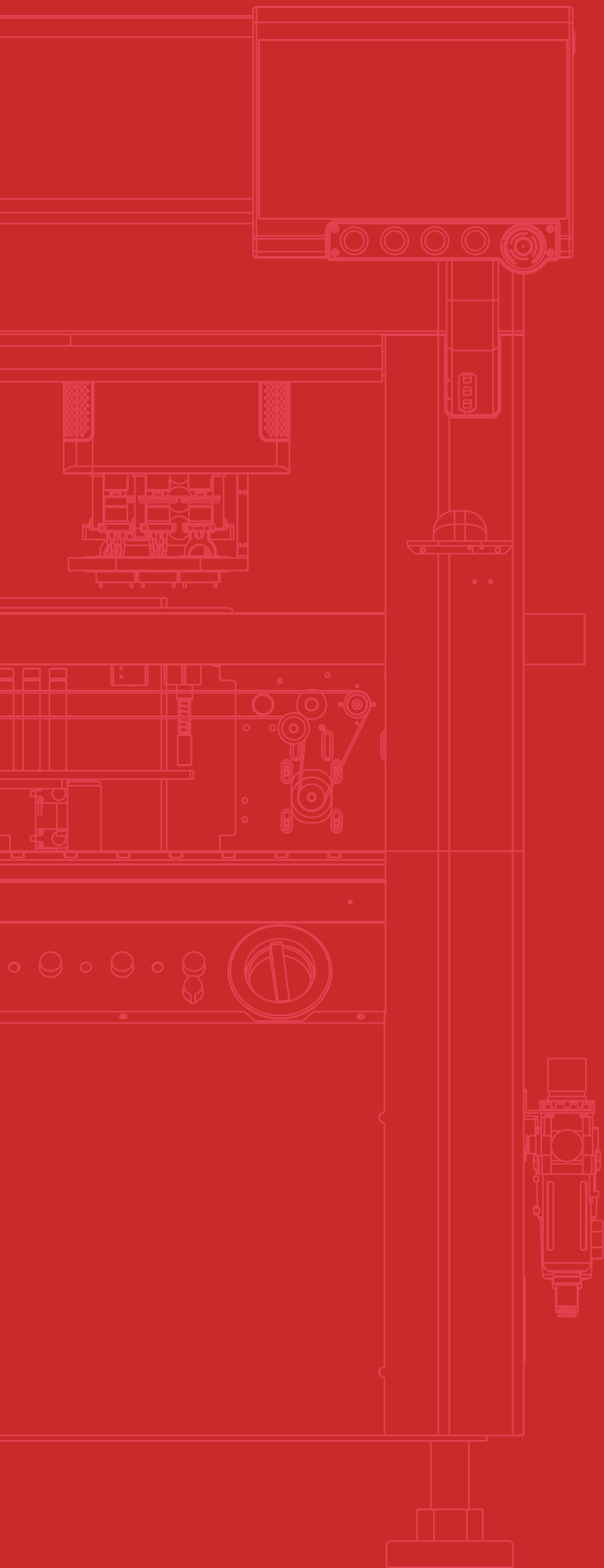


HIGH SPEED IRREGULAR SHAPE PLUG-IN MACHINE

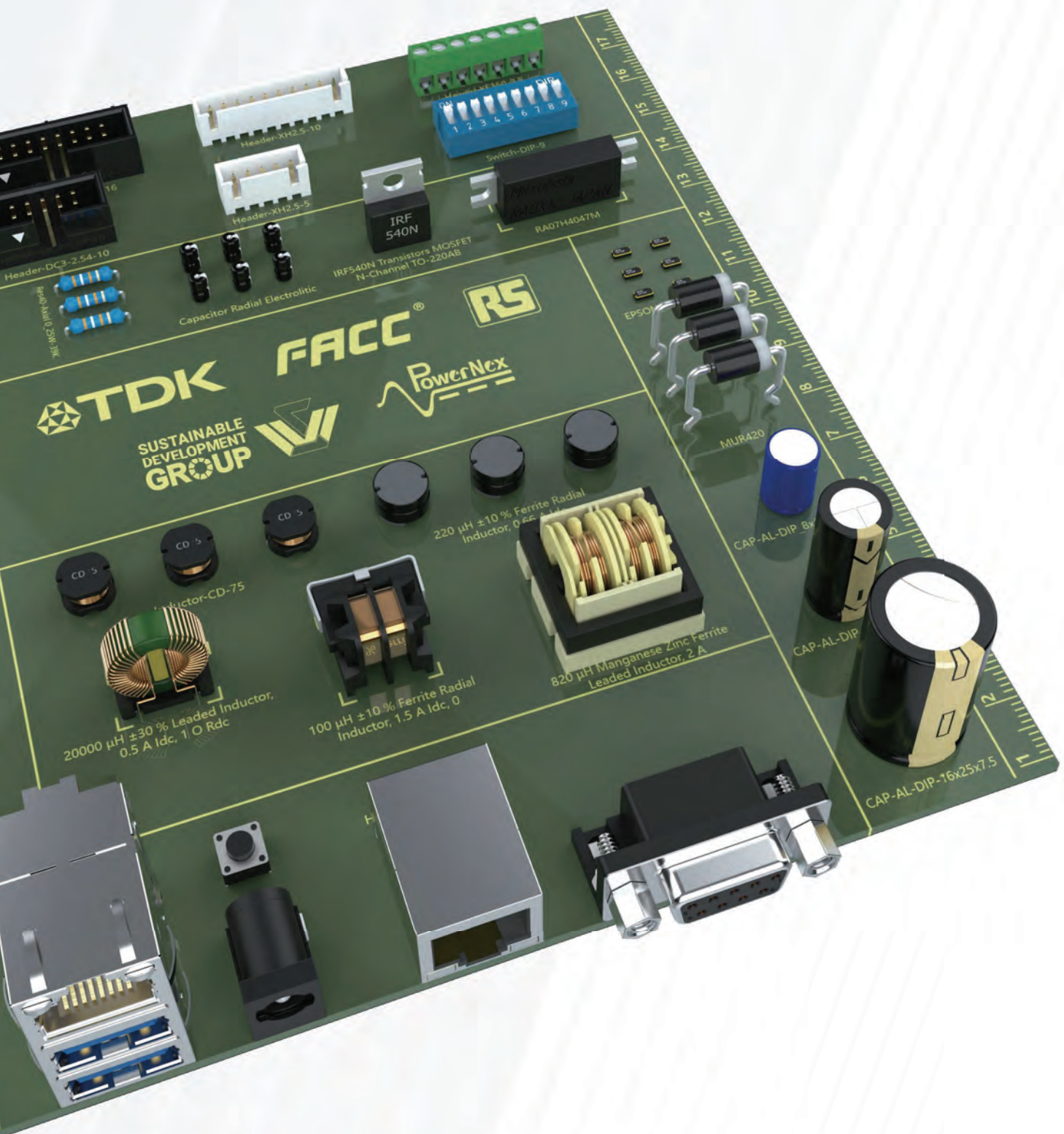
Product Manual















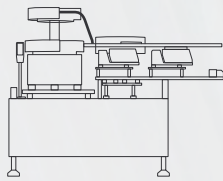



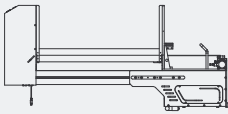








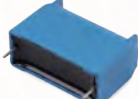






 **PowerNex**

Achieve **98%** Through-Hole Components



 Vertical Tape Feeder  Horizontal Tape Feeder					
	Diode	Fuse	Metal Film Resistor	Safety Capacitor	Thermistor
					
	Electrolytic Capacitor	Magnetic Coil	Triode	PPN Capacitor	Varistor
					
	Light Emitting Diode	MKP Capacitor	Resistor	Inductor	Jumper Wire

					 Vibratory Bowl Feeder
4-Pin Header	19-Pin Socket	Potentiometer	Toggle Switch	Audio Port	
					
Power Port	Tact Switch	Inductor	S-Video	Square Capacitor	
					
9-Pin Array Resistor	Fuse	5-Pin Socket	10-Pin Socket	7-Pin Socket	

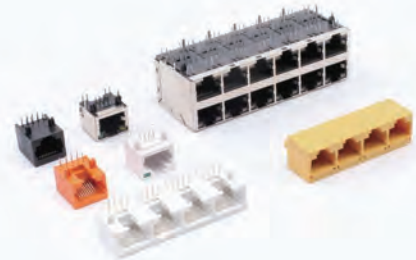
 Tubular Feeder					
	Bridge Rectifier	Triode	Bridge Rectifier	Optocoupler	IC
					
	Network Transformer	Network Transformer	PTC Resistor	Fan Capacitor	Relay
					
	Relay	Relay	Relay	Relay	Relay

Common Motherboard Ports ▶



◀ USB Port

RJ45 Port ▶



Large Multi-Pin Connector ▶



◀ S-Video Module

Automotive Electronic Connector ▶



Inductor/Choke Coil ▶



