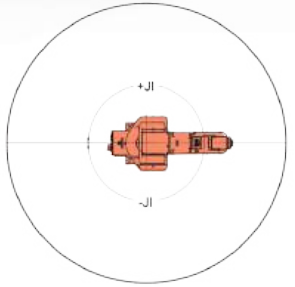
Application

- Palletizing
  1.Money saving
  2.Excellent cycle time performance
  3.IP67 Protection degree
- Casting, Polishing, Gluing
  1.Excellent operating accuracy
  2.Exceptionally long run time

Product Info

a	b	c	d
919	829	1334	286





Principal Data

Model		SD900
Wrist Rated Payload		8 kg
Max Working Radius		919 mm
DOF		6
Max Speed	J1	335° /s
	J2	280° /s
	J3	370° /s
	J4	345° /s
	J5	375° /s
	J6	650° /s
Max Operation Area	J1	±180°
	J2	+135° ~−100°
	J3	+70° ~−220°
	J4	±175°
	J5	±130°
	J6	±360°
Working Noise		<80 dB(A)
Transport Storage Temperature		−25℃ ~ +55℃
Wrist Allowable Torque	J4	11.8 Nm
	J5	9.8 Nm
	J6	6.7 Nm
Wrist Allowable Inertia	J4	0.3 kgm^2
	J5	0.25 kgm^2
	J6	0.1 kgm^2
Weight		85 kg
Position Repeat Accuracy		±0.03mm
		0~40℃

SA1400

Product Info

SA Series robots are compact, small and lightweight, ideal for welding application due to its high stability to finish welding job. 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 on the wall in any angle.

Features

- Small size
- Light weight
- High running speed
- High position repeat accuracy
- Good welding reliability

Application

Arc welding, cutting

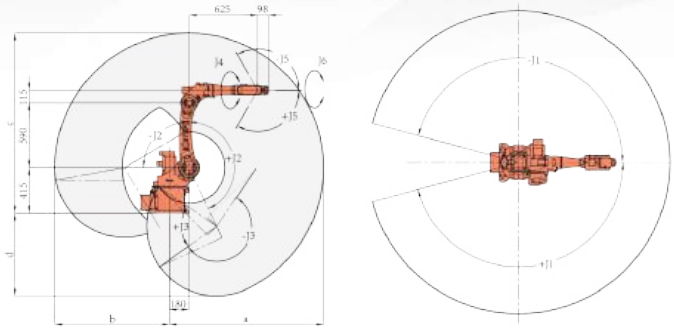
1.Stability improves welding quality which ensures uniformity
2.Improve productivity and 24 hours'continuous production
3.Improve labor's working condition, long term operation in harmful condition
4.Reduce requirements for operation technique
5.Shorten the period of remodel change, reduce the relevant equipment cost
6.Realize bulk article of welding automation
7.Save floor space

Materias handling,palletizing

1.More flexible, more stable, less energy consumption
2.High performance of moving stuff
3.Exceptionally long run time
4.Fixed automation

Product Info

a	b	c	d
1405	1045	1640	755



Principal Data

Model		SA1400
Wrist Rated Payload		6kg
Max Working Radius		1405 mm
DOF		6
Max Speed	J1	180° /s
	J2	180° /s
	J3	200° /s
	J4	450° /s
	J5	320° /s
	J6	450° /s
Max Operation Area	J1	± 165°
	J2	+155° ~ – 90°
	J3	+70° ~ –200°
	J4	± 170°
	J5	± 120°
	J6	± 360°
Wrist Allowable Torque	J4	11.8 Nm
	J5	9.8 Nm
	J6	5.9 Nm
Wrist Allowable Inertia	J4	0.6 kgm^2
	J5	0.25 kgm^2
	J6	0.06 kgm^2
Weight		143 kg
Position Repeat Accuracy		± 0.05mm
Ambient Temperature		0 ~ 40℃

SA1800

Product Info

SA Series robots are compact, small and lightweight, ideal for welding application due to its high stability to finish welding job. 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 on the wall in any angle.

Features

- Large working space
- Light weight
- High running speed
- High position repeat accuracy
- Good welding reliability

Application

Arc welding, cutting

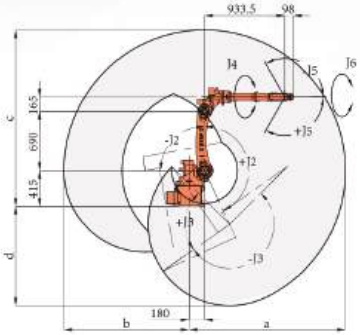
1.Stability improves welding quality which ensures uniformity
2.Improve productivity and 24 hours' continuous production
3.Improve labos working condition, long term operation in harmful condition
4.Reduce requirements for operation technique
5.Shorten the period of remodel change, reduce the relevant equipment cost
6.Realize bulk article of welding automation
7.Save floor space

