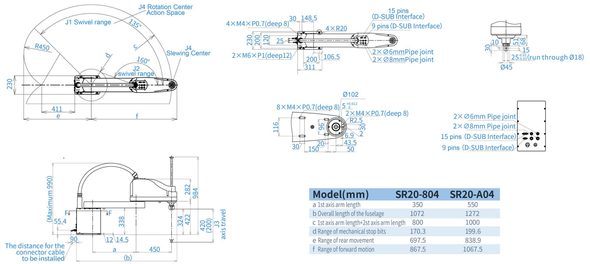
Dimensions and range of motion



Model(mm)	SR20-804	SR20-A04
a 1st axis arm length	350	550
b Overall length of the fuselage	1072	1272
c 1st axis arm length+2st axis arm length	800	1000
d Range of mechanical stop bits	170.3	199.6
e Range of rear movement	697.5	838.9
f Range of forward motion	867.5	1067.5

SR20

Parameters of the control cabinet

Name	Specification
model	SRC-Micro
Protection class	IP20
Boundary Dimension	325(B)×133(H)×300(D)mm(no protrusions)
Gross weight	8.15Kg
Cooling method	Direct cooling
Pow er Source Specifications	Simplex AC 220/230V(+10%~-15%)/50/60Hz(±2%) Three phase AC 220/230V(+10%~-15%)/50/60Hz(±2%)
Grounding	Working grounding (grounding resistance below 100Ω) dedicated grounding
Noise level	Below 60dB
Input and output signal	Dedicated signal (hardware) input 6, output 1 Universal signal (maximum standard) input 16, output 16 (transistor output)
Interface	High-speed Ethernet server function - standard Ethernet port. Ethernet server function - standard Ethernet network port. FTP server/client function - standard Ethernet port. DCI function - standard Ethernet port. Use a web browser to browse the internal data function - standard Ethernet port memory capacity.
Position control method	Absolute encoder
Drive unit	AC private server
Addition and subtraction control method	Software Servo Control
memory capacity	200,000 steps, 10,000 robot commands

SRC-Micro

Teach Pendant Parameters

Name	Specification
Material	Reinforced plastic (with rubber handle)
Boundary Dimension	152(B)×298(H)×53(D)mm(no protrusions)
Gross weight	0.73kg
Protection class	IP54
Display Screen	TFT color LCD VGA (640×480) touch screen
Operate the machine	Three-position switch, emergency stop button, indicator light Mode switch (with key, 3 modes) Key model: AS6-SK-132 (manufacturer: IDEC) The teach pendant ships with 1 touch pen.
Cable length	Standard:8M、longest:20M(customized)
Other	USB Port（USB 2.0）×1 SD card slot ×1（SD/SDHC/SDXC Type）

Teach Pendant

TIANJI

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TIANJI

TIANJI SCARA ROBOT (SR) SERIES

GUANGDONG TIANJI INTELLIGENT SYSTEM CO.,LTD.

TIANJI ROBOT - SR

Maxi load 3/20kg

Repeat positioning precision ±0.01/±0.02mm

Working radius 400/1000mm

Standard cycle time 0.32/0.45s

The TIANJI SCARA SR series robots are designed for high speed, precision, and stability. They feature a working range of 400mm to 1000mm and a payload capacity of 3kg to 20kg. These robots are ideal for applications such as handling, assembly, vision inspection, and dynamic loading/unloading on conveyor belts. They are extensively used across various industries including 3C electronics, automotive electronics, lithium batteries, home appliances, and hardware.

01 **Nore than fast**

the fastest standard cycle time is 0.32s, effectively increasing production speed. Robotic motors with compact construction and power.

02 **Precise and Efficient**

With a repeatability precision of ±0.01mm and ±0.005°, the system ensures high efficiency, accuracy, and stability. It operates continuously 24/7 at high speeds, maintaining consistent performance throughout.

03 **High inertia, more stable**

Sr10, SR20, with a large R-axis permissible moment of inertia, up to 1kg-m2, to meet the needs of large loads. Particularly suitable for handling, loading and unloading, assembly and other operational scenarios in the lithium-ion industry.