◀ Electrolytic Capacitor



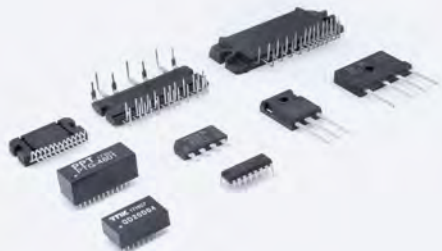
Relay/Film Capacitor ▶



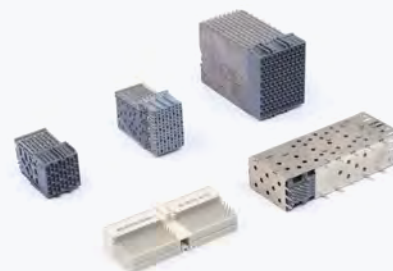
Transformer ▶



◀ Integrated Circuit



Communication Industry Connector ▶



680 *superfast* High Speed Irregular Shape Plug-in Machine

Faster, Smaller, More Flexible Universal High Speed Irregular Shape Plug-in Machine

Three Cameras | Simultaneous Capture | Compact Size | Space-saving



680 *superfast*

High Speed Irregular Shape Plug-in Machine

Solution for Irregular Shape Insertion Machine, from Small Batch Multivariable to Large Batch Production

680 Superfast integrates the visual, motion control, and deep learning algorithms as its core components. Its performance, precision, flexibility, and compatibility have reached industry-leading levels, capable of meeting your production needs from small-batch, multi-variety to large-scale production.

5300

Cycles per Hour
(Cph)

0.68

Placement Maximum Speed
(S/C)

± 0.02

Repeat Positioning Accuracy
(mm)

≥ 1.33

Process Capability Index
(CPK)

※ Test results under specified conditions of our company.

Insert Anomaly Detection
(Standard)

Insert Pressure Detection
(Optional)

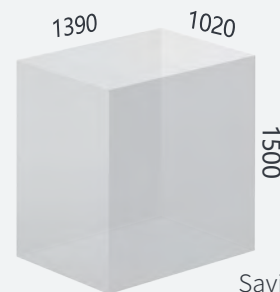
Component Height Detection
(Optional)