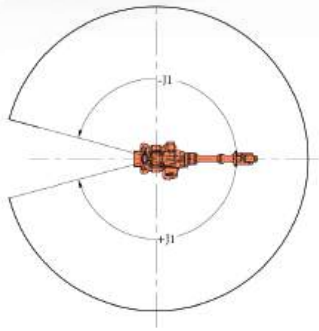
Materias handling,palletizing

1.More flexible, more stable, less energy consumption
2.High performance of moving stuff
3.Exceptionally long run time
4.Fixed automation

Product Info

a	b	c	d
1818	1458	2053	1158





Principal Data

Model		SA1800
Wrist Rated Payload		8kg
Max Working Radius		1818 mm
DOF		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	+155° ~ −90°
	J3	+80° ~ −190°
	J4	± 185°
	J5	± 120°
	J6	± 360°
Wrist Allowable Torque	J4	22 Nm
	J5	16.5 Nm
	J6	6.7 Nm
Wrist Allowable Inertia	J4	0.75 kgm²
	J5	0.35 kgm²
	J6	0.1 kgm²
Weight		160 kg
Position Repeat Accuracy		± 0.05mm
Ambient Temperature		0 ~ 40℃

SP120

Product Info

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.
Robot SP120 has 120kg wrist payload and 2403mm maximum working radius.

Features

- Large working space
- Stable performance
- High running speed
- Highly optimized for general use
- Modular mechanical structure design

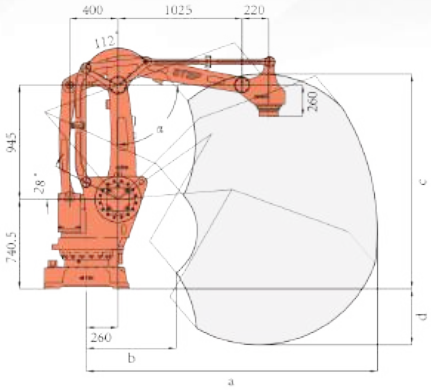
Application

- Materias handling,palletizing

1.More flexible, more stable, less energy consumption
2.High performance of moving stuff
3.Exceptionally long run time
4.Fixed automation

Product Info

a	b	c	d
2403	742	1776	462



Principal Data

Model		SP120
Wrist Rated Payload		120 kg
Max Working Radius		2403 mm
DOF		4
Max Speed	J1	145° /s
	J2	110° /s
	J3	120° /s
	J4	300° /s
Max Operation Area	J1	±165°
	J2	+85° ~ −40°
	J3	+65° ~ −65°
	J4	±360°
	J2+J3	+120° ~−20°
Wrist Allowable Torque	J4	250 Nm
Wrist Allowable Inertia	J4	70 kgm²
Weight		1040 kg
Position Repeat Accuracy		±0.2mm
Ambient Temperature		0~40℃

SP200

Product Info

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.
Robot SP200 has 200kg wrist payload and 3003mm maximum working radius.

Features

- Large working space
- Stable performance
- High running speed
- Highly optimized for general use
- Modular mechanical structure design

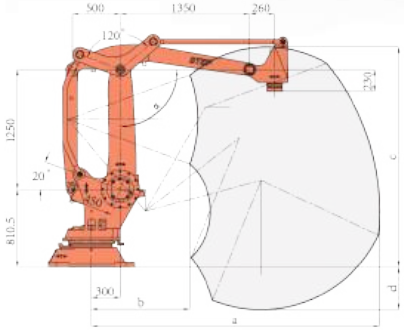
Application

- Materias handling,palletizing

1.More flexible, more stable, less energy consumption
2.High performance of moving stuff
3.Exceptionally long run time
4.Fixed automation

Product Info

a	b	c	d
3003	1026	2292	446



Principal Data

Model		SP200
Wrist Rated Payload		200 kg
Max Working Radius		3003 mm
DOF		4
Max Speed	J1	120° /s
	J2	120° /s
	J3	120° /s
	J4	300° /s
Max Operation Area	J1	± 180°
	J2	+75° ~ −40°
	J3	+60° ~ −50°
	J4	± 360°
	J2+J3	+112° ~−20°
Wrist Allowable Torque	J4	480 Nm
Wrist Allowable Inertia	J4	70 kgm²
Weight		1820 kg
Position Repeat Accuracy		± 0.5mm
Ambient Temperature		0 ~ 40℃

SR8

Product Info

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.
Robot SR8 is small and light and has 8kg wrist payload and 1405mm maximum working radius .IP65 for wrist.

