AND 艾而特

CE RoHS

Catalogue No.AND-P23.09-V19

Product Catalog of

Smart Screwdriver

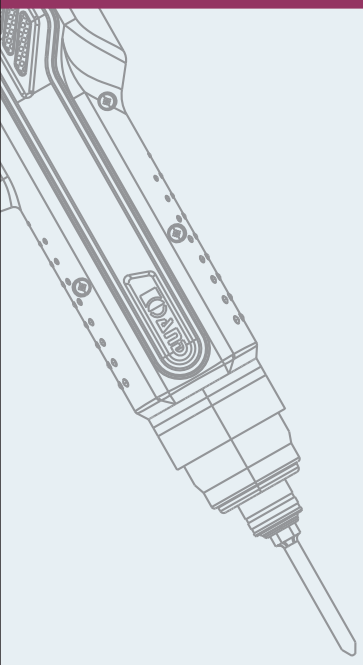
Digital control of

Torque Speed Angle

The smart automatic tightening equipment that is indispensable for your assembly line

FULLY CUSTOMIZABLE SOLUTIONS

To help you build your smart factory



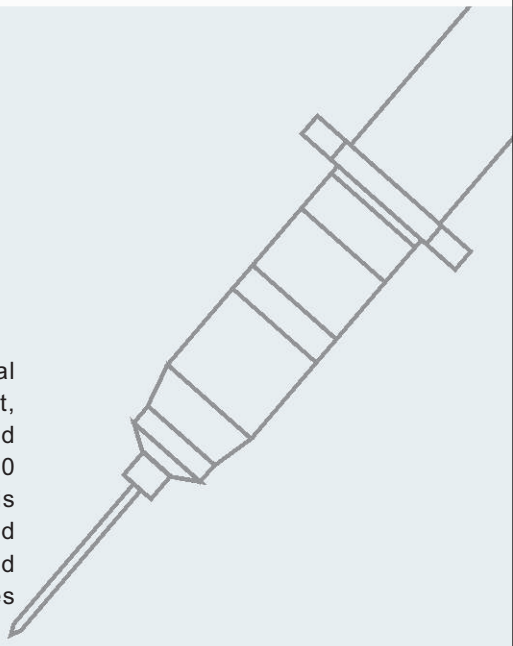
Company Profile

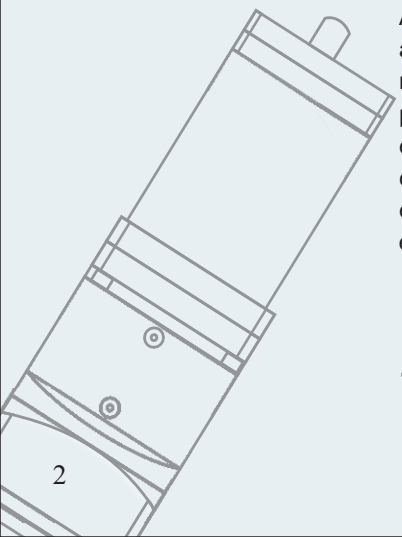
Shenzhen AND Engineering Co.,Ltd. is a professional enterprise specializing in the research and development, production and sales of intelligent electric screwdrivers and peripheral products, which was founded on April 20, 2000 and located in Futian District, Shenzhen. The company is committed to providing customers Domestic and abroad with high-quality intelligent Tightening tools and professional screw fastening solutions, to help enterprises tobuild intelligent factory.

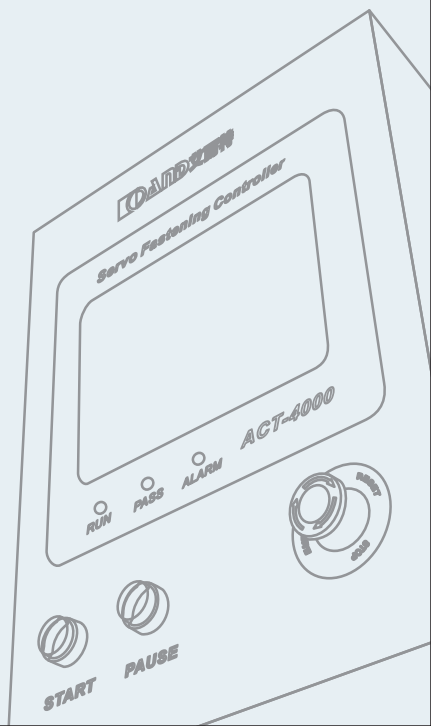
The company has a group of excellent team engaged in the research and development, production and management of intelligent screwdriver, adhering to the "Integrity, Diligence, Innovation" service concept, and continue to Tightening tools.

With the service concept of "integrity, diligence, innovation", the company continues to carry out innovation and scientific and technological research and development of Tightening tools, providing customers with a steady stream of suitable Tightening tools and creating higher market value and benefits.

At the same time, the company also provides all kinds of FA automation spare parts and equipment, such as single-axis manipulator, scara manipulator, working platform, air pressure gauge, etc. For the world's major industrial electronics, electrical appliances, lighting, 5G base station communication, 3C electronics, automotive and other enterprises to improve production efficiency, help enterprises to achieve rapid development.







MANAGING YOUR TORQUE ACCURATELY

Reduce administrative costs and improve production efficiency

CONTENTS

WHY CHOOSE US?

- Wide Torque Coverage: Capable of accommodating a variety of tightening applications due to its extensive torque range.
- One-Stop Service: Offers a comprehensive solution including the tool itself, accessories, and software
- High reliability. Features a Tamagawa Permanent Magnet Synchronous Servo Motor.
- Equipped with High-Precision Reducer and Sensor

Digital control of

Torque Speed Angle

Features of AND Screwdriver

- **Wide Torque Range Coverage:**

  Supports a wide torque range, meeting the tightening requirements of various applications. (From securing small screws in 3C industries like mobile phones to meeting high torque demands in heavy industries like automotive manufacturing) Custom screw driver bits can be made according to customer needs.

- **One-stop service**

  Comprehensive package available: includes intelligent screw machine, controller, software, screws, air blowers, screw feeders, balancing arms, and screwdriver bits.

- **Digital control (torque, speed, Angle)**

  With unique control technology, torque values during the Tightening process can be set and managed, enabling complete digital control of torque, speed, and angle.

- **High precision**

  The torque precision can reach ±5%, fulfilling product quality control requirements.

- **Superior Performance**

  Advanced Japanese motor technology, offering higher dynamic response and more stable torque output, meeting the needs of various extreme tightening processes.

- **Long Lifespan**

  Features permanent magnet synchronous servo motors, ensuring a longer product lifespan.

- **Data Monitoring and Traceability**

  Collects data and handles anomalies, displaying real-time tightening data including torque, angle, and time, and reducing rework costs due to issues like floating or stripped screws.

- **Storage Data**

  Local storage capacity for 600 days of tightening records, with support for data upload.

- **Multiple Tightening Strategies**

  Capable of implementing various strategies like single-step, two-step, self-tapping, and mating surface, customizable for various applications.

- **Industrial Design**

  Egonomically designed to increase comfort.

- **Visual Display**

  Equipped with a screen and LED lights for better visibility and faster problem identification, improving problem-solving efficiency.

- **Multiple Communication Methods**

  Supports RS232, RS485, Ethernet, and other communication protocols, enabling high-speed Ethernet access and strong expandability.

Application

3C

Auto parts

Auto electronics

EV

Telecommunications

Home appliances

Medical

Aerospace

Military Industry

High-speed rail

Standard Combination and Accessories

We can provide you with a one-stop solution, ensuring precise control while enhancing your production assembly efficiency.

Standard Combination

- Screwdriver it self
- Controller
- Cable
- Control software

Optional Accessories

- Balancing Arm
- Batch Rod / Screwdriver Bits
- Screw Air Blower
- Pistol shape Handel
- Screw Feeder
- Code Scanner

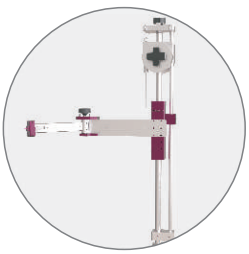
Other Optional Products

- High- Quality Single- Multi-Axis Robots
- SCARAb Robot(Four Joint)
- Platform Robot
- Smart Assembly Platform
- screws

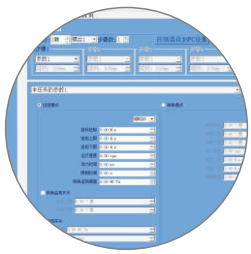
Screwdriver

Controller

Batch Rod / Screwdriver Bits



Balancing Arm

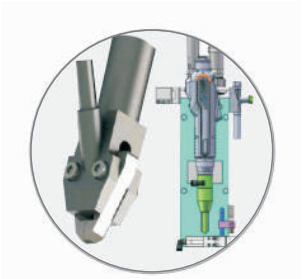


Control software

Cable

Pistol shape Handel

Intelligent assembly table



Nozzle/Pendant

Screw feeder

Code Scanner

Hand Hold
Smart Screwdrivers

Equipped with the TAMAGAWA permanent magnet synchronous servo motor.

- Patented Design with a good grip, non-slip feeling comfortable and secure.
- Efficient heat dissipation design, ultra-low noise while operation.
- Equippedwith efficient and powerful servo motor.
- Equipped with high accuracy sensors and status indicating LED.
- With Power transmission mechanism of high precision reducer.
- Meet the standard of EN62841,EN 61000,EN 55014,etc.

⚠ For ergonomic excellence, use the hand-held screwdriver with the balance lever (see section P42 Balance Lever in this document).

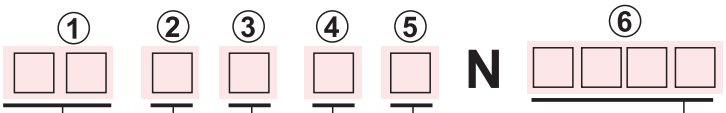
DC 15W　　DC 40W　　DC/AC 90W

Technical Specifications

Motor Power	Model	Adapted controller	Tool cable	Torque output range kgf.cm	Torque output range N.m	Torque output range lbf.in	Speed range (rpm)	Adapted outer diameter of screw (mm) [*Note]	Applicable batch head	weight (kg)
DC 15W	*HE1110*	ACT-H60□□	C511□-A	0.10~1.30	0.01~0.13	0.09~1.15	1~5000	1.0~1.7	Tail (Φ4mm)	0.30
		HNB11□□								
	HF1110	XDS/T11□1		0.20~1.30	0.02~0.13	0.18~1.15				
	HF1340	ACT-H61□□		0.60~5.50	0.06~0.55	0.54~4.87	1~1200	1.4~2.5		0.30
		HNB13□□								
		XDS/T13□1								
DC 40W	*H□2120*	ACT-H00□□	C511□-A	0.20~2.30	0.02~0.23	0.18~2.04	1~5000	1.0~2.0	Tail (Φ4mm)	0.40
		HN□21□□								
		HM□21□□								
		XDS/T21□1								
	H□2350 *H□2351*	ACT-H01□□		1.50~9.00	0.15~0.90	1.33~7.97	1~1200	2.0~3.0	Tail (Φ4mm) Hex (6.35mm)	0.50
		HN□23□□								
		HM□23□□								
		XDS/T23□1								
	H□2460 *H□2461*	ACT-H02□□		2.00~12.00	0.20~1.20	1.77~10.62	1~1000	2.0~3.5	Tail (Φ4mm) Hex (6.35mm)	0.50
		HN□24□□								
		HM□24□□								
		XDS/T24□1								
	H□2571	ACT-H03□□		5.00~16.00	0.50~1.60	4.42~14.16	1~800	2.5~4.0	Hex (6.35mm)	0.60
		HN□25□□								
		HM□25□□								
		XDS/T25□1								
DC 90W	*HE3111*	ACT-H71□□	C511□-A	1.00~7.00	0.10~0.70	0.88~6.20	1~5000	2.0~2.5	Hex (6.35mm)	0.90
		XDS/T31□1								
	HE3221	ACT-H72□□		6.00~24.00	0.60~2.40	5.31~21.20	1~1200	3.5~4.5		1.06
		XDS/T32□1								
	HE3331	ACT-H73□□		6.00~30.00	0.60~3.00	5.31~26.55	1~1000	3.5~5.0		1.06
		XDS/T33□1								
	HE3441	ACT-H74□□		8.00~40.00	0.80~4.00	7.08~35.40	1~750	3.5~5.5		1.06
		XDS/T34□1								
AC 90W	*HE4111*	ACT-H81□□	C511□-A	2.00~12.00	0.20~1.20	1.77~10.62	1~5000	2.0~3.5	Hex (6.35mm)	0.90
	HE4221	ACT-H82□□		8.00~43.00	0.80~4.30	7.08~38.00	1~1500	3.5~5.5		1.06
	HE4331	ACT-H83□□		10.00~55.00	1.00~5.50	8.85~48.68	1~1200	4.0~6.0		1.06
	HE4441	ACT-H84□□		10.00~65.00	1.00~6.50	8.85~57.53	1~900	4.0~7.5		1.06

[*Note]: The listed screw diameter range values in the table are for reference only. Feel free to consult our sales representatives for more detailed information if needed.

Model



① Series

HE:	with static protection
HF:	with static protection (low resistance)

② Motor Power

1:	DC 15W
2:	DC 40W
3:	DC 90W
4:	AC 90W

③ Max. speed (rpm)

DC 15W	1: 5000	3: 1200
DC 40W	1: 5000 4: 1000	3: 1200 5: 800
DC 90W	1: 5000 3: 1000	2: 1200 4: 750
AC 90W	1: 5000 3: 1200	2: 1500 4: 900

④ Max. torque (N.m)

DC 15W	1: 0.13	4: 0.55
DC 40W	2: 0.23 6: 1.20	5: 0.90 7: 1.60
DC 90W	1: 0.70 3: 3.00	2: 2.40
AC 90W	1: 1.20 3: 5.50	2: 4.30

⑤ Batch head

DC 15W	0: Tail
DC 40W	0: Tail 1: Hex (6.35mm)
DC 90W AC 90W	1: Hex (6.35mm)

⑥ Notes

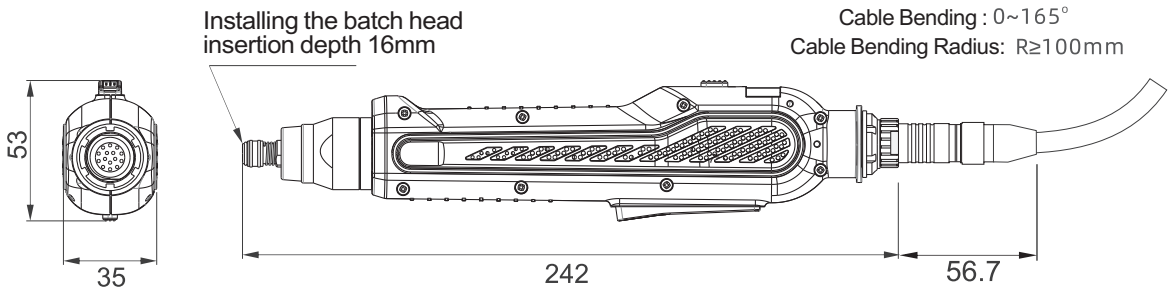
No mark: Standard software
0000~0050: Special function software
0051~9999: Non-standard / Customied

⚠ The parameter above are for reference only

Dimensions (Unit: mm)

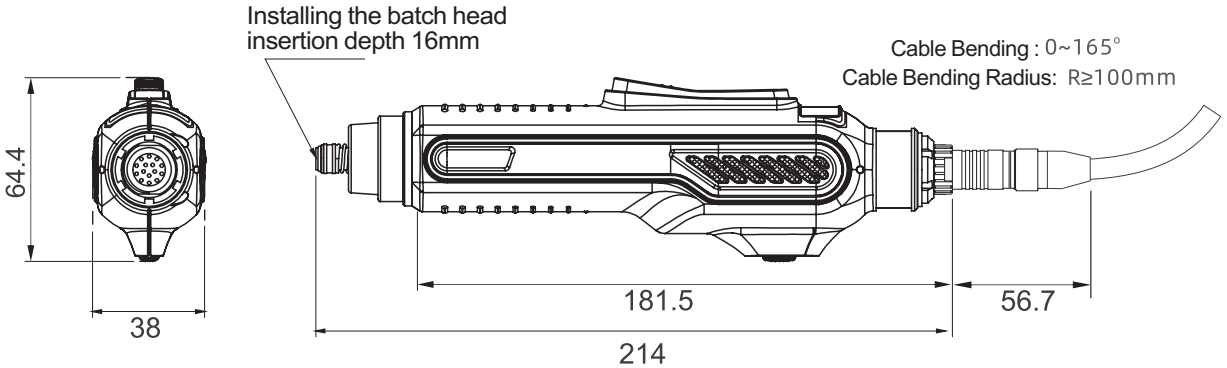
15W Series

- *H□1110*
- *H□1340*



40W Series

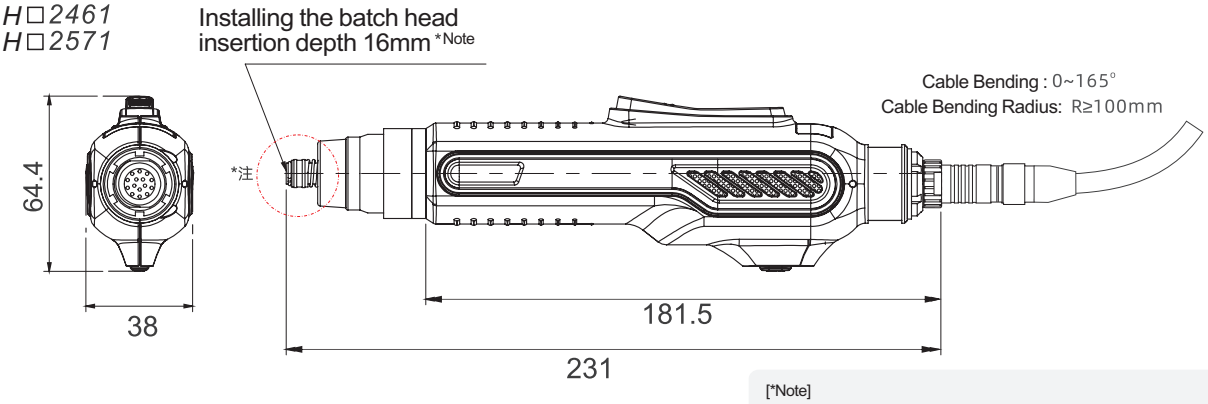
- *H□2120*



Dimensions (Unit: mm)

40W Series

- H□2350
- H□2351
- H□2460
- H□2461
- H□2571

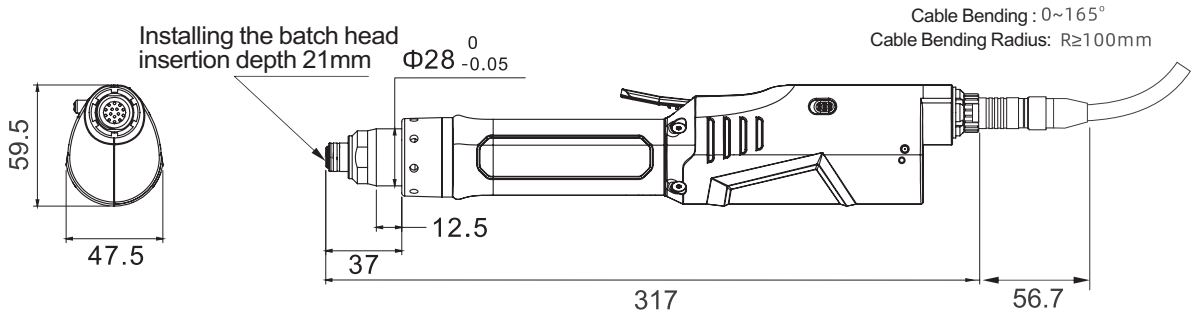


[*Note]

In the example figure, the adapter is a tail missing type, the hexagonal (6.35mm) adapter shape is shown on the right, and the insert depth of the batch head is 21mm.

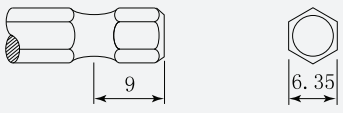
90W Series

- H□3111
- H□3221
- H□3331
- H□3441
- H□4111
- H□4221
- H□4331
- H□4441

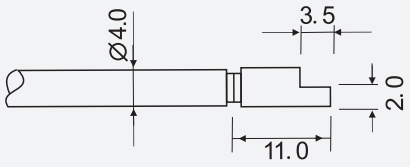


Batch Installation Size (Unit: mm)

Hex (6.35mm)



Tail (Φ4mm)



Handhold Model (Long Handel)

Smart Screwdrivers

Straight type　　Angle head type

Equipped with the TAMAGAWA permanent magnet synchronous servo motor.

- Modular and combinational design scheme based on professional concepts.
- Advanced servo motor drive combined with precision reduction mechanism.
- Blow/suction selectable automatic feeding method.
- Safe and reliable specialized cables and connectors.
- Multiple series, and specifications.
- Beautiful and compact design with convenient and flexible installation, suitable for various applications.

Technical Specifications

Series	Motor Power	Model	Adapted controller	Tool cable	Torque output range kgf.cm	Torque output range N.m	Torque output range lbf.in	Speed range (rpm)	Adapted outer diameter of screw (mm) [*Note]	Applicable batch head	weight (kg)
Straight type	AC 90W	***DWEN2511***	ACT-H85□□	C511□-A	40~120	4.0~12.0	35.4~106	1~420	5.5~8.0	Hex (6.35mm)	2.60
		DWEN2721	ACT-H87□□		50~230	5.0~23.0	44~204	1~220	6.0~10.0	Tail (W3/8")	2.60
		DWEN2831	ACT-H88□□		80~420	8.0~42.0	70.8~371	1~130	7.0~12.0	Tail (W1/2")	2.60
Angle head type	AC 90W	***VWEN2111***	ACT-H85□□	C511□-A	40~100	4.0~10.0	35.4~88.5	1~280	5.5~8.0	Hex (6.35mm)	2.95
		VWEN2121	ACT-H85□□		40~150	4.0~15.0	35.4~133	1~280	5.5~9.0	Tail (W3/8")	2.95
		VWEN22□1	ACT-H87□□		50~300	5.0~30.0	44~266	1~150	6.0~12.0	W3/8"/W1/2"	2.95
		VWEN2331	ACT-H88□□		100~500	10.0~50.0	88.5~442	1~60	8.0~12.0	Tail (W1/2")	2.95

[*Note]: The listed screw diameter range values in the table are for reference only. Feel free to consult our sales representatives for more detailed information if needed.

Model

① □ ② □ ③ □ ④ □ ⑤ □ ⑥ □ ⑦ □ 1 N ⑧ □□□□

① Series
- D: Straight
- V: Angle head

② Wired/Wireless
- W: Wired

③ Type
- E: Current

④ Display
- N: None

⑤ Motor Power
- 2: AC90W
- 3: AC180W

⑥ Max. torque (N.m)

Straight type	DC90W	7: 15	8: 25	
	AC90W	6: 12	7: 23	8: 42
Angle type	DC90W AC90W	1: 10	2: 20	3: 35 *Note 1

*Note 1: This option is not available when the motor power is DC 90W.

