苏州施米特

SERVO PRESS SYSTEM

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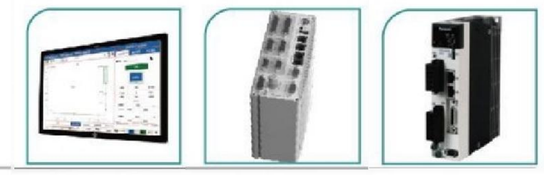
Make press data transparent



Simitch BP bending type series servo pressing machine suitable for precision assembly in the force range of 10-200kN

BP series servo pressing machine are committed to precision control and assembly monitoring to achieve the optimization of process engineering and improve quality and efficiency for enterprises.
For different assembly,connection,and test applications we have a wide range of models to meet customer requirements for complex work and production assembly.
We offer comprehensive solutions for all applications.

Simitch help you build your own intelligent factory

For 17 years,Simitch has been innovating,breaking through and improving,becoming the leading domestic set standard press-fitting,riveting,stamping,tightening unit,Industry 4.0 customer non-standard customization,industrail software,system integration research and development,manufacturing,sales services as one,first-class industrial prodcut assembly industry integrated service provider.
In the process of Industry 4.0, accelerating the structure of digital intelligent factory has become an important means of manufacturing to digital, network, intelligent transformation and upgrading.
Process optimization and capacity upgrading, real-time data traceability and analysis, provide intelligent manufacturing for enterprises to choose.

Application in Industry

Advantages

Servo motor is a set of assembly and measurement in one device, semi-automatic workstation and fully automatic equipment line can be integrated Simitch servo motor system. Press fitting, forming, riveting, stamping and elasticity test and other high-speed high-precision assembly process for the effective monitoring of force and displacement relationship. Can reduce the cost of manufacturing parts, assembly cost and inspection cost, but also to meet the customer's increasing precision machining, improve manufacturing requirements. To achieve intelligent assembly, evaluation, optimization and analysis to create value for customers.

Solid and durable

Modular design, compact structure
Larger mechanical structure design to ensure higher performance
Can be high frequency, high intensity of work

High precision

Displacement repeat positioning accuracy of up to 0.01mm, more than 5 million times of press life. 1% force control accuracy to ensure assembly quality.

Data traceability

Various parameter curves display
Diverse big data analysis reports record the production process
Use cloud technology to display equipment documents, production status, equipment status and data analysis, etc.

Intelligent production

Analysis and evaluation judgment of production process. Powerful press process assembly technology support, data analysis.

Customized software

Chinese menu interaction, menu hierarchy brief introduction clear, parameter setting is simple, easy to use.

Expandability

External displacement sensor
External force sensor
IO point can be expanded
Remote database and remote control press function

Characteristics

Process Function
Press to absolute displacement
Press to relative displacement
Press to absolute force
Press to relative force
Triggered by pressing the variable, triggering by pressing the VNO signal
Keep pressure
The force follows the driver and waits, and jumps the displacement compensation signal output.

