配天机器人

SMARTER·STRONGER

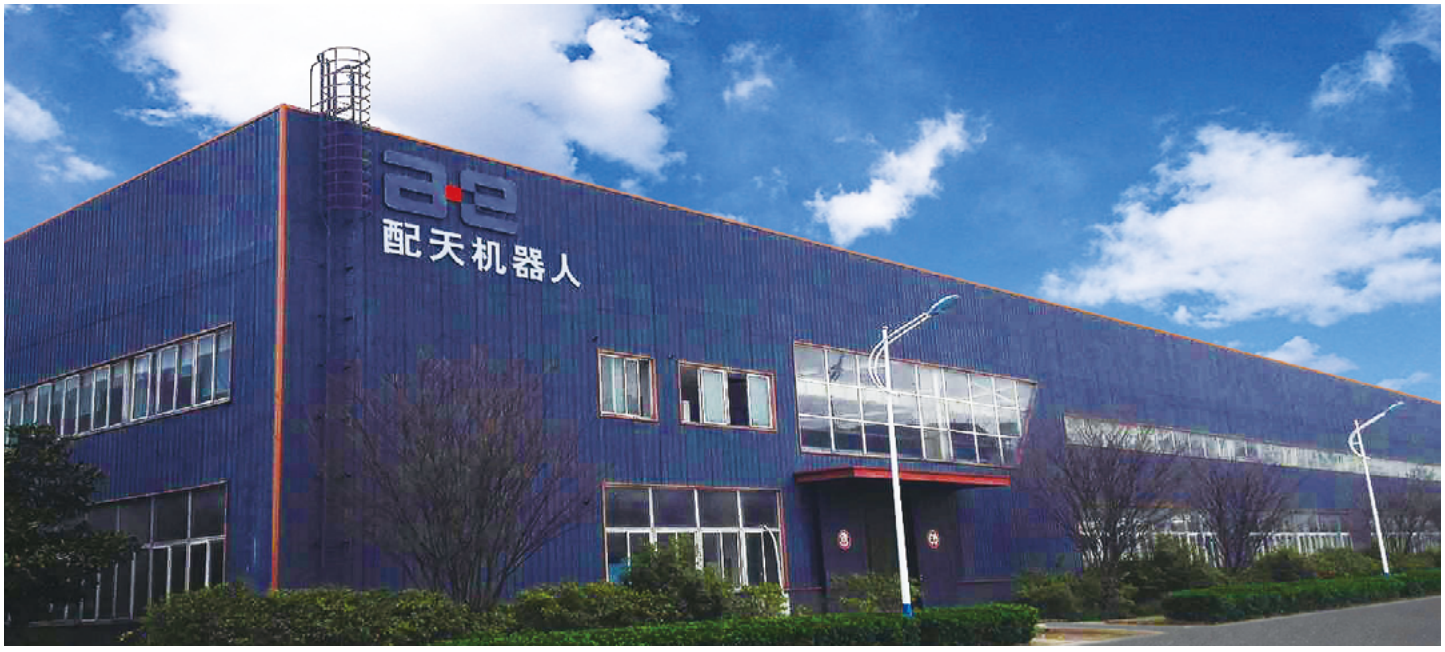
CONTENTS

ABOUT US

COMPANY PROFILE

Peitian Robotics Co., Ltd. (Peitian Robotics), based in the high-tech zone of Bengbu, Anhui Province, is a provider of robots, associated components and enterprise level automatic and flexible manufacturing solutions. Peitian Robotics is part of the TATFOOK A&E Group. Responsible for sales, maintenance, tech support, training and production of industrial robots and their core parts (servo drives, motors etc.), Peitian Robotics also provides robot control systems and solutions, robot application solutions, complete sets of automatic equipment, automated production lines and flexible manufacturing devices and systems. With a total investment of 50 million yuan RMB and a plant construction area of 18400 square meters, the annual output of Peitian Robotics can reach 5000 robots.

Peitian Robotics has three R&D centers in Beijing, Anhui and Shenzhen, over 200 research experts and more than 700 patents. 75% of the experts hold postgraduate degrees, and 5% have PhDs. These experts also make up 16% graduated from Tsinghua University, 5% from Peking University and 3% from prestigious universities abroad.



GROUP INTRODUCTION

TATFOOK A&E Group is a large group corporation involved in various industries such as high-end manufacturing, intelligent equipment, health preservation and so on. The Group has 12 manufacturing bases and 6 R&D centers in Beijing, Shanghai, Guangdong, Anhui, Inner Mongolia, Sichuan and Guizhou, with plant area of about 1.2 million square meters. TATFOOK A&E Group possesses several listed companies like SHENZHEN TATFOOK TECHNOLOGY CO., LTD. and SHENZHEN A&E INTELLIGENT EQUIPMENTS CO., LTD.. TATFOOK A&E Group endeavors to be a leading design, manufacturing and total solution provider in precision electro-mechanical components and products, industrial machine tools, end-to-end network industrial technologies. While exploring the advances in manufacture world, the Group are also an element of sustainable development and an environment-friendly enterprise on the Chinese principle of nature-human balance.

R&D CENTER

Beijing R&D Center

Beijing R&D Center was established in 2010, awarded by the government as “National High-Tech Enterprise”. It mainly engages in the design and development of industrial robots, CNC systems, servo control systems and the core technologies of electric vehicles. Beijing R&D Center has strong technological development force and professional R&D team, most of which graduated from the prestigious universities and 90% of which with postgraduate degrees.

Shenzhen R&D Center

Established in 2011, Shenzhen R&D Center aims at making the better intelligent products. It provides industrial robots, high-end CNC machine tools, servo systems and other intelligent equipment and solutions.

Bengbu R&D Center

Bengbu R&D Center concentrates its business on customized precision equipment and automated production lines. It targets at high-end products, providing clients with continuous technical service and support.

KUNSHAN OFFICE

The Kunshan Office, located in Tsinghua University Science Park of Kunshan, Jiangsu Province, is committed to the sales ,maintenance, tech support and training of industrial robots and their core parts, at any time to provide quality services to customers.

INDUSTRIAL PARK

Located in the high-tech zone of Bengbu, Anhui Province, Anhui TATFOOK heavy industrial park has neat garden-style plant buildings and standard large-span production workshops. To meet the customers' high demand, it continuous imports world-class equipment to expand production capacity and enhance products quality. To ensure the quality of each product and be responsible for the clients, Peitian Robotics drew up a set of strict procedures of manufacturing with test standards corresponding to each step, which could ensure every process before the product leaving the factory meets high standards and strict requirements, thus customer satisfaction is assured.

CULTURE

MISSION

In collaboration with our customers and partners, the company integrates its unique capabilities and advantages for the better service to our customers to ensure the maximization of the company value. The company grows with China's equipment manufacture industrial and builds a solid foundation from made-in China to created-in-China.

CORE VALUES

We continue to ensure our strategies and actions following the objective laws, and dedicate our efforts on scientific innovation. The company aims to be the industry leader and seek long-lasting sustainable development with our core competence, sincere collaboration and strong teamwork.

VISION

Aim to be a world leading provider on industrial machine tools, intelligent precision electromechanical products, so as to provide end-to-end network industrial technology and solutions.

