EGROECO

FLEXIBLE MANUFACTURING EXPERT

INTELLIGENT

SCREW TIGHTENING SERIES

Flexible Manufacturing System

OUR VALUES

Respect

Respect customers, respect employees, tolerance of different ideas and personalities

Innovation

Product innovation and technological innovation will always maintain the power of innovation

Efficient

Continuous creation of efficient tools without sacrificing long-term value for short-term gain

Win-win

Win-win with customers and employees, adhering to the original intention of win-win cooperation

Screw tigntening robot

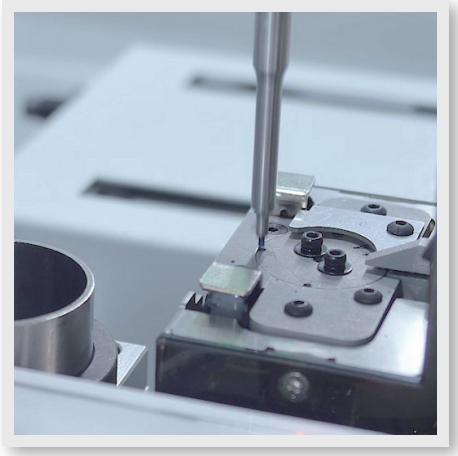
PK

Manual tightening screws

1.5 ~ 3s / pcs	EFFICIENCY	5s / pcs
0 ~ 1/ people	MANPOWER	2 ~ 3 / people
Up to 99.95%	YIELD	It varies from person to person
Real-time monitoring of the whole process of tight payment and timely alarm in case of abnormality	EXCEPTION HANDLING	Manual detection is uncontrollable
High-precision torque control, real-time data monitoring and adjustment	TORQUE CONTROL	Rely on employee experience
Stable operation and almost no management cost	MANAGEMENT COSTS	High turnover rate, uneven quality of personnel and high management cost
One-time investment without continuous investment	INPUT COST	Continuous investment, facing problems such as rising wages and recruitment costs

DO YOU KNOW
WHY CHOOSE US ?

WHAT IS THE DIFFERENCE BETWEEN INTELLIGENT TIGHT AND PAYMENT ROBOT?

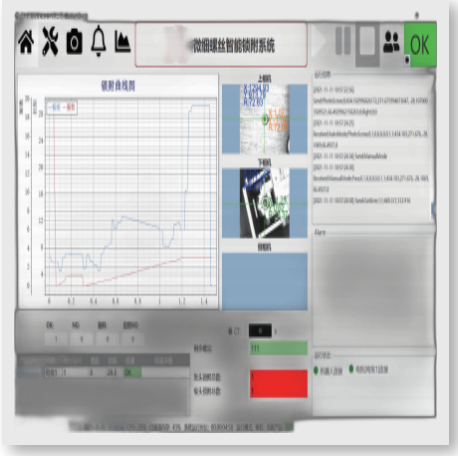


Exclusive for micro screws

Specially designed for micro screw research and development, the smallest can support M0.6 screw tight, the pursuit of more accurate “screw”.

Controllable core process

Independent research and development of core components and control algorithms, torque control accuracy up to 3%, to achieve a more professional “screw”.



The tight payment yield is higher

Own tight payment software, real-time monitoring of tight payment process, more Tactic slip-tooth, float-height detection, yield up to 99.95%, to achieve a more stable “screw”.

Complex scenarios apply

Explore the actual tightening scenario, and developsuitable products for special scenarios such asinterference, countersink, side, etc., which aresuitable for more complex “screw”.