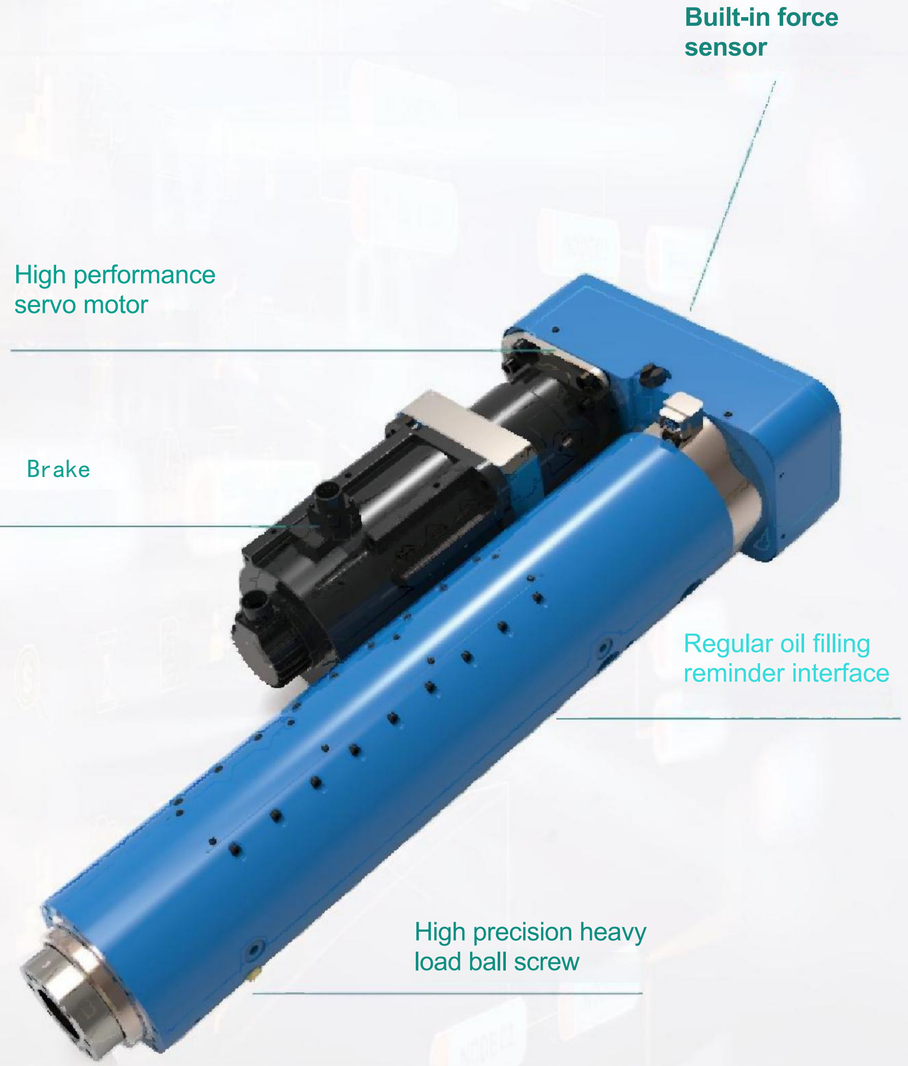
Curve display function
Internal force and internal displacement curve
Internal force and external first displacement curve
Second force and internal displacement curve
Second force and external displacement curve
Speed time curve display

Calibration function
Force sensor calibration
Displacement sensor calibration
Automatic calibration software

Positioning function
Optional dual force sensor function
Optional dual displacement sensor function
Develop new functions in accordance with customer processes
Remote database and remote control press function

Evaluation management output function
Call and view historical data
Diversified data output formats
Curve data includes tolerance window and other information
Supports fast import and export of data formulas

Servo Press System Structure



Scope of supply

Servo Press

Sturdy and durable ball screw and other transmission mechanisms
Integrated built-in strain pressure sensor
Absolute encoder forms an integrated servo press