SmartAI SIX Gantry Head

Integrated Light Source | Servo-driven | 6 Working Heads

Compact Design
Maximizes Space Utilization



Unit: mm

> 30%

Saving More Space Compared
to Similar Products

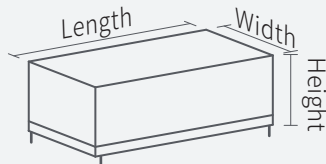
Material Specification

Length
2-30mm

Height
2-30mm

Width
1-20mm

Weight
300g Max



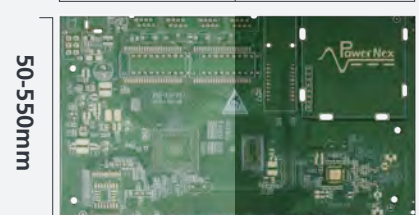
PCB Specification

Thickness
1-3mm

Weight
5kg Max

Secondary Pressing of PCB

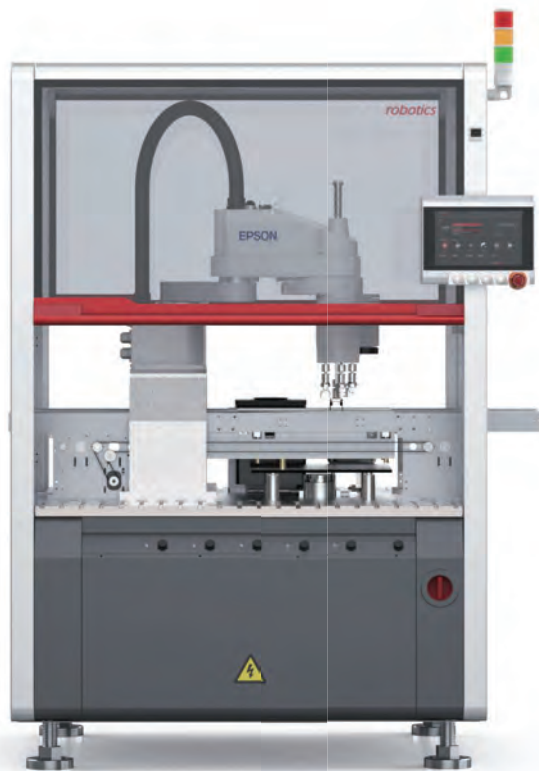
400mm **70-400mm**



Robotics

Robotic Irregular Shape Plug-in Machine

The **Robotics** series uses industrial robots as the core components, integrating gull-wing doors, integrated work heads, machine vision, and other key technologies. Its features include high flexibility and versatility, making it suitable for inserting odd-shaped and large components.



1200 *Robotic Irregular Shape Plug-in Machine*
robotics

Integrated Seated Robot | Achieve High Cost-Effectiveness

4/6

Work Head (pcs)

2.0

Placement Maximum Speed
(S/C)

±0.03

Accuracy(mm)

1600

Integrated Hoisting Robot |

4

Work Head (pcs) Placement Maximum S
(S/C)

1.8



Robotic Irregular Shape Plug-in Machine
robotics

1800 Robotic Irregular Shape Plug-in Machine
robotics

Achieve Wide Working Range

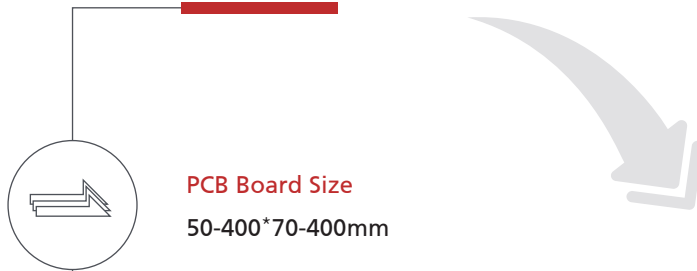
Integrated Six-Axis Robot | Achieve Multi-Angle Insertion

± 0.03
Accuracy(mm)

4/6 Work Head (pcs)
2.2 Placement Maximum Speed
(s/c)

± 0.04
Accuracy(mm)

Compatibility



4-Axis 4-Head—Work Head



4-Axis 6-Head—Work Head



6-Axis 4-Head—Work Head

The future development trend of integrating top-brand robots to achieve high reliability, and high quality, thereby increasing the investment value.



Perfect integration

ABB KUKA EPSON

'robots replacing humans' is to
 eive high flexibility, high compati-
 educing equipment failure rates
 ue of equipment.

Flexibility

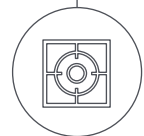


Miniaturized, Space-saving
 1250*1200*1800mm



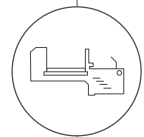
iVT Vision System

Visual algorithm designed for odd-shaped inserts, capable of
 precisely detecting and positioning the quality of component pins,
 appearance contours, and coordinate positions

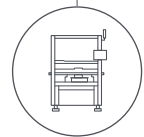


Forming/Shaping Device,
 can be equipped on all feeders

An experienced process development team focused on develop-
 ing forming/shaping devices for components, which can signifi-
 cantly reduce incoming material requirements, enhance equip-
 ment versatility and compatibility, while also ensuring and
 improving component insertion rates.



Modular design concept
 Enables flexible configuration



16 PCS

Tubular Feeder
 (Tube-Fed Materials)



16 PCS

Vibratory Bowl Feeder
 (Bulk Material)



16 PCS

Tape Feeder
 (Vertical/Horizontal)



4 PCS

Tray Feeder
 (Tray-Fed Material)



with major brand robots!

YASKAWA FANUC

Host and feeding device

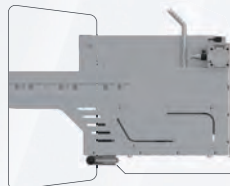
Modular design concept

Enables flexible configuration

Dual-sided feeding, rational layout, enabling flexible configuration and quick replacement

2 min

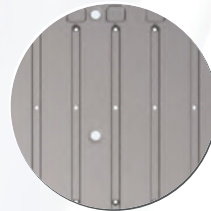
Quick Replacement



Positioning Structure

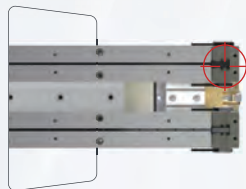


Locking Structure



30s

Quick Positioning



16 PCS

Tape Feeder
(Vertical/Horizontal)

16 PCS

Vibratory Bowl Feeder
(Bulk Material)

16 PCS

Tubular Feeder
(Tube-Fed Material)

4 PCS

Tray Feeder
(Tray-Fed Material)



iFD™ Feeding Device

Modular Design Independent Control

An independent feeder development team can provide a variety of feeding solutions based on different material handling methods. Additionally, they can also flexibly configure according to production needs to meet the continuous feeding of pin components and irregular components.