04 **Fine arm span division to precisely match the application**

A wide range of arm span specifications for the same load, with careful division. The z-axis is also available in 150mm, 200mm, 400mm and 420mm strokes. This allows the customer to make full use of the space within the machine, precisely matching the application scenario and creating maximum value.

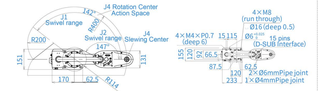
05 **Inverted SCARA, breaking space constraints with lightness**

From the perspective of space constraints and cost effectiveness, it can partially replace parallel robots and inverted vertical multi-joint robots for operations, improving the efficiency of every inch of space in the production process. Suitable for sorting, tray loading, assembly and inspection processes in 3C and packaging industries.

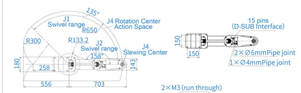
High rigidity arm design

Stable operation in complex and high-speed scenarios.

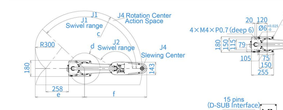
Dimensions and range of motion



SR3

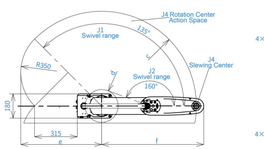


SR6Z



Model(mm)	SR6-502	SR6-652	SR6-702	SR6-802
a 1st axis arm length	200	350	400	500
b Overall length of the fuselage	733	883	933	1033
c 1st axis arm length+2st axis arm length	500	650	700	800
d Range of mechanical stop bits	136.9	175	165.8	248.7
e Range of rear movement	441.4	556.4	582.8	653.6
f Range of forward motion	553	703	753	853
g Height of underside of boom	177.3	176.3	177.3	177.3
h Height of screw origin	158	140	158	158
i Height of the underside of the forearm	250	232	250	250
j Total forearm height	207	207	207	207
k The maximum height of the top of the screw	568	550	568	568

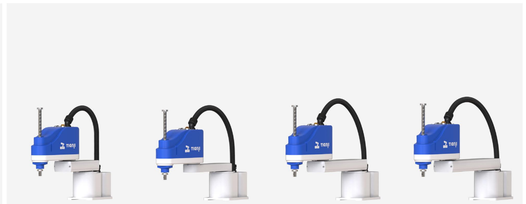
SR6

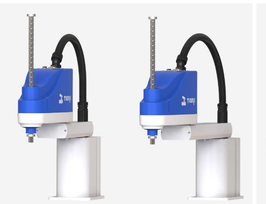


Model(mm)	SR10-602	SR10-702	SR10-802
a 1st axis arm length	250	350	450
b Overall length of the fuselage	834.5	934.5	1034.5
c 1st axis arm length+2st axis arm length	600	700	800
d Range of mechanical stop bits	143.4	121.6	170.3
e Range of rear movement	526.8	597.5	668.2
f Range of forward motion	654.5	754.5	854.5