Servo Motor Drive

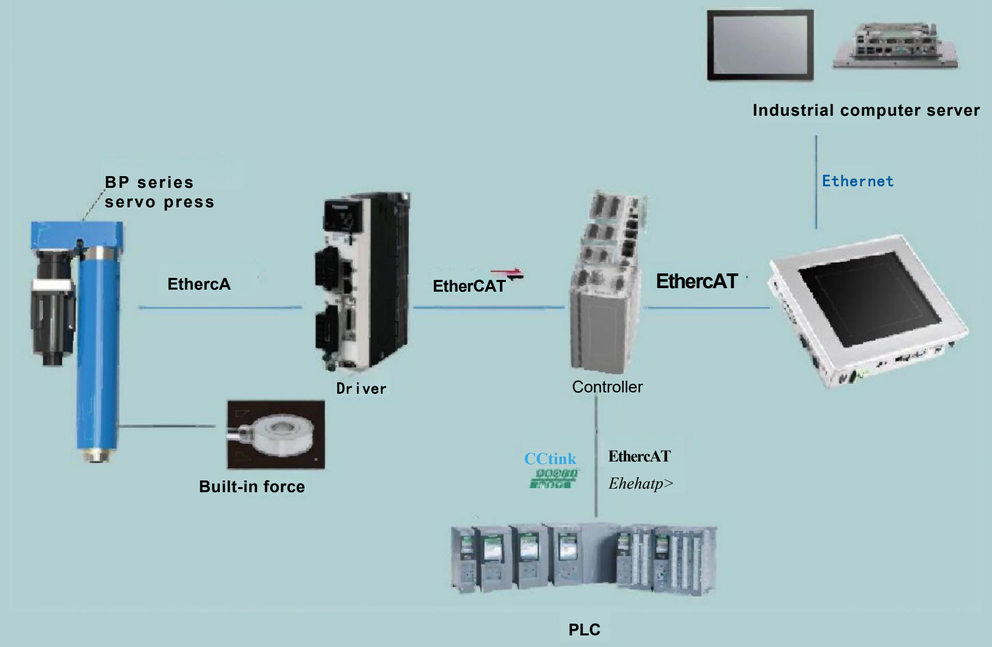
Process Monitor

Instrument Display

Supporting cables

Standard servo press power cable
Absolute encoder cable
Force sensor cable

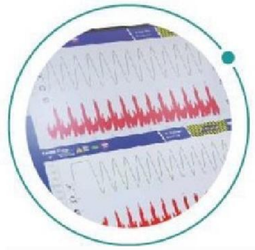
Network system diagram



Configuration Form

Model	Description
SMT-BP-10-300	BP series servo drive contains filter and absorption resistor;
SMT-BP-30-300	BP series servo drive contains filter and absorption resistor;
SMT-BP-60-300	BP series servo drive contains filter and absorption resistor;
SMT-BP-100-300	BP series servo drive contains filter and absorption resistor;
SMT-BP-150-300	BP series servo drive contains filter and absorption resistor;
SMT-BP-200-300	BP series servo drive contains filter and absorption resistor;

Monitoring System



88 parameter curve displays
Up to 20 evaluation tools can be set simultaneously

Can collect and present more than 45 types of process data
Various big data analysis reports record the production process

Adopt database storage method to meet the rapid access of massive data

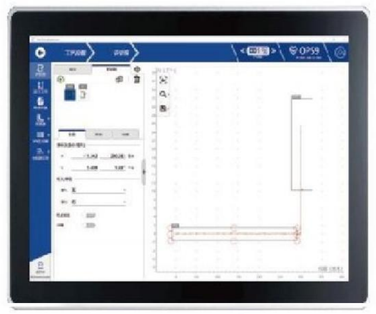
Display equipment documents, production status, equipment status and data analysis through cloud technology

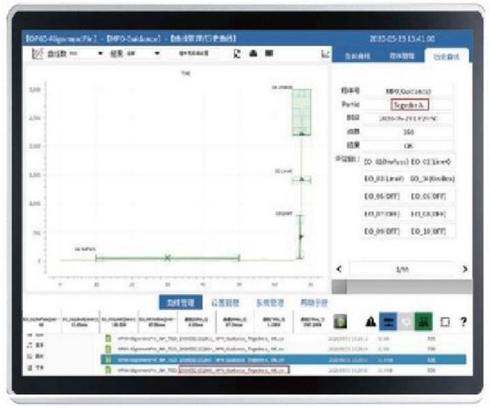
- Main Screen
- Multi-screen monitoring area

- Rich evaluation windows
- The system includes 18 evaluation windows

- Flexible program editing,
- Built-in multiple program modules,no need for external PLC

- Historical curves can be trace
- The barcode scanner PARTID can be bound to this system through bus communication to achieve traceability