+ ZDF series

Vibratory Bowl Feeder

Bulk Material Feeding



0.5s

Feeding Speed

30min

Continuous Feeding



Forming Function



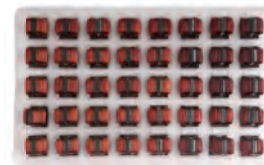
Shaping Function



+ TRF series

Tray Feeder

Tray-Fed Material



0.8s

Feeding Speed

20盘

Maximum Capacity



Forming Function



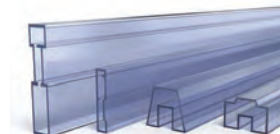
Shaping Function



+ TUF series

Tubular Feeder

Tube-Fed Material



0.6s

Feeding Speed

20管

Maximum Capacity



Forming Function



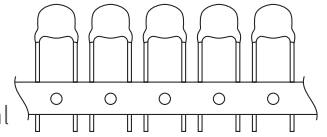
Shaping Function



+ TDF-VT series

Vertical Tape Feeder

Compatible with Reel/Box-Fed Material



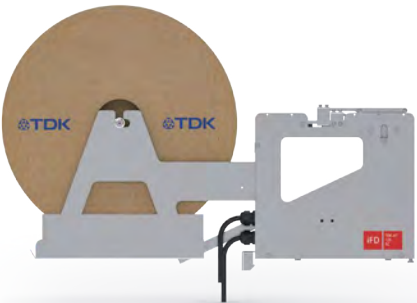
Feeding Speed



Forming Function



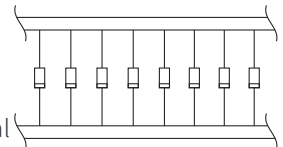
Shaping Function



+ TDF-HT series

Horizontal Tape Feeder

Compatible with Reel/Box-Fed Material



Feeding Speed



Forming Function



Shaping Function



+ TSF series

Special Customized Feeder

Customized services provided based on material feeding methods or component characteristics



Electrolytic
Capacitor Components



Tuning Knob



Connector

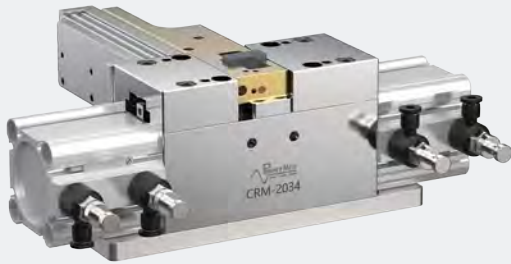
※ The left image shows a horizontal capacitor feeder developed for the power supply industry.

All feeders can be equipped with shaping/forming devices.

An experienced process development team specializing in the development of component reshaping/-forming devices can significantly reduce incoming material requirements, enhance equipment versatility and compatibility, while also ensuring and improving component insertion rates.



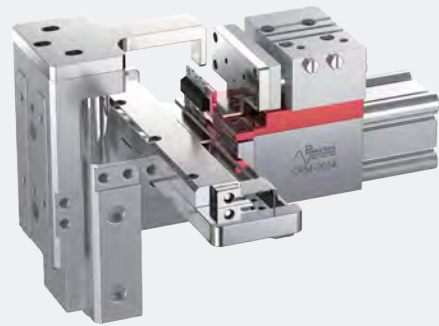
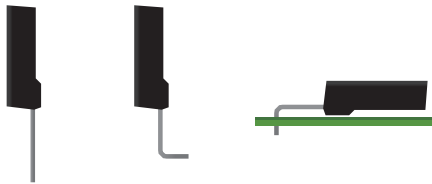
For special components, we offer customized services, striving to turn the impossible into possible!



Safety Capacitor Shaping



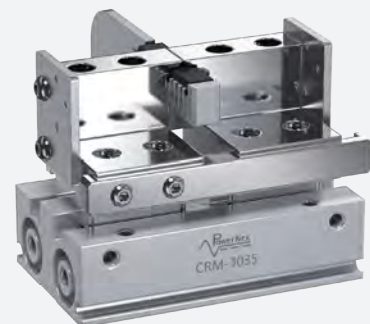
Rectifier Bridge Shaping



Coreless Inductor Shaping



IC Shaping





Air Conditioner Mainboard Common Mode Inductor Custom Gripper

A wide range of pick-up devices providing customized services

With over 500 types of nozzles and grippers to choose from, capable of picking up connectors, relays, transformers, and various other irregular components. For special components, our experienced R&D team offers customized services.