Features

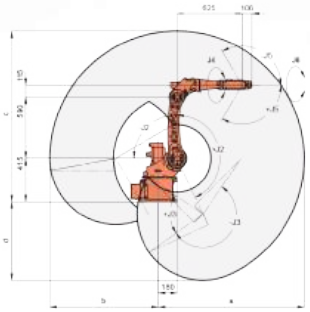
- High position repeat accuracy
- Stable performance
- High running speed
- Highly optimized for general use
- IP65 protection degree for wrist

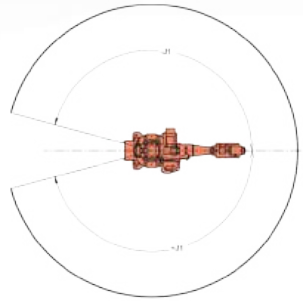
Application

- Materias handling,palletizing
  1.Money saving
  2.Excellent cycle time performance
  3.IP65 protection degree for wrist.
- Casting, Polishing, Gluing
  1.Excellent operation accuracy
  2.Exceptionally long run time
- Material loading & unloading
  1.Excellent operation accuracy
  2.Compact structure，suitable for narrow space

Product Info

a	b	c	d
1405	1045	1640	755





Principal Data

Model		SR8
Wrist Rated Payload		8 kg
Max Working Radius		1405 mm
DOF		6
Max Speed	J1	180° /s
	J2	180° /s
	J3	160° /s
	J4	360° /s
	J5	320° /s
	J6	450° /s
Max Operation Area	J1	± 165°
	J2	+155° ~ – 90°
	J3	+70° ~ –200°
	J4	± 170°
	J5	± 120°
	J6	± 360°
Wrist Allowable Torque	J4	11.8 Nm
	J5	9.8 Nm
	J6	6.7 Nm
Wrist Allowable Inertia	J4	0.3 kgm ^{2}
	J5	0.25 kgm^2
	J6	0.1 kgm^2
Weight		143 kg
Position Repeat Accuracy		± 0.05mm
Ambient Temperature		0 ~ 40℃

SR20

Product Info

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.
Robot SR20 is small and light and has 20kg wrist payload and 1588mm maximum working radius whose wrist boosts high precision harmonic reducer.

Features

- Large working space
- High position repeat accuracy
- Stable performance
- High running speed
- Highly optimized for general use

Application

- Materias handling,palletizing
- Assembling

1. More flexible, more stable, less energy consumption
2. High performance of moving stuff
3. Exceptionally long run time
4. Larger working area

- Casting, Polishing

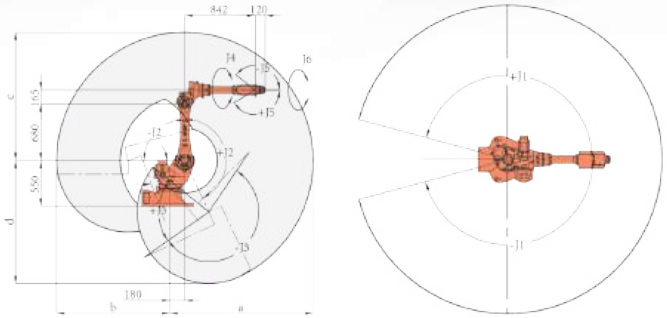
Incision, polish burring, cleaning, burnishing, water-jet cutting and other processing application

- Material loading & unloading

1.Excellent operation accuracy
2.Compact structure，suitable for narrow space

Product Info

a	b	c	d
1718	1358	1538	1474



Principal Data

Model		SR20
Wrist Rated Payload		20 kg
Max Working Radius		1718 mm
DOF		6
Max Speed	J1	170° /s
	J2	170° /s
	J3	152° /s
	J4	350° /s
	J5	333° /s
	J6	600° /s
Max Operation Area	J1	± 165°
	J2	+155° ~ – 90°
	J3	+75° ~ –200°
	J4	± 360°
	J5	± 120°
	J6	± 360°
Wrist Allowable Torque	J4	50 Nm
	J5	50 Nm
	J6	19.6 Nm
Wrist Allowable Inertia	J4	1.6 kgm²
	J5	1.6 kgm²
	J6	0.8 kgm²
Weight		235 kg
Position Repeat Accuracy		± 0.05mm
Ambient Temperature		0 ~ 40℃

SR50E

Product Info

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, loading, unloading etc. In addition, SR robots can be mounted flexibly. Robot SR50E is small and light and has 50kg wrist payload and 2124mm maximum working radius mainly applied to middle payload and large scale workplace.

Features

- Large working space
- Stable performance
- High running speed
- Highly optimized for general use
- Modularizatio mechanical structure design

Application

Medium payload application:

- Materias handling,palletizing

1. More flexible, more stable, less energy consumption
2. Reduce the mistakes to minimum through the vision functions of the robot
3. High performance of moving stuff
4. Exceptionally long run time
5. Fixed automation