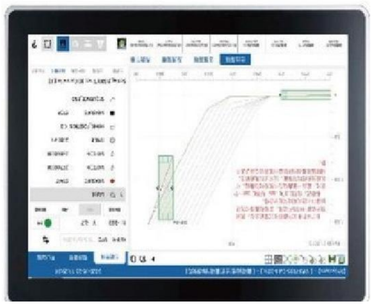


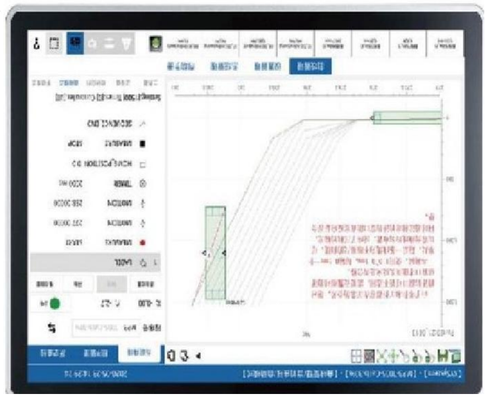
●Rich bus communication functions

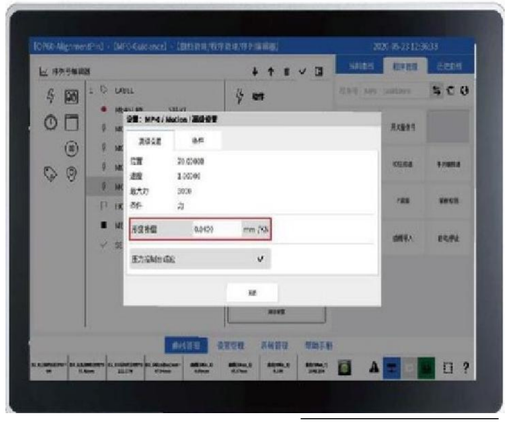
●Powerful data analysis can achieve automatic statistical evaluation

●Special function - reference point

●The evaluation window X|Y is a relative value and can be dynamically evaluated relative to a certain force or maximum displacement.





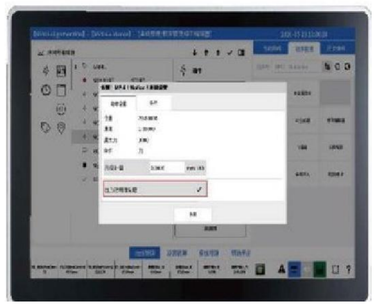


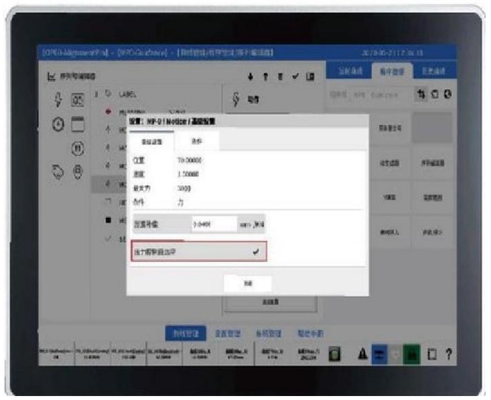
●Special function - deformation compensation

●When controlling displacement, set the deformation coefficient to realize compensation function

●Special function - pressure control adaptive adjustment

●High-speed pressure is too large, adaptive regulation effectively alleviates overshoot, through PID regulation