Self-Developed Patented Products Highly Flexible Quick Chuck

Interchangeable Chuck | High Clamping Force
| High Quality | Long Lifespan

Innovative Design Patented Products Integrated Vacuum Suction Head

Interchangeable Suction Head | High Suction Power
| High Quality | Long Lifespan



Pick-up Method



Suction



External Clamping



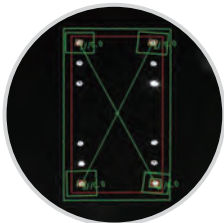
Internal Clamping



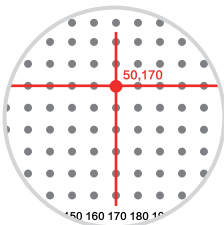
Special Customization



Image Capture Effect



PIN Quality Inspection



PIN Position Coordinates

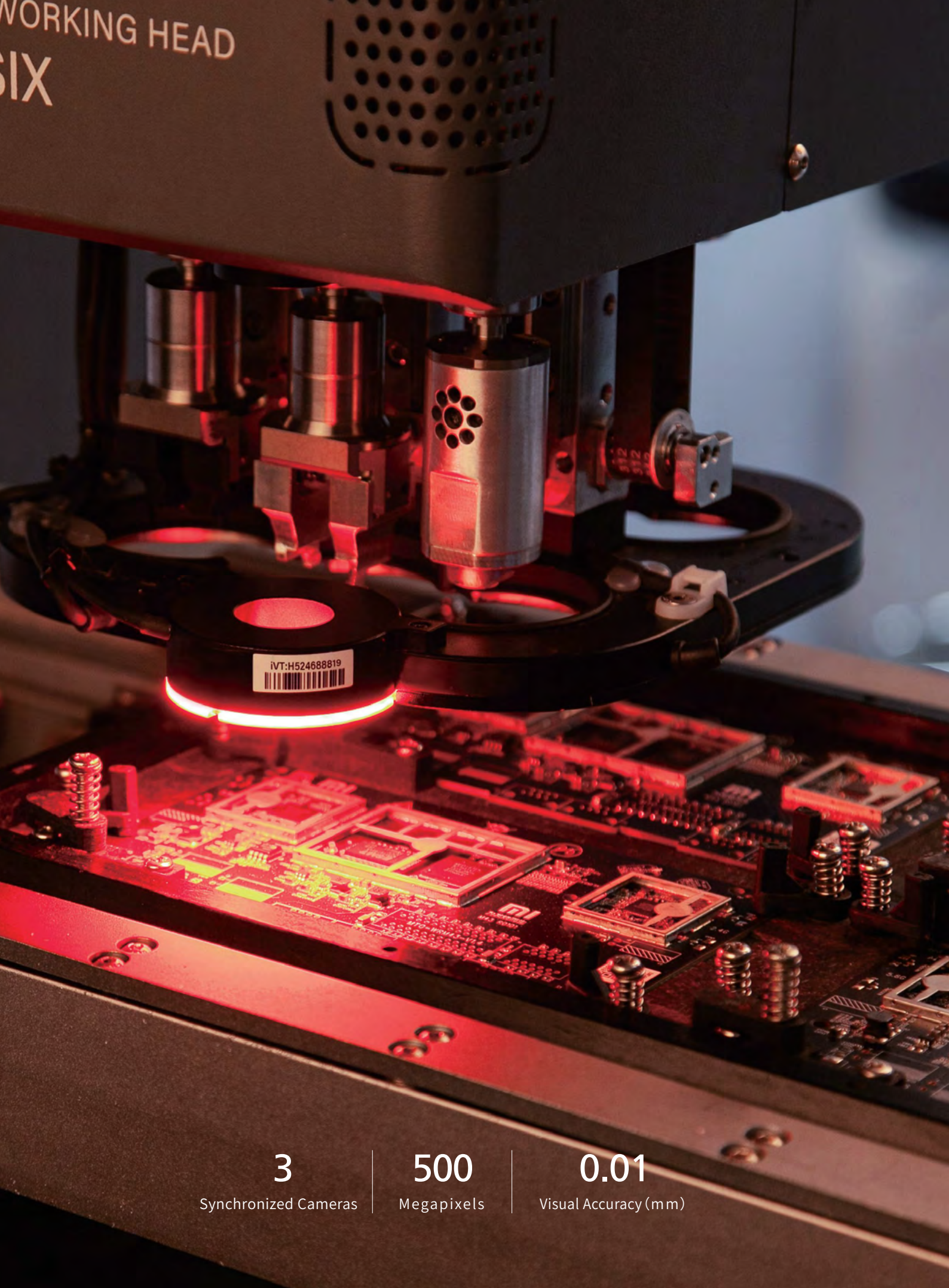


Unique Visual Algorithm

High-Speed Photography Advanced Visual Algorithm

The iVT™ 3.0 vision system is designed for irregular components. Its unique vision algorithm can accurately inspect and locate the quality, appearance contour, and position coordinates of component pins.

WORKING HEAD
SIX



3

Synchronized Cameras

500

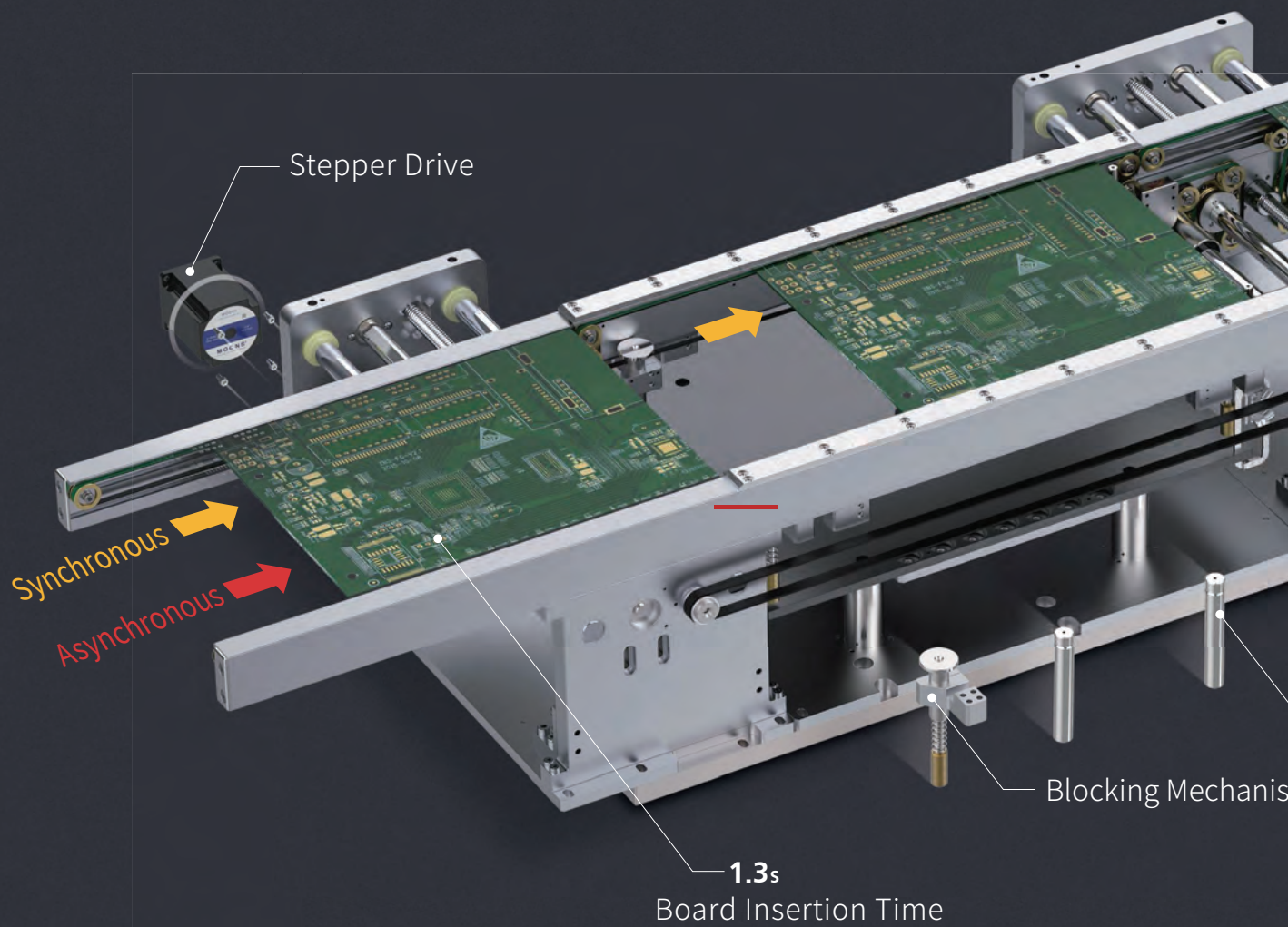
Megapixels

0.01

Visual Accuracy (mm)

PCB Transmission Device Fully CNC Controlled

The three-section track features a modular design and is controlled by fully numerical control technology, enabling synchronous/asynchronous PCB board transfer, ensuring fast, stable, and precise positioning.