⑦ Batch head
- 1: SH1/4
- 2: 3/8"
- 3: 1/2"

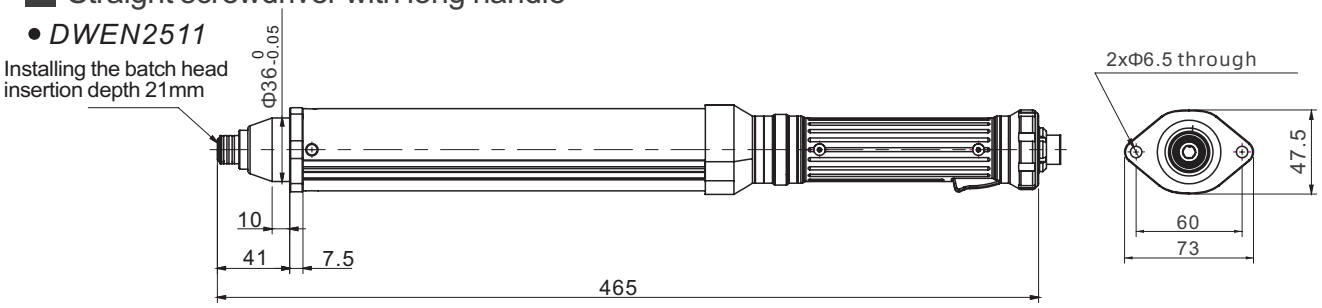
⑧ Notes
- No mark: Standard software
- 0000~0050: Special function software
- 0051~9999: Non-standard / Customied

⚠ The parameter above are for reference only

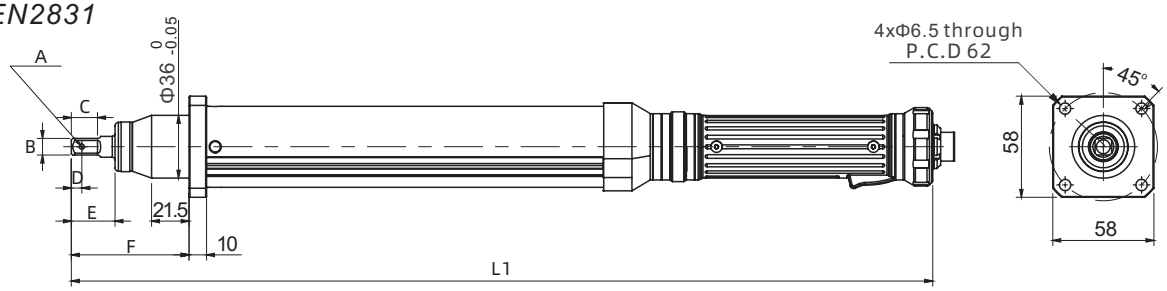
Dimensions (Unit: mm)

Straight screwdriver with long handle

- *DWEN2511*



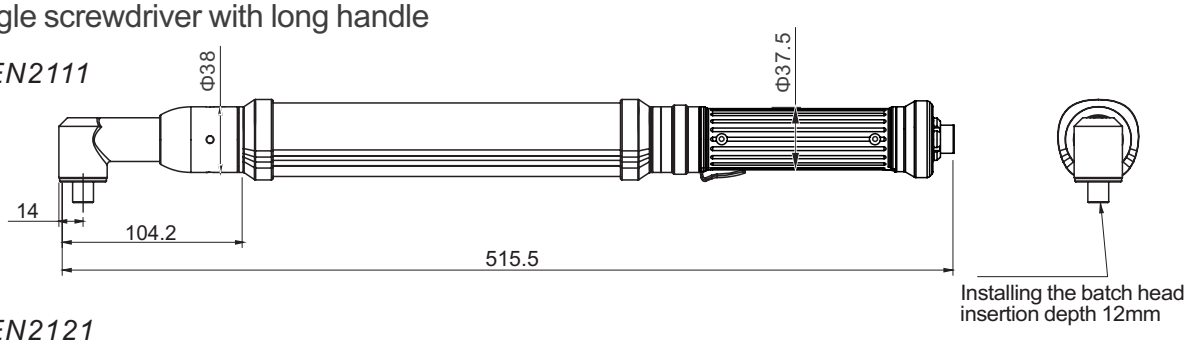
- *DWEN2721*
- *DWEN2831*



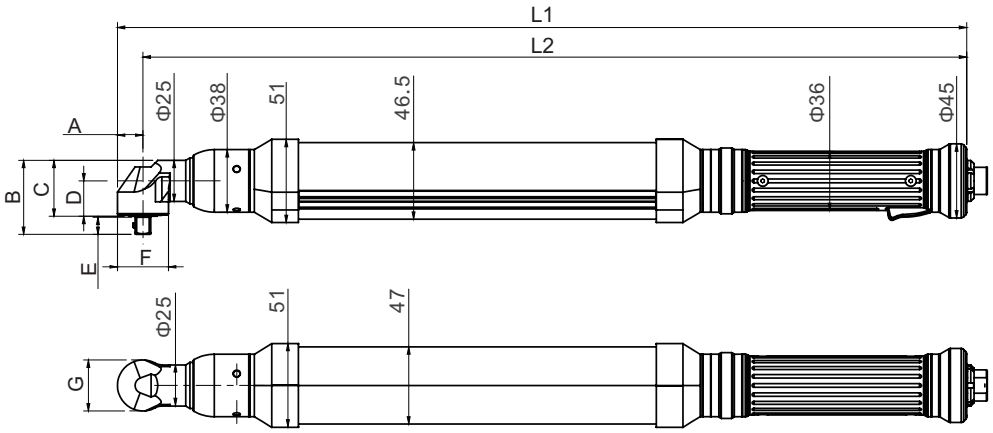
Model	L1	A	B	C	D	E	F
DWEN2721	494	Φ3 $^{+0.03}_{0}$ through	□9.5	15	6	25	67.5
DWEN2831	501	Φ4 $^{+0.03}_{0}$ through	□12.7	20	8	32	74.5

Angle screwdriver with long handle

- *VWEN2111*



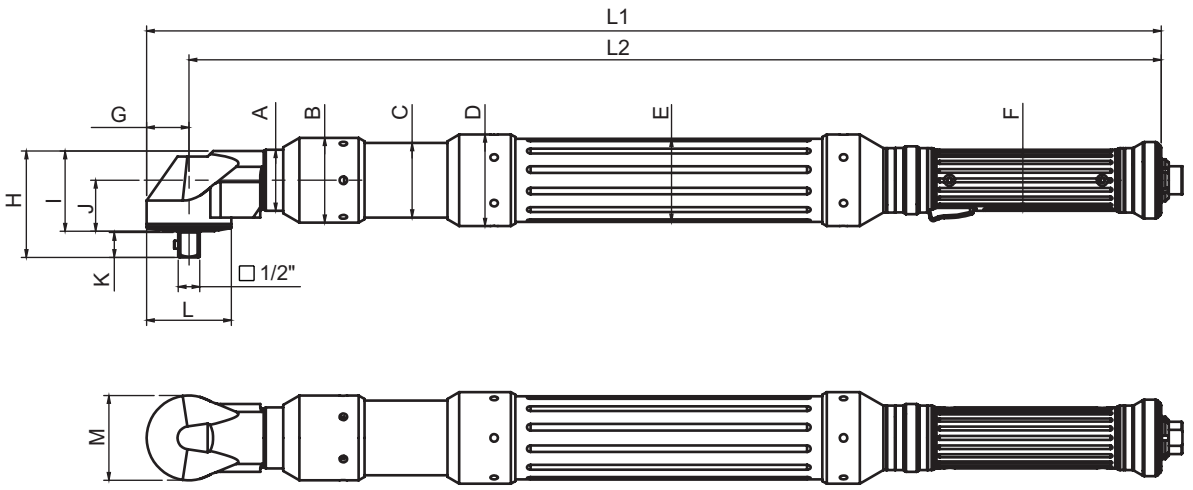
- *VWEN2121*
- *VWEN2221*
- *VWEN2231*



Model	L1	L2	A	B	C	D	E	F	G
VWEN2121	516.3	500.8	15.5	45	34	21.5	10.4	Φ31	31
VWEN2221	527.3	509.8	17.5	53	37.5	23.5	14.7	Φ35	35
VWEN2231									

Dimensions (Unit: mm)

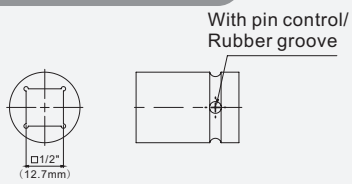
- *VWEN2331*



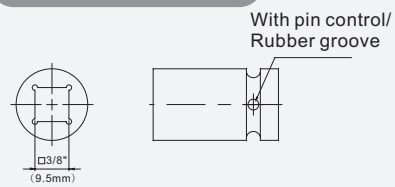
Model	L1	L2	A	B	C	D	E	F	G	H	I	J	K	L	M
VWEN2331	598	573	Φ36	Φ50	Φ44	Φ54	Φ49	Φ36	25	62.8	47.3	30	14.7	Φ50	50

Batch Installtion Size (Unit: mm)

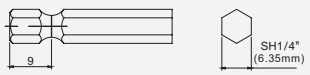
Tail (W1/2")



Tail (W3/8")



Hex (6.35mm)



Machine Load
Smart Screwdrivers

Equipped with the TAMAGAWA permanent magnet synchronous servo motor.

- Equipped with the Tamagawa permanent magnet synchronous servo motor.
- Modular and combinational approach.
- Cutting-edge servo motor drive coupled with a precision reduction mechanism.
- Blowing or suction optional automatic feeding. dedicated cable and connector configuration ensures a safe and reliable operation.
- With a diverse range of styles, series, and specifications.
- Aesthetically pleasing and compact exterior design allows for flexible and convenient .

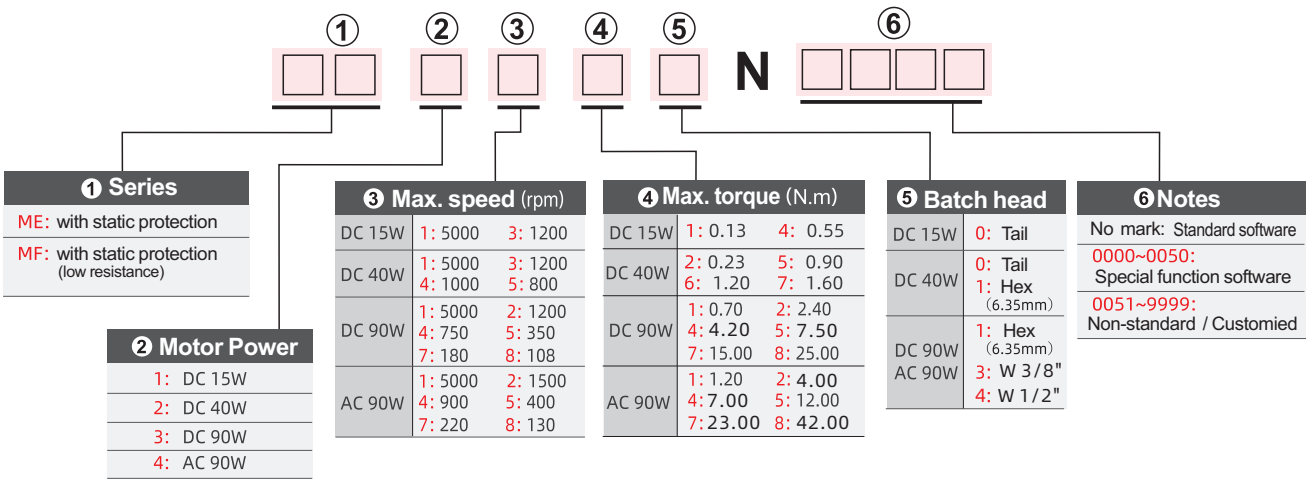
DC 15W　DC 40W　DC/AC 90W　DC/AC 90W

Technical Specifications

Motor Power	Model	Adapted controller	Tool cable	Torque output range kgf.cm	Torque output range N.m	Torque output range lbf.in	Speed range (rpm)*	Adapted outer diameterof screw (mm)	Applicable batch head	weight (kg)
DC 15W	ME1110	ACT-H60□□	C521□-A	0.10~1.30	0.01~0.13	0.09~1.15	1~5000	1.0~1.7	Tail (Φ4mm)	0.29
		HNB11□□								
	MF1110	XDT11□1		0.20~1.30	0.02~0.13	0.18~1.15				
	MF1340	ACT-H61□□		0.3~5.5	0.03~0.55	0.27~4.87	1~1200	1.2~2.5		0.30
		HNB13□□								
		XDT13□1								
DC 40W	ME/MF2120 ME/MF2121	ACT-H00□□	C521□-A	0.2~2.3	0.02~0.23	0.18~2.04	1~5000	1.0~2.0	Tail (Φ4mm)	0.50
		HN□21□□								
		HM□21□□								
		XDT21□1								
	ME/MF2350 ME/MF2351	ACT-H01□□		1.5~9.0	0.15~0.90	1.33~7.97	1~1200	2.0~3.0		0.70
		HN□23□□								
		HM□23□□								
		XDT23□1								
	ME/MF2460 ME/MF2461	ACT-H02□□		2.0~12.0	0.20~1.20	1.77~10.62	1~1000	2.0~3.5	Hex (6.35mm)	0.70
		HN□24□□								
		HM□24□□								
		XDT24□1								
	ME/MF2571	ACT-H03□□		5.0~16.0	0.50~1.60	4.42~14.16	1~800	2.5~4.0		0.75
		HN□25□□								
		HM□25□□								
		XDT25□1								
DC 90W	ME/MF3111	ACT-H71□□	C521□-A	1.0~7.0	0.10~0.70	0.88~6.20	1~5000	2.0~2.5	Hex (6.35mm)	1.00
		XDT31□□								
	ME/MF3221	ACT-H72□□		6.0~24.0	0.60~2.40	5.3~21.0	1~1200	3.0~4.5		1.10
		XDT32□□								
	ME/MF3441	ACT-H74□□		8.0~42.0	0.80~4.20	7.0~37.0	1~750	3.5~5.5		1.10
		XDT34□□								
	ME/MF3551	ACT-H75□□		10.0~75.0	1.00~7.50	8.80~66.0	1~350	4.0~7.0		1.10
		XDT35□□								
	ME/MF3771	ACT-H77□□		50.0~150.0	5.00~15.00	44.0~132.0	1~180	5.5~9.0		1.10
		XDT37□□								
	ME/MF3883	ACT-H78□□		70.0~250.0	7.00~25.00	66.0~221.0	1~108	7.0~10.0	Square (W 3/8")	1.15
		XDT38□□								
AC 90W	ME4111	ACT-H81□□	C521□-A	2.0~12.0	0.20~1.20	1.77~10.6	1~5000	1.8~3.5	Hex (6.35mm)	1.00
	ME4221	ACT-H82□□		8.0~40.0	0.80~4.00	7.08~35.4	1~1500	1.8~5.5		1.10
	ME4441	ACT-H84□□		10.0~70.0	1.00~7.00	8.80~61.0	1~900	4.0~7.0		1.10
	ME4551	ACT-H85□□		20.0~120.0	2.00~12.00	17.7~106.0	1~400	4.5~8.0		1.10
	ME4773	ACT-H87□□		50.0~230.0	5.00~23.00	44.0~203.0	1~220	6.0~10.0	Square (W 3/8")	1.10
	ME4884	ACT-H88□□		80.0~420.0	8.00~42.00	70.80~371.0	1~130	7.0~12.0	Square (W 1/2")	1.15

* The listed screw diameter range values in the table are for reference only. Feel free to consult our sales representatives for more detailed information if needed.

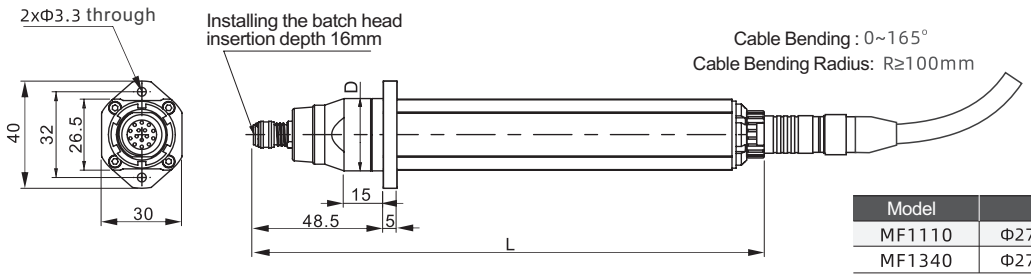
Model



⚠ The parameter above are for reference only

Dimensions (Unit: mm)

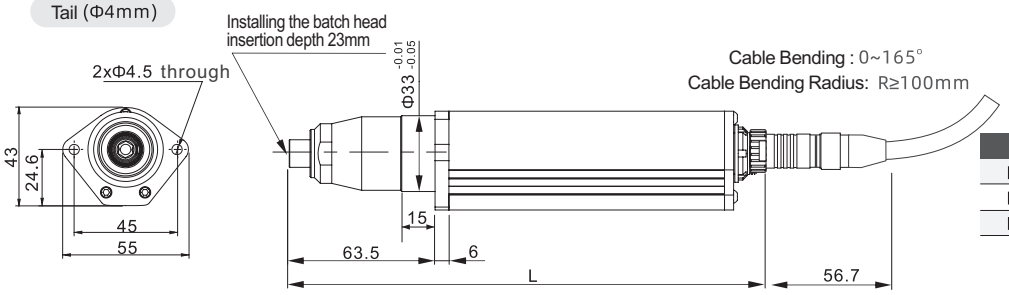
15W Series MF1□□□



Model	D	L
MF1110	Φ27 g7 $^{-0.01}_{-0.03}$	202mm
MF1340	Φ27 g8 $^{-0.01}_{-0.04}$	237mm

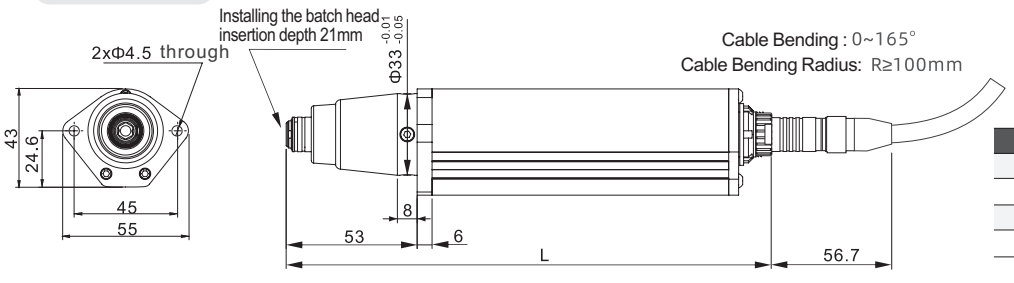
40W Series ME2□□□

Tail (Φ4mm)



Model	L
ME2120	204mm
ME2350	254mm
ME2460	254mm

Hex (6.35mm)

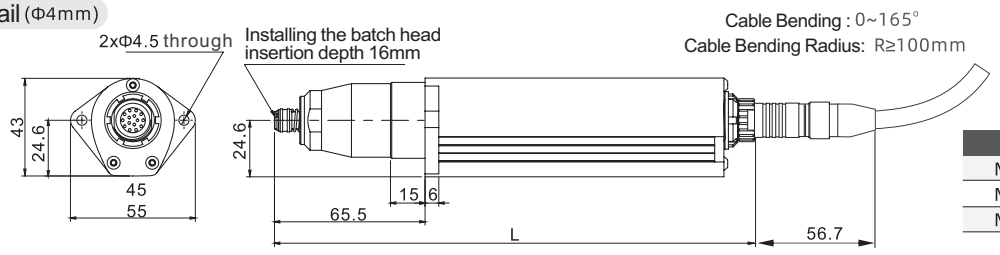


Model	L
ME2121	193mm
ME2351	243mm
ME2461	243mm
ME2571	243mm

Dimensions (Unit: mm)

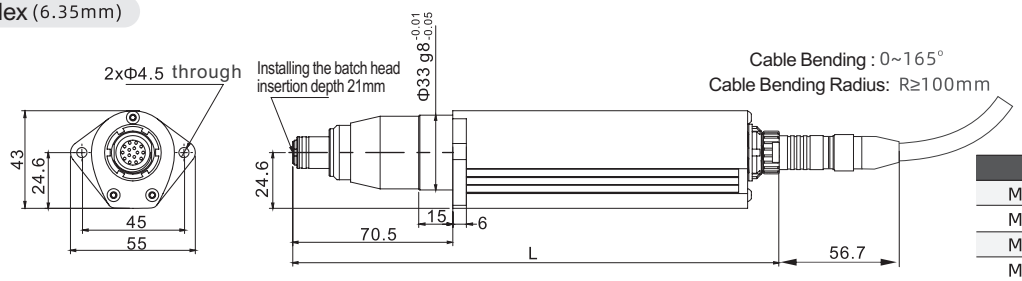
40W Series MF2□□□

Tail (Φ4mm)



Model	L
MF2120	205.5mm
MF2350	255.5mm
MF2460	255.5mm

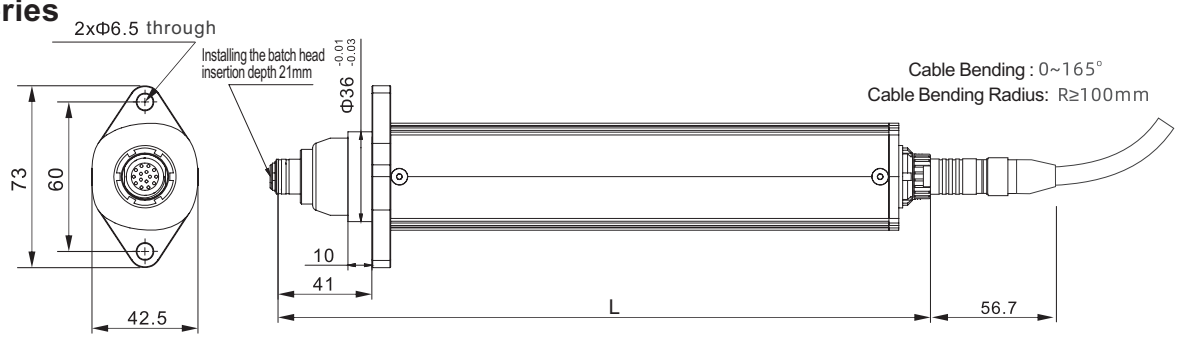
Hex (6.35mm)



Model	L
MF2120	210.5mm
MF2351	260.5mm
MF2461	260.5mm
MF2571	260.5mm

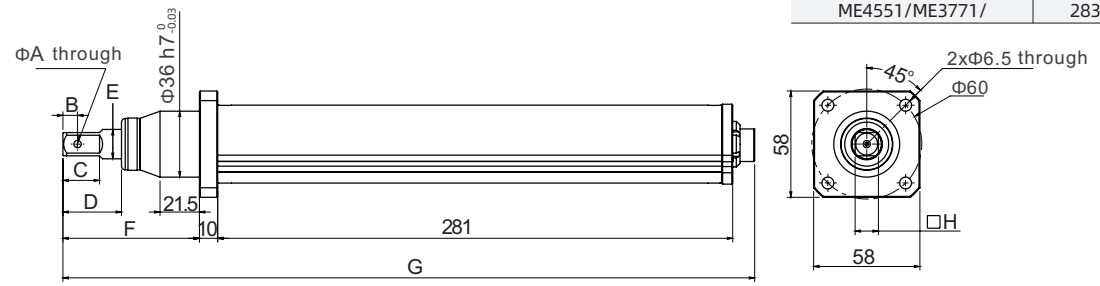
90W Series

- *ME3111*
- *ME3221*
- *ME3441*
- *ME3551*
- *ME3771*
- *ME4111*
- *ME4221*
- *ME4441*
- *ME4551*



Model	L
ME3111/ME3221/ME3441/ ME411/ME4221/ME4441	266.5mm
ME4551/ME3771/	283.5mm

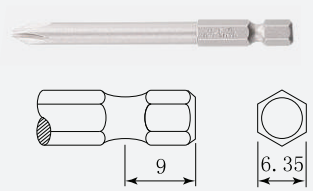
- *ME3883*
- *ME4773*
- *ME4884*



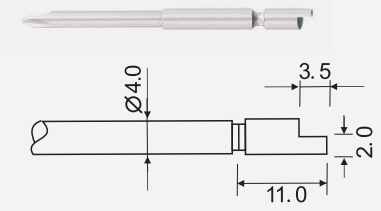
Model	A	B	C	D	E	F	G	H
ME3883/ME4773	3	6	15	25	Φ12 h8 0 -0.03	67.5	370.5	9.5±0.05
ME4884	4	8	20	32	Φ16 h8 0 -0.03	74.5	377.5	12.7±0.05

Batch Installation Size (Unit: mm)

Hex (6.35mm)



Tail (Φ4mm)



Square (W3/8")

Square (W1/2")

The pistol type

Smart Screwdrivers

Equipped with the TAMAGAWA permanent magnet synchronous servo motor.