INTELLIGENT TIGHTENING ROBOT

Specially developed for micro screws

Minimum support M0.6 screw tightening pair

Multi-scenario application

Support operation under various working conditions such as plane, counterbore and unilateral interference

High precision identification

Magnification 0.228, high precision visual recognition

Real-time monitoring

The whole process of tight monitoring, real-time monitoring of sliding teeth, floating height, missing tight, the rate of good products is as high as 99.95%

Short delivery time

Standardized and modular design, quick adjustment according to demand, short delivery time

High precision algorithm

Supporting tight control software, 16 different parameter tightening tasks

Basic parameters

Screw Specification	M0.6~M6
Power	1500 W
Power Supply	AV220 / 10A
Arm Length	1shaft arm 325mm 2 shaft arm 265mm
Repeatability	1~2 joints : ±0.02mm 3 joints : ±0.03mm

Optional

Secondary Localization Vision	00 No / 01 Yes
Moving Vision	00 No / 01 Yes
Floating Height Detection	00 No / 01 Yes
Automatic Torque Calibration	00 No / 01 Yes

CUSTOM SELECTION

Selection of screw feeding method

Screw feeding method	Code	Scope of application	Characteristic
Aspiration type nail feeding	A	Screws with a length to diameter ratio of less than 1.5	Suitable for micro screw tightening
Air blow type nail feeding	B	Screws with a length to diameter ratio greater than 1.5	Suitable for tightening pairs of screws above M3

Retainer selection

Retainer type	Code	Scope of application	Characteristic
Direct connection retainer	SFM	Conventional flat screw tightening pair	Torque loss < 1%, service life > 50,000 times
Angle retainer	ZJ	Tightening pair with interference and side tightening pair	
Counter bore tight module	CK	Deep hole tight	

Selection of batch head

Head of the batch	Code
Screw size	M0.8 / M1.0 / M1.2 / M1.5 / M2.0 / M2.5
Non-standard customization	Support

SELECTION EXAMPLE

The selection of screw feeding mode, retainer and head should be based on your actual application requirements. It is recommended that you contact our business personnel to help you recommend the most suitable selection.

MODULE TIGHTENING ROBOT

Suitable for micro screws

Self-developed high-precision micro-screw tight power supply, the minimum support M0.6 screws.

Multi-scenario application

Support operation under various working conditions such as plane, counterbore and unilateral interference

High precision identification

Magnification 0.228, high precision visual recognition

Real-time monitoring

The design of screw cache detection position can effectively monitor the nail holding condition and avoid the failure damage caused by nail clamping.

Short delivery time

Standardized and modular design, quick adjustment according to demand, short delivery time

Buffer module

The tight module is provided with a buffer module to effectively avoid collision with the product

Basic parameters

Screw Specification	M0.6~M8
Power	900 W
Power Supply	AC 220V
Repeatability	±0.02mm
Arm Length	X-axis 100~700mm Y-axis 100~300mm Z-axis 100mm
Speed Of Movement	X/Y axis 1000 mm/s Z-axis 500 mm/s

Optional

Secondary Localization Vision	00 No / 01 Yes
Moving Vision	00 No / 01 Yes
Floating Height Detection	00 No / 01 Yes
Automatic torque calibration	00 No / 01 Yes

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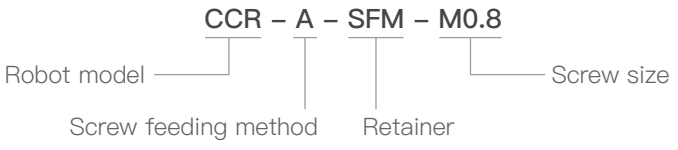


INTELLIGENT TIGHT POWER PAYMENT BATCH

3M Long Cable

The ultra-long cable meets the long-distance transfer link.

Adapter

Data adapter

Screw Tight Electric Screwdriver

Specially designed for micro screws (M0.6-M2.5).