HONOR

AWARD

Since its establishment, Peitian Robotics has won more than 30 awards with its high standards and strict requirements for products

Application Innovation Award AIR6L-A

Technical Innovation Award

Best Popularity Product Award

Best Industrial Design Award AIR6-A

Excellent Robotic Brand Award

Technology Innovation Award

Intelligent Integration Award

Most Innovative Product Award
AIR6L-A

2015 Golden Globes Award

2016 Golden Globes Award

2017 Golden Globes Award

2018 Golden Globes Award

PATENT

Peitian Robotics holds over 700 patents [about 300 PCT international patents] and over 40 software copyrights

PARTICIPATE IN ESTABLISHING NATIONAL STANDARDS

Peitian Robotics has been involved in the development of more than 30 national standards

· Life-cycle risk assessment method for industrial robots.

· Performance evaluation and testing methods for industrial robot control program.

· Reliability requirements and test methods for mechanical environment of industrial robots.

· Test method and limit of robot noise.

· Electromagnetic compatibility design specification for industrial robots.

· XML standard for industrial robot software development platform.

· Date exchange specification for industrial robot cloud service platform.

· General technical requirements for flexible control of industrial robots.

· Integration technical conditions for machine vision of industrial robots.

· Universal driver module interface standard for industrial robots.

PRODUCTS

INDUSTRIAL ROBOT

The more advanced, more precise and safer industrial robots

AIR3SC400-A/600-A AIR3-A AIR8-A AIR6L-A AIR7L-B AIR165-A AIR50-A AIR20-A AIR6ARC-A AIR10-A

Type		AIR3SC400-A	AIR6SC600-A	AIR3-A	AIR6L-A	AIR7L-B	AIR8-A	AIR6ARC-A	AIR10-A	AIR20-A	AIR50-A	AIR165-A
Axes		4	4	6	6	6	6	6	6	6	6	6
Payload		3Kg	6 Kg	3Kg	6Kg	7Kg	8Kg	6Kg	10Kg	20Kg	50Kg	165Kg
Manipulator	Weight	14.4Kg	20.1Kg	23Kg	47Kg	53Kg	45Kg	120Kg	160Kg	260Kg	550Kg	1200Kg
	Reach	400mm	600mm	560mm	920mm	920mm	710mm	1450mm	1420mm	1702mm	2238 mm	2750mm
Positioning accuracy	Position repeatability	Axis 1 + Axis 2 ±0.01mm	Axis 1 + Axis 2 ±0.015 mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm	± 0.06mm	± 0.02mm	±0.03mm	±0.06mm	±0.1mm
		Axis 3 ±0.01mm	Axis 3 ±0.01mm									
		Axis 4 ±0.005°	Axis 4 ±0.005°									
Ingress Protection		IP20	IP20	IP65	IP65	IP67	IP65	IP54	IP54 (Wrist:IP67)	IP54 (Wrist:IP67)	IP54 (Wrist:IP67)	IP54
Mounting		Floor	Floor	Floor Wall Ceiling	Floor Wall Ceiling	Floor Wall Ceiling	Floor Wall Ceiling	Floor	Floor Ceiling	Floor Ceiling	Floor	Floor
Working range	*Axis 1 rotation	-136°/+136°	-136°/+136°	-170°/+170°	-170°/+170°	-170°/+170°	-170°/+170°	-170°/+170°	-170°/+170°	-170°/+170°	-185°/+185°	-170°/+170°
	Axis 2 arm	-141°/+141°	-150°/+150°	-110°/+120°	-100°/+135°	-100°/+135°	-100°/+135°	-95°/+155°	-85°/+150°	-95°/+155°	-35°/+145°	-60°/+85°
	Axis 3 arm	150mm	200mm	-108°/+152°	-120°/+156°	-120°/+156°	-120°/+156°	-120°/+180°	-95°/+170°	-95°/+170°	-120°/+170°	-120°/+155°
	Axis 4 wrist	-360°/+360°	-360°/+360°	-200°/+200°	-200°/+200°	-200°/+200°	-200°/+200°	-155°/+155°	-195°/+195°	-185°/+185°	-350°/+350°	-360°/+360°
	Axis 5 bend	——	——	-118°/+118°	-135°/+135°	-135°/+135°	-135°/+135°	-120°/+120°	-135°/+135°	-135°/+135°	-120°/+120°	-125°/+125°
	Axis 6 turn	——	——	-350°/+350°	-360°/+360°	-360°/+360°	-360°/+360°	-360°/+360°	-360°/+360°	-400°/+400°	-360°/+360°	-360°/+360°
Rotation rate	Axis 1 rotation	600°/s	400°/s	450°/s	380°/s	380°/s	380°/s	230°/s	200°/s	175°/s	180°/s	125°/s
	Axis 2 arm	600°/s	650°/s	450°/s	325°/s	320°/s	350°/s	230°/s	200°/s	175°/s	180°/s	113°/s
	Axis 3 arm	1100mm/s	1100mm/s	525°/s	390°/s	390°/s	480°/s	230°/s	200°/s	170°/s	180°/s	125°/s
	Axis 4 wrist	2600°/s	2300°/s	600°/s	480°/s	490°/s	490°/s	430°/s	370°/s	360°/s	260°/s	180°/s
	Axis 5 bend	——	——	600°/s	550°/s	565°/s	565°/s	430°/s	370°/s	360°/s	255°/s	175°/s
	Axis 6 turn	——	——	800°/s	800°/s	815°/s	815°/s	630°/s	600°/s	600°/s	370°/s	280°/s
Controllers		inCube2S	inCube2S	inCube10/20/21	inCube10/21	inCube 20	inCube10/21	inCube20	inCube10/21	inCube12	ARC4-50	ARC4-165

If the mechanical limit is removed, the working range can reach -180° /+180°

ROBOT CONTROL SYSTEM

ARC4-50

ARC4-165

inCube10/12

inCube20/21

inCube2S

Equipped with the system software ARCS with independent propetry rights, the robot controller developed by Peitian, perfectly meets the demands for higher speed, higher precision and higher reliability of the robot, thus provides more accurate trajectory control and higher production efficiency for customers .

Type	inCube2S	inCube10	inCube12	inCube20	inCube21	ARC4-50	ARC4-165
Robots Applicable	AIR3SC400/ 6SC600-A	AIR3/6L/8/10-A	AIR20-A	AIR3/7L/6ARC-A	AIR3/6L/8//10-A	AIR50-A	AIR165-A
Dimension (Width×Height×Depth)	364×135×283 (mm)	445×223×500 (mm)	445×223×500 (mm)	420×133×472 (mm)	420×133×472 (mm)	666×1002×553 (mm)	800×1170×593 (mm)
Weight	11kg	30kg	35kg	22kg	22kg	200kg	270kg
Protection	IP20	IP20	IP20	IP20	IP20	Front IP54 Rear IP23	Front IP54 Rear IP23
Temperature range	0~45°C	0~45°C	0~45°C	0~45°C	0~45°C	0~40°C	0~40°C
Power supply	Single-phase 220VAC -10%~+10% 49~ 61Hz	Single-phase 220VAC -10%~+10% 49~ 61Hz	Single-phase 220VAC -10%~+10% 49~ 61Hz	Single-phase 220VAC -10%~+10% 49~ 61Hz	Single-phase 220VAC -10%~+10% 49~ 61Hz	Three-phase 380VAC -10%~+10% 49~ 61Hz	Three-phase 380VAC -10%~+10% 49~ 61Hz
Max. input power	2.2KVA	2.2KVA	3.5KVA	2.2KVA	2.2KVA	7KVA	13KVA