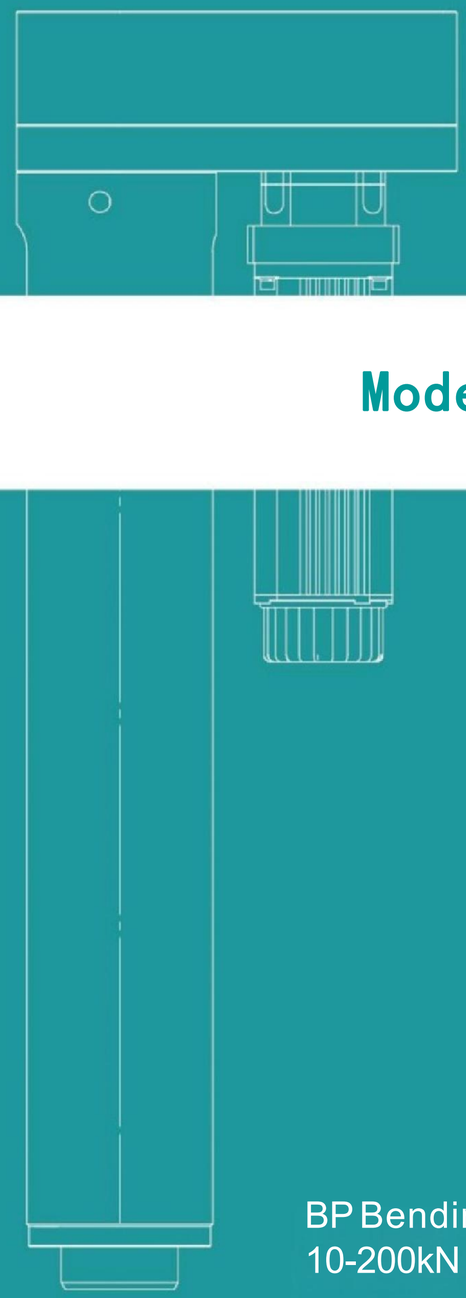
Control system features

○ | High efficiency interaction
Full Chinese interface, information display area partition
Menu hierarchy clear
Quick jump, parameter quick setting

○ |Multi-functional
Functional sensor fusion technology, can achieve a variety of control modes
A variety of communication modes, can meet a variety of complex online mode and data, command communication requirements
Up to 28 evaluation tools, can be freely combined to meet the diverse process requirements

○| Pressure displacement monitoring system
A single display module (DIM) can be casc aded up to 8 groups of evaluation module (MEM)
Measurement signal type: Y (X), Y (t), Y (X, t) and X (t)
Evaluation mode: UNI-BOX, LINE-X, LINE-Y, ENVELOPE, NO-PASS, HYST-Y, HYST-X, GRAD-Y, GRAD-X, TUNNEL-BOX-X, TUNNEL-BOX-Y, BREAK, CALC, AVERAGE, GETREF, SPEED, TIME
Four evaluation conditions can be set on each curve
Sampling speed: 20000 S / s

○ 1 Compatibility
No authorization required
Operation software can run under WINDOWS

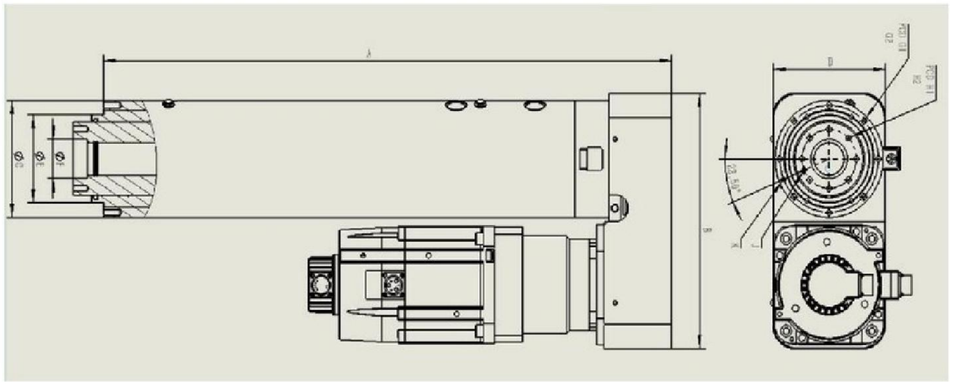


Model Selection

BP Bending type
10-200kN

BP Bending type

100	300
Output(KN)	Standard stroke(mm)
10-10KN	100/200/300
30-30KN	100/200/300
60-60KN	100/200/300
100-100KN	100/200/300/400
150-150KN	100/200/300/400
200-200KN	100/200/300/400