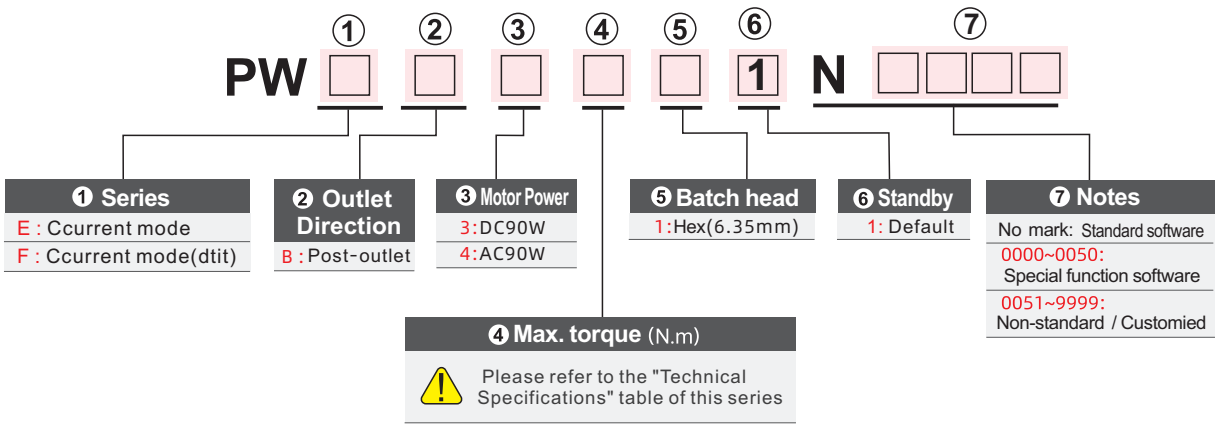
- Ergonomic handle design,more comfortable to hold servo motor
- Front high brightness lighting ven in the poor light environment can be perfectly assembled
- Professional concept of modular,combined design scheme
- Leading servo motor drive and precision deceleration mechanism
- Blowing/ suction optional automatic feeding mode
- Structure, convenient and flexible installation way,suitable variety of applications
- Safe and reliable special cable and connector configuration
- Multi-style,multi-series,multi-specification product selection Beautiful and compact appearance

Technical Specifications

Motor Power	Model	Adapted controller	Tool cable	Torque output range			Speed range (rpm) *	Adapted outer diameterof screw (mm)	Applicable batch head	weight (kg)
				kgf.cm	N.m	lbf.in				
DC90W	***PWEB3511***	ACT-H75□□	–	10~75	1. 0~7.5	8. 80~66.00	1~350	4.0~7.0	Hex(6.35mm)	–
AC90W	***PWEB4411***	ACT-H84□□	–	10~70	1. 0~7.0	8. 80~62.00	1~900	4.0~7.0	Hex (6.35mm)	–

* The listed screw diameter range values in the table are for reference only. Feel free to consult our sales representatives for more detailed information if needed.

Model

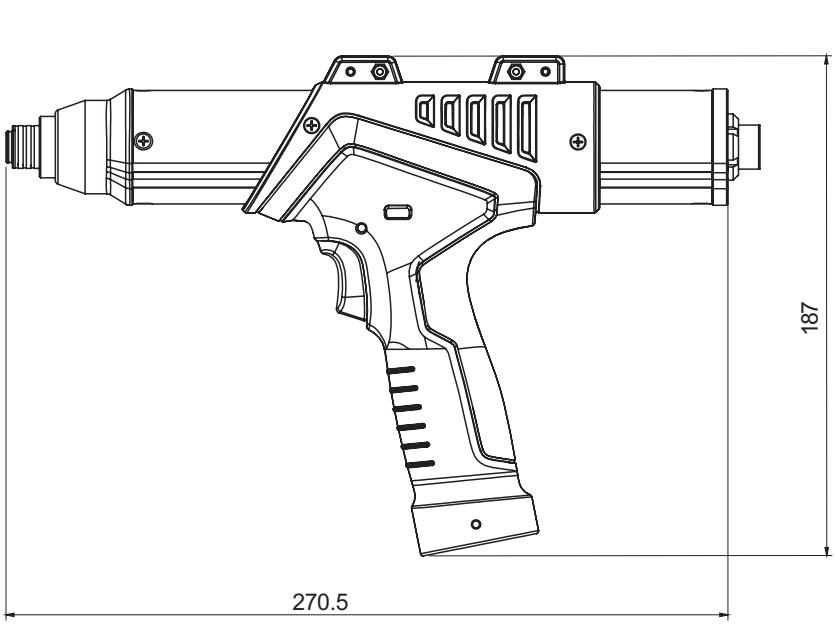


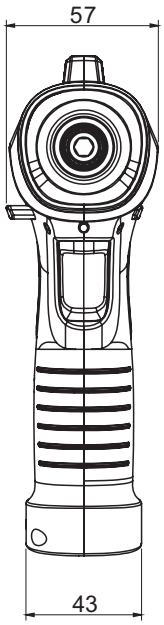
⚠ The parameter above are for reference only

Description of parts

Dimensions (Unit: mm)

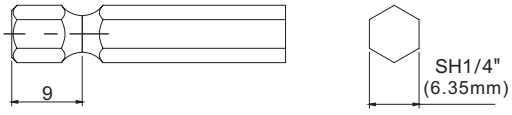
- *PWEB3511*
- *PWEB4411*





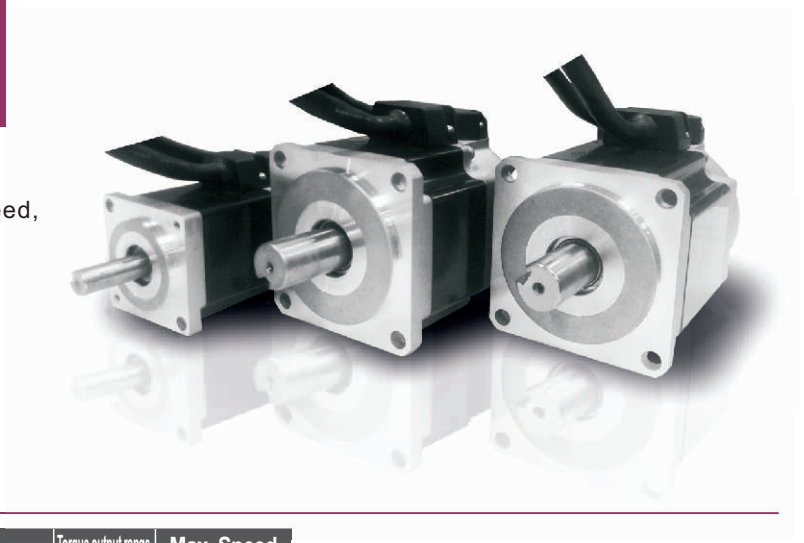
Batch Installation Size (Unit: mm)

Hex (6.35mm)



Servo motor type

Smart Screwdrivers



- The best design combination of torque, speed, and precision.
- Convenient and flexible, multi-directional andmulti-typetightening shaft output and installation method.
- Low noise, low vibration, Long-lasting life, High-reliability .

Technical Specifications

Motor Power	Model	Adapted controller	Tool cable	Torque output range (N.m)	Max. Speed (rpm)
伺服AC200W	*MS7110*	ACT- M30□□	C311□	0. 4~1.8	5000
		YAT20□□	C315□		
伺服AC400W	*MS8120*	ACT- M40□□	C311□	0.8~3.2	5000
		YAT40□□	C315□		
伺服AC750W	*MS9130*	ACT- M50□□	C311□	1.2~6.0	5000

- The size of the shaft head can be customized according to the actual use of the customer.Please consult our business staff before purchasing.
- There should be no hard connection between the servo motor and the batch head .

Model

① MS ② □ ③ □ ④ □ ⑤ □ N ⑥ □□□□

① Series
MS: Servo motor

② Motor Power
7: AC 200W
8: AC 400W
9: AC 750W

③ Max. torque (N.m)
1: 5000

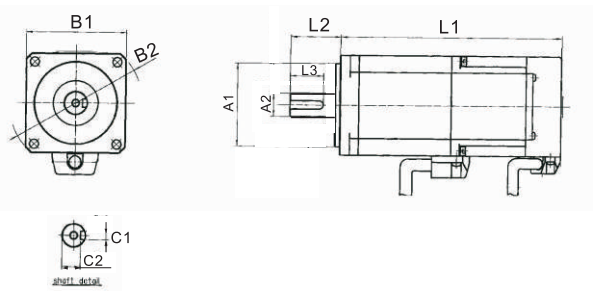
④ Max. torque (N.m)
1: 1.8
2: 3.2
3: 6.0

⑤ Batch head
0: None

⑥ Notes
No mark: Standard software
0000~0050: Special function software
0051~9999: Non-standard / Customied

⚠ The parameter above are for reference only

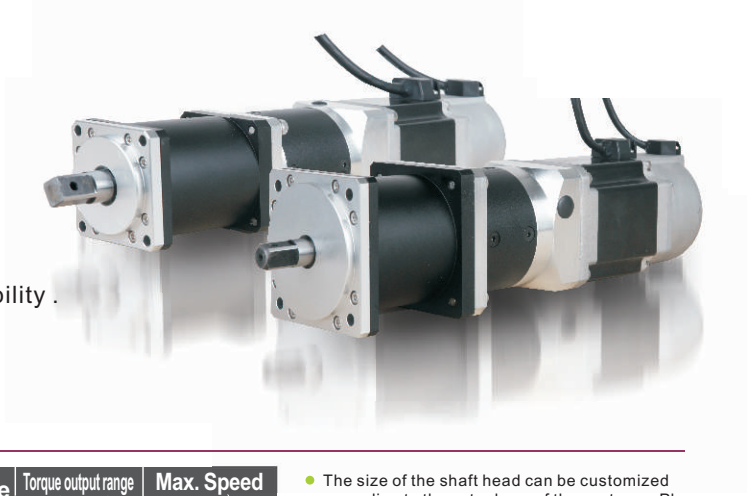
Dimensions (Unit: mm)



Model	L1	L2	L3	A1	A2	B1	B2	C1	C2
MS7110	102.4±1	30±1	20	Φ50h7 $^{0}_{-0.025}$	Φ14h6 $^{0}_{-0.011}$	□60	Φ80	Φ5P9 $^{-0.012}_{-0.042}$	11 $^{0}_{-0.2}$
MS8120	124.4±1	30±1	20	Φ50h7 $^{0}_{-0.025}$	Φ14h6 $^{0}_{-0.011}$	□60	Φ80	Φ5P9 $^{-0.012}_{-0.042}$	11 $^{0}_{-0.2}$
MS9130	135±1	35±1	25	Φ70h7 $^{0}_{-0.030}$	Φ19h6 $^{0}_{-0.013}$	□80	Φ105	Φ5P9 $^{-0.012}_{-0.042}$	15.5 $^{0}_{-0.2}$

Large torque type

Smart Screwdrivers



- The best design combination of torque, speed, and precision.
- Convenient and flexible, multi-directional andmulti-typetightening shaft output and installation method.
- Low noise, low vibrationLong-lasting life, High-reliability .

Technical Specifications

Motor Power	Model	Adapted controller	Tool cable	Torque output range (N.m)	Max. Speed (rpm)
AC750W	*MT9750*	ACT-M57□□	C311□	30~80	300
		ACT-M57□□-N0001		20~50	300
	MT9860	ACT-M58□□		40~143	200

- The size of the shaft head can be customized according to the actual use of the customer.Please consult our business staff before purchasing.
- There should be no hard connection between the servo motor and the batch head .

※ Optional batch rod adapter, suitable for hexagonal (6.35mm) batch rod, please consult our business personnel before selection.

Batch head adapter / Leather ring + bolt

Model

① MT ② □ ③ □ ④ □ ⑤ □ N ⑥ □□□□

① Series
MT: Large torque

② Motor Power
9: AC 750W

③ Max. speed (rpm)
7:300
8:200

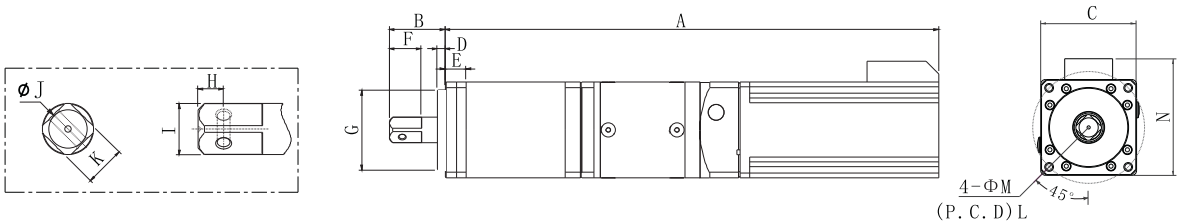
④ Max. torque (N.m)
5: 80
6:143

⑤ Batch head
0: None

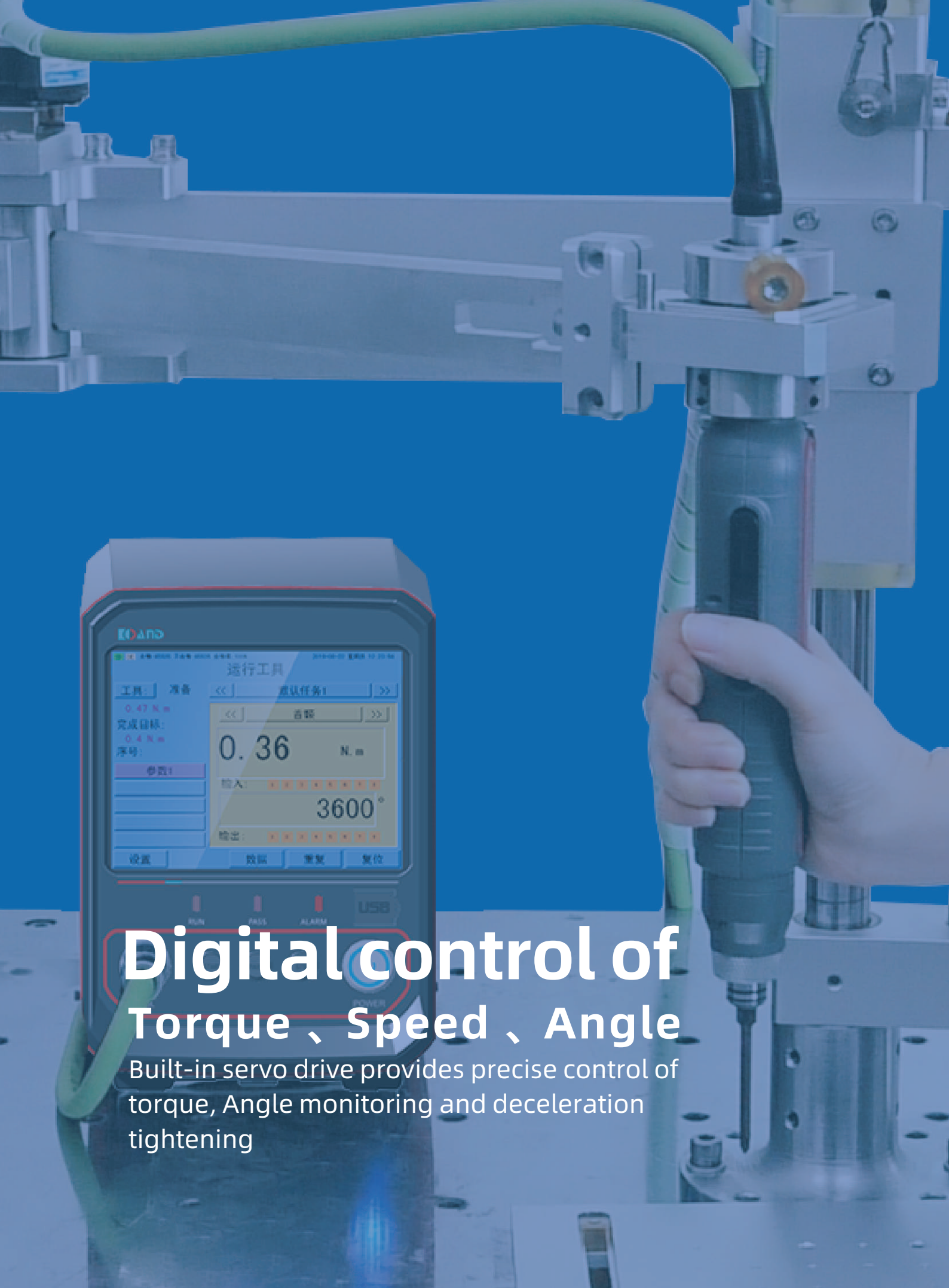
⑥ Notes
No mark: Standard software
0000~0050: Special function software
0051~9999: Non-standard / Customied

⚠ The parameter above are for reference only

Dimensions (Unit: mm)



Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Square	Wight (kg)
MT9750	340	40	90	6	13	25	Φ80g7	9	Φ25h7	4	□19	100	7	93	3/4"	7.3
MT9860	380	55	120	6	21	30	Φ80g7	14.5	Φ30h7	6	□25.4	130	9	120	1"	13.2



Digital control of

Torque、Speed、Angle

Built-in servo drive provides precise control of torque, Angle monitoring and deceleration tightening

HNB Controller
(External Power Source)

- Patented Design
- TFT-LCD monitor able to display the setting, programming and status of the machine
- Lots of task modes that can be used for multiple assembly requirements
- Up to 8 different torque parameter settings per task
- Built-in servo driver can provide precise control of torque, corner monitoring and deceleration tightening
- Provides graphical tools for process optimization and diagnostics
- Programmable IO and system extension components for process control
- Communication interface for advanced data storage and factory control interactions
- Dual operation and monitoring functions, such as physical button and LED indicator light, to further improve the reliability of the controller

Technical Specifications

Parameter	Description
Input voltage	AC 85～264V，47～63HZ
No-load consumption [1]	<20W
Output power [2]	40W
Display(Operation interface)	① TFT-LCD，Touch Screen support ②3function buttons+3 LEDindicators
Torque accuracy	(30%~80%)Within the maximum outputtorque range ≤3δ ±5%，else≤3δ ±8%
The smallest unit of twist angle display	1degree(1°)
Tightening method	1. Torque as priority (angle simultaneous monitoring secondly) 2. Angle as priority torque simultaneous monitoring secondly)
IO channel	8 CHOptocouplerisolated input(20mA/CH,Max, 8 CH relay contact output(3A/CH,Max
Communication interface[3]	① RS232 ② RS485 ③ Ethernet ④ RS232+Ethernet
Recommended use environment	Temperature-10C~+60C,humidity <90%RH(no condensation)
Storage environment	Temperature-20C~+85·C,humidity<90% RH(no condensation)
Weight	about 3.5kg
Dimensions	Please refer to "Size drawing"

Note 1: No-load consumption refers to the power consumption of the controller itself when the screwdriver body is not connected.
Note 2: The output power refers to the maximum output power of the internal servo drive of the controller, which matches the mounted servo motor
Note 3: For the configuration of the communication interface ,please refer to the product selection table.
Note 4: Built-in positioning function controller, need to be equipped with positioning function of the lever frame.