- Assembling, Welding

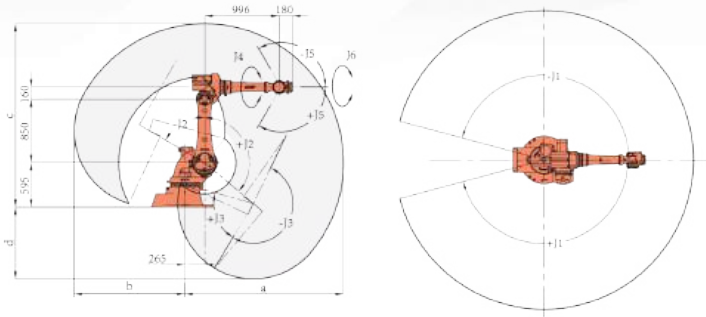
1. Stability improves welding quality which ensures uniformity
2. Improve productivity and 24 hours' continuous production
3. Improve labor's working condition, long term operation in harmful condition
4. Reduce requirements for operation technique
5. Shorten the period of remodel change, reduce the relevant equipment cost

- Casting, Polishing

Incision, polish burring, cleaning, burnishing, water-jet cutting and other processing application

Product Info

a	b	c	d
2124	1479	2453	960



Principal Data

Model		SR50E
Wrist Rated Payload		50 kg
Max Working Radius		2124 mm
DOF		6
Max Speed	J1	140° /s
	J2	120° /s
	J3	120° /s
	J4	220° /s
	J5	220° /s
	J6	320° /s
Max Operation Area	J1	± 160°
	J2	+130°~−60°
	J3	+75°~−195°
	J4	± 360°
	J5	± 110°
	J6	± 360°
Wrist Allowable Torque	J4	260 Nm
	J5	260 Nm
	J6	147 Nm
Wrist Allowable Inertia	J4	28 kgm²
	J5	28 kgm²
	J6	11 kgm²
Weight		575 kg
Position Repeat Accuracy		± 0.1mm
Ambient Temperature		0~40℃

SR165

Product Info

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.
Robot SR165 is small and light and has 165kg wrist payload and 2586mm maximum working radius mainly applied to middle payload and large scale workplace.

Features

- Large working space
- Stable performance
- High running speed
- Highly optimized for general use
- Modularizatio mechanical structure design

Application

Medium payload application:

- Materias handling,palletizing

1. More flexible, more stable, less energy consumption
2. High performance of moving stuff
3. Exceptionally long run time
3. Fixed automation

- Assembling, Welding

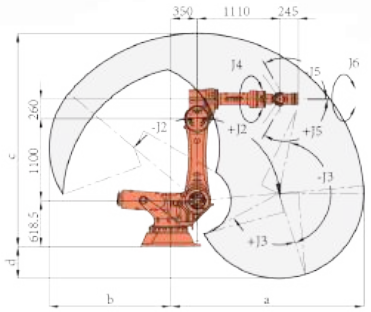
1. Stability improves welding quality which ensures uniformity
2. Improve productivity and 24 hours' continuous production
3. Improve labors working condition, long term operation in harmful condition
4. Reduce requirements for operation technique
5. Shorten the period of remodel change, reduce the relevant equipment cost
6. Realize bulk article of welding automation
7. Save floor space

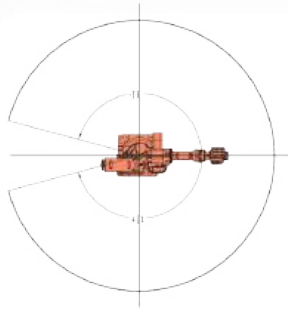
- Casting, Polishing

Incision, polish burring, cleaning, burnishing, water-jet cutting and other processing application

Product Info

a	b	c	d
2586	1633	2858	426





Principal Data

Model		SR165
Wrist Rated Payload		165 kg
Max Working Radius		2586 mm
DOF		6
Max Speed	J1	100° /s
	J2	80° /s
	J3	110° /s
	J4	150° /s
	J5	150° /s
	J6	210° /s
Max Operation Area	J1	± 165°
	J2	+85°~−50°
	J3	+80°~−150°
	J4	± 360°
	J5	± 125°
	J6	± 360°
Wrist Allowable Torque	J4	900 Nm
	J5	900 Nm
	J6	490 Nm
Wrist Allowable Inertia	J4	84 kgm²
	J5	84 kgm²
	J6	45 kgm²
Weight		1250 kg
Position Repeat Accuracy		± 0.25 mm
Ambient Temperature		0~40℃

SR210

Product Info

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.
Robot SR165 is small and light and has 210kg wrist payload and 2683mm maximum working radius mainly applied to large payload and large scale workplace.