Secondary Pressing of PCB

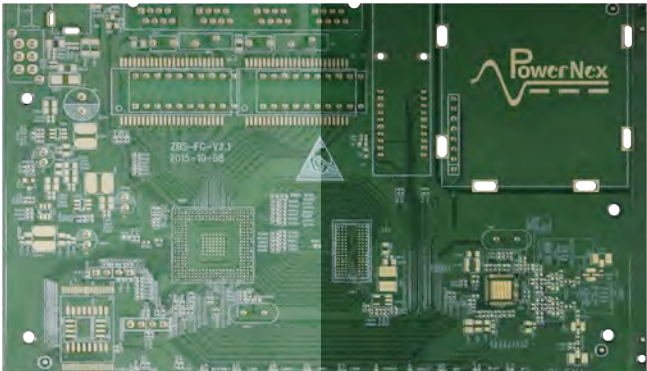
400mm

70-400mm

Thickness
1-3mm

Weight
Max 5kg

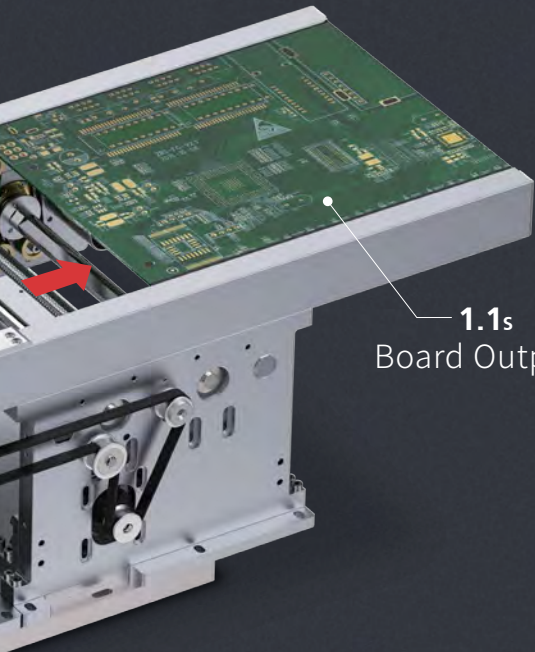
50-550mm



※ Specific Compatible Sizes Depending on Machine Model



Optional Belt or Chain Conveyor



1.1s
Board Output Time

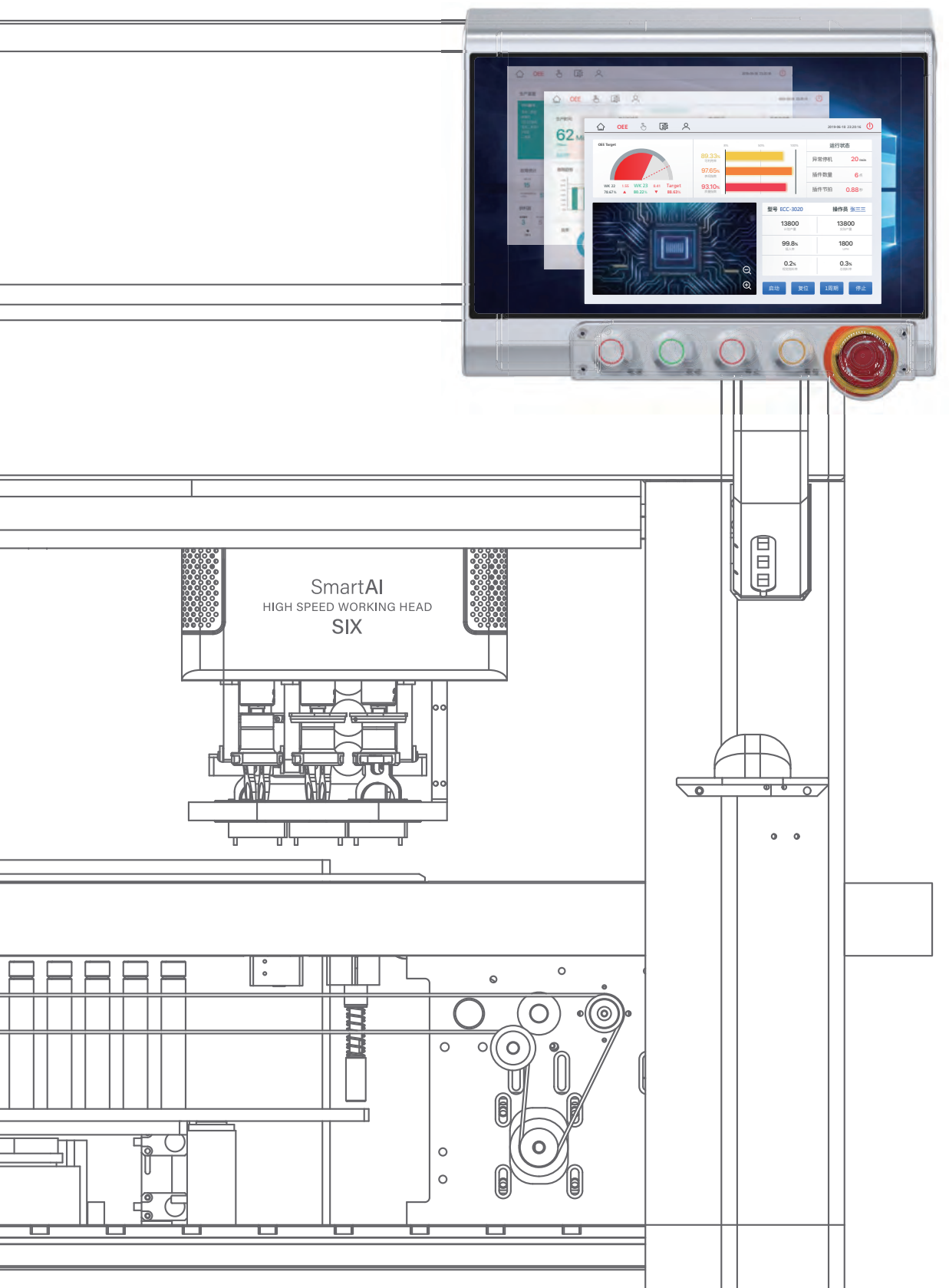
Fully Automatic
Pin Support



+ Belt Conveyor



+ Chain Conveyor



Simplifying Complexity, Ultimate Simple Programming Method Allows You to Complete Programming Work Easily and Efficiently, Achieving Quick Change-over

SmartAI™Pro 3.0

SmartAI™Pro3.0 built on years of automation experience and familiarity with client application scenarios and process technologies, embodies the 'simplifying complexity' philosophy. Combining deep learning algorithms, it enables you to complete programming tasks effortlessly and efficiently, achieving rapid model changeover in an extremely simple manner.