SCARA ROBOT

AIR3SC400-A

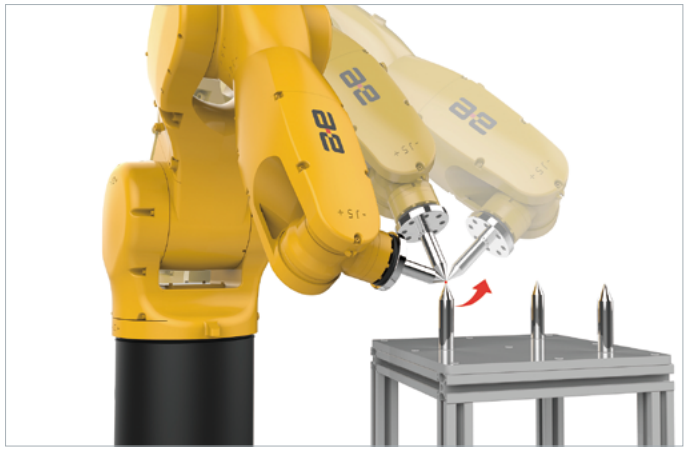
AIR6SC600-A

Type		AIR3SC400-A	AIR6SC600-A
Axes		4	4
Load	Rated load	1Kg	2Kg
	Limiting load	3Kg	6Kg
Allowable moment of inertia of J4	Rated inertia	0.005 Kg·m²	0.01Kg·m²
	Limiting inertia	0.05 Kg·m²	0.12Kg·m²
Manipulator	Weight	14.4Kg	20.1Kg
	Reach	400mm	600mm
Position repeatability	Axis 1+Axis 2	±0.01mm	±0.015mm
	Axis 3	±0.01mm	±0.01mm
	Axis 4	±0.005°	±0.005°
Ingress Protection		IP20	IP20
Mounting		地装 Floor	地装 Floor
Working range	Axis 1	-136°/+136°	-136°/+136°
	Axis 2	-141°/+141°	-150°/+150°
	Axis 3	150mm	200mm
	Axis 4	-360°/+360°	-360°/+360°
Rotation rate	Axis 1	600°/s	400°/s
	Axis 2	600°/s	650°/s
	Axis1+Axis2	6000mm/s	7300mm/s
	Axis 4	1100mm/s	1100mm/s
	Axis 5	2600°/s	2300°/s
Small arm interface	Electrical interface	20xIO	20xIO
	Air plug interface	2xϕ6	2xϕ6
Controllers		inCube2S	inCube2S
Mounting conditions	Ambient temperature: 0~40℃ Humidity: not more than 85% at constant temperature without condensation. Allowable altitude: not more than 1000m above sea level. No corrosive, flammable or explosive gases.		