Features

- Large working space
- Stable performance
- High running speed
- Highly optimized for general use
- Modular mechanical structure design

Application

Large payload application:

- Materias handling,palletizing

1. More flexible, more stable, less energy consumption
2. High performance of moving stuff
3. Exceptionally long run time
3. Fixed automation

- Assembling, Welding

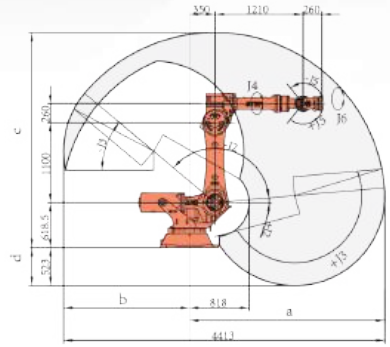
1. Stability improves welding quality which ensures uniformity
2. Improve productivity and 24 hours' continuous production
3. Improve labors working condition, long term operation in harmful condition
4. Reduce requirements for operation technique
5. Shorten the period of remodel change, reduce the relevant equipment cost
6. Realize bulk article of welding automation
7. Save floor space

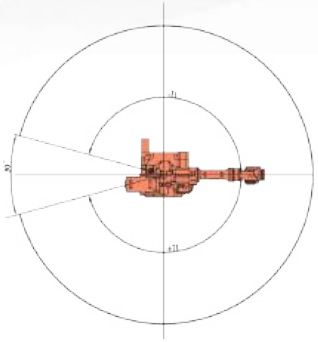
- Casting, Polishing

Incision, polish burring, cleaning, burnishing, water-jet cutting and other processing application

Product Info

a	b	c	d
2683	1780	2956	523





Principal Data

Model		SR210
Wrist Rated Payload		210 kg
Max Working Radius		2683 mm
DOF		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	+85°~−50°
	J3	+80°~−130°
	J4	±360°
	J5	±120°
	J6	±360°
Wrist Allowable Torque	J4	1200 Nm
	J5	1200 Nm
	J6	650 Nm
Wrist Allowable Inertia	J4	84 kgm²
	J5	84 kgm²
	J6	55 kgm²
Weight		1250 kg
Position Repeat Accuracy		±0.25 mm
Ambient Temperature		0~40℃

Software

SRC Control System

- Product Features

- SRC control system has three options to choose. It meets the requirements of different robots and envirements.
- Integrating robot control, security control, PLC control and motion control, the scalable and flexible control system provides outstanding performance with flexibility, intelligence and safety.
- Enough external interfaces function extension. High compatibility with other system's software and program, which leads to a high-efficient and convenient automative extension.
- Innovative modular design optimizes the perfomance with better cost control. It's easy for operating and maintaining and reduces the cost of upgrading and maintaining.

SRC2.X-C

SRC2.X-S

SRC2.X

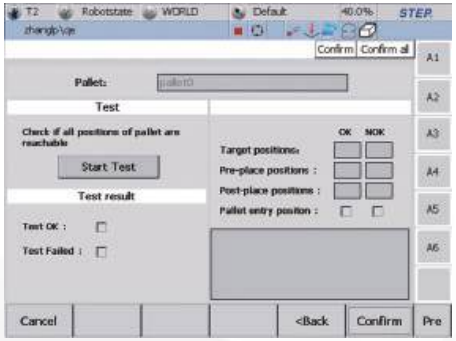
System Features

Model	SRC2.X-C	SRC2.X-S	SRC2.X
Name	Compact Control Cabinet	Small Control Cabinet	Standard Control Cabinet
Picture			
Robots	SD Series	SD/SA Series	SA/SR/SP Series
Size (w*d*h, mm)	460x375x200	754 X 619 X 924	610 X 713X1023
IP degree	IP20	IP54	IP54
Power	AC200V ~ AC240V 50/60HZ	AC200V ~ AC240V 50/60HZ	AC3X360V ~ 3X 440V 50/60HZ
Additional Axes	External Cabinet(Max. 6)	External Cabinet(Max. 6)	Internal Cabinet(Max. 2) External Cabinet(Max. 6)
Interface	USB3.0 / USB2.0 RS232 / RS485	USB3.0 / USB2.0 RS232 / RS485 / Ethercat	USB2.0 RS232 / RS485
Site BUS	ProfiBUS / ProfiNET / CANopen / Modbus / DeviceNet / Ethercat / Ethernet / IP	ProfiBUS / ProfiNET / CANopen / Modbus / DeviceNet / Ethercat / Ethernet / IP	ProfiBUS / ProfiNET / CANopen / Modbus / DeviceNet / Ethercat / Ethernet / IP
Working Conditions	TEMP 0 ~ 40℃ H: 45 ~ 80%RH	TEMP 0 ~ 40℃ H: 45 ~ 80%RH	TEMP 0 ~ 40℃ H: 45 ~ 80%RH
Weight (KG)	20	120	150

Robot Software System

The Sofeware System

- Software System has basic function and advanced function:
- Basic Function:
  1)Security protection
  2)User management
  3)Engineering, program and variable management
  4)Tools and coordinate teaching and management
  5)Point/automatic moving position checking
  6)Speed setting and checking
  7)Manual/automatic/external switch
- Advanced Function:
  1)PLC function
  2)Arc welding function
  3)Palletizing function
  4)Additional axis
  5)Bending function
- Palletizing Function:

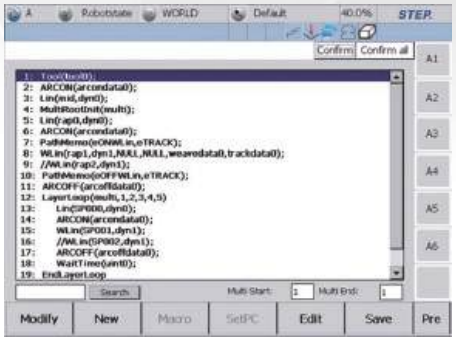


The project uses the palletizing function and external coordinate tracking function of the software, achieved a fully automatic assembly line, one robot can move with the assembly line, meanwhile, the other do the palletizing.