Flexible And Convenient

16 tightening tasks with different parameters, each task can be completed in 9 steps, which can flexibly cope with various tightening conditions

Human-computer Interaction

Optional display screen all-in-one machine, human-computer interaction interface is easy to learn and deploy quickly

High Precision

Equipped with high-precision torque control algorithm, the torque control accuracy reaches 3%

Specially Developed For Micro Screws

Specially designed and developed for micro screws (M0.6-M2.5), supporting automatic machine use, able to tight screws with any length-diameter ratio, ensuring that the tightening system meets customer needs

Long Life

Millions of fatigue tests, effectively guarantee the service life of products and reduce maintenance problems

Smart And Efficient

Provide intelligent tight software, powerful, easy to operate; The interface displays the torque and turns curve of the tightening process in real time, and the data collection and exception handling are carried out in time, which can monitor the whole tightening process.

PRODUCT MODEL

SFM – S

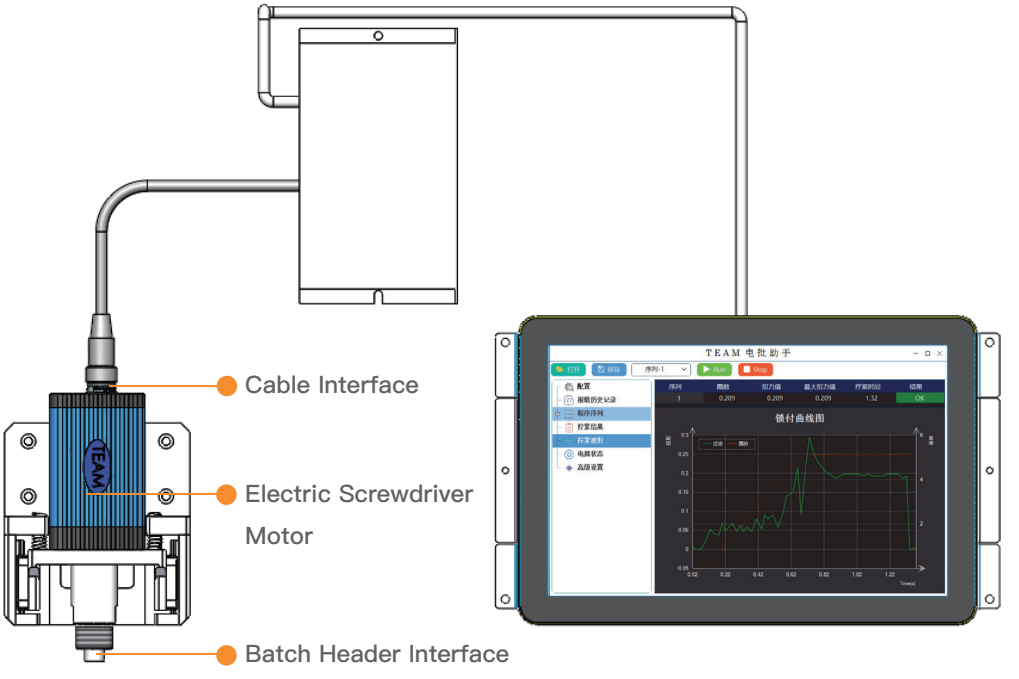
Screw size	M0.6 ~ M1.6
Target Torque Settings	0.1 ~ 0.6 kgf.cm
Dimensions	51.6*40.5*86 mm
Accuracy	±0.01 kgf.cm

SFM – L

Screw size	M1.2 ~ M2.5
Target Torque Settings	0.3 ~ 1.4 kgf.cm
Dimensions	51.6*40.5*106 mm
Accuracy	±0.01 kgf.cm

Power supply	Motor (control mode)	Means of communication	Rotating speed	Rotation mode	Mode of operation
DC24V(3A)	Stepper motor (closed loop)	Modbus TCP	3600 rpm	CW:Clockwise CCW:Counterclockwise	3 modes (turns/duration/step)

SCHEMATIC DIAGRAM OF HUMAN–COMPUTER INTERACTION OF ELECTRIC SCREWDRIVER



* Note: The display screen is optional, and the size is 10.1 inches

ELECTRIC BATCH SUPPORTING SOFTWARE

Software interface:

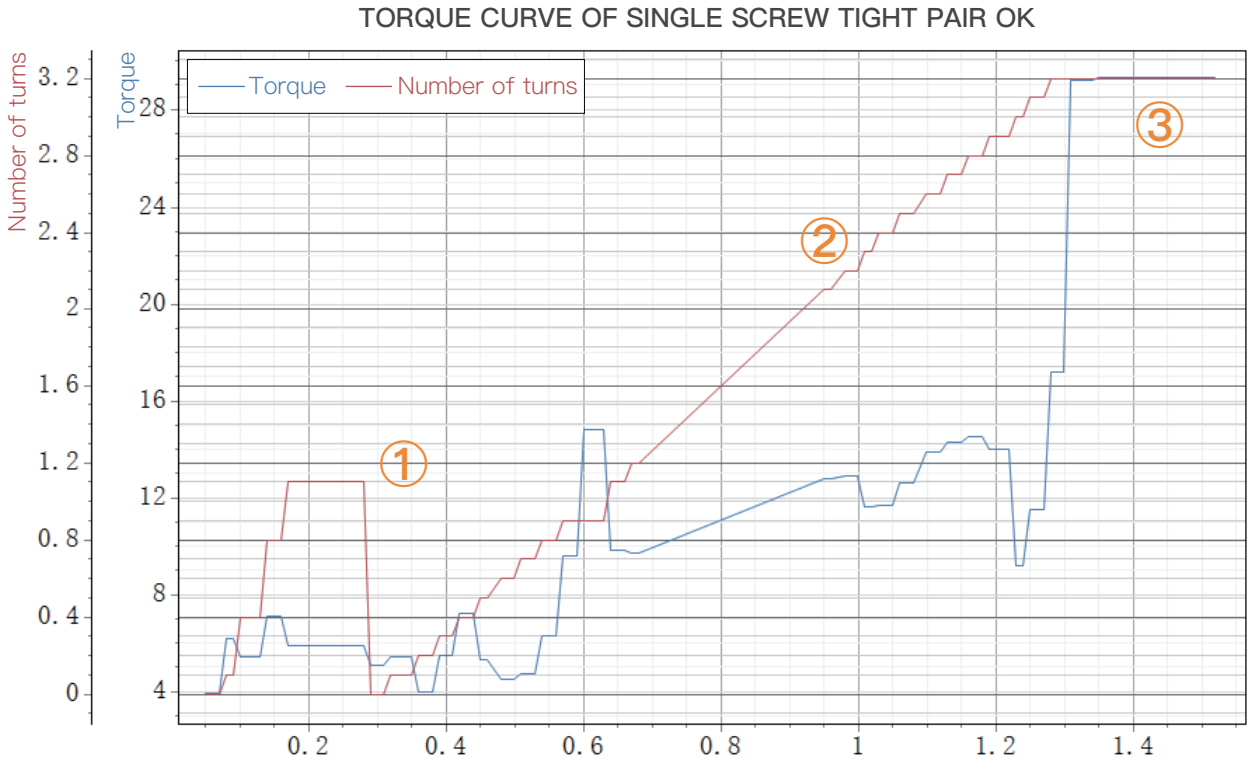
The program monitors the whole process of tight payment in real time

The tightening process comprises the following three steps:

1.Tooth recognition stage —— Set a slower speed of 1 ~ 2 circles to ensure effective tooth entry;

2.Tightening stage —— Screw in the screw at the fastest speed according to the actual tooth length of the screw to ensure the tightening efficiency;

3.Torque holding phase —— The last one or two laps of torque climb, with a slow speed to ensure that the torque is accurate and stable, to prevent torque overshoot.



DETECTION OF TORQUE, NUMBER OF TURNS, FLOATING HEIGHT, INCLINATION AND SLIPPAGE

Set torque: √
Set number of turns: √

Result judgment OK

For example, set the torque value to 1Nm and tight the number of turns to 10.