Model

① ② ③ ④ ⑤ **1** **N** ⑥

① Series
- HNB: Front outlet (purple)
- HNB-B: Back outlet（purple）

② Motor Power
- 1:DC 15W 【Note1】
- 2:DC 40W

【Note1】：
HNA、HNA-B can not select it

③ Max. speed(rpm)

1: 5000	2: 1500
3: 1200	4: 1000
5: 800	

④ Interface type

1: IO+RS232	2: IO+RS485
4: IO+Ethernet	5: IO+RS232+Ethernet 【Note 2】

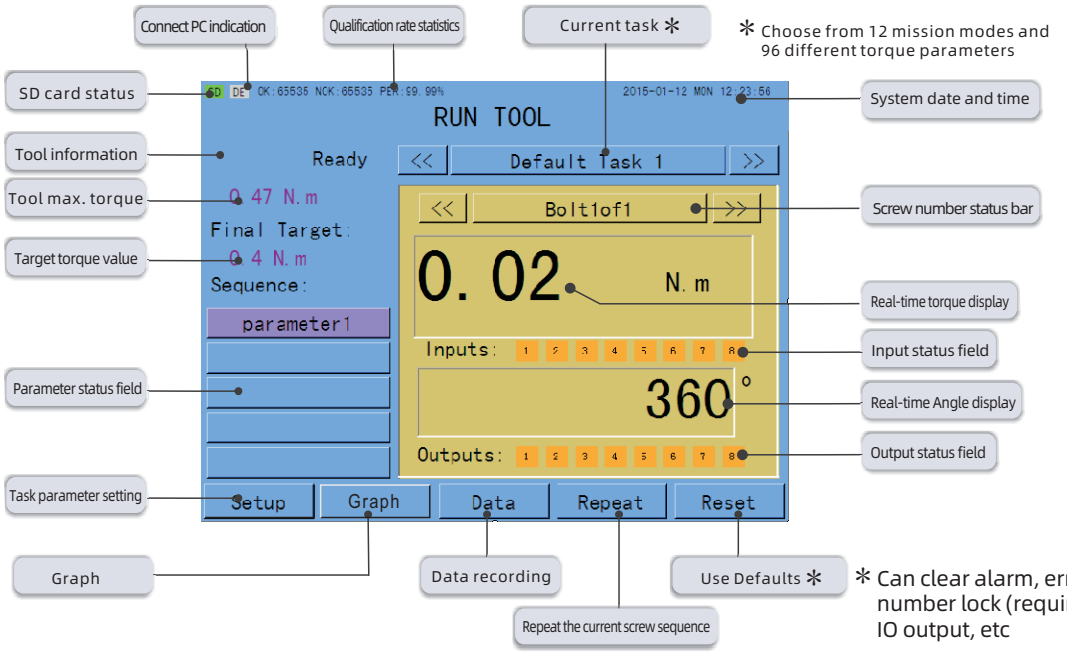
【Note2】：
This parameter is mandatory when the external positioning function is configured

⑤ Reserved
- 1: Standard

⑥ Remmark
- No mark: Standard software
- 0001~0050: Special function software
- 0051~9999: Non-standard / Customied

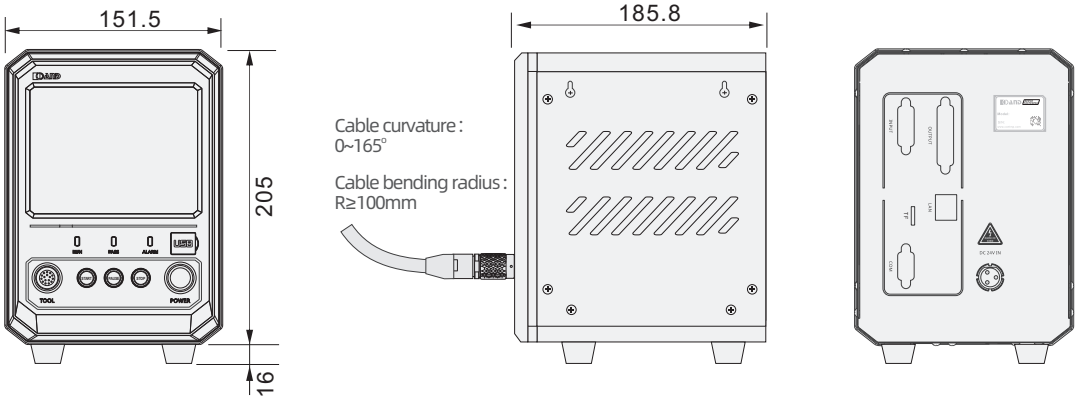
⚠The parameter above are for reference only

Interface

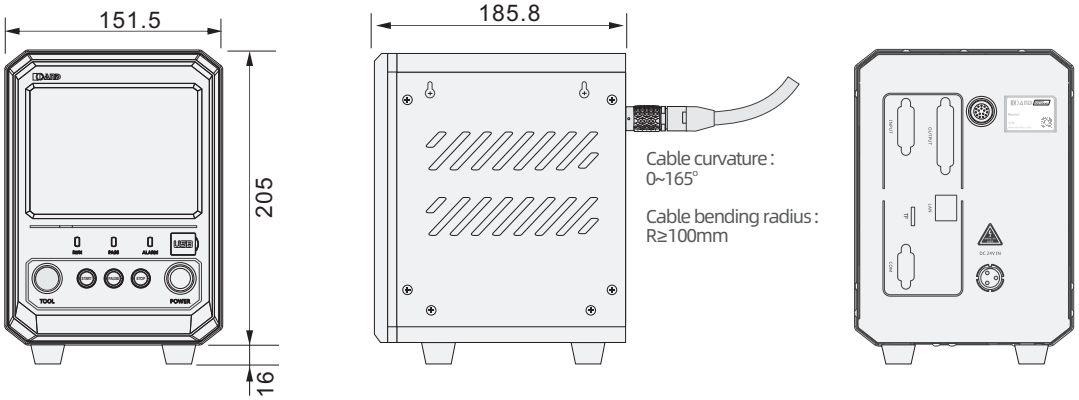


Dimensions (mm)

Front outlet



Back outlet



HMB Controller
(Integral Power Source)

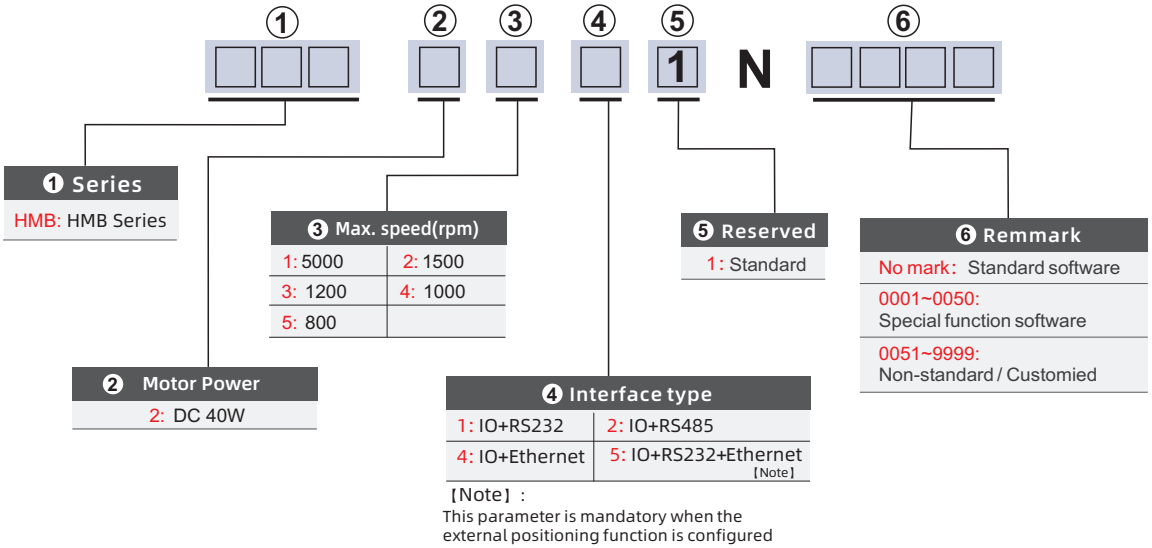
- Patented Design
- TFT-LCD monitor able to display the setting, programming and status of the machine
- Lots of task modes that can be used for multiple assembly requirements
- Up to 8 different torque parameter settings per task
- Built-in servo driver can provide precise control of torque, corner monitoring and deceleration tightening
- Provides graphical tools for process optimization and diagnostics
- Programmable IO and system extension components for process control
- Communication interface for advanced data storage and factory control interactions
- Dual operation and monitoring functions, such as physical button and LED indicator light, to further improve the reliability of the controller

Technical Specifications

Parameter	Description
Input voltage	AC 85～264V，47～63HZ
No-load consumption [1]	<20W
Output power [2]	40W
Display(Operation interface)	① TFT-LCD，Touch Screen support ②3function buttons+3 LEDindicators
Torque accuracy	(30%~80%)Within the maximum outputtorque range ≤3δ ±5%，else≤3δ ±8%
The smallest unit of twist angle display	1degree(1°)
Tightening method	1. Torque as priority (angle simultaneous monitoring secondly) 2. Angle as priority torque simultaneous monitoring secondly)
IO channel	8 CHOptocouplerisolated input(20mA/CH,Max, 8 CH relay contact output(3A/CH,Max
Communication interface[3]	① RS232 ② RS485 ③ Ethernet ④ RS232+Ethernet
Recommended use environment	Temperature-10C~+60C,humidity <90%RH(no condensation)
Storage environment	Temperature-20C~+85·C,humidity<90% RH(no condensation)
Weight	about 3.5kg
Dimensions	Please refer to "Size drawing"

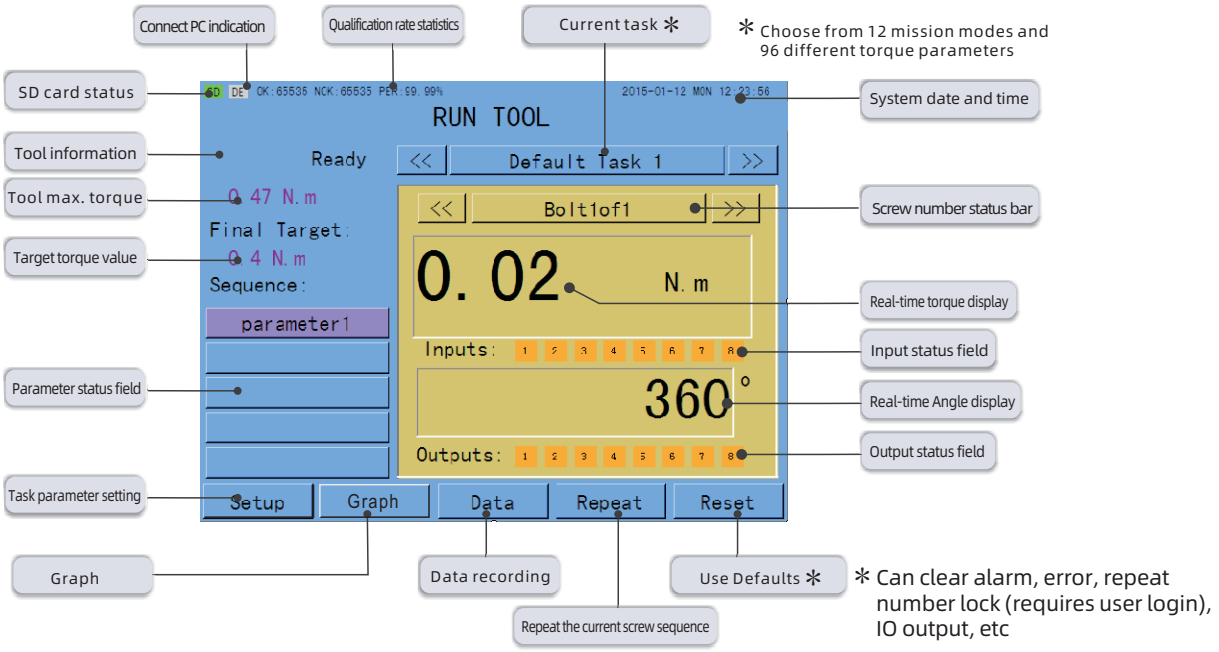
Note 1: No-load consumption refers to the power consumption of the controller itself when the screwdriver body is not connected.
Note 2: The output power refers to the maximum output power of the internal servo drive of the controller, which matches the mounted servo motor
Note 3: For the configuration of the communication interface ,please refer to the product selection table.

Model

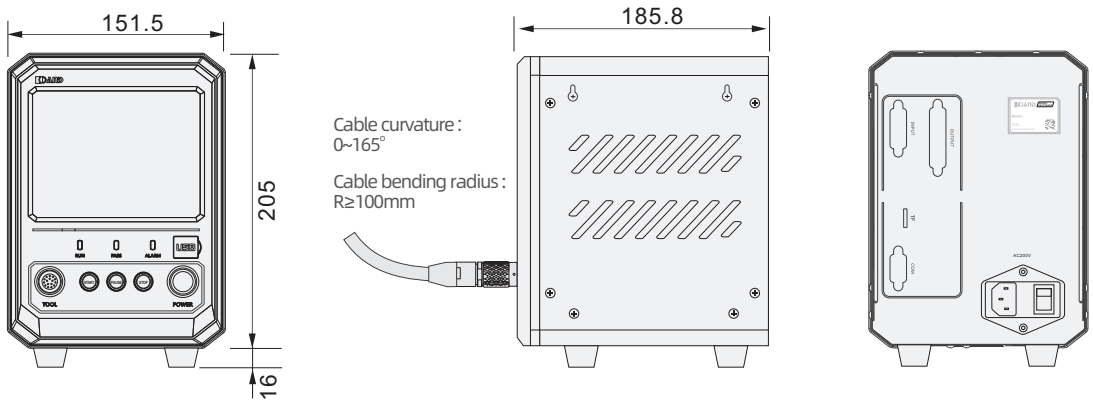


⚠The parameter above are for reference only

Interface



Dimensions (mm)



ACT Series Controller

- With TFT-LCD monitor, it is able to display the setting, programming, and status of the machine.
- 12 task modes that can be used for multiple assembly requirements
- Up to 8 different torque parameter settings per task
- Built-in servo driver can provide precise control of torque, corner monitoring and deceleration tightening
- Programmable IO and system extension components for process control
- Communication interface for advanced data storage and factory control interactions
- Dual operation and monitoring functions, such as physical button and LED indicator light, to further improve the reliability of the controller
- Beautiful and compact configuration, convenient and flexible installation, suitable for many applications

Technical Specifications

Model	ACT-□0□□□	ACT-□3□□□	ACT-□4□□□	ACT-□5□□□	ACT-□6□□□	ACT-□7□□□	ACT-□8□□□
Input voltage	1Φ AC200~230V±10% 50/60Hz						
No-load consumption [1]	<20W	<15W		<30W	<20W		<15W
Output power [2]	DC 40W	AC 200W	AC 400W	AC 750W	DC 15W	DC 90W	AC 90W
Display(Operationinterface)	① TFT-LCD，Touch Screen support ② 3function buttons+3 LEDindicators						
Torque accuracy	(30%~80%)Within the maximum outputtorque range ≤3 δ ±5%，else ≤3 δ ±8%						
The smallest unit of twist angle display	1degree(1°)						
Tightening method	1. Torque as priority (angle simultaneous monitoring secondly) 2. Angle as priority torque simultaneous monitoring secondly)						
I/O channel	8 CHOptocouplerisolated input(20mA/CH,Max, 8 CH relay contact output(3A/CH,Max						
Communication interface [3]	① RS232 ② RS485 ③ Ethernet ④ RS232+Ethernet						
Recommended use environment	Temperature-10C~+60C,humidity <90%RH(no condensation)						
Storage environment	Temperature-20C~+85·C,humidity<90% RH(no condensation)						
Weight	About 5.5kg						
Dimensions[4]	Please refer to "Size drawing"						

Note 1: No-load consumption refers to the power consumption of the controller itself when the screwdriver body is not connected.
Note 2: The output power refers to the maximum output power of the internal servo drive of the controller, which matches the mounted servo motor
Note 3: For the configuration of the communication interface ,please refer to the product selection table.

Model

① ACT - ② ③ ④ ⑤ ⑥ N ⑦

① Series
ACT: ACT series

② Tool Type
H: 15W~90W
M: Above 100W

③ Motor Power [*1]

0:DC40W	3:AC200W
4:AC400W	5:AC750W
6:DC15W *[*2]	7:DC90W
8:AC90W	

【*1】: Some products are under development, please consult our sales staff for details。

【*2】: When the 15W handheld screwdriver is used with this controller series, the screwdriver body light cannot be used.

④ Max. speed(rpm)

0:5000	1:1200	2: 1000
3: 800	4: 600	5:500
6:400	7: 300	8: 200
9: 100以下		

When the motor power is DC90W, the maximum rotational speed is as follows (rpm)

1:5000	2:1200	3: 1000
4: 750	5: 350	7: 180
8: 108		

When the motor power is AC90W, the maximum rotational speed is as follows (rpm)

1:5000	2:1500	3: 1200
4: 900	5: 400	7: 220
8: 130		

⑤ Interface type

1: IO+RS232	2: IO+RS485
4: IO+Ethernet	5: IO+RS232+Ethernet【Note】

【Note】:
This parameter is mandatory when the external positioning function is configured

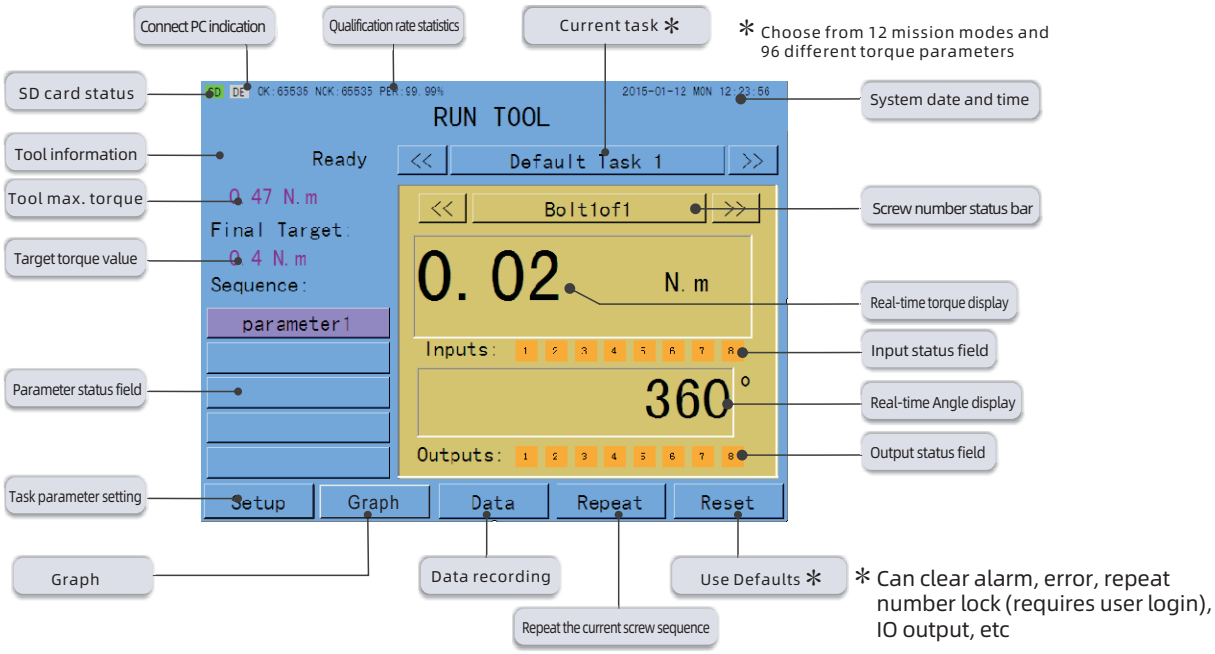
⑥ Positioning device
1: None
2: Built-in positioning device [*4]

【*4】: Some screwdriver models are not supported, please contact our sales staff for details。

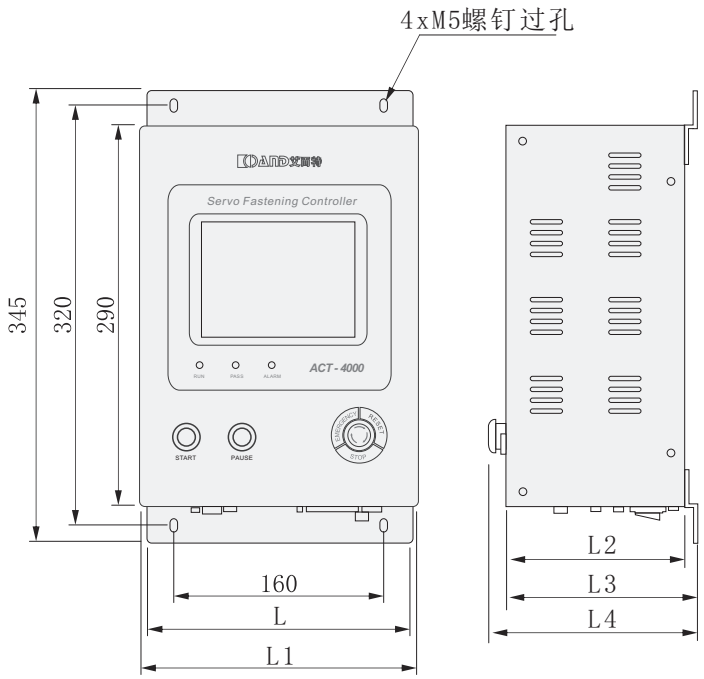
⑥ Remmark
No mark: Standard software
0001~0050: Special function software
0051~9999: Non-standard / Customied

⚠ The parameter above are for reference only

Interface



Dimensions (mm)



Power (W)	Size (mm)				
	L	L1	L2	L3	L4
DC 40W DC 90W	200	210	137	146	160
AC 90W AC 200W AC 400W	225	235	137	146	160
AC 750W	225	235	157	166	180

XDT Series Controller (DC)

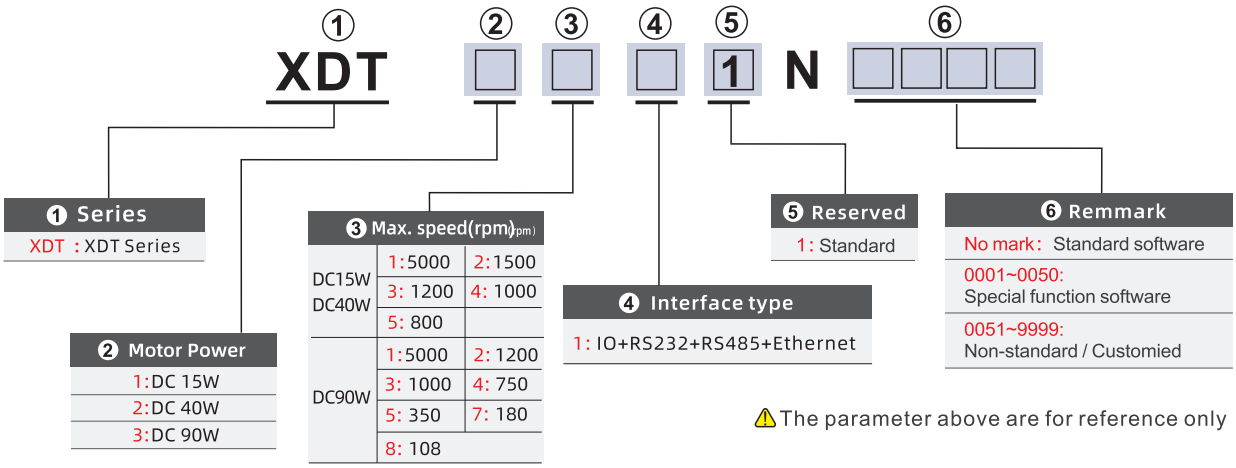
- Miniaturization design.
- 12 task modes, suitable for a variety of assembly requirements.
- Up to 8 different torque parameter Settings per task.
- Drive integration, can provide torque, Precise control of torque, Angle and speed can be provided.
- Provides I/O for process control.
- Provide RS232 and RS485 communication commonly used in industry.
- Provides Ethernet interfaces for remote monitoring and control.
- Provide special upper computer software interface, including curve, data recording funiction
- Convenient and flexible installation, suitable for a variety of applications

Technical Specifications

Parameter	XDT1XXX	XDT2XXX	XDT3XXX
Input voltage	Output: DC24V, Power≥280W		
No-load consumption [*1]	Controller: 200mA, max		
Display(Operation interface)	PC or Handholder		
Torque accuracy	(30%~80%)Within the maximum outputtorque range ≤ 3δ ±8%, else ≤ 3δ ±10%		
The smallest unit of twist angle display	1degree(1°)		
Tightening method	1. Torque as priority (angle simultaneous monitoring secondly) 2. Angle as priority torque simultaneous monitoring secondly)		
IO channel	4_CH Optocouplerisolated input(20mA/CH,Max, 2_CH relay contact output(3A/24V,Max) +2_CH Solid state relay output(150mA)		
Communication interface	IO+RS232+RS485+Ethernet		
Recommended use environment	Temperature-10C~+60C,humidity <90%RH(no condensation)		
Storage environment	Temperature-20C~+85·C,humidity<90% RH(no condensation)		
Weight	about 0.75kg		
Dimensions	Please refer to "Size drawing"		

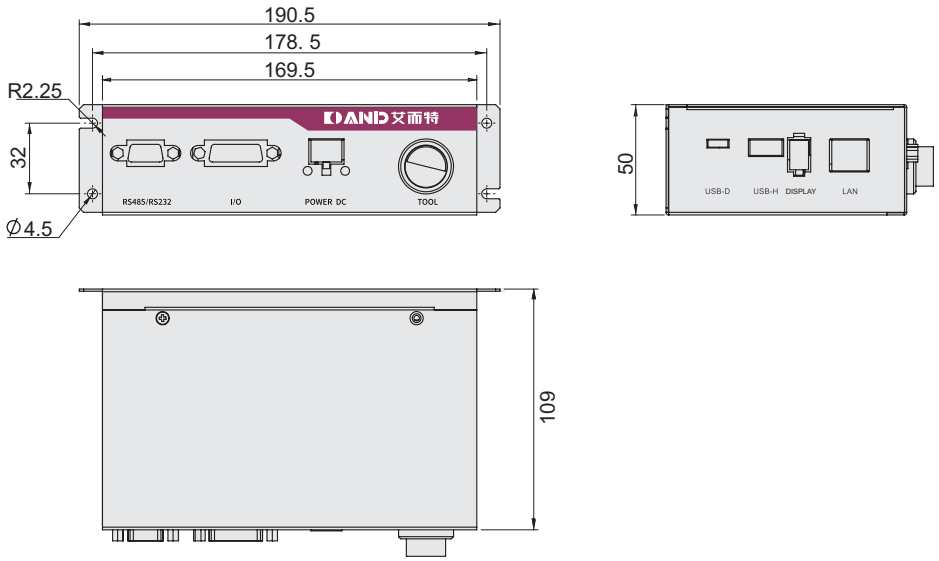
【*1】No-load consumption refers to the power consumption of the controller itself when the screwdriver body is not connected.