SR10

Ontology parameters





Name		SR3		SR6				SR10			SR20		SR6Z
Model		401	402	502	652	702	802	602	702	802	804	A04	652
Arm length	Arm # 1,# 2	400mm	400mm	500mm	650mm	700mm	800mm	600mm	700mm	800mm	800mm	1000mm	650mm
	Arm # 1	200mm	200mm	200mm	350mm	400mm	500mm	250mm	350mm	450mm	350mm	550mm	350mm
	Arm # 2	200mm	200mm	300mm	300mm	300mm	300mm	350mm	350mm	350mm	450mm	450mm	300mm
	J3 max. motion range	150mm	200mm	200(400)mm	200(400)mm	200(400)mm	200(400)mm	200(400)mm	200(400)mm	200(400)mm	420(200)mm	420(200)mm	200mm
Payload	Rated	1kg	1kg	3kg	3kg	3kg	3kg	5kg	5kg	5kg	10kg	10kg	3kg
	Maximum	3kg	3kg	6kg	6kg	6kg	6kg	10kg	10kg	10kg	20kg	20kg	6Kg
Maximum movement speed	J1+J2	6500mm/s	6500mm/s	7600mm/s	7900mm/s	8500mm/s	8800mm/s	8400mm/s	9000mm/s	9500mm/s	10000mm/s	11250mm/s	7900mm/s
	J3	1200mm/s	1200mm/s	1200mm/s	1200mm/s	1200mm/s	1200mm/s	1111mm/s	1111mm/s	1111mm/s	1250mm/s	1250mm/s	1200mm/s
	J4	2400°/s	2400°/s	2400°/s	2400°/s	2400°/s	2400°/s	1800°/s	1800°/s	1800°/s	1440°/s	1440°/s	2400°/s
Standard cycle time		0.39s	0.39s	0.33s	0.35s	0.37s	0.38s	0.32s	0.32s	0.32s	0.42s	0.45s	0.39s
Weight (cables not included)		14kg	14kg	18.5kg	19.5kg	20kg	21kg	24kg	25kg	26kg	46kg	49kg	27.5kg
Repeatability *1	J1+J2	±0.01mm	±0.01mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm
	J3	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
	J4	±0.005°	±0.005°	±0.005°	±0.005°	±0.005°	±0.005°	±0.01°	±0.01°	±0.01°	±0.01°	±0.01°	±0.005°
Max. motion range	J1	±142°	±142°	±135°	±137°	±135°	±135°	±135°	±135°	±135°	±135°	±135°	±135°
	J2	±147°	±147°	±158°	±150°	±158°	±158°	±160°	±160°	±160°	±160°	±160°	±158°
	J3	150mm	200mm	200(400)mm	200(400)mm	200(400)mm	200(400)mm	200(400)mm	200(400)mm	200(400)mm	420(200)mm	420(200)mm	200mm
	J4	±360°	±360°	±360°	±360°	±360°	±360°	±360°	±360°	±360°	±360°	±360°	±360°
J4 allows inertia moment of inertia	Rated	0.005kg·m2	0.005kg·m2	0.01kg·m2	0.01kg·m2	0.01kg·m2	0.01kg·m2	0.05kg·m2	0.05kg·m2	0.05kg·m2	0.1kg·m2	0.1kg·m2	0.01kg·m2
	Maximum	0.05kg·m2	0.05kg·m2	0.12kg·m2	0.12kg·m2	0.12kg·m2	0.12kg·m2	0.35kg·m2	0.35kg·m2	0.35kg·m2	1kg·m2	1kg·m2	0.12kg·m2
J3 downward force		120N	120N	120N	120N	120N	120N	250N	250N	250N	400N	400N	120N
Electric lines		15pin:D-sub	15pin:D-sub	15pin:D-sub	15pin:D-sub	15pin:D-sub	15pin:D-sub	15pin:D-sub	15pin:D-sub	15pin:D-sub	15pin:D-sub，9pin:D-sub	15pin:D-sub，9pin:D-sub	15pin:D-sub
Pneumatic lines		Φ4x1，Φ6x2	Φ4x1，Φ6x2	Φ4x1，Φ6x2	Φ4x1，Φ6x2	Φ4x1，Φ6x2	Φ4x1，Φ6x2	Φ4x1，Φ6x2	Φ4x1，Φ6x2	Φ4x1，Φ6x2	Φ6x2，Φ8x2	Φ6x2，Φ8x2	Φ4x1，Φ6x2
Installation size		120mmx120mm(4-M8)	120mmx120mm(4-M8)	150mmx150mm(4-M8)	150mmx150mm(4-M8)	150mmx150mm(4-M8)	150mmx150mm(4-M8)	150mmx150mm(4-M8)	150mmx150mm(4-M8)	150mmx150mm(4-M8)	200mmx200mm(4-M12)	200mmx200mm(4-M12)	150mmx150mm(4-M8)
Mounting type		on floor	on floor	on floor	on floor	on floor	on floor	on floor	on floor	on floor	on floor	on floor	Hoisting
Protection class		IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Noise level		70dB	70dB	70dB	70dB	70dB	70dB	70dB	70dB	70dB	75dB	75dB	70dB
Control cabinet model		SRC-Mirco											

*1 Based on ISO 9283