- Welding Function:

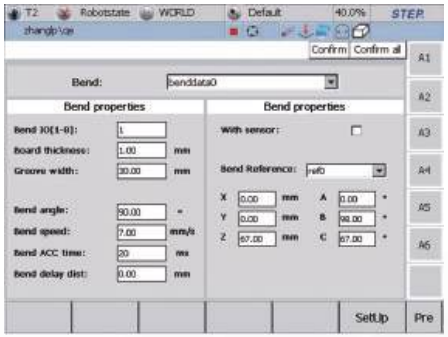
  The arc welding function contains locating, arc swinging, tracking and multilayer and multi channel function so that it can achieve a very high accuracy.

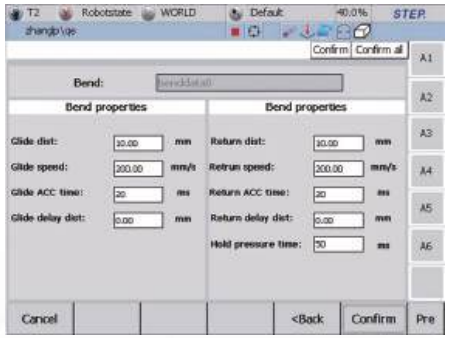
Robot Software System



▸ Bending Funtion:

Long/short plate bending, combination bending is available, bending precision ＜0.5mm. Main parameters: Sensor or Sensorless, Bending port number, bending board thickness, bending machine slot width, bending angle, bending speed, delay distance, falling distance, return distance and speed, return delay distance, reference coordinate and etc.





There are two ways to be chosen: normal following bending and up-and-down bending.

Sample programs:

```
// Sheet Metal Bending Workstation //
PTP ( ap0 )
Lin ( cp0 ) ;
BendSignalSet(benddata0, eBendToVelChange);
BendTuning ( benddata0 ) ;
Bendtrack ( bendname, nosyn ) ;
Lin ( p2 ) ;
Lin ( p3 ) ;
```

```
// Automatic Up-to-down Material //
PTP ( ap0 ) ;
Lin ( cp0 ) ;
BendSynMove ( benddata0, eDown ) ;
Lin ( cp1 ) ;
BendTuning ( benddata0 ) ;
Bendtrack ( benddata0 ) ;
BendSynMove ( benddata0,eUp ) ;
BendLin (benddata0,cp2);
Lin ( cp3 ) ;
Lin ( cp4 ) ;
```

● Teaching Pendant

▸ Brief introduction

The pendant is developed by STEP with nice human-machine interface. It provides user management, program management, coordinate or tools management, moving management, IO management, information checking and some advanced functions

▸ Features

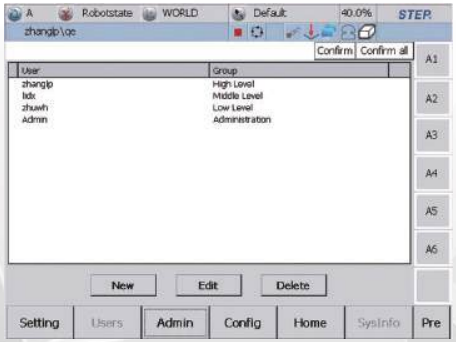
1)Delicate operating interface

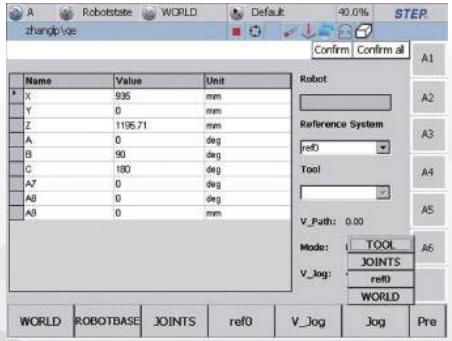
2)Humanized operating designing

3)Reliable button and touch designing

▸ Function introduction

user management interface





Robot Software System

Off-line SimulationTeaching Pendant

STEP robots are supported by many off-line programing companies. Off-line programing and simulation functions are available.