Model

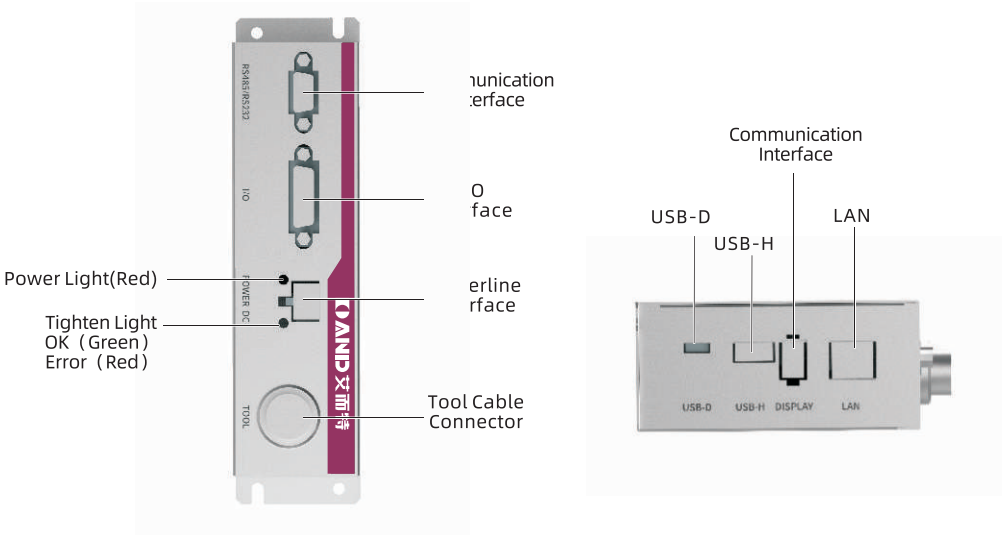


⚠The parameter above are for reference only

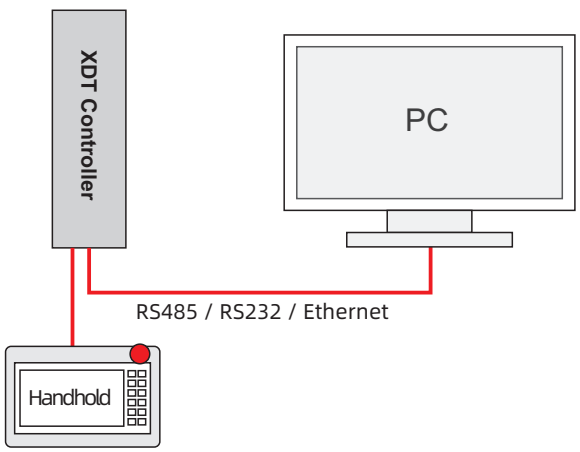
Dimensions (mm)



Panel description



Human-computer interface



The upper computer software can customize the torque, speed, Angle and other parameters of the screwdriver, monitor the screw tightening data in real time, and view the tightening curve.

YAT Series Controller (AC)

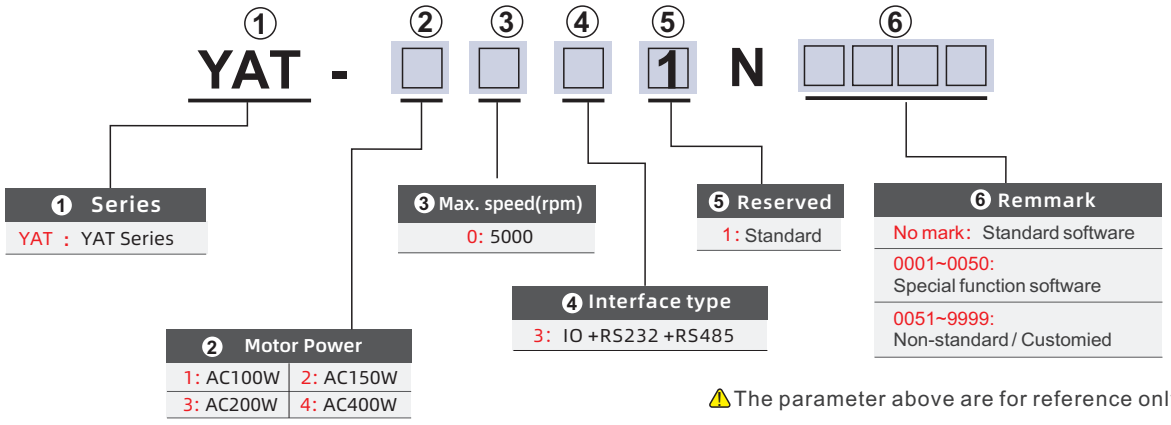
- Miniaturization design.
- 12 task modes, suitable for a variety of assembly requirements.
- Up to 8 different torque parameter Settings per task.
- Drive integration, can provide torque, Precise control of torque, Angle and speed can be provided.
- Provides I/O for process control.
- Provide RS232 and RS485 communication commonly used in industry.
- Provide special upper computer software, including curves, data recording and other functions .
- Monitoring with LED indicators further improves controller reliability .
- Convenient and flexible installation for a variety of applications

Technical Specifications

Parameter	Description
Input voltage	1Φ AC200~230V ± 10% 50/60HZ
No-load consumption [*1]	<20W
Output power [*2]	100W/150W/200W/400W
Display(Operation interface)	PC Host computer
Torque accuracy	±10%
The smallest unit of twist angle display	1degree(1°)
Tightening method	1. Torque as priority (angle simultaneous monitoring secondly) 2. Angle as priority torque simultaneous monitoring secondly)
IO channel	8_CH Optocoupler isolated input(20mA/CH,Max), 7_CH Optocoupler isolated output(20mA/CH,Max)
Communication interface	IO+RS232+RS485
Recommended use environment	Temperature-10C~+60C,humidity <90%RH(no condensation)
Storage environment	Temperature-20C~+85·C,humidity<90% RH(no condensation)
Weight	about 0.75kg
Dimensions	Please refer to "Size drawing"

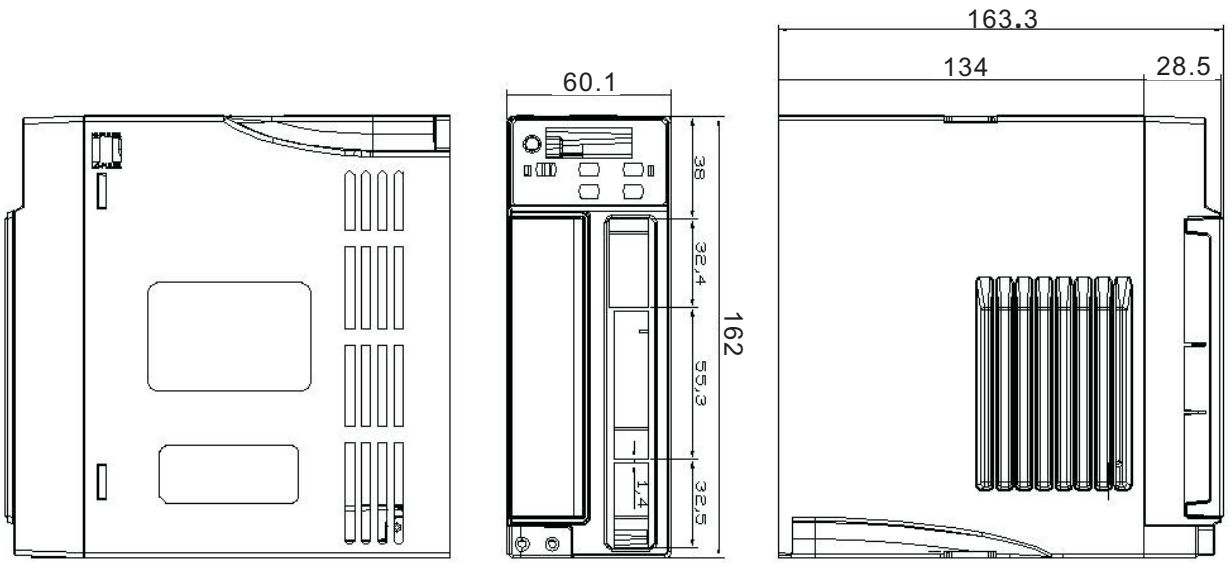
[*1]: No-load consumption refers to the power consumption of the controller itself when the screwdriver body is not connected.
[*2]: The output power refers to the maximum output power of the internal servo drive of the controller, which matches the mounted servo motor

Model

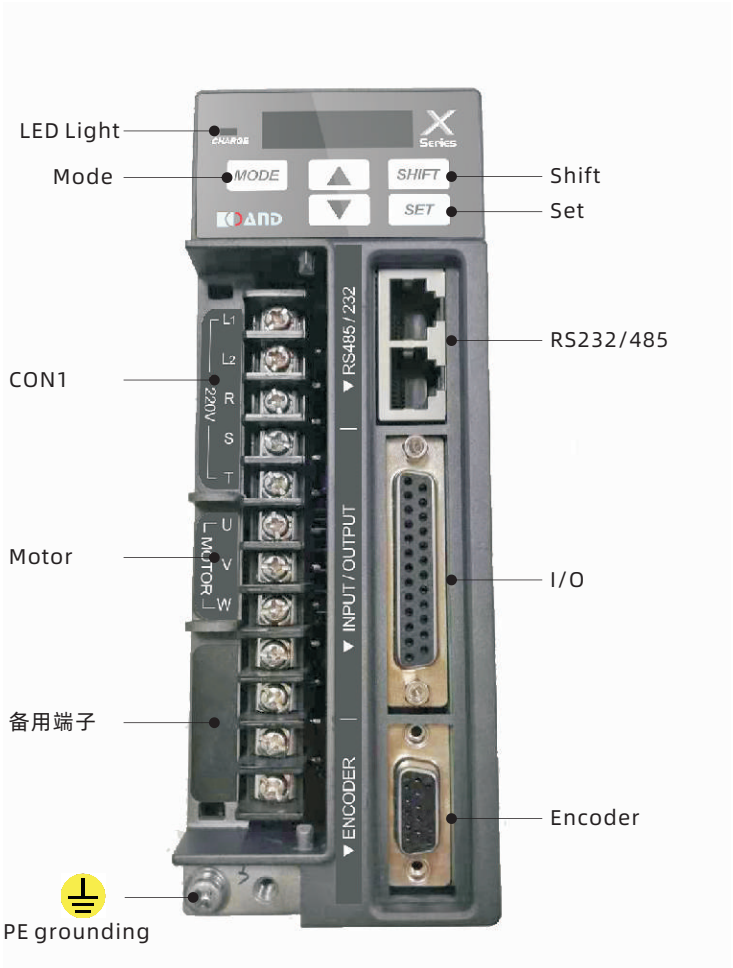


⚠The parameter above are for reference only

Dimensions (mm)



Panel description

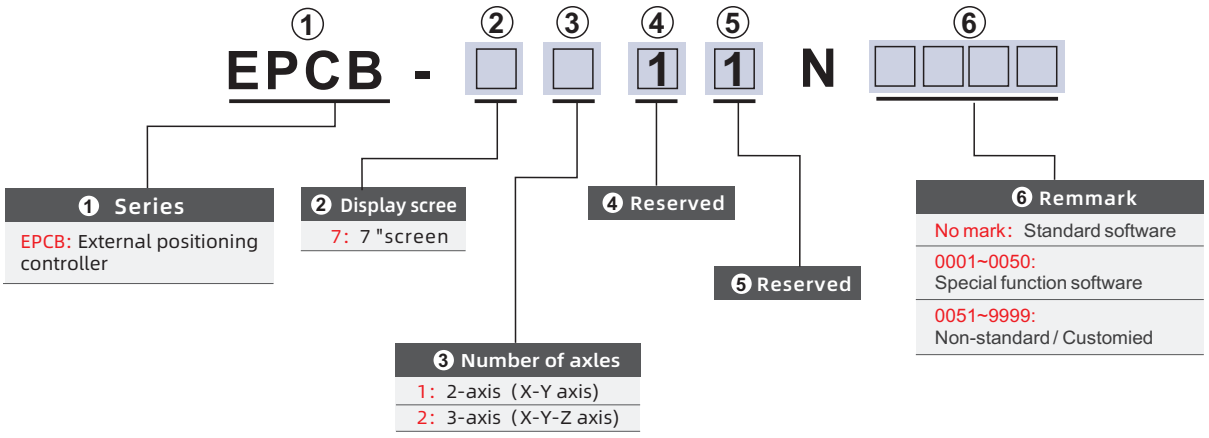


EPCB
External positioning controller

Delicate and small, easy to use, anti-stay and anti-error Make your screw lock pay more secure and reliable

- Equipped with 7 inch TFT touch screen teaching device
- You can edit the lock position and view the device position editing information
- Supports 12 programs, each program can be custom named, each program supports 50 lock-in points
- Support RS485 to read the point information of each program and real-time encoder position
- Supports Modbus RTU
- Supports modification of the second lever length of the FA lever frame
- Support point data insertion and deletion
- Supports multi-brand screwdriver controllers

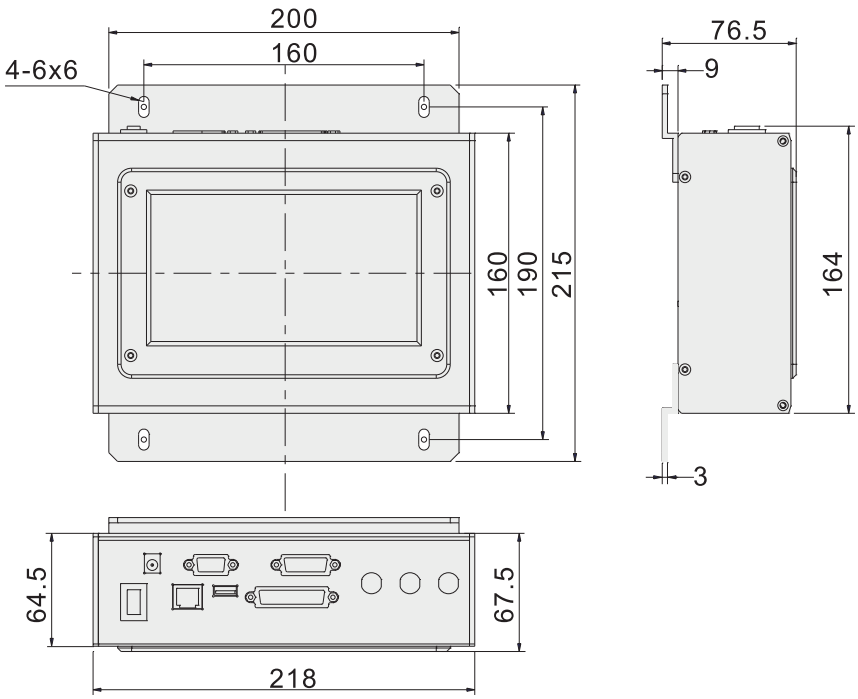
Model



Technical Specifications

Parameter	Description
Input voltage	12-24v
Power	<10w
Programm method	Touch screen instruction programming
Human Machine Interface	7 inch TFT touch screen teaching device
communication interface	RS485 port that supports MODBUS RTU
I/O	8 input，8 output
Environment	5℃~40℃(no icing)，90%RH以下 (no condensation)
Storage	5℃~40℃(no icing)，90%RH以下 (no condensation)
Wight	About 1.4KG
Size	Refer to "Size drawing"

Dimensions (mm)



Simple system construction

Controller interface

Main interface

Running interface

For details, please refer to the introduction of External Positioning System (Software) in sample volume P60

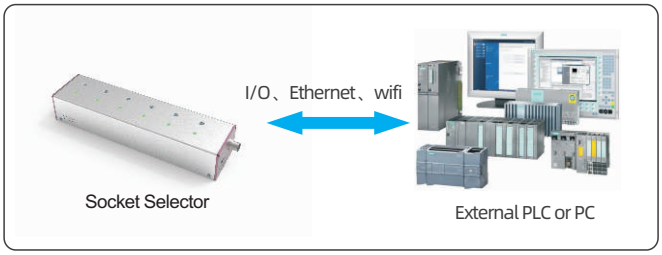
For detailed operation instructions of the external positioning system (software), please refer to the operation manual or visit our official website.

SS Series
Socket Selector

The socket selector is designed to be used in together with intelligent electric tightening tools. Each position on the socket selector corresponds to a specific code and tightening program, preventing human error that could result in selecting the wrong socket（applying incorrect torque to bolts, and potentially damaging workpieces）. During tightening operations with intelligent electric tools, the socket selector indicates the correct socket position with an LED light, ensuring the correct socket is chosen during replacement.

Functional Description

When a workpiece reaches the station and is ready for tightening, the correct socket is picked up, and the corresponding position's green light remains on. The socket selector then outputs the program number for that position. After the PLC or tightening gun controller verifies the program number, the tightening process begins. If the wrong socket is picked up, a red light illuminates, an error program number is output, and the tool is unable to tighten.If more than one position on the socket selector is empty, all signals are output, and the red light turns on. When all positions on the socket selector have sockets, no signals are output, and all lights remain off.

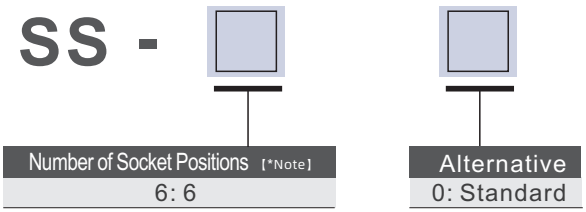


Technical Specifications

Project	Description
Number of Socket Positions	6
Applicable socket outside diameter	8mm~30mm 【*Note】
Communication mode	I/O communication or wireless Wifi communication (under development)
I/O specifications	Output, PNP

【*Note】Standard outer diameter is 8mm. Other sizes can be customized according to customer requirements.

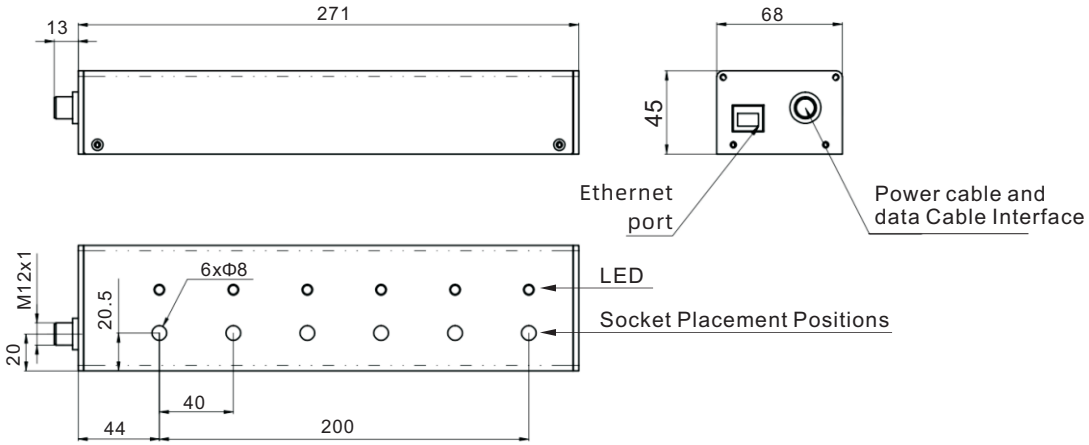
Model



【*Note】 Number of positions can be customized to 4 or 8 based on customer requirements.

Dimensions

(Unit: mm)



SFD Series Screw feeder

Air Blowing Feeder: Screws are delivered to the specified position through an air tube.

- Universal Type: Suitable for a wide range of screws, with adjustable guide rail spacing based on screw size.
- Reliable feeding, Customizable for dual output (1 to 2) configurations.
- Compatibility: Can be paired with automatic screw tightening equipment.
- Screw Counting and Alarm Functions: Ensures accurate screw delivery and alerts for any issues.

Model

① SFD ② □ - ③ □ - ④ □ - ⑤ □□□□

① Series	② Screw size	③ Max. screw length(mm)	④ Max. Capacity(L)	⑤ Remmark [*Note]
SFD: Screw feeder	02: M2	30: 30	S: 0.9	No mark: Standard
	025: M2.5		M: 1.5	Above 0001: Non-standard / Customied
	03: M3		L: 2	
	04: M4			
	05: M5			
	06: M6			

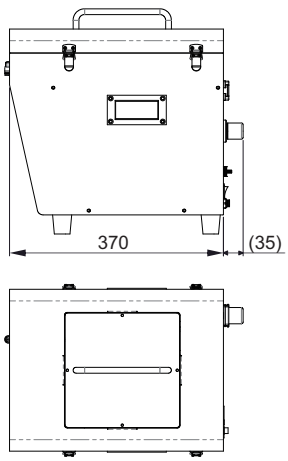
【*Note】: The screw length-to-diameter ratio should be greater than or equal to 1.3. It is recommended to provide screw samples to customer service for detailed evaluation before model selection.

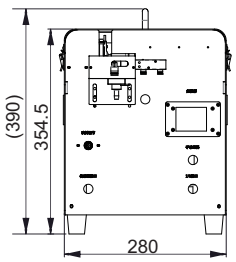
Technical Specifications

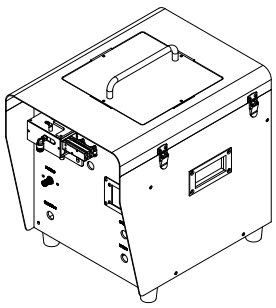
Applicable screw specification	Screw size M2~M6, Screw length≤30mm
Feeding Speed	40~60PCS/MIN
Display screen	2.4-inch touch screen for setting feeding parameters
Display	Digital Pressure Sensor Included
Power Supply	AC220V
Weight	20k
Hopper Capacity	900ml、1500ml

Dimensions

(Unit: mm)







WHY DO YOU NEED A BALANCE ARM?

More labor-saving, safer and more efficient

- Counteract Reaction Forces & Tool Weight
- Keep Tools in the Correct Position
- Improve Assembly Quality and Torque Accuracy

Intelligent Balance Arm

(X-Y Coordinate Control)

Optimized Workstation

Ergonomics is the discipline that deals with the interactions between operators and their work equipment, environment, and processes. Tools and accessories designed with ergonomics in mind can enhance safety, improve productivity, and improve the working environment and quality of life for operators. They can also prevent the negative health impacts of repetitive labor.