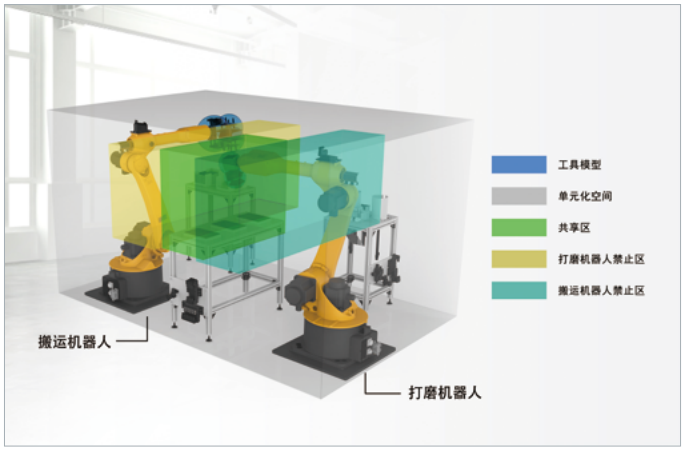
Hand guiding function

External axis linked control function

High absolute positioning accuracy

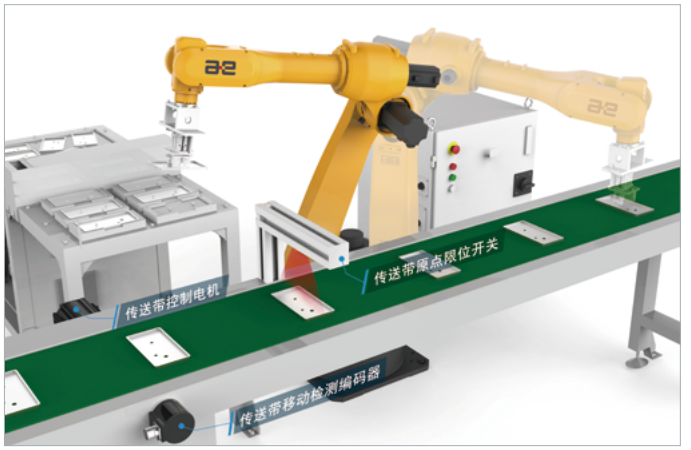


Safety zone control function

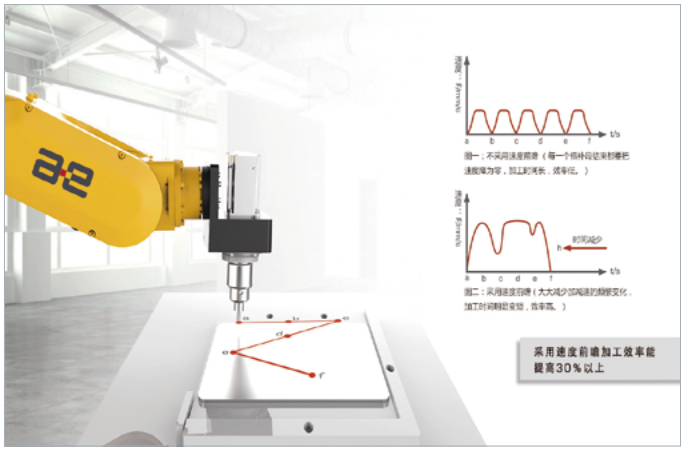


Collision detection function

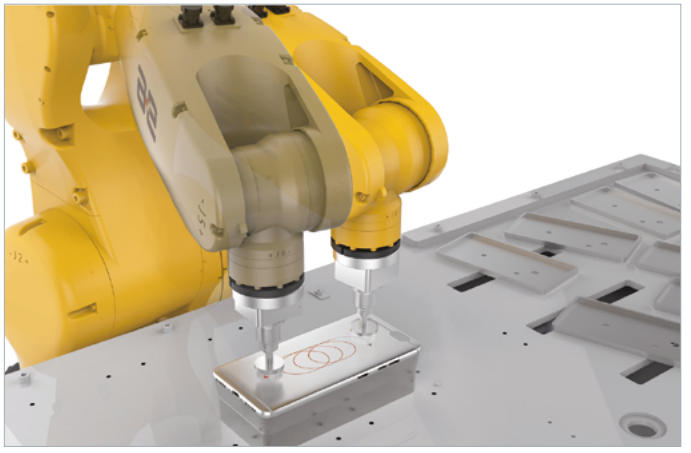
Conveyor tracking function



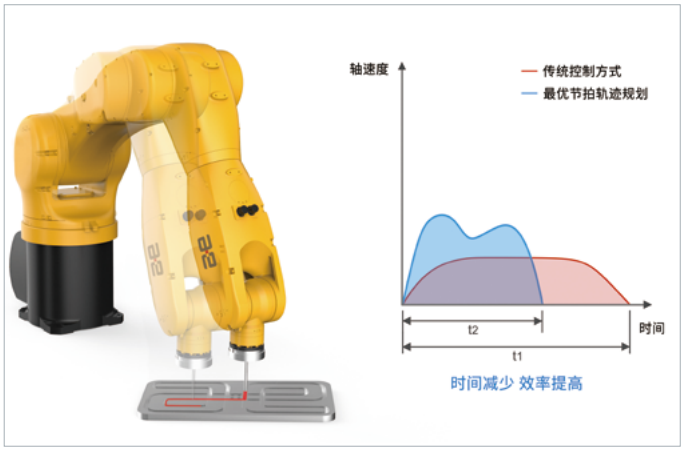
Speed forward-looking control function



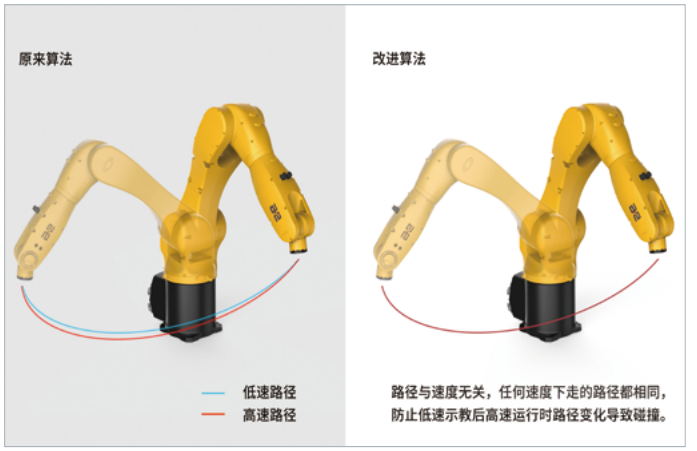
Spiral interpolation function



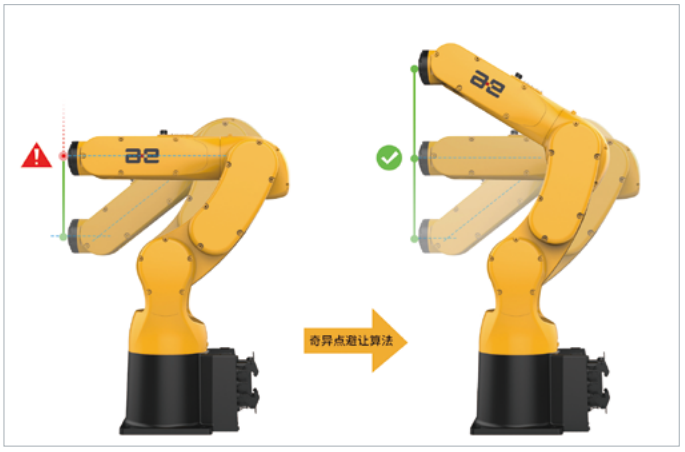
Time-Optimal



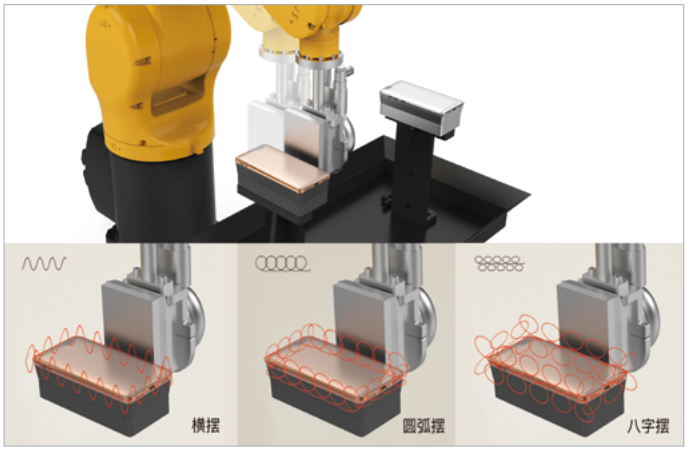
Path-Invariant



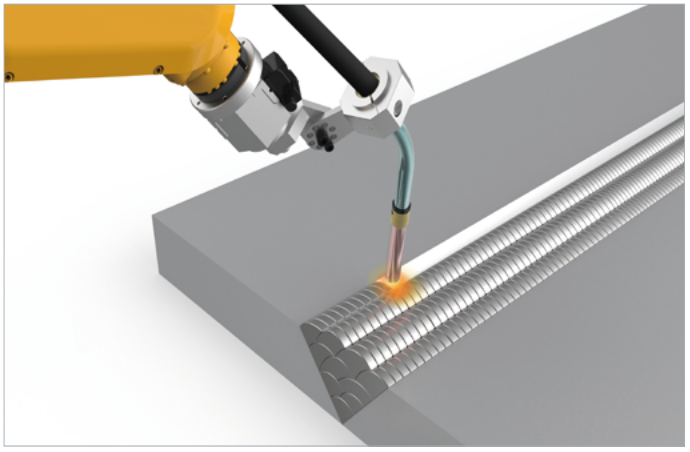
Singularity avoidance function



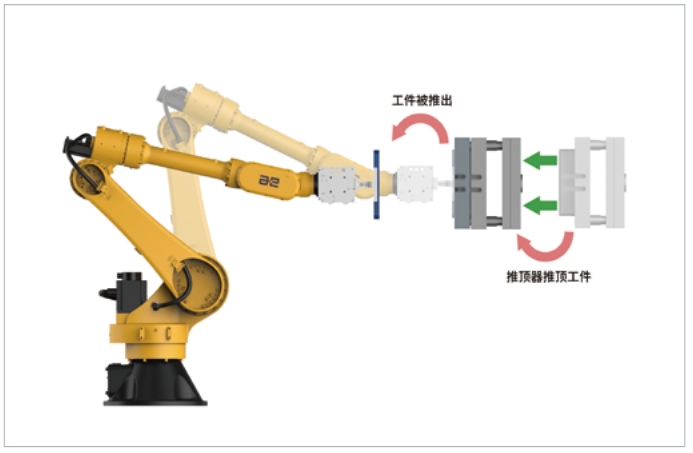
Various swing paths



Multi-layer multi-channel welding

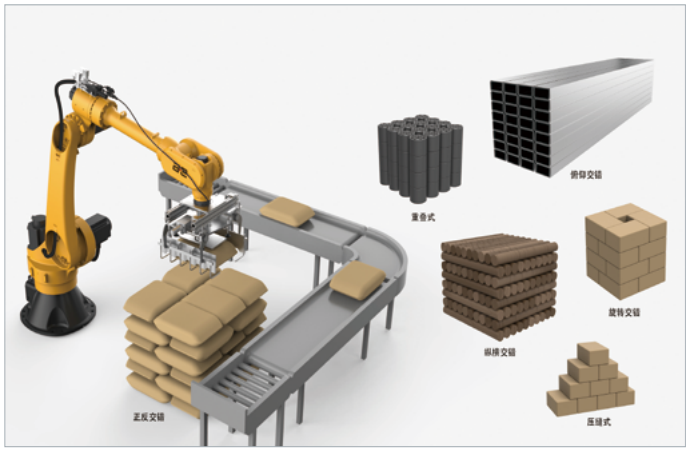


Soft Move function

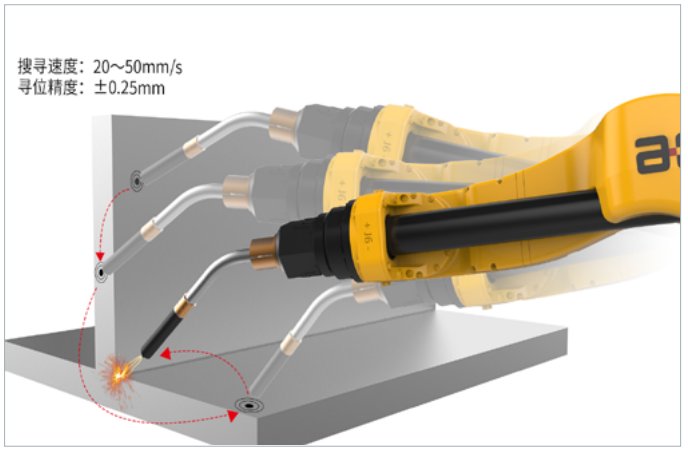


Bending follow function

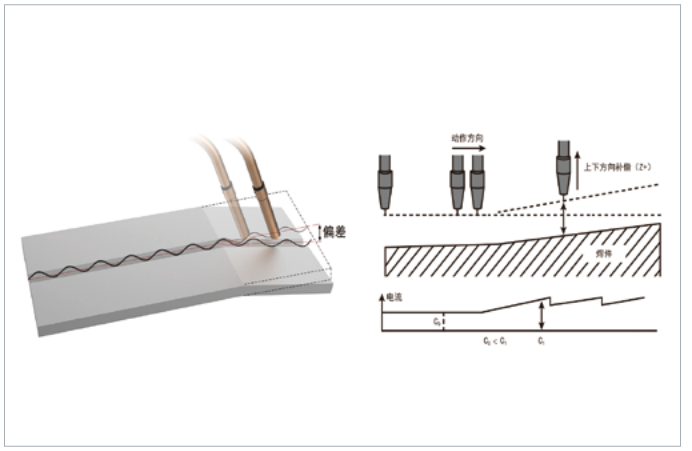
Palletizing function



Seam searching



Seam tracking with swing arc sensor



Path memory

Path transformation function

SERVO SYSTEM

·High dynamic response
·High resolution, more precise position control
·High speed, high overload
·Multiple vibration suppression functions
·Multiple built-in observers
·Lower heat generation and longer service life
·Support EtherCAT bus control

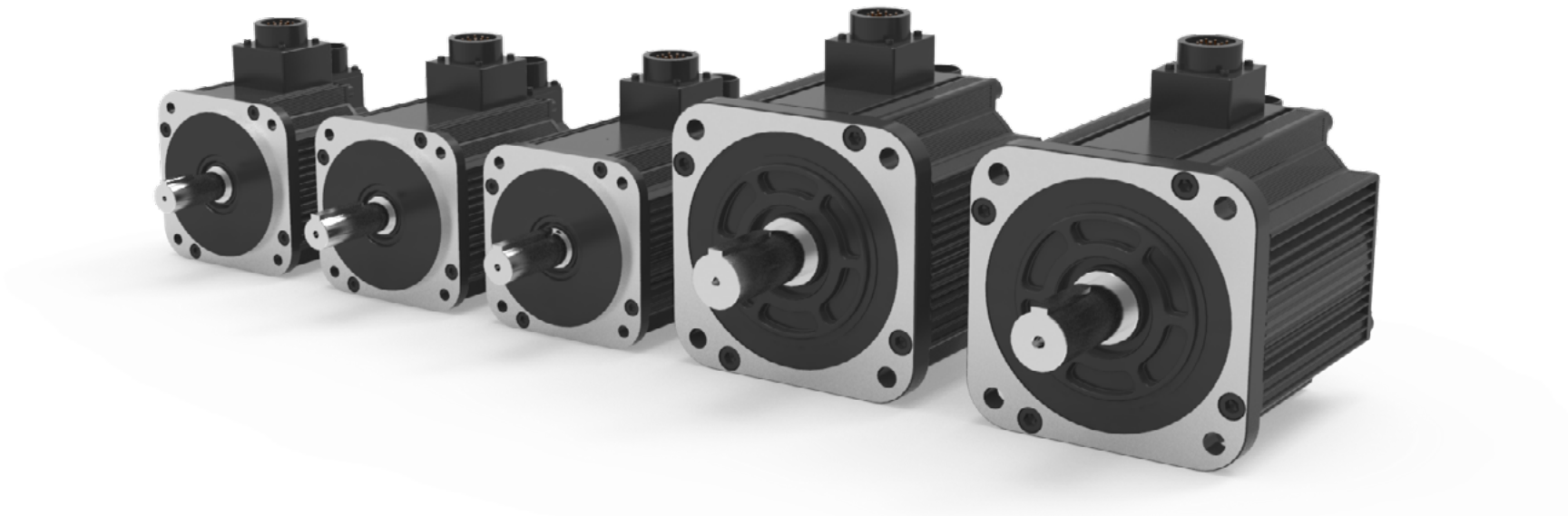