Supports DXF,
Gerber,
and other files

Programming
Method:
Offline/Online

Programming Time
 $\leq 30\text{min}$

Programmable
Storage
1000个

Automatic
Optimization
of Insertion Sequence

Warm-Up Function
 $\geq 10\text{min}$

One-Click Model Change
QR Code Model Change

Visual Automatic
Alignment Function

Bad Board Sorting
Function (No Insertion
for Defective Boards)

Feeder Quick
Positioning Function

Height
Measurement Module

Pressure Module

中国制造 2025
FACTORY OF THE FUTURE

Smart Factory
大数据
Big Data
未来工厂 智能工厂

INDUSTRY 4.0

Smart Factory Solution 标准化 精益化 自动化 信息化 智能化

聚焦电子制造 FOCUS ON EMS

积木自动化
Flex Automation Platform
Lean Production SMT工厂
IoT 物联网
Automation
RFID
Zigbee CLOUD
AI+DIP Workshop
ProEasy Scara Robot
工业机器人
Through-Hole Inserter
异形插件机
Superfast Robotics
SmartAI Pro3.0 智能制造
OEE MES BI

SmartAI™ Pro 3.0

With over 10 years of accumulated automation experience and an understanding of customer application scenarios and process technologies, the Zhixin software development team has created the SmartAIPro 3.0 data system. This system uses a B/S architecture to integrate industrial software with automation equipment, extend communication networks, and obtain data on equipment operation and production processes. It allows cross-platform access, offers flexible software interfaces and a variety of hardware interfaces. Through analysis and processing, the data is transformed into reports, dashboard information, and analytical results, helping you make informed decisions to improve factory efficiency and overall equipment effectiveness, achieving 'intelligent manufacturing and smart factories.'

OEE Management System

Overall Equipment Effectiveness (OEE) allows you to easily and timely understand equipment operating conditions, helping you improve production efficiency, avoid losses, and reduce production costs.



TCP/IP Web service

MES Management System

Import equipment operation data, production data, and product quality data into an SQLite database, and interface with the MES system using various M2M technologies.

Communication Protocols and Interface Types
TCP/IP、Web Service、Modbus、RJ45Network Port, Serial Port

Seamless Integration

SIEMENS

(西门子)

Pangus





(盘古信息)

MOOREWIS

(摩尔元数)

Other Brands/Customized
EMS Systems

Technical Specification

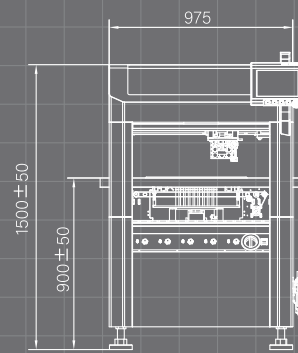
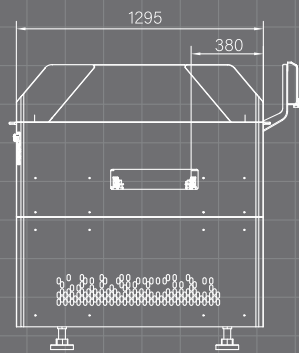
High-speed Irregular Shape Insertion Machine				
Model	680	1200	1600	1800
PCB Size	410*400mm	300*350mm	410*450mm	410*400mm
	800*400mm			
PCB Thickness	0.8-5mm			
PCB Weight	Max.6kg			
Clamping Edge Width	3mm/5mm			
Plugin Performance				
Insertion Speed	5300cph	1800cph	2000cph	1600cph
Insertion Cycle Time	0.68 sec/part	2 sec/part	1.8 sec/part	2.2 sec/part
Repeat Positioning Accuracy	±0.02mm			
Characteristics of Workhead				
Picking Method	Gripping/Pickup			
Number of Working Heads	6	4/6	4	4/6
Component Dimensions	40mm	35/50mm (Customized)		
Component Height	35mm	40/50mm (Customized)		
Component Weight	Max.300g	Max.500g		
Insertion Direction	0-360°			
Insertion Angle	Plane			Free Angle
PCB Conveyor System				
Conveying Structure	Three-stage			
Conveying Method	Belt/Chain			
Conveying Mode	Synchronous/Asynchronous			
Conveying Speed	Max.800mm/s			
Conveying Direction	L→R or R→L			
Width Adjustment	Automatic Width Adjustment			
Fixed Edge Position	Front End			
Component Clearance Height	Up 45 / Down 20			
Material Feeders				
Vertical Tape	20	20	20	20
Horizontal Tape	16	16	16	16
Tube Feeding	16	16	16	16
Tray Feeding	4	4	4	4
Vibratory Bowl Feeding	16	16	16	16
Machine Information				
Operating Voltage	220VAC ±10%	220VAC ±11%		
Power Rate	1.8KVA	1.8KVA	1.8KVA	1.8KVA
Operating Pressure	0.5±0.05Mpa 50L/min	0.5±0.06Mpa 50L/min		
Machine Port	SMEMA (European-style 14-pin)			
Machine Dimensions	975*1295*1500mm	1211*1111*1800mm	1211*1210*1800mm	1146*1011*1800mm
Machine Weight	1000kg	950kg	1050kg	950kg
Protections				
Certifications	ISO9001, CE			
Safety Door Design	Safety Door Switch (Stop when door opens), Safety Light Curtain			
Pressure Failure Alarm	Electronic Pressure Switch Protection			