At AND, we are committed to manufacturing ergonomic products to increase user comfort. For example, when operating at the following workstations, attention should be paid to:

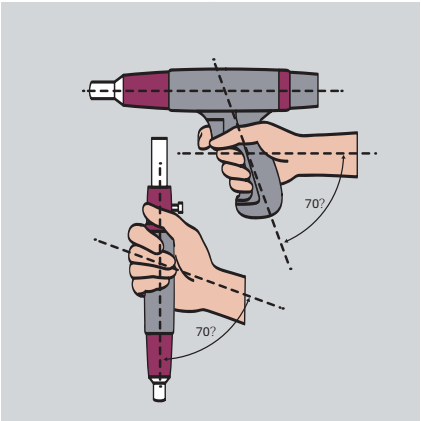
1. Tool Holding Position: Depending on the application and operating posture, it is recommended to use either straight-handle or pistol-grip tools (pic 1).

2. Tool Position in the Work Area: Tools should be within easy reach, and the height should be appropriate to avoid frequent movement by the operator (pic 2 and 3).

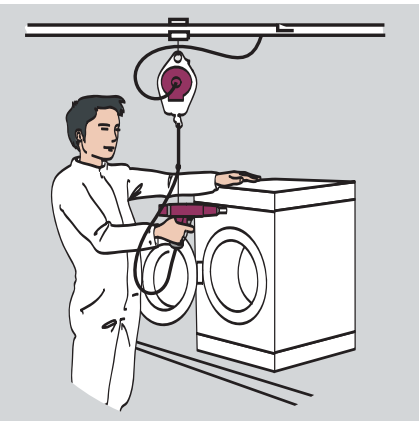
3. Application of Force: Efforts should be made to minimize the repetitive application of pulling forces and reactive torque. (pic 2 and 3).

The value of using the tools and ergonomic accessories listed in this product catalog includes:

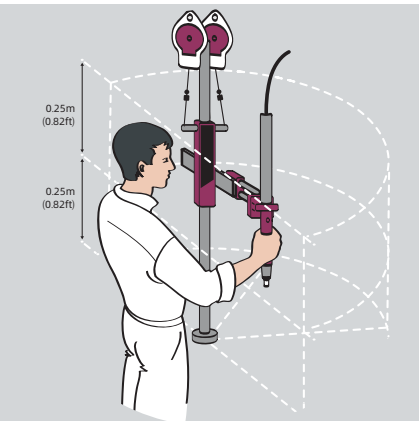
- Reducing repetitive strain injuries (RSI)
- Reducing operator fatigue
- Increasing productivity
- Improving product quality
- Decreasing the time spent holding tools
- Enhancing operator comfort
- Lowering labor costs



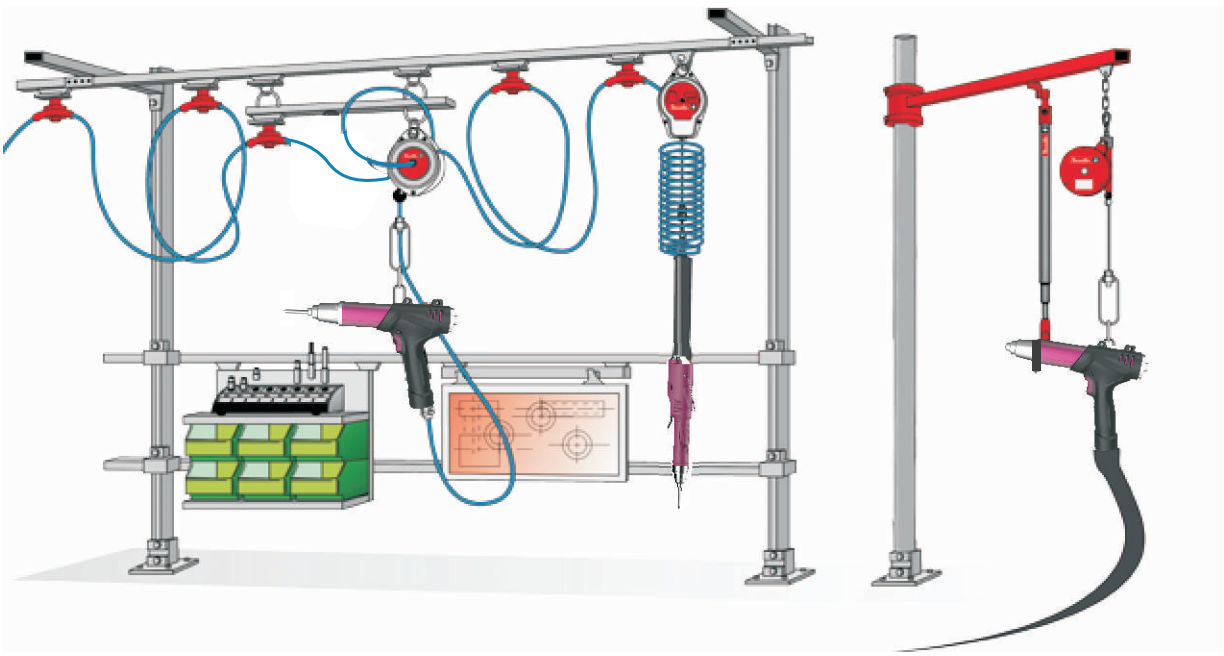
Pic 1: Holding at the most comfortable position



Pic 2: Spring Balancer



Pic 3: Balance arm



Intelligent Balance Arm

(X-Y Coordinate Control)

Why Do You Need a Balance Arm?

Counteract Reaction Forces & Tool Weight

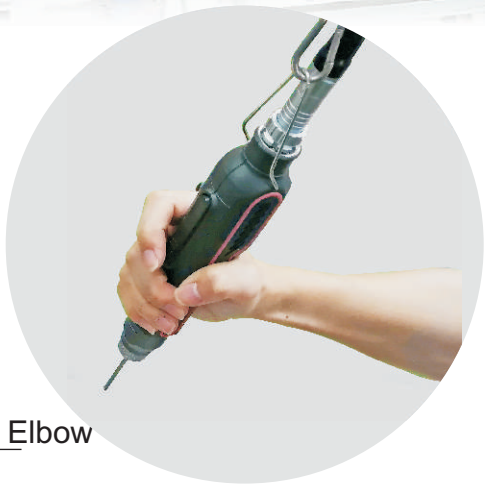
- Improve Working Environment
- Usage Standards: It is recommended to use a reaction arm if the repetitive torque exceeds the following standards:
  - Straight-handle tools: torque over 3 Nm
  - Pistol-grip tools: torque over 6 Nm
  - Right-angle tools: torque over 30 Nm
- Reduce Tendon Injuries (RSI) from Repetitive Actions

Keep Tools in the Correct Position

- Make Tools Easily Accessible
- Maintain Tools at the Ideal Height

Improve Assembly Quality and Torque Accuracy

- Prevent Tools from Twisting in Hands
- Maintain Perfect Vertical or Horizontal Tool Alignment



Intelligent Balance Arm

(X-Y Coordinate Control)

More Reliable Product Quality, Easier Production Management

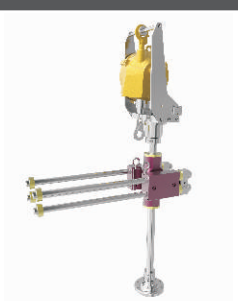
Encoder equipped for X-Y coordinate control

Uses a photoelectric encoder for precise positioning of target points.Integrates an AST (Anti-Mistake System) to follow a preset process flow and target coordinates, tightening in sequence. If the arm does not reach the target position, the screwdriver locks automatically, ensuring anti-mistake functionality.

Product Features

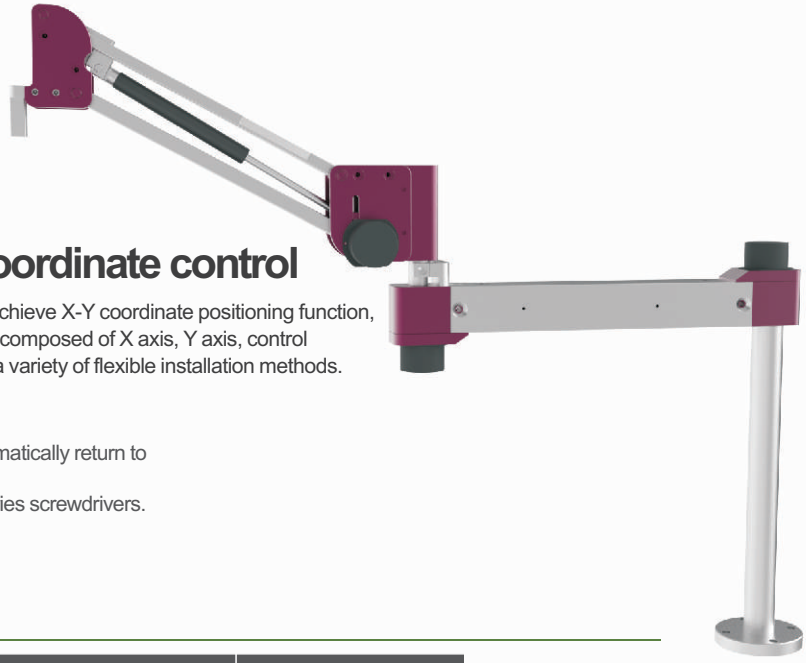
- Improved Assembly Quality and Torque Accuracy: Prevents the screwdriver from twisting in the hand, maintaining perfect vertical or horizontal alignment, and enhancing operational precision. The intelligent positioning system helps avoid errors such as missed or incorrect tightening, improving the yield rate.
- Safety and Convenience: Keeps the screwdriver at a safe height during idle times, ensuring it is within easy reach and guaranteeing safety and convenience during assembly.
- Effortless Operation: Enhances the working environment by neutralizing the reaction force and weight of the screwdriver, reducing the risk of repetitive strain injuries.
- The new balance arm series supports the installation of positioning encoders (except for the EA series), enabling X-Y axis coordinate control to meet the needs of various usage scenarios.

产品系列

Series	CB Series		EB Series	FB Series	HB Series		LB Series
Appearance							
Max. torque (N.m)	10	30	3	25	80	150	15
Max. tool weight (kg)	3	3	3	3	8	13	2
Max. arm length (mm)	820	852	374	531	448.5	406.5	396

The new balance arm series supports the installation of positioning encoders (except for the EA series), enabling X-Y axis coordinate control to meet the needs of various usage scenarios.

CB series Balance Arm
(Suspendable version)



Encoder equipped for X-Y coordinate control

This product can be equipped with precision encoder, to achieve X-Y coordinate positioning function, for precision components locking anti-error, the product is composed of X axis, Y axis, control system, operating system. Its installation space is small, a variety of flexible installation methods.

- Able to extend outward up to 820mm.
- Able to operate with 360 degree free rotation.
- Contains nitrogen spring, easy to grip the arm, will automatically return to the original position.
- Able to equipped with HD series, MD series and MT series screwdrivers.
- Option "handle switch" is available.
- You can customized the connection plate if you wanted.

Specifications

Model	Max. torque(N.m)	Max. tool weight (kg)	Max. arm length (mm)
CB-010-☐-☐	10	3	820
CB-030-☐-☐	30	3	852

⚠ Notice: Due to continuous product upgrades, the data listed in the table may be outdated. Please consult our technical staff before purchasing.

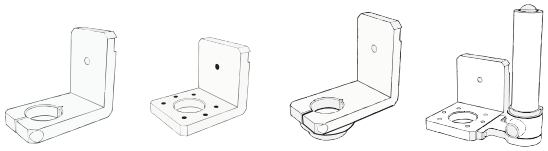
Model

CB-①②③-④

① Name	② Max. torque	③ Positioning encoder	④ Support customization or not
CB: Suspendable	010: 10N.m	N: None	N: Not support
	030: 30N.m	3E: 3 encoders	Z: Support

Tool clip

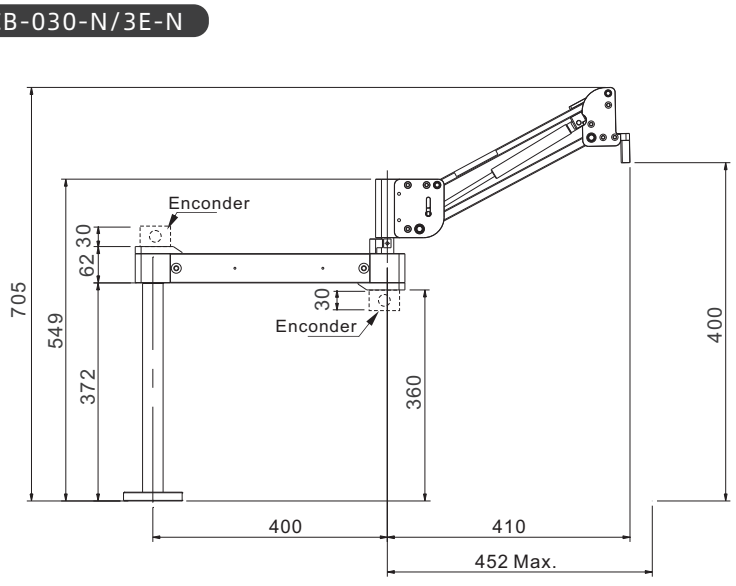
Model	Worked with what kind of screwdriver
CB-A	Able to load HE/HF40W Serise
CB-E	Able to load DWEN(90W)Serise (≤30N.m)
CB-F	Able to load HE/HF(90W) Serise
CB-G	Able to load ME(90W) Serise, with control handle (≤30N.m)

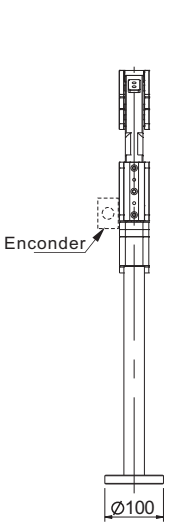


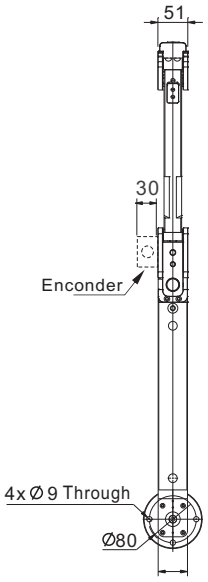
CB-A CB-E CB-F CB-G

Dimensions (Unit: mm)

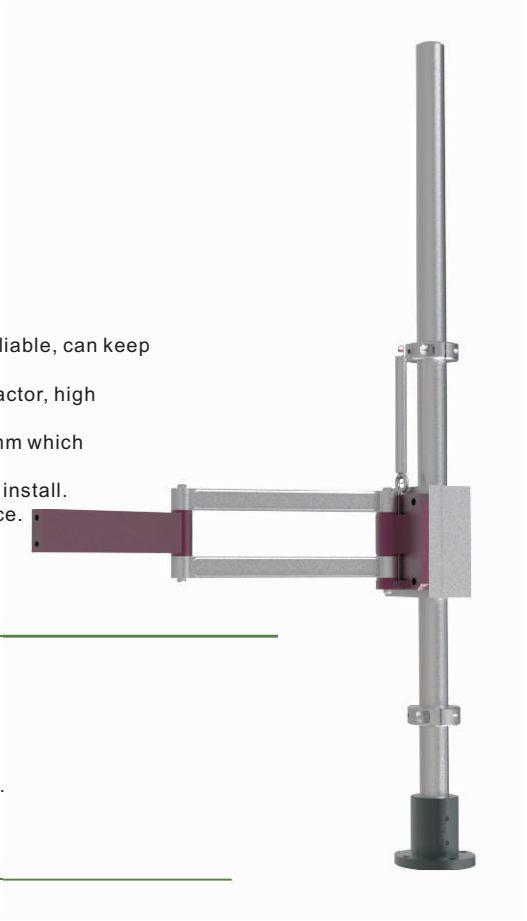
CB-030-N/3E-N







EB series Balance Arm
(Economic version)



- Adopt box type linear bearing, which can adapt to dusty working environment.
- Easy and flexible operation. Able to work at any point of 360° in the working range.
- The support rod is made by hard chromium-plated steel bar which makes it very reliable, can keep smooth even after long time operation.
- The rigidity of support rod and swing arm is designed according to 4 times safety factor, high rigidity, very hard to deformation, and still keep high vertical in long-term use.
- Hanging block and limit block are easy to adjust, adjustable range more than 300mm which brings strong adaptability.
- Can be equipped with movable cast iron seat, no need to fix it on the table, easy to install.
- Simple structure, reliable rust-proof exterior parts, no need for special maintenance.
- Arm span, height, screwdriver clamping block(clip) can be customized.

Specifications

Model	Max. torque(N.m)	Max. tool weight (kg)	Max. arm length (mm)
EB-003-□-□	3	3	374

⚠ Notice: Due to continuous product upgrades, the data listed in the table may be outdated. Please consult our technical staff before purchasing.

Model

① EB- ② □□□ - ③ □ - ④ □

① Name	② Max. torque	③ Installation	④ Support customization or not
EB: EB Series	003: 3N.m	N: No movable seat	N: Not support
		M: With movable seat	Z: Support

Tool clip

Model	Worked with what kind of screwdriver
EB-A	Able to load HE/HF40W Series
EB-C	Able to load HE/HF15W Series (≤3N.m)

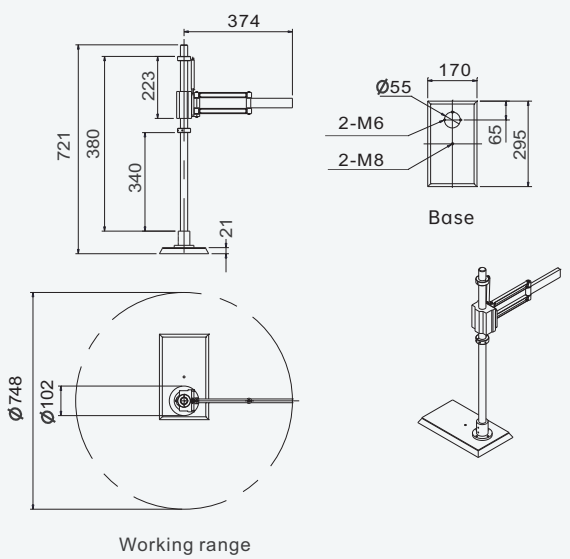
Options: Tool clip

EB-A

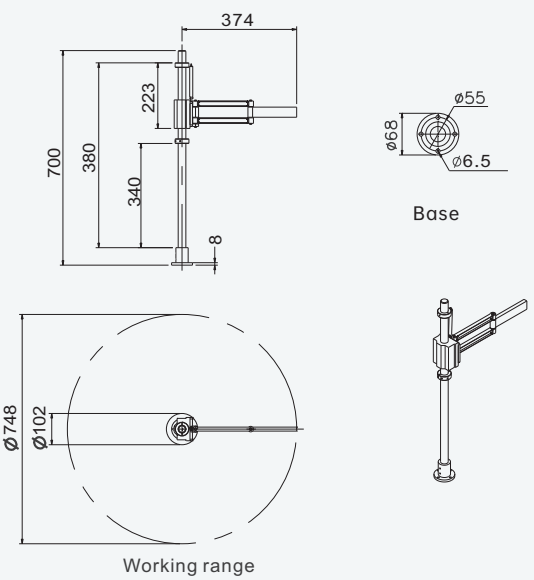
CB-C

Dimensions (Unit: mm)

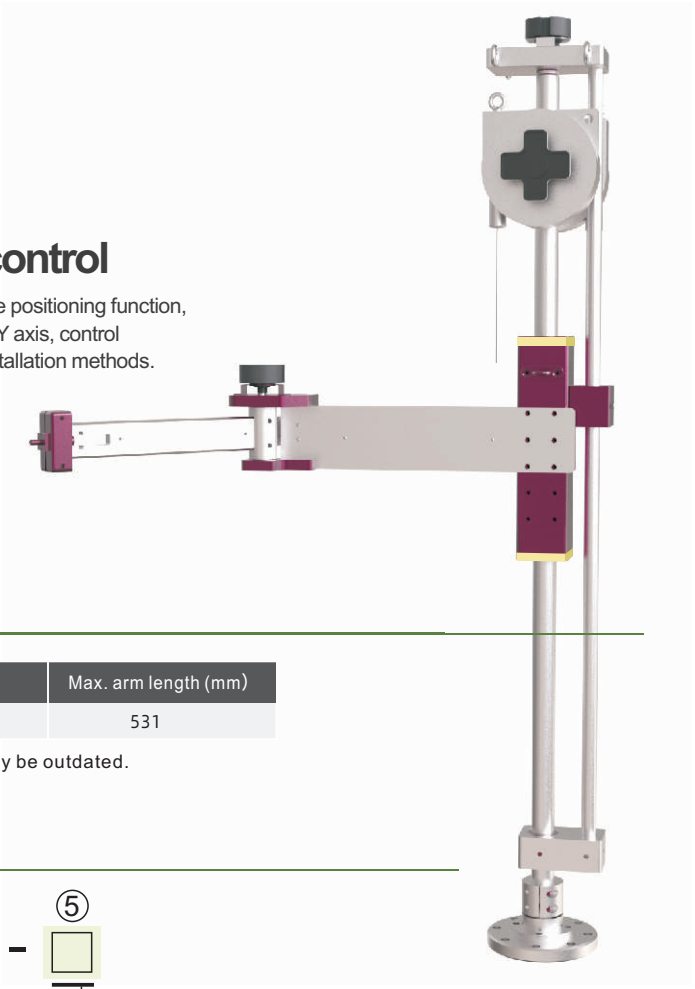
EB-003-M-N



EB-003-N-N



FB series Balance Arm (folding)



Encoder equipped for X-Y coordinate control

This product can be equipped with precision encoder, to achieve X-Y coordinate positioning function, for precision components locking anti-error, the product is composed of X axis, Y axis, control system, operating system. Its installation space is small, a variety of flexible installation methods.

- Able to track the tool's locations during assembly.
- Touch Screen interface
- Program setting is simple and easy to learn.
- The tool clip can be customized so the balance arm will be suitable for a variety of screwdrivers.

Specifications

Model	Max. torque(N.m)	Max. tool weight（kg）	Max. arm length (mm)
FB-025-□-□-□	25	3	531

⚠ Notice：Due to continuous product upgrades, the data listed in the table may be outdated. Please consult our technical staff before purchasing.