The company grandly launches its high-performance industrial products, AE5000 series servo drives, adopting the SVPWM control technology and ARM+FPGA system architecture, with the characteristics of high reliability, high dynamic response and high control precision. The series of products are widely used in the industrial robots, CNC machine tools, automation plane equipment and other applications.

- AE5110 Series_Analog/Pulse
- AE5115 Series_EtherCAT

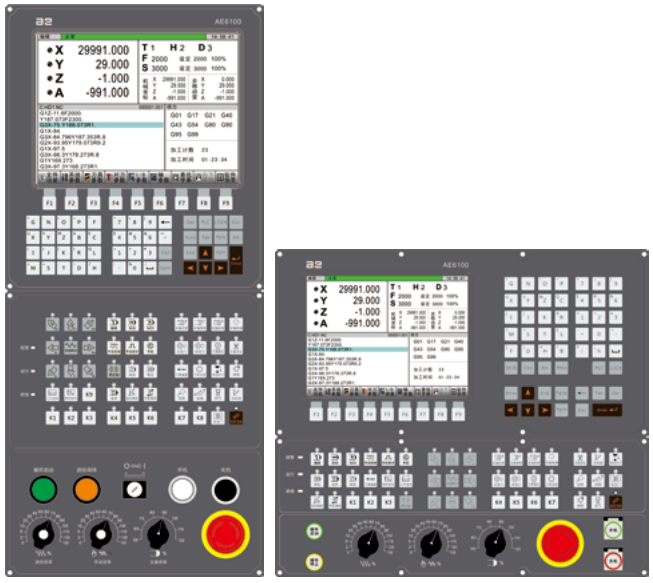
Model	R90A1B	2R8A1B	5R5A1B	7R6A1B	120A1B	150A1B	200A1B	330A1B
Main circuit	AC Single/3-phase 220V, 50/60Hz							
Control circuit	AC Single phase 220V, 50/60Hz							
Rated power(kW)	0.1	0.4	0.75	1.0	1.5	2.0	3.0	5.0
Single-phase input current(Arms)	1.2	3.6	6.5	11.9	——	——	——	——
Three-phase input current(Arms)	0.7	2.1	3.4	4.8	7.3	10.5	14	24
Rated output current(Arms)	0.91	2.8	5.5	7.6	11.6	15.4	19.6	32.9
Maximum output current(Arms)	2.9	9.3	17	18	28	37	56	84
Overload factor	350%	350%	350%	350%	300%	300%	300%	300%
Built-in regenerative resistance valule (Ω)	——	——	50	50	30	30	20	12
Built-in regenerative resistance power(W)	——	——	50	50	100	100	400	400
Minimum value of external regenerative resistance (Ω)	40	40	40	40	20	20	10	10
Wire diameter of external regenerative braking(mm^2)	1				2			3
Size H*W*D(mm)	42*160*148	42*160*148	50*160*170	90*160*180	90*160*180	90*160*180	100*180*187	110*250*210
Weight(kg)	0.92	0.92	1.6	2.0	2.0	2.0	3.2	5.0