After the tightening procedure is executed, the real-time monitoring data is fed back. When the torque value reaches 1Nm and the number of turns reaches 10 turns, the software judges that the tightening result is OK and outputs an OK signal.

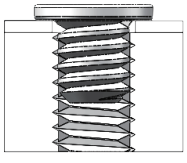
Set torque: √
Set number of turns: ×
Judgment result: floating height

Result judgment NG

1、Floating height detection

For example, set the torque value to 1Nm and tight the number of turns to 10.

After the tightening procedure is executed, the real-time monitoring data feedback shows that the torque value reaches 1Nm and the number of turns is only 5. At this time, the software judges that the tightening result is NG and the NG category is floating high, and outputs NG signal.



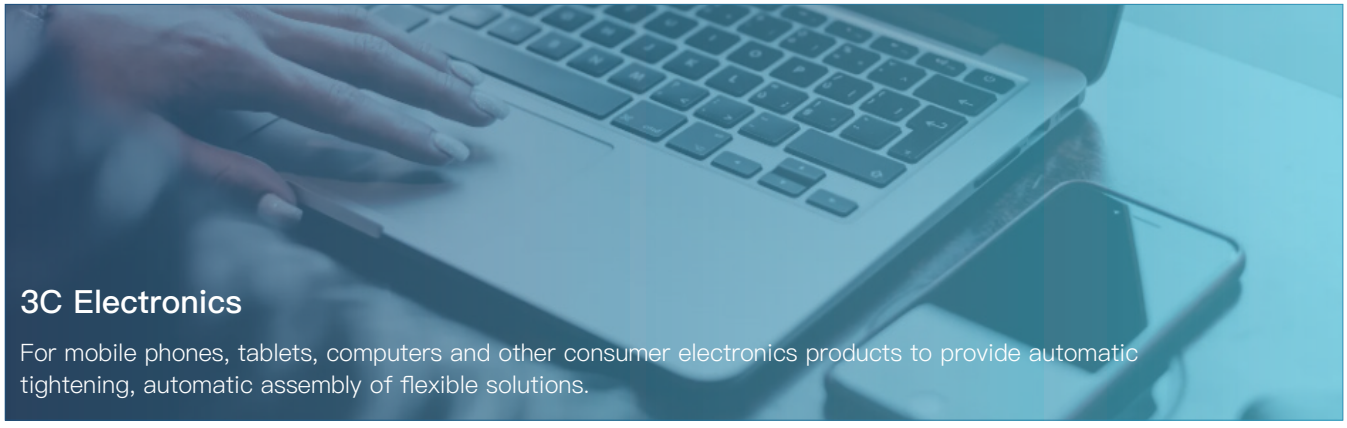
Set torque: ×
Set the number of turns: √
Judgment result: Idling (slippage)

2、Sliding tooth detection

For example, set the torque value to 1Nm and tight the number of turns to 10.