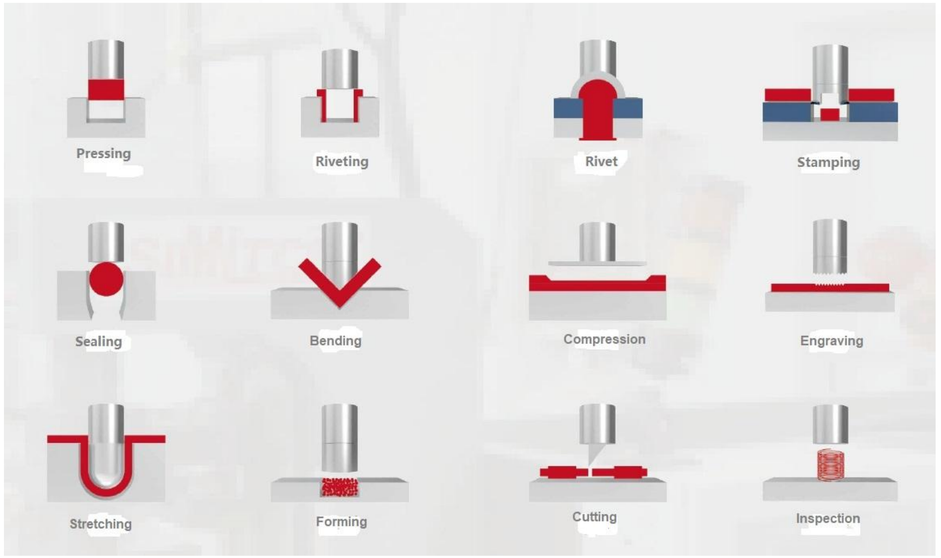
Model	Stroke	A	B	C	D	E(g6)	F(G6)	G1	G2	H1	H2	J(H7)	K(H7)
SMT-BP-10-300	300	687	250	Φ92	112	Φ68	Φ32	Φ84	M5 depth 10	Φ40	M5 depth 10	Φ4 depth 10	Φ4 depth 10
SMT-BP-30-300	300	784	283	Φ119	134	Φ85	Φ38	Φ108	M6 depth 12	Φ52	M6 depth 12	Φ5 depth 10	Φ5 depth 10
SMT-BP-60-300	300	872	343	Φ148	163	Φ110	Φ54	Φ135	M8 depth 16	Φ67	M8 depth 16	Φ6 depth 10	Φ6 depth 10
SMT-BP-100-300	300	958	390	Φ178	187	Φ134	Φ60 depth 20	Φ163	M10 depth 20	Φ90	M12 depth 24	Φ8 depth 15	Φ6 depth 10
SMT-BP-150-300	300	1015	408	Φ198	204	Φ154	Φ80	Φ183	M12 depth 24	Φ110	M12 depth 24	Φ8 depth 15	Φ6 depth 10
SMT-BP-200-300	300	1115	499	Φ228	238	Φ172	Φ85	Φ208	M12 depth 24	Φ115	M12 depth 24	Φ8 depth 15	Φ6 depth 10

Technical Parameters

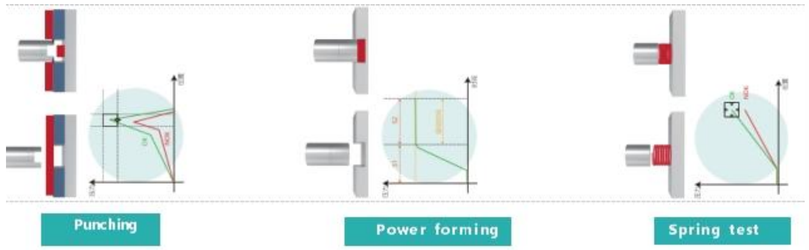
Model	30 0-	SMT-BP-30-300	SMT-BP-60-300	SMT-BP-100-300	SMT-BP-150-300	SMT-BP-200-300
Rated pressure (KN)	10	30	60	100	150	200
Maximum stroke (mm)	300	300	300	300	300	300
Maximum speed (mm/s)	300	200	200	160	110	140
Repeat displacement accuracy (mm) Force	_0.01	0.01	0.01	0.01	0.01	0.01
measurement accuracy (%)	1	1		1	1	1
Rated voltage (V)	380	380	380	380	380	380
Life	>5million	>5million	>5million	>5million	>5million	>5million
Applicable environment	0-40℃	0-40℃	0-40℃	0-40℃	0-40℃	0-40℃
Noise (db)	<75	<75	<75	<75	<75	<75
Rated power (KW)	1.5	1.5		4.4	4.4	7.5