AE1000 series AC servo motors have the advantages in high power density performance and electromagnetic performance, which adopt unique motor structure design technology with independent intellectual property rights owned by the company, and various performance indexes have reached the international advanced level. This series of motors are widely used in industrial robots, CNC machine tools, packaging machinery, printing machinery, and other automated production lines.

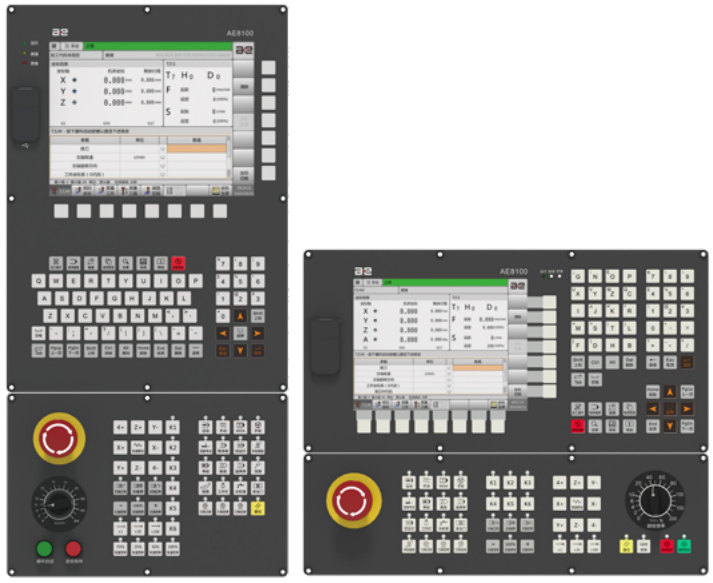
Servo motor model (220V)		Rated power (W)	Rated torque (N·m)	Rated current (A)	Peak torque (N·m)	Maximum current (A)	Rated speed (RPM)	Maximum speed (RPM)	Rotor moment	Encoder	Weight (Kg)
Medium inertia Low-capacity (AE1L-)	0401	100	0.318	0.84	1.114	3.2	3000	6500	0.061 (0.063)	20-bit ABS.	0.43 (0.62)
	0602	200	0.637	1.65	2.23	6.5			0.252 (0.259)		0.78 (1.26)
	0604	400	1.27	2.8	4.44	11.6			0.461 (0.468)		1.26 (1.74)
	0606	600	1.91	4.2	6.68	15.5			0.655 (0.661)		1.6 (2.08)
	0808	750	2.39	5	8.36	18			1.65 (1.73)		2.23 (3.11)
	0810	1000	3.18	6.6	11.14	23.8		6000	2.16 (2.22)		3.04 (3.92)



Servo motor model (220V)		Rated power (W)	Rated torque (N·m)	Rated current (A)	Peak torque (N·m)	Maximum current (A)	Rated speed (RPM)	Maximum speed (RPM)	Rotor moment	Encoder	Weight (Kg)
Medium inertia Medium-capacity (AE1M-)	1309	850	5.39	7.1	14.2	17	1500	3000	11.67 (12.11)	17-bit ABS.	7.8 (9.1)
	1313	1300	8.28	9.5	23.3	28			17.2 (17.8)		9.08 (10.5)
	1315	1500	7.16	8.21	20.1	24	2000		17.2 (17.8)		9.08 (10.5)
	1318	1800	11.46	13.2	42	48	1500		25.32(25.72)		10.5 (11.6)
	1320	2000	9.55	14.5	28.7	44.2	2000		17.2 (17.8)		9.38 (10.5)
	1330	3000	14.3	16.5	43	50			25.32(25.72)		10.5 (11.6)
	1829	3000	19.1	24.5	45.1	56	1500		44.76 (51.49)		17.5 (19.5)
	1844	4400	28.4	32.9	71.1	87			66.58(73.26)		21.5 (23.5)
	1850	5000	23.8	27.65	60.43	73.9	2000		66.58 (73.26)		21.5 (23.5)
High inertia Low-capacity (AE1F-)	045A	50	0.159	0.55	0.557	2.0	3000	6500	0.040[0.043]	20-bit ABS.	0.30[0.52]
	065A	50	0.159	0.87	0.556	3.62			0.094 (0.101)		0.42(0.62)
	0601	100	0.318	0.98	1.113	4.78			0.146 (0.153)		0.5 (0.77)
	0804	400	1.27	2.8	4.44	11.6			0.96 (1.018)		1.94 (2.82)



AE6100



AE8100

AE8100 has been strictly tested over a prolonged period of time in industrial field, the accuracy and stability of Peitian CNC systems have been proved. The applications of CNC system have covered full range of controllers for lathe, drilling, boring, engraving and milling machines, machining center and so on.