Model

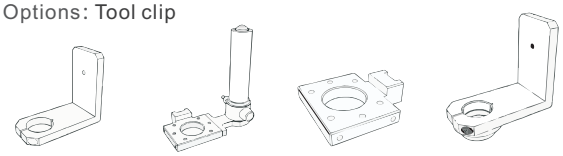
① FB- ② □□□ - ③ □ - ④ □ - ⑤ □

① Name	② Max. torque	③ Positioning encoder	④ Support customization or not	⑤ 平衡器
FB: FB Series	025: 25N.m	N: None	N: Not support	C:S-1-020-C(默认)
		2E: 2 Encoder	Z: Support	D:S-1-013-D
		3E: 3 Encoder		

Tool clip

Model	Worked with what kind of screwdriver
FB-A	Able to load HE/HF40W Series
FB-D	Able to load ME(90W) Series，with control handle（≤25N.m）
FB-E	Able to load DWEN(90W) Series （≤25N.m）
FB-F	Able to load HE/HF(90W) Series（≤25N.m）

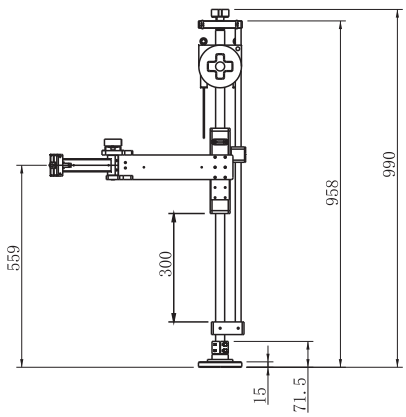
Options: Tool clip

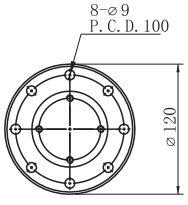


FB-A FB-D FB-E FB-F

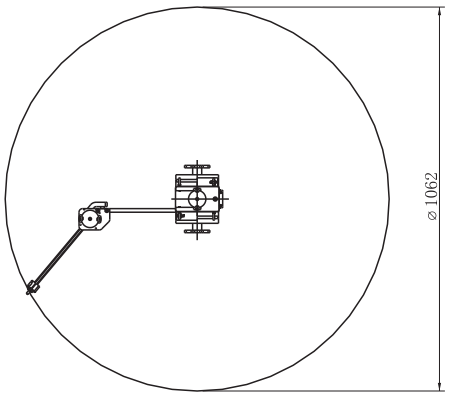
Dimensions (Unit: mm)

FB-025-2E-N-C



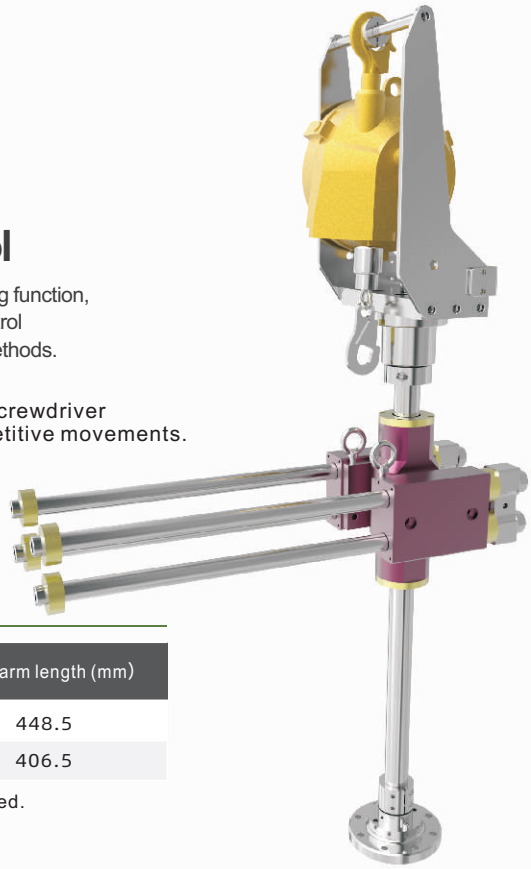


Base



Working range

HB series Balance Arm
(Heavy loaded version)



Encoder equipped for X-Y coordinate control

This product can be equipped with precision encoder, to achieve X-Y coordinate positioning function, for precision components locking anti-error, the product is composed of X axis, Y axis, control system, operating system. Its installation space is small, a variety of flexible installation methods.

- **Operate at ease**
  It improves the working environment, counteracts the reaction force of the screwdriver and the weight of the screwdriver, and reduces muscle injury caused by repetitive movements.
- **Supports up to 80Nm tools**
- **Improves work efficiency**
  This product can greatly improve the speed and quality of assembly, and improve work efficiency.

Specifications

Model	Max. torque(N.m)	Max. tool weight (kg)	Max. arm length (mm)
HB-080-□-□	80	8	448.5
HB-150-□-□	150	13	406.5

⚠ Notice: Due to continuous product upgrades, the data listed in the table may be outdated. Please consult our technical staff before purchasing.

Model

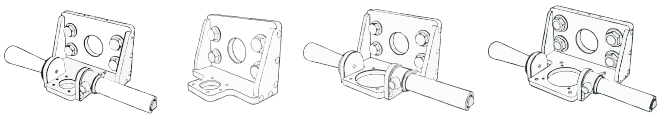
① HB- ② □□□ - ③ □ - ④ □

① Name	② Max. torque	③ Positioning encoder	④ Support customization or not
HB: HB Series	080: 80N.m	N: None	N: Not support
	150: 150N.m	2E: 2 Encoder	Z: Support
		3E: 3 Encoder	

Tool clip

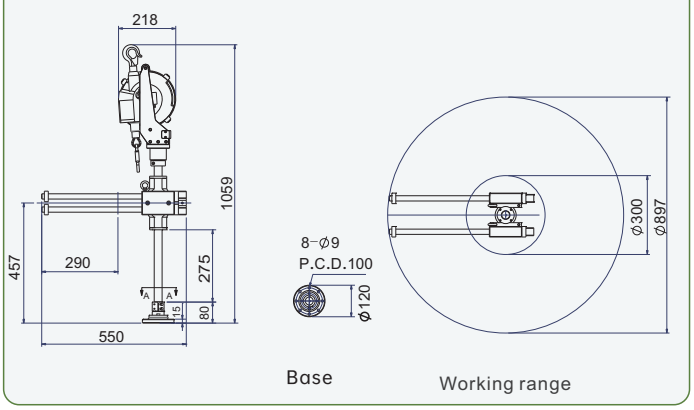
Model	Worked with what kind of screwdriver
HB-B	Able to load ME(90W) Serise (HB-080) (30N.m≤x≤80N.m)
HB-C	Able to load DWEN(90W) Serise (HB-080) (30N.m≤x≤80N.m)
HB-E	Able to load MT Serise, with control handle (30N.m≤x≤80N.m) (HB-080)
HB-F	Able to load MT Serise, with control handle (80N.m≤x≤150N.m) (HB-150)

Options: Tool clip

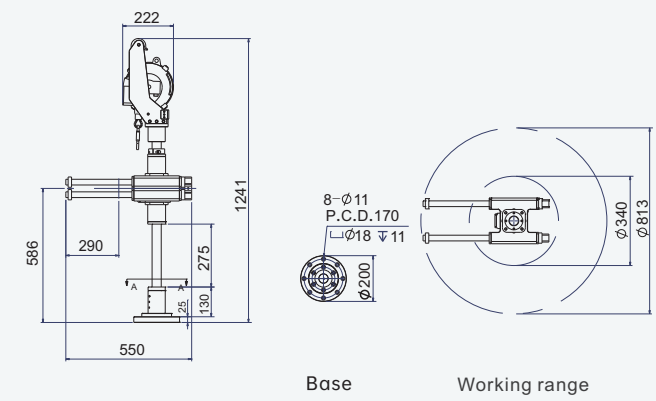


Dimensions (Unit: mm)

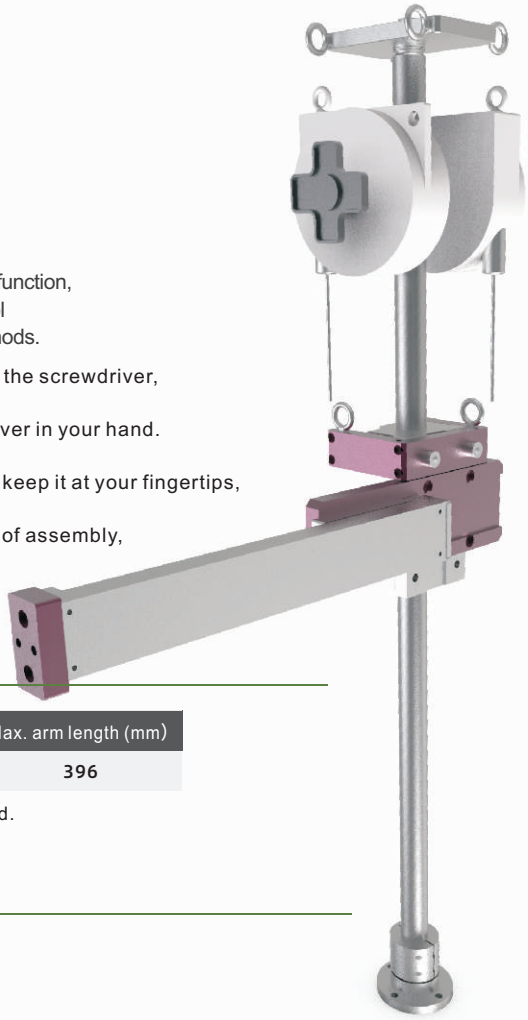
HB-080-N-N



HB-150-N-N



LB series Balance Arm
(Linear version)



Encoder equipped for X-Y coordinate control

This product can be equipped with precision encoder, to achieve X-Y coordinate positioning function, for precision components locking anti-error, the product is composed of X axis, Y axis, control system, operating system. Its installation space is small, a variety of flexible installation methods.

- Able to improve the working environment by reducing the force and the weight of the screwdriver, and reducing themuscle damage caused by repeated movements.
- Able to improve assembly quality and accuracy by avoiding twisting the screwdriver in your hand. It can keep thescrewdriver where it should be.
- Safe and convenient: keep the screwdriver at a safe height during operation and keep it at your fingertips, ensuring safety and easy to operate during assembly.
- Improve work efficiency: Balance arm can greatly improve the speed and quality of assembly, improve efficiency of your work.

Specifications

Model	Max. torque(N.m)	Max. tool weight（kg)	Max. arm length (mm)
LB-015-□-□	15	2	396

⚠ Notice：Due to continuous product upgrades, the data listed in the table may be outdated. Please consult our technical staff before purchasing.

Model

① LB- ② □□□ - ③ □ - ④ □

① Name	② Max. torque	③ Support customization or not	④ 平衡器
LB: LB Series	015: 15N.m	N: Not support	C:S-1-020-C(默认)
		Z: Support	D:S-1-013-D

Tool clip

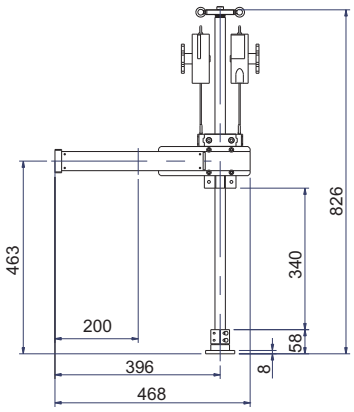
Model	Worked with what kind of screwdriver
LB-A	Able to load HE/HF40W Serise
LB-D	Able to load ME(90W) Serise，with control handle（≤15N.m）
LB-F	Able to load HE/HF(90W) Serise（≤15N.m）

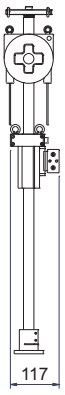
Options: Tool clip

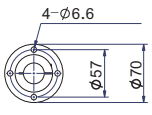
LB-A　LB-D　LB-F

Dimensions (Unit: mm)

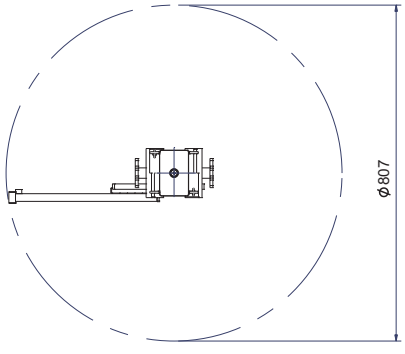
LB-015-N-C







Base



Working range

Spring Balancer

The balancer can hold a load and adjust throughout the entire cable length, allowing you to lift with ease.

- Zero Gravity: Maintains zero gravity across the entire cable length
- Impact-Resistant Plastic Steel Housing
- 360° Rotating Safety Hook
- Nut Locking Safety Load Hook
- Standard Safety Chain
- Automatic Locking Device for Spring Failure

S-1-013-D

S-1-020-C

Specifications

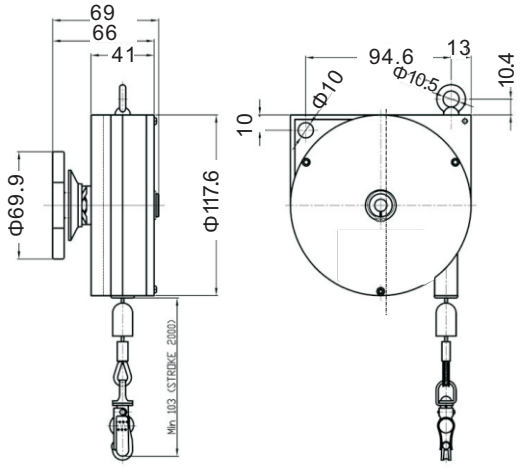
① S - ② □ - ③ □□□ - ④ □

① Name	② Load Capacity	③ Extension Length	④ Pull Force Variation (Extension Length)
S: Spring Balancer	1: 1~3kg	012: 1.2m	A:0~50N (1.5m)
	2: 1.5~3kg	013: 1.3m	C:0~35N (1.5m)
	3: 2~3kg	020: 2.0m	D:20~20N (1.3m)

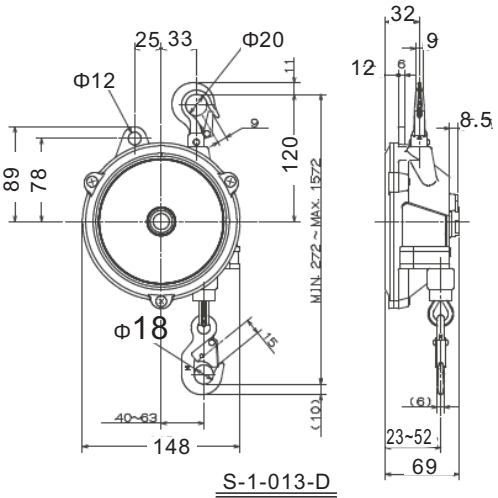
Model

Model	Balance Arm	Load Capacity(kg)	Extension Length(m)	Pull Force Variation (Extension Length)	Weight (kg)
S-3-020-A	FB Series	2~3	2.0	0~50N (1.5m)	0.48
S-1-020-C	LB/FB Series	1~3	2.0	0~35N (1.5m)	0.75
S-1-013-D	LB/FB Series	1~3	1.3	20~20N (1.3m)	1.4

Dimensions (Unit: mm)



S-1-020-C



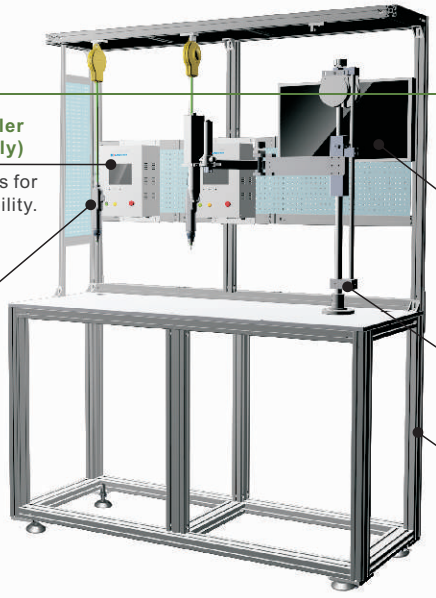
S-1-013-D

DI5-6-20
Smart Assembly Workbench

High-precision smart tightening, flexible assembly, precision fixtures, and semi-automated integrated systems. This offers stable industrial automation solutions for companies in electronics, automotive parts, high-speed rail, home appliances, medical, and aerospace industries.

- Includes smart screwdrivers, smart tightening shaft, and automatic feeding systems' interation services.
- Equipped with a standard balance arm that supports tracking the tool's position during the assembly process.
- Offers integrated services with customizable sizes and materials.
- Offers integrated services with customizable sizes and materials.
- Low-cost

Showcase



Screwdriver Controller (sold separately)

Offers various mounting options for convenience and flexibility.

Smart Screwdriver (sold separately)

Can accommodate HD or MD series smart screwdrivers.

Display Screen (sold separately)

Optional display screen can be added as needed.

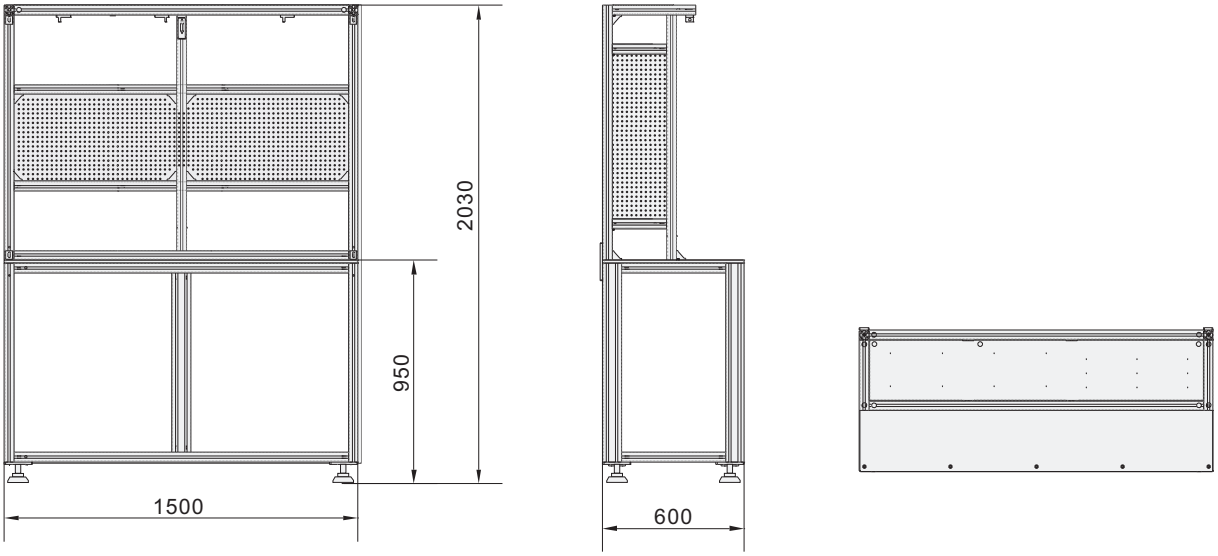
Balance Arm (sold separately)

Can support 1-2 balance arms.

Aluminum Alloy Frame

Safe, reliable, and strong load-bearing capacity.

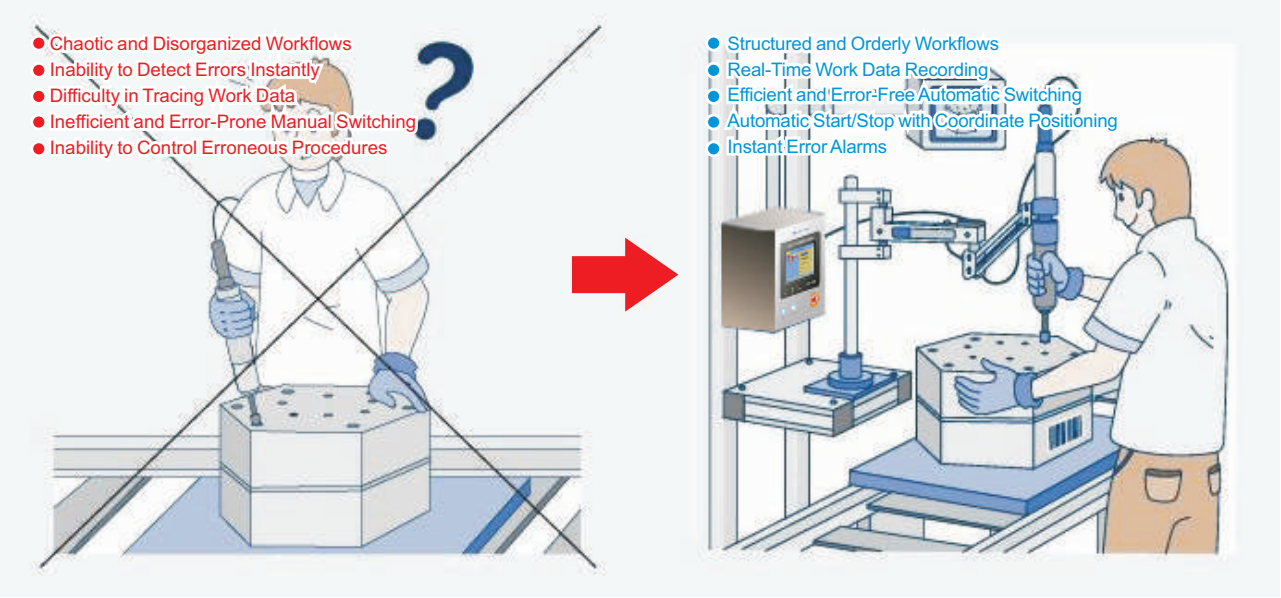
Dimensions (Unit: mm)



Fail-Safe Intelligent Assembly System

(Can be connected to MES system)

Software Overview



The Intelligent Assembly System offers a comprehensive digital solution for process quality control, tailored to various product manufacturing, material handling, and assembly stages. It includes Process Guidance Management、Data Traceability Management、Error-Proofing Management and Process Error Prevention Management. It enables enterprises to have Quick Digital Transformation、Lean Production Goals、Increase Efficiency and Standardization and Reduced Defect Rates.

Main Functions

Process Guidance Management

- Electronic SOP process guidance interface
- Automatic workflow switching
- Jump point management without sequential work

Data Traceability Management

- Real-time collection of operation result data
- Trace and export key result data
- CP/CPK process curve analysis

Error-Proofing Management

- Multiple methods for calling work products
- Automatic switching of electric screwdriver processes
- Automatic control of electric screwdriver start/stop

Process Error Prevention Management

- Multi-level misoperation alarm reminders
- Automatic return to process for errors
- Lock process after multiple consecutive errors

Main Features

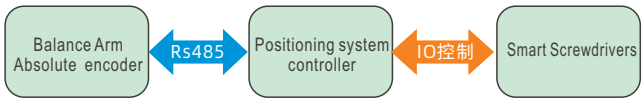
- Simple configuration process
- Smart error-proofing and mistake prevention
- Control of electric screwdriver programs
- Control of positioning balance arms
- Control of material picking systems
- Multi-screwdriver collaborative work
- Compatibility with various hardware
- Support for extended development
- Integration with PLC
- Integration with MES

External Positioning System -Software

Software Overview

The hardware part of the system is mainly composed of the system control box, balance lever, control system (software), using the touch screen man-machine interface, easy to operate.
External positioning system is suitable for precision component lock screw anti-error positioning, its installation space is small, a variety of flexible installation methods.

- Support allows tool location to be tracked during assembly
- Touch screen man-machine interface
- The program setting is simple and easy to learn
- The clamp head can be customized for a variety of screwdriver specifications



Mode of action	Manual operation
Number of axes	2-axis (XY)
Memory capacity	12 program *50 points
Programming mode	7 inch screen, manual teaching
Software function	Support point deletion, insertion, first and last position interchange, coordinates originally clear zero. Programs can be customized according to customer requirements.
Coordinate system	Support rectangular coordinate system.

software interface

Home page

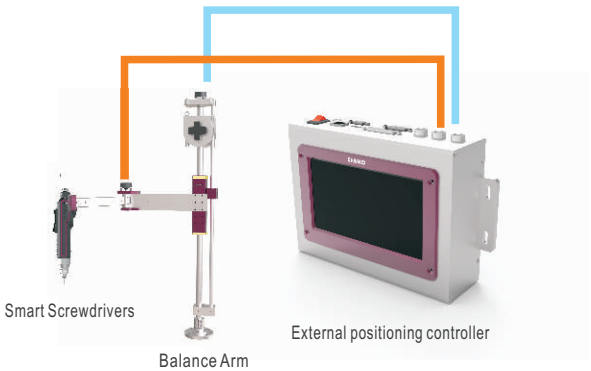
Running interface

Monitoring interface

Password interface

Editing interface

System Construction



For detailed operation instructions of the external positioning system (software), please refer to the operation manual or visit our official website.