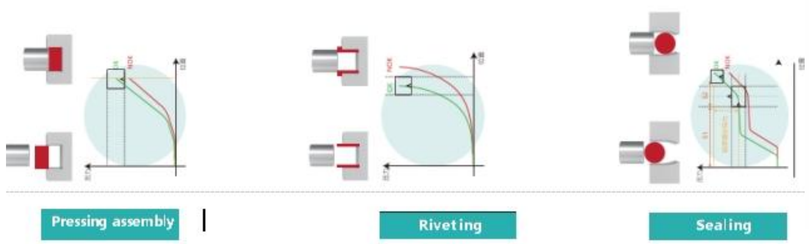
Software system	**1 channel pressure, 1 channel displacement**
Technical parameters	Support
Channel	Support
External displacement sensor	10kHz
External pressure sensor	0.1-2000Hz
Data acquisition frequency	Y=f(x),y=f(t),Y=f(X),X=f(t)
Low-pass filter	5000000
Curve relationship	
Curve acquisition points	100000 pieces
Storage data record	Simultaneous monitoring of 4 presses
Split screen display	8input，8output
IO channel	
Bus type	Profinet/Ethernet IP/EtherCAT/CClink/Modbus/CanOpen
Evaluation Window Type	Linear type - force limit, displacement limit, force hysteresis, displacement hysteresis Rectangular frame type - four-side entry/exit definition Envelope line type - custom type, envelope capacity type, automatically generated envelope line type Inflection point box - automatic recording of X/Y values of curve trend change points Multiple evaluation windows can be integrated

Application type



Typical Application





Application

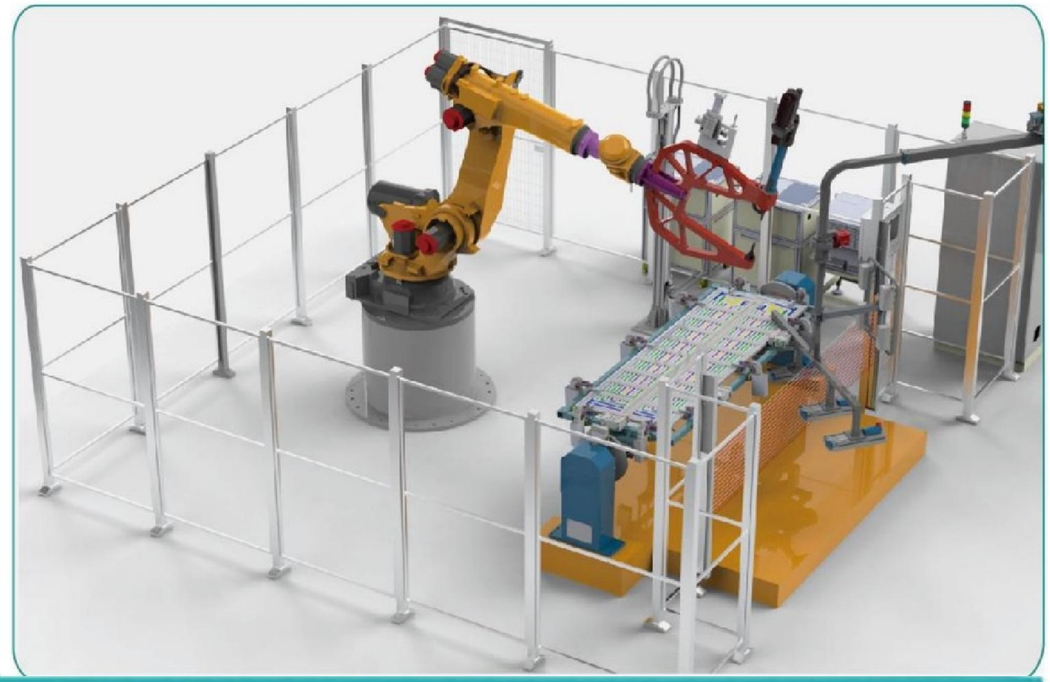
Intelligent riveting unit for front wheel cover of new energy vehicles

Application

Intelligent riveting unit for shock tower of new energy vehicles

Application

Intelligent riveting unit for sheet metal connection of new energy vehicles



Application

Precision press-fitting unit for rear subframe of automobile

Application

Automobile control arm precision press fitting unit