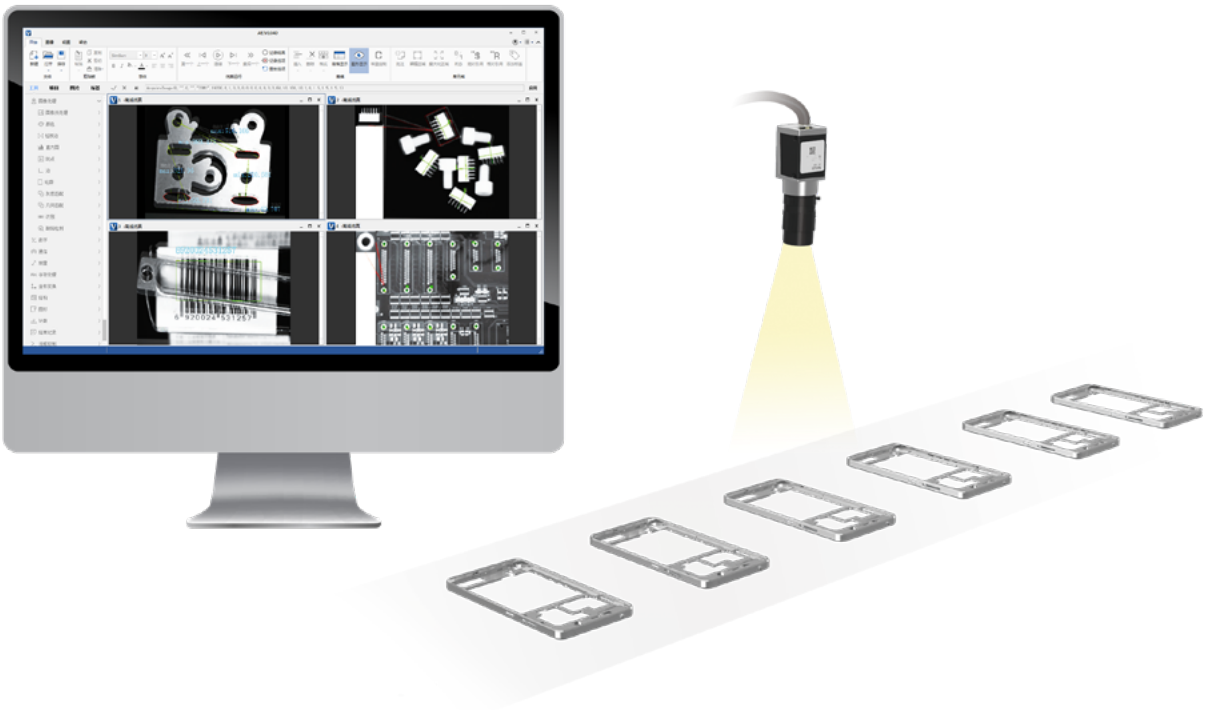
- AE6100 Series
- AE8100 Series

Model	AE6100
The number of control channels	1
The axis control method	Speed and position control
Controlled Axis Number	8
Compounding axis	Five-axis linkage, support RTCP
Spindle control	Frequency spindle/Servo spindle control, Rigid tapping supported
Minimum command unit/control unit	0.1μm 0.001μm
Maximum programming size	±9999.999mm
Interpolation period	125μs, 250μs, 500μs, 1000μs (Configurable)
Max. feeding speed/ Feeding speed	128m/min 60m/min
Feed rate/Manual feed ratio	0 130% Sixteen-level Real-time Adjustment
Spindle override	50 120% Eight-level Real-time Adjustment
Display interface	6.4/10.4"True color TFT LCD
Tool magazine management	Turntable magazine, rotary disc magazine, insert the arm magazine, user-defined magazine
Tool control	Hydraulic, electric, servo, row type
PLC function	Open PLC
Interpolation method	Straight line, arc, helix, spline
Reference point	Automatic, manual
Alarm function	Emergency stop, soft/hard limit detection, custom alarm
Inch/metric conversion	Support
Machine control	Feed hold, block skip, skip function, program protect
Input/output	60/40
Program edit	Absolute/relative programing, decimal point programming, diameter/radius programming
Drive configuration	AC / DC servo
Other functions	Constant surface speed control, torque compensation, adaptive prefetching, power-off data retention, fixed cycle / sub-program call, automatic centering

型号 Model	AE8100AM	AE8100DM
The number of control channels	1	6
The axis control method	Position control (pulse command)	RTEX bus, EtherCAT bus
Controlled Axis Number	4	64
Compounding axis	There-axis linkage	Five-axis linkage, support RTCP
Spindle control	Frequency spindle/Servo spindle control, Rigid tapping supported	
Minimum command unit/control unit	1μm 0.1μm	
Maximum programming size	±9999.999mm	
Interpolation period	125μs, 250μs, 500μs, 1000μs (Configurable)	
Max. feeding speed/ Feeding speed	128m/min 60m/min	
Feed rate/Manual feed ratio	0 150% Sixteen-level Real-time Adjustment	
Spindle override	50 120% Thirteen-level Real-time Adjustment	
Display interface	6.4/10.4"True color TFT LCD	
Tool magazine management	Turntable magazine, rotary disc magazine, insert the arm magazine, user-defined magazine	
Tool control	Hydraulic, electric, servo, row type	
PLC function	Open PLC	
Interpolation method	Straight line, arc, helix, spline	
Reference point	Automatic, manual	
Alarm function	Emergency stop, soft/hard limit detection, custom alarm	
Inch/metric conversion	Support	
Machine control	Feed hold, block skip, skip function, program protect	
Input/output	64/48	256/256
Program edit	Absolute/relative programing, decimal point programming, diameter/radius programming	
Drive configuration	AC/DC servo	
Other functions	Constant surface speed control, torque compensation, adaptive prefetching, power-off data retention, fixed cycle / sub-program call, automatic centering	

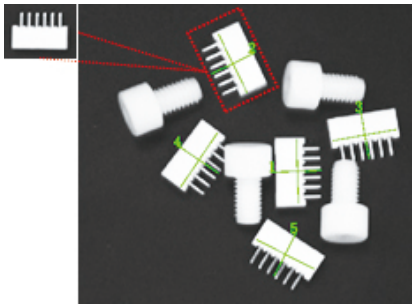
MACHINE VISION

ARVS1000 is a generic visual processing software platform, with over 170 visual tools of high efficiency, high precision and high robustness, which could meet all the needs of the manufacturing lines, such as guidance, positioning, inspection and measurement. The software can be widely used in various aspects of industrial robots, vehicles, semiconductors, electronics, food and beverage, pharmacy, daily chemicals, packaging, logistics, printing, medical facilities, glass and metal.

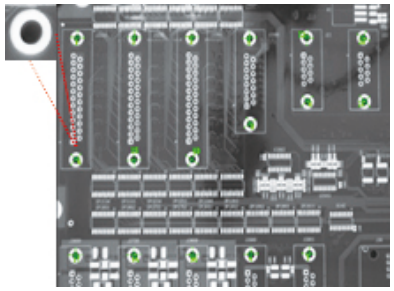


01	02	03
Over 170 tools	Strong robustness against illumination, blur, noise, overlap and complex background	Sub-pixel accuracy 1/25
04	**05**	**06**
Processing speeds of key algorithms at millisecond level	Offline simulation supported	Dragging and dropping toolkits to configure your own visual task without programming
07	**08**	**09**
Multi-brands cameras supported (Basler, PointGrey etc.)	Multi projects management (monitoring, data transfer and switching between projects)	Multi Communication protocols supported (TCP/IP, TCP/IP Modbus, RS232/485 Modbus etc.). Communications between multi control equipment (robots, PLC, I/O etc.) available