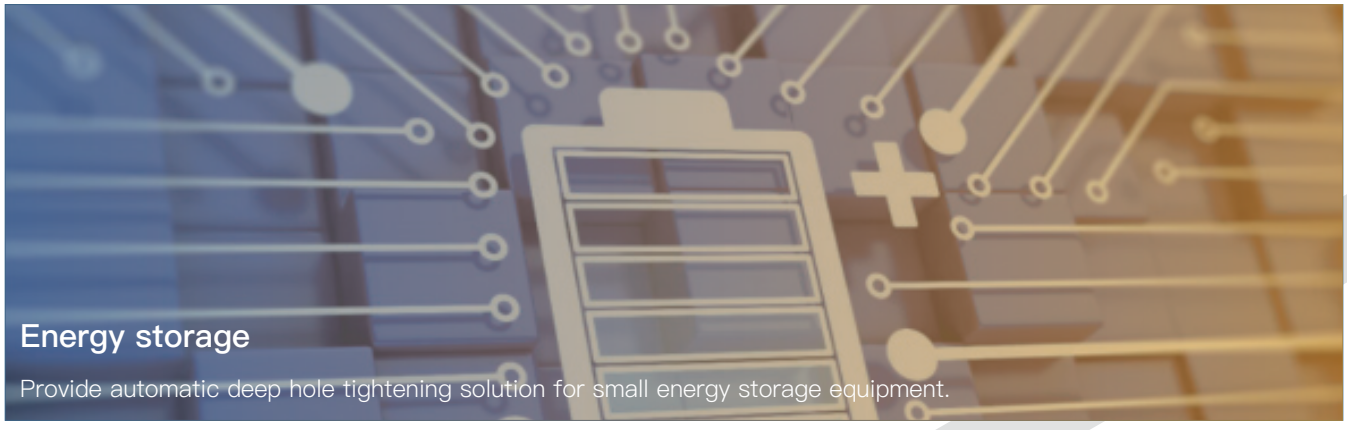
After the tightening procedure is executed, the real-time monitoring data feedback shows that the number of turns has reached 10, and the torque value has been less than 1Nm. At this time, the software judges that the tightening result is NG, and the NG category is idling (sliding thread), and outputs NG signal.

Application Industry



3C Electronics

For mobile phones, tablets, computers and other consumer electronics products to provide automatic tightening, automatic assembly of flexible solutions.

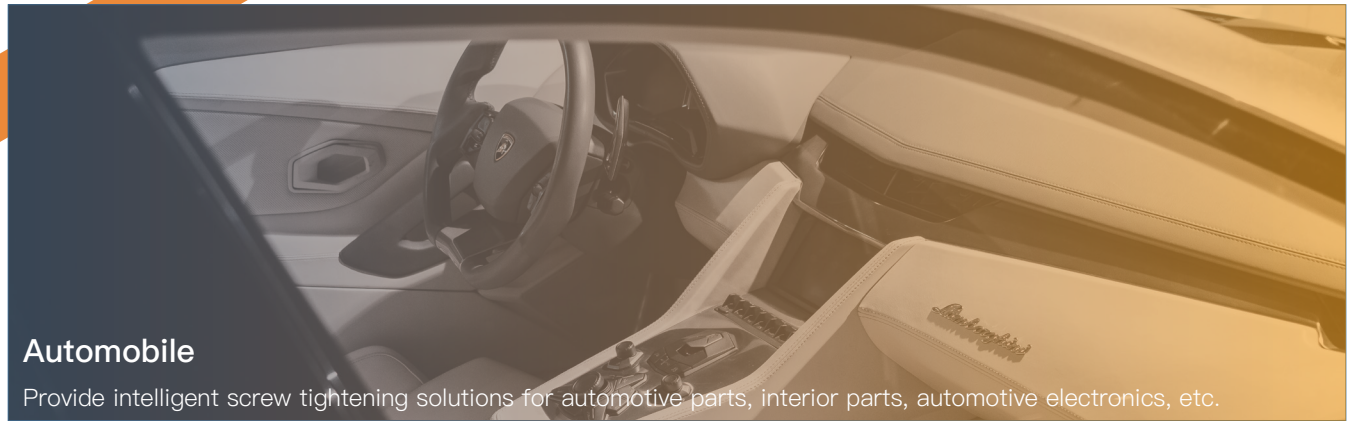


Energy storage

Provide automatic deep hole tightening solution for small energy storage equipment.

Power tool

Provide automatic intelligent screw tightening solution for power tools.



Automobile

Provide intelligent screw tightening solutions for automotive parts, interior parts, automotive electronics, etc.

More products

Flexible Feeding

SCARA Fixture

Robot

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Scan the code and add WhatsApp to get more product information

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Take flexible manufacturing as the core
to help the global factory industry 4.0 landing

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