► Supported Softwares

DMworks

1. PTP, LIN, CIRC, WLIN, WCIRC, Arcon, Arcoff, TOOLS, REFSYS, LP, GOTO, WAITTIME, ARCSET;
2. Welding simulation
3. Casting trajectory generation

RobotArt

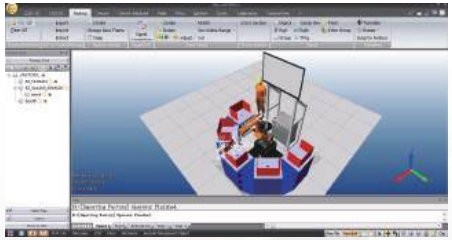
1. PTP, LIN, Tool, refsys, dyn
2. Casting trajectory generation and sumulation

RobotMaster

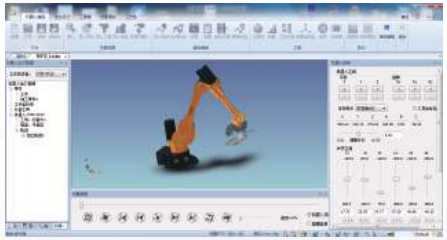
1. Matching STEP"s model and language
2. Robot hold the tools to cast or engrave

StepRobStudio

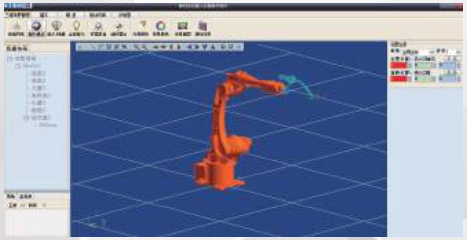
1. STEP developed simulation and off-line programing software



Dmworks



Robotart



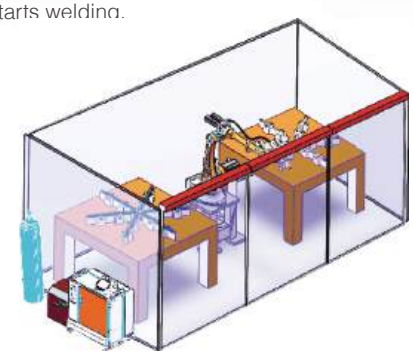
Applications

Welding Solutions

- SA Series Robot Welding System

► System description

One SA rotob deals with two welding work stations while manual worker is responsible for material handling. After accurately locate the work piece by positioner and pneumatic clamping SA robot starts welding.



► Technological process

1. SA robot 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.

► System characteristics

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

► Main configuration

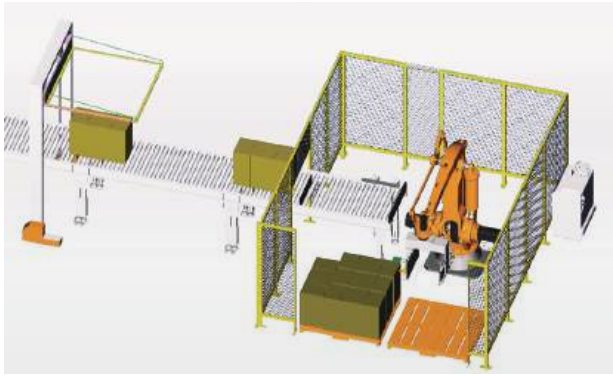
	Device	Function description	Quantity
1	Robot SA Series	Welding Robot	1 Piece
2	Clamper Station	Placing and locating work pieces	2 Sets
3	Wire-feeder,welding machine and accessories	Managing wire-feeder, welding data, power source and accessories	1 set
4	Welding Torch	For welding	1 piece for each working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

Palletizing Solutions

- SP Series Robot Palletizing System

► System Description

One SP robot 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.



► Technological process

Automatic packaging machine packs the work pieces transported by roller conveyor;
Robot sit at the end of roller conveyor grips the work piece rapidly;
Robot stacks the work pieces based on the set pattern required by clients;
After one stack, SP robot starts to palletize another one.

► 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 work pieces with different sizes.

► Main configuration

	Device	Purpose	Quantity
1	SP series 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	Safety protection	1 set

Bending Solutions

- SP Series Robot Palletizing System

▶ System Description

The system uses a robot with SR robot bending sheet metal bender to complete bending work. The robot achieves the bending function with the realization of the high-precision positioning of the sheet metal bending.

▶ Technological process

1) Placed a metal plate on the feeding zone for the positioning table one by one.
2) Sheet is held flat on the face in the state.
3) Robots grasp it into the plate bending machine
4) The robot takes out the finished sheet and puts it to the right position

▶ System characteristics

1)Safe and stable;
2)Use centering station and high stability robot to ensure sheet bending accuracy.
3)Adapt to similar size specification products.
4)Forklift truck transports the full stack to the given area.