Dimensions

Unit: mm

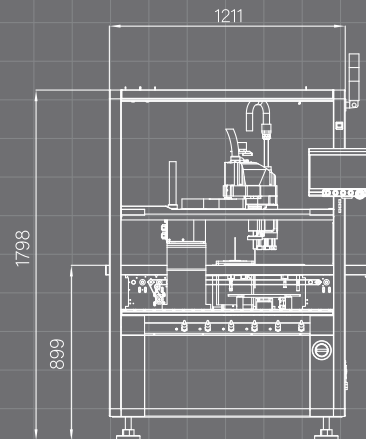
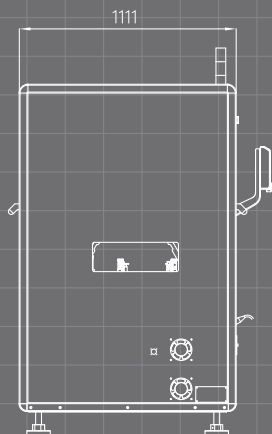
Superfast 680

Left View/Front View



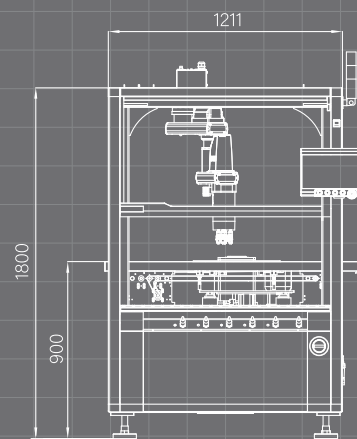
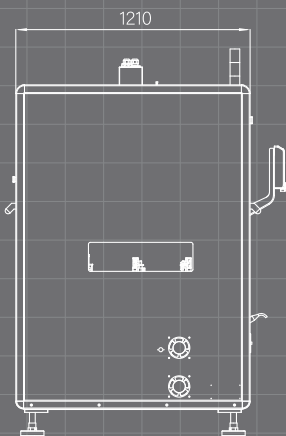
Robotics 1200

Left View/Front View



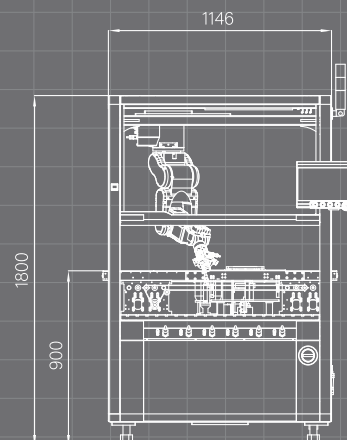
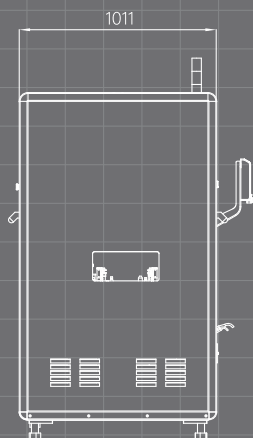
Robotics 1600

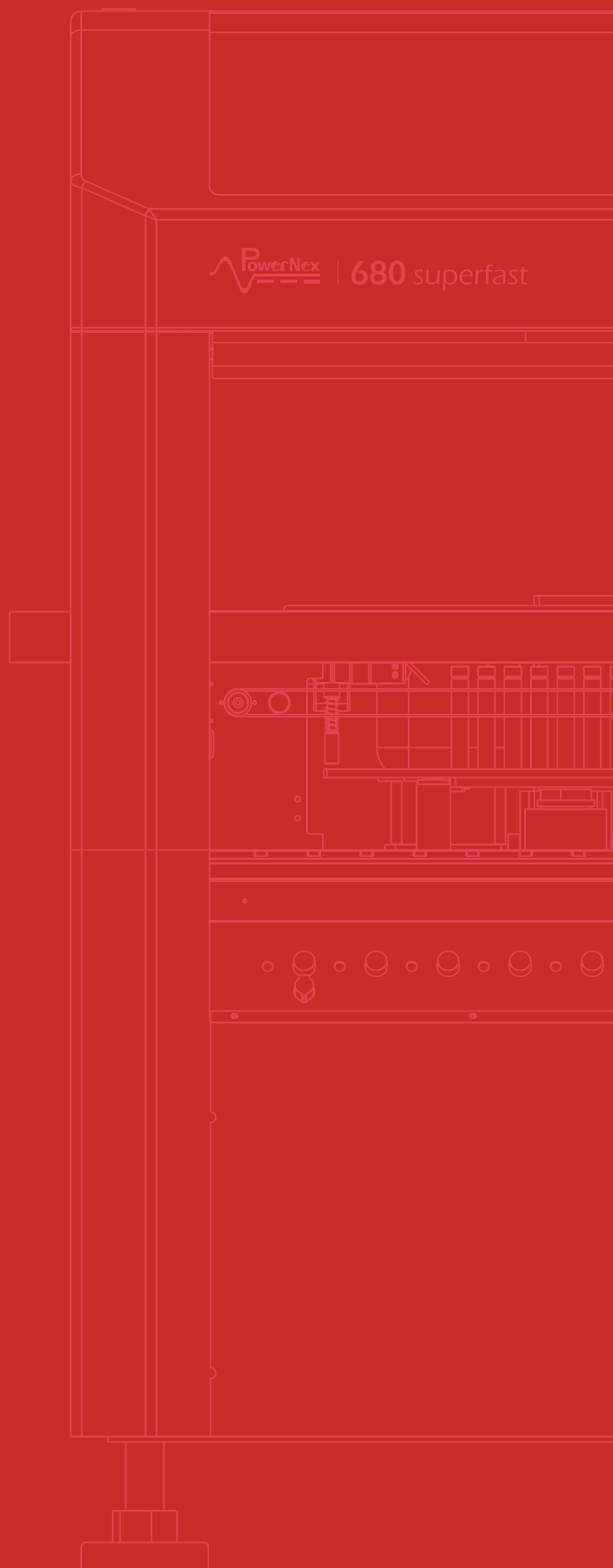
Left View/Front View



Robotics 1800

Left View/Front View





S H A R E W E L L



Contact Us



Share Well Technology
Official Account



Video Official Account

SUZHOU SHARE WELL AUTOMATION TECHNOLOGY CO., LTD.

www.sharewell.cc

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Tel : 0512-66188128

E-mail: info_swat@sharewell.cc