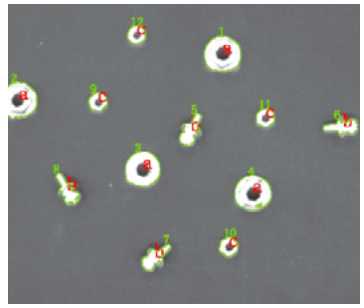
A rich set of visual processing tools



Geometric Matching



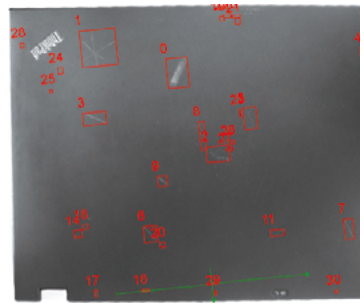
Gray-level Matching



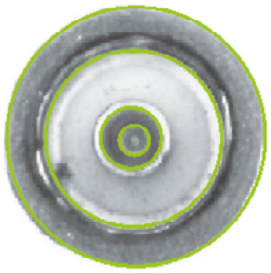
Blob Extraction

Barcodes Recognition

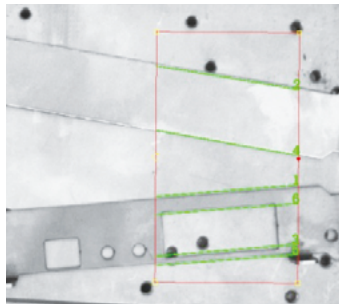
QR Codes Recognition



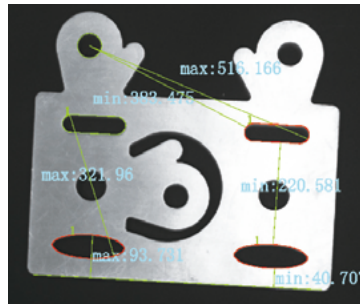
Flaw Detection



Circles Finding



Lines Finding

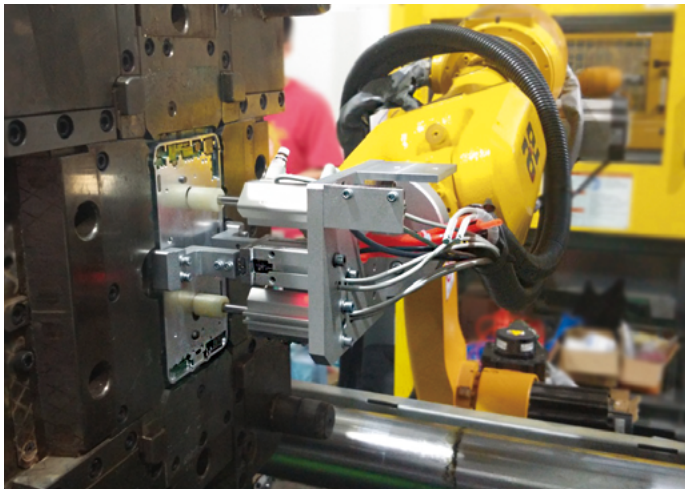


Measurement

SOLUTIONS

Handling / Palletizing / Loading & Unloading

Robot loading & unloading cell for injection molding machine



Robot loading & unloading cell for solder spray

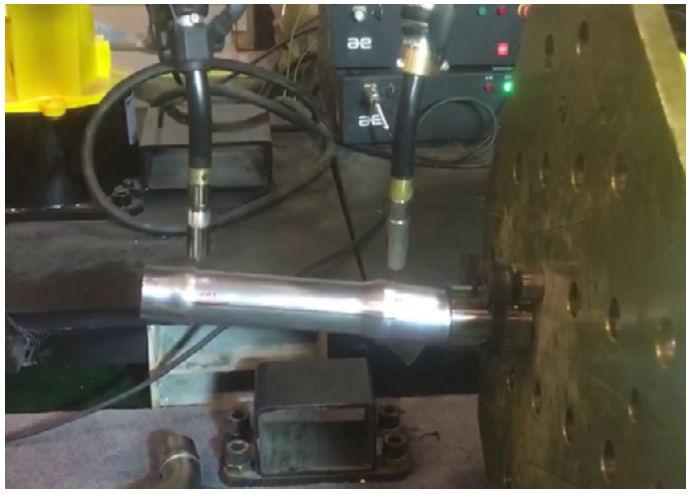
Grinding & Polishing

Grinding and polishing of the phone shell

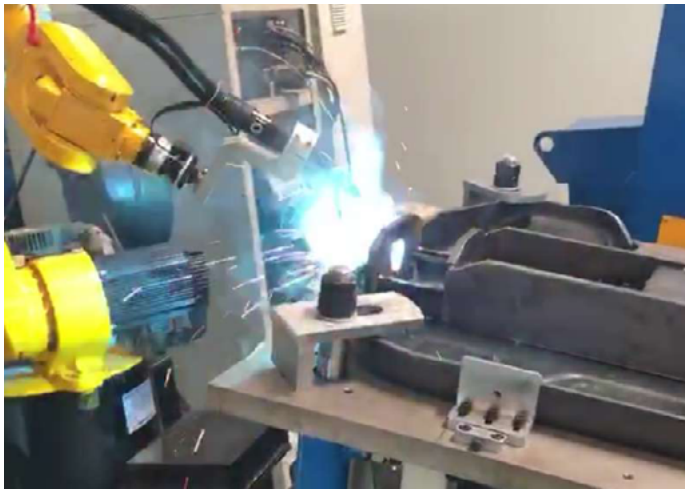
Grinding and deburring of the filter shell

Welding

Automobile exhaust pipe welding



Automobile parts welding



Assembly

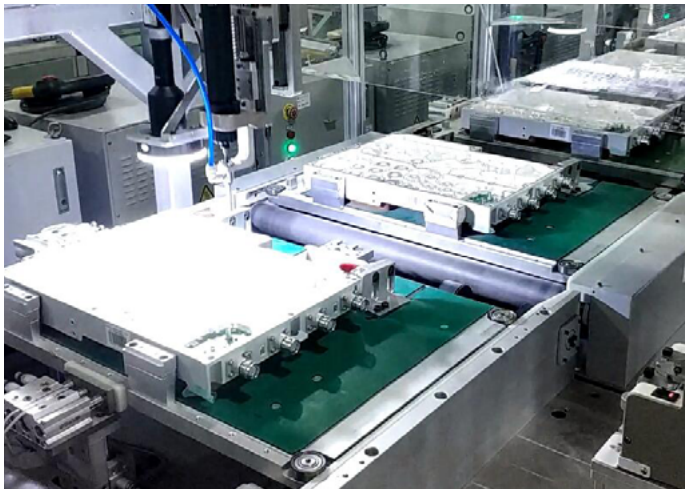
Assembly of filter resonant rod , screw lock

Electronic components assembly

Machine Vision Application

Rapid sorting by vision guided robot

Filter assembly line, visual positioning



Education and Training

Robot technology training platform

2018 Industrial robot technology application competition of Anhui province

Passive filter automatic intelligent flexible assembly line

Automatic packaging production line

Press machine loading and unloading production line

Motor assembly automation line

SERVICE

SERVICE NETWORK

South China: Shenzhen, Guangzhou, Dongguan, Zhuhai, Zhongshan,Foshan, Nanning

East China: Bengbu, Hefei, Nanjing, Suzhou, Shanghai, Qingdao,Quanzhou

North China: Beijing, Tianjin, Taiyuan

Central China: Wuhan, Changsha, Nanchang

SERVICE CONTENT

- Solutions Consulting
- Solutions Providing
- Installation and debugging
- After-sales Service
- Regular maintenance
- Lifelong maintenance

SERVICE COMMITMENT

Respond within 24 hours.

TRAINING

01
TRAINING CONTENTS

Peitian Robotics System safety training

Peitian Robotics Programming language primary training

Peitian Robotics Programming language advance training

Peitian Robotics Teaching-programming & operation training

Peitian Robotics Troubleshooting & maintenance training

02
TRAINING MODE

Standard courses

Tailored courses

Classroom teaching + programming practice

03
CONTACT US

Service Hotline：400-990-0909

配天机器人技术有限公司
Peitian Robotics Co., Ltd.

微信公众号

机器人应用视频

http://robot.peitian.com