▶ Main configuration

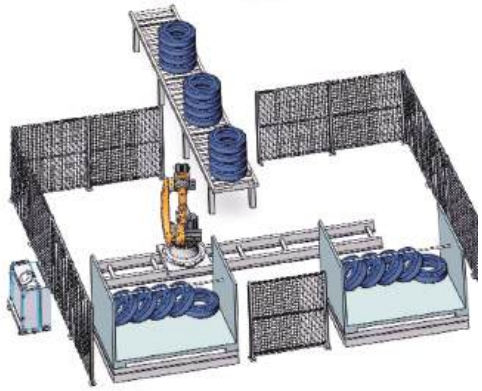
	Device	Purpose
1	SR series robot	bending robot
2	Gripper	for sheet gripping
3	the positioning table	For sheet positioning
4	Sheet stacker	For stacking bended sheets
5	Security fence and other devices	Safety protection

Handling Solutions

- SR Series Robot Handling System

▶ System Description

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



▶ Technological process

1) The end of roller conveyor positions the work piece;
2) SR robot moves from the edge of the track close to roller convey or to pick up the tyre;
3) By moving along the track SR robot place the tyre on rotating stacked plate;
4) Forklift truck transports the full stack to the given area.

▶ 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 work pieces.

▶ Main configuration

	Device	Purpose	Quantity
1	SR 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	safety protection	1 set

3C, White Electricity, New Energy


Laptop Case Grinding


Cellphone Case Handling


AC Compressor Assembly


White Electricity Palletizing


Solar Panel Handling


Li-on Battery Handling for Packaging

Automobile

Frame Welding

Marking

Riveting

Gluing for Head-light

Assembly and Fixation

Tyre Handling

Food & Beverage

Bag Palletizing

Multi-dimension Advanced Type Palletizing

Carton Palletizing

Conveyor unloading

Bag Loading & Unloading

Cartong/barrel/bag Multiple
Type Material Handling

Applications

Metal Processing

CNC Material loading and unloading

One Robot for Multiple CNC Machines

Laser Cutting

Car Frame Welding

Enforce Beam (Elevator) Welding

Cabinet Welding

Automatic Production Line

Elevator Car Door Production Line

Elevator Car Door Production Line

CNC Machine Production Workshop

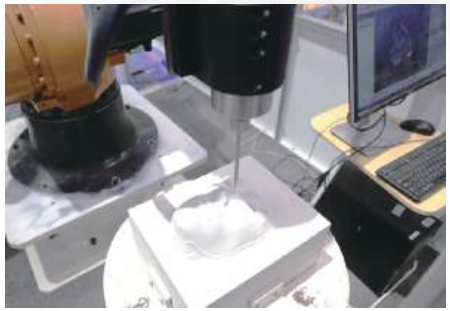
Car Frame Flexible Spot Welding

Multiple Work Station Production Line

Pharmacy Production Line （Palletizing）

Education & Popular Science

Harp Playing



Statue Carving

Chinese Calligraphy

Chinese Chess Combat Station

Beverage Handout

Picture Drawing

Selection Table

Model		SD500E	SD700E	SD900	SA1400	SA1800	SR8	SR20	SR50E	SR165	SR210	SP120	SP200
DOF (Axis)		6	6	6	6	6	6	6	6	6	6	4	4
Payload (kg)		3	3	8	6	8	8	20	50	165	210	120	200
Max Speed (°/s)	J1	370	245	335	180	150	180	170	140	100	95	145	120
	J2	370	185	280	180	150	180	170	120	80	85	110	120
	J3	430	290	370	200	160	160	152	120	110	95	120	120
	J4	300	300	345	450	360	360	350	220	150	125	300	300
	J5	460	460	375	320	320	320	333	220	150	125	–	–
	J6	600	600	650	450	360	450	600	320	210	190	–	–
Max Operating Area (°)	J1	±170	±170	±180	±165	±165	±165	±165	±160	±165	±165	±165	±180
	J2	±110	±110	+135~-100	+155~-90	+155~-90	+155~-90	+155~-90	+130~-60	+85~-50	+85~-50	+85~-40	+75~-40
	J3	+40~-220	+40~-220	+70~-220	+70~-200	+80~-190	+70~-200	+75~-200	+75~-195	+80~-150	+80~-130	+65~-65	+60~-50
	J4	±185	±185	±175	±170	±185	±170	±360	±360	±360	±360	±360	±360
	J5	±125	±125	±130	±120	±120	±120	±120	±110	±125	±120	–	–
	J6	±360	±360	±360	±360	±360	±360	±360	±360	±360	±360	–	–
Max Working Radius (mm)		500	700	919	1405	1818	1405	1718	2124	2586	2683	2403	3003
Weight (kg)		28	30	85	143	160	143	235	575	1250	1250	1040	1820
Position Repeatability (mm)		±0.02	±0.03	±0.03	±0.05	±0.05	±0.05	±0.05	±0.1	±0.25	±0.25	±0.2	±0.5
Mounting Condition		Floor / Tilted / Inverted							Floor				
Army Type		Vertical multi-joint											
Mounting conditions	Temperature	(0~40) ℃											
	Humidity	Below 75%RH 95%RH for short term											
	Vibration	Below 4.9m/s²											
	Others	Robot mounting MUST be away from the disturbance of flammable, corrosive liquids and gas as well as electricity.											