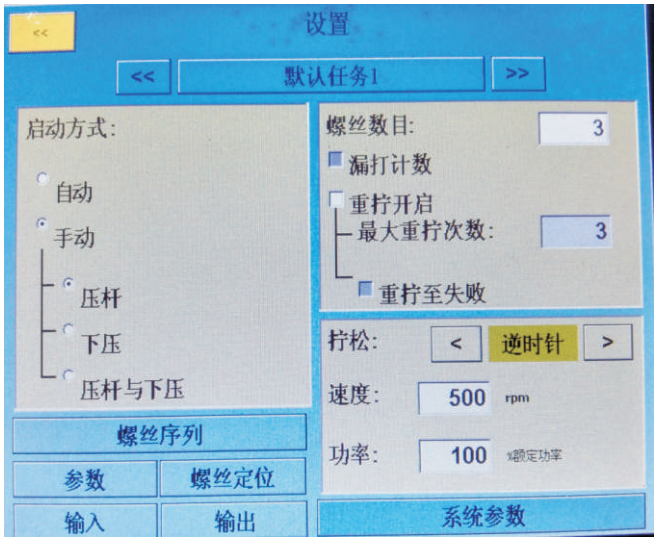
Built-in Positioning System-Software

System Overview

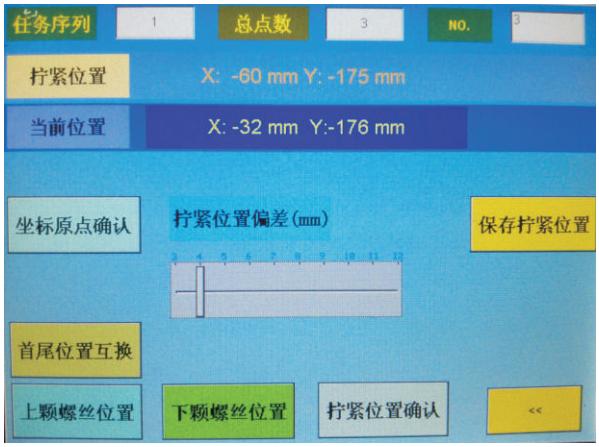
The built-in positioning system is a screw positioning processing software integrated into the screwdriver controller. By using a balance arm equipped with a position encoder, it accurately positions screws in sequence according to coordinate positions and order, enabling the screwdriver to start and stop tightening screws at certain points, thereby preventing errors and omissions during the locking process.

Software Interface

Main Interface



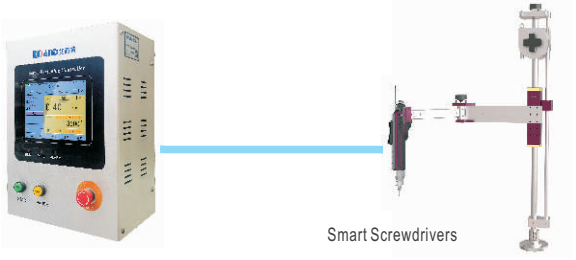
Settings Interface



Screw Positioning Interface (without permissions)

Screw Positioning Interface (with permissions)

System Construction



Controller

Smart Screwdrivers

Balance Arm
Absolute encoder

For detailed operation instructions of the external positioning system (software), please refer to the operation manual or visit our official website.

Product Solutions

Product Solutions

Smart Assembly Software

External Positioning System -Software

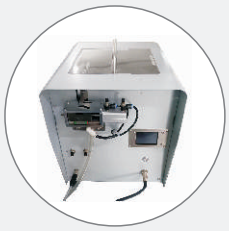
EPCB Series
External Positioning
Controller

Built-in Positioning System-Software

ACT Series Controller

Integrated Smart Hardware

Smart Screwdriver



Automatic Screw Feeder

Socket / Bit Selector

Balance Arm

Pick-to-Light
Error-Proofing System

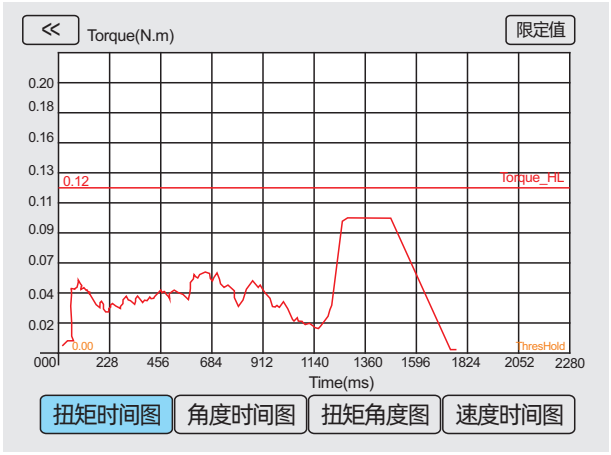
Screw Locking Robot

Demo

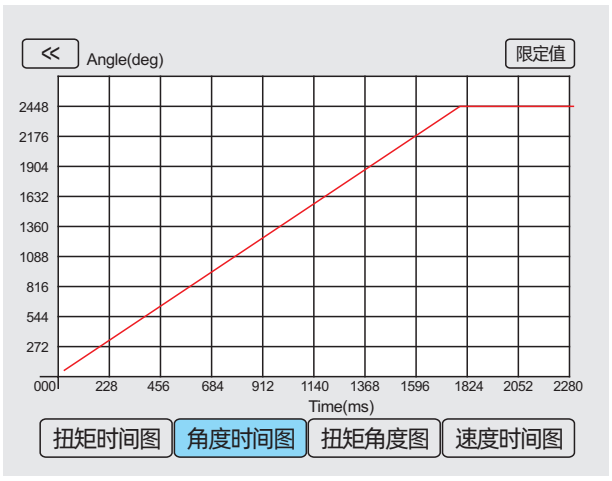
Curve Charts

Use corresponding curve charts to understand the screw tightening process under various conditions and to promptly identify any issues during assembly.

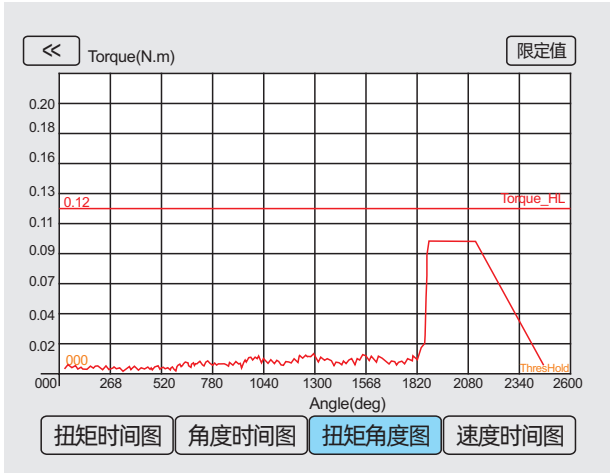
For each screw tightening or loosening operation, corresponding torque-time, angle-time, speed-time, and torque-angle curve charts are generated. These charts, along with key tightening result parameters recorded by the controller, are able to be stored in the MES system to assist customers in tracing the tightening process.



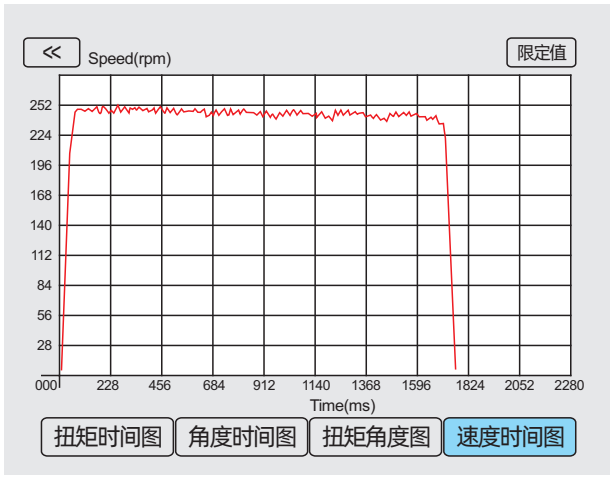
Torque-time chart



Angle-time chart



Torque-angle chart



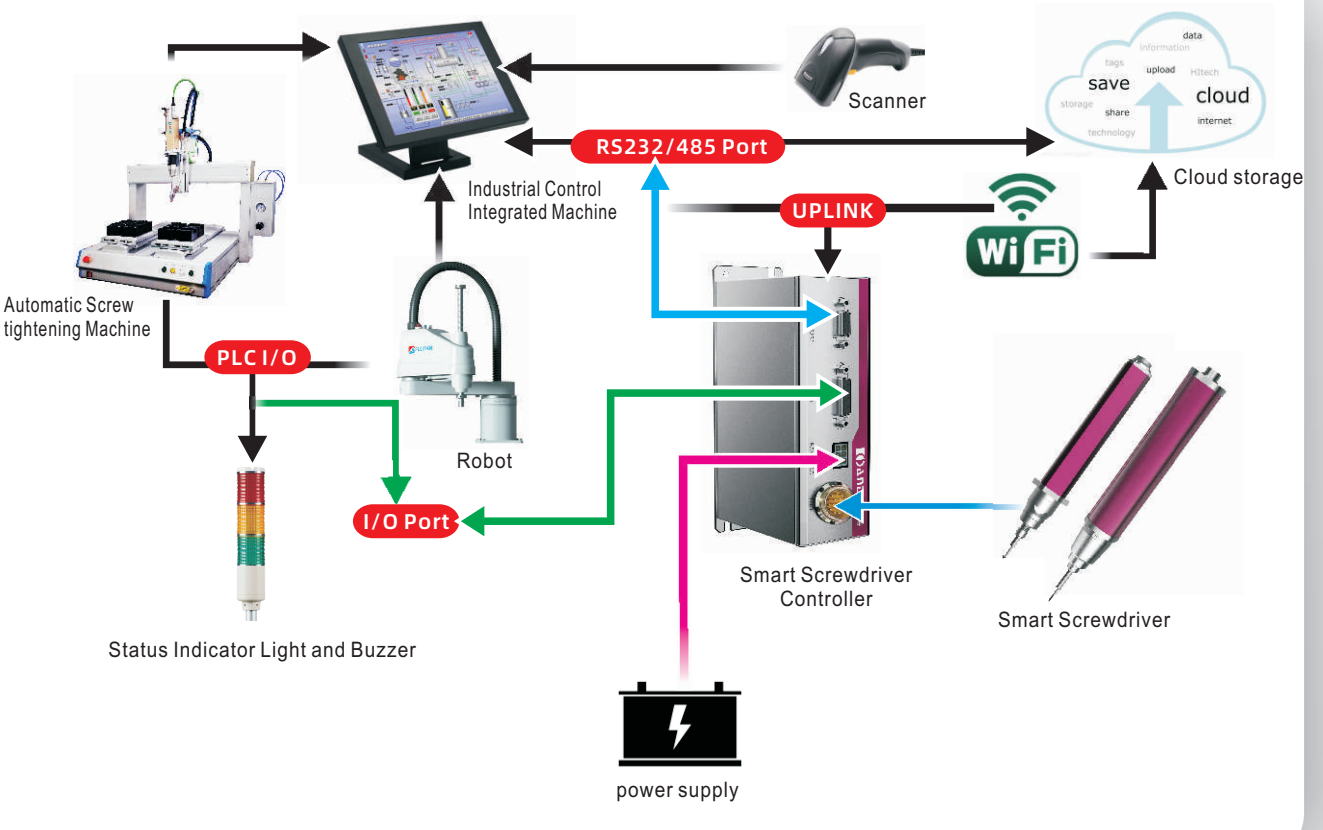
Speed-time chart

To view the graph mentioned above, you can click the [Graph] button at the bottom of the main interface (as shown in the figure below).

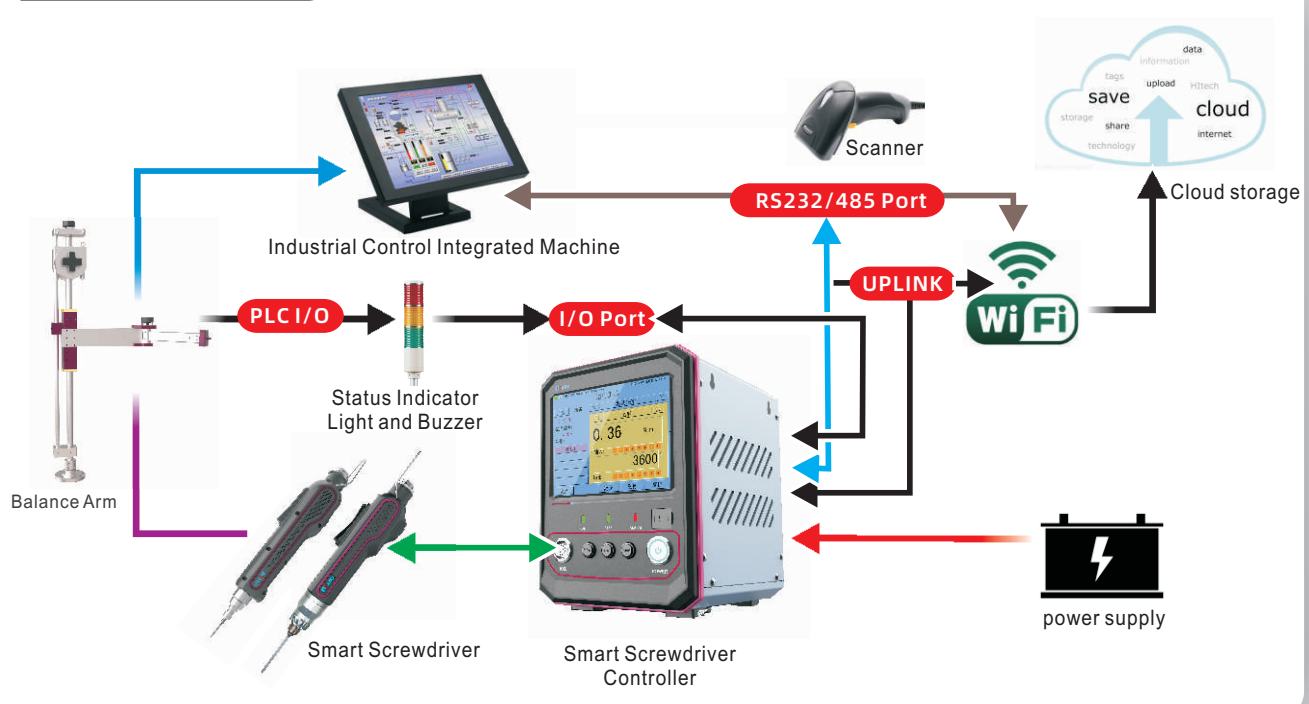
For detailed operating instructions, please refer to the operation manual or visit our official website.

System Construction

Robotic Type



Handheld Models



Batch

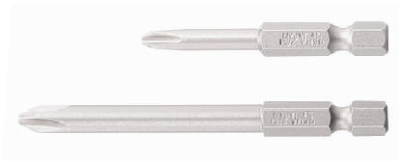
Wear-resistant batch are used in various models based on electric batch, which can correspond to various sizes of wide variety of pneumatic and electric products.

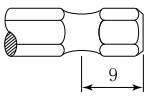
Accessories

Batch Head

Durable and break-resistant screwdriver batch head that can be used in a variety of models,mainly electric screwdrivers, and can be used for a wide variety of pneumatic and electric products of various sizes.

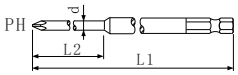
SH1/4 — 6.35mm

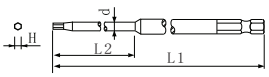


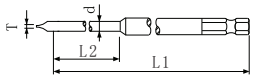


Feature

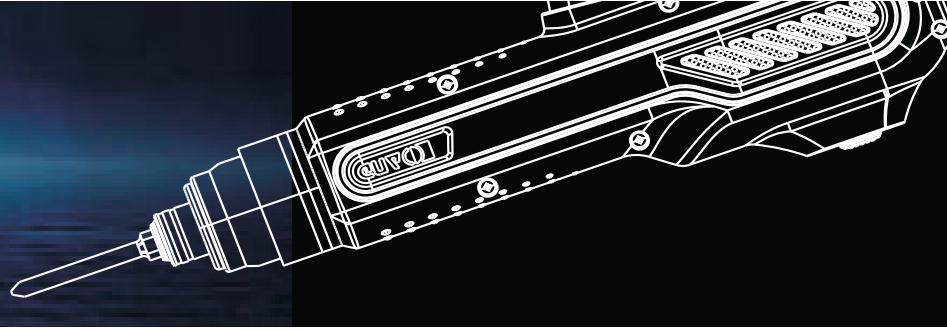
Application screw specification	M0.4~M10
Torque	0~17N.m
Advantage	High versatility, more used for torque is relatively large electrical batch, air batch and screw diameter is relatively large occasions.

Types	Dimensions (mm) PH x d x L2 x L1				Shape
For Phillips screws	00	Φ1.6	20	50	
		Φ1.7	25		
		Φ2.0			
		Φ2.5			
	0	Φ1.6	25	50	
		Φ2.0	20		
		Φ2.0	25		
		Φ3.0			
		Φ1.5			
		Φ2.0	50	75	
		Φ2.5			
		Φ3.0			
		Φ3.0	75	100	
	1	Φ2.5	25	50	
		Φ3.0			
		Φ3.5			
		Φ4.0			
		Φ4.5			
		Φ5.0			
		Φ2.5	50	75	
		Φ3.0			
		Φ3.5			
		Φ4.0			
		Φ4.5			
		Φ5.0			
		Φ6.0			
		Φ3.0	75	100	
		Φ3.5			
		Φ4.0			
		Φ4.5			
		Φ5.0			
		Φ4.5	120	150	
	2	-	0	50	
		Φ3.0	25	50	
		Φ4.0			
		Φ4.5			
		Φ5.0			
		Φ6.0			
		Φ6.0	40	65	
		Φ3.0	50	75	
		Φ4.0			
		Φ4.5			
		Φ5.0			
		Φ6.0			
		Φ4.0	75	100	
		Φ4.5			
		Φ5.0			
		Φ6.0			
		Φ4.5	90	120	
		Φ6.0	95		
		Φ4.5	120	150	
		Φ6.0	125		
		Φ4.5	175	200	
		Φ6.0			

Types	Dimensions (mm) H x d x L2 x L1				Shape
For hexagon socket screws	1.5	Φ2.0	25	50	
	2	Φ2.5			
		Φ3.0			
		Φ3.0	50	75	
		Φ3.0	75	100	
	2.5	Φ3.5	25	50	
		Φ4.5			
		Φ3.0	35	65	
		Φ3.5	50	75	
		Φ3.5	75	100	
	3	Φ3.5	25	50	
		Φ4.0			
		Φ4.5	50	75	
		Φ3.5	75	100	
	3.5	Φ3.0	25	50	
	4	Φ5.0			
		Φ5.0	40	65	
		Φ5.0	50	75	
		Φ5.0	75	100	
	5	-	0	50	
		Φ6.0	25		
		Φ6.0	40	65	
		Φ6.0	50	75	
		Φ6.0	75	100	
	6	-	0	50	
				65	
				75	
				100	

Types	Dimensions (mm) T x d x L2 x L1				Shape
For Slotted screws	0.5	Φ3.0	25	50	
			50	75	
	0.6	Φ4.0	25	50	
			50	75	
	0.75	Φ4.5	25	50	
		Φ5.0	50	75	

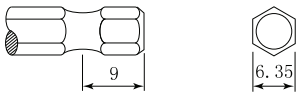
Accessories



Batch Head

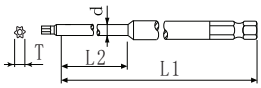
Durable and break-resistant screwdriver batch head that can be used in a variety of models, mainly electric screwdrivers, and can be used for a wide variety of pneumatic and electric products of various sizes.

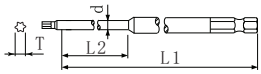
SH1/4 — 6.35mm



Feature

Application screw specification	M0.4~M10
Torque	0~17N.m
Advantage	High versatility, more used for torque is relatively large electrical batch, air batch and screw diameter is relatively large occasions.

Types	Dimensions (mm) T x d x L2 x L1				Shape
Joint hollow screws	6	Φ3.0	25	50	
	7				
	8		25	50	
			50	75	
	10	Φ4.5	25	50	
			50	75	
			75	100	
	15	Φ4.5	25	50	
			50	75	
			75	100	
	20	Φ4.5	25	50	
		Φ5.0	50	75	
			75	100	
	25	Φ5.0	25	50	
			50	75	
			75	100	
	30	Φ6.0	50	75	

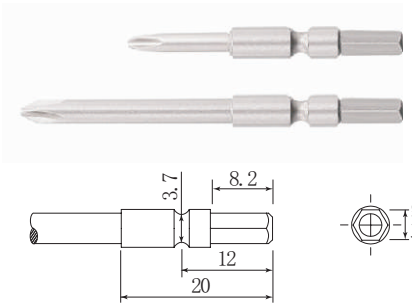
Types	Dimensions (mm) T x d x L2 x L1				Shape
Plum blossom screws	3	Φ2.0	25	50	
	4				
	5	Φ2.0	25	50	
		Φ2.5	50	75	
	6	Φ3.0	25	50	
		Φ2.5	50	75	
		Φ3.0			
	7	Φ3.0	25	50	
			50	75	
	8	Φ3.0	25	50	
			50	75	
			75	100	
	9	Φ4.0	25	50	
			50	75	
			75	100	
	10	Φ3.0	25	50	
			50	75	
		Φ3.5	25	50	
		Φ4.0			
		Φ4.5	25	50	
			50	75	
	15	Φ4.5	25	50	
			50	75	
			75	100	
	20	Φ4.5	50	75	
		Φ5.0	25	50	
			50	75	
			75	100	
	25	Φ4.5	25	50	
		Φ5.0	25	50	
			50	75	
			75	100	
	27	Φ5.5	25	50	
			50	75	
	30	Φ6.0	25	50	
			50	75	
			75	100	
	40	-	0	75	

Accessories

Batch Head

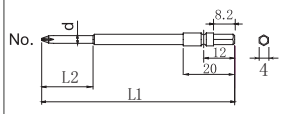
Durable and break-resistant screwdriver batch head that can be used in a variety of models,mainly electric screwdrivers, and can be used for a wide variety of pneumatic and electric products of various sizes.

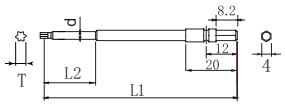
SH1/4 — 6.35mm

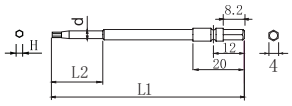


Feature

Application screw specification	M1.6~M6
Torque	0~4.5N.m
Advantage	High versatility, more used for torque is relatively large electrical batch, air batch and screw diameter is relatively large occasions. High degree of bite, not easy to swing, good stability, easy to disassemble. It is suitable for high-frequency tightening (such as tightening more than 5000 times per day).

Types	Dimensions (mm) No. x d x L2 x L1				Shape
For Phillips screws	1	Φ2.5	25	50	
		Φ3.0			
		Φ3.5			
		Φ4.0			
		Φ4.5			
	2	Φ3.0			
		Φ4.0			
		Φ4.5			
		Φ5.0			
	1	Φ2.5	50	75	
		Φ3.0			
		Φ3.5			
		Φ4.0			
		Φ4.5			
		Φ5.0			
		Φ6.0			
	2	Φ3.0			
		Φ4.0			
		Φ4.5			
		Φ5.0			
		Φ6.0			
	1	Φ3.0	75	100	
		Φ3.5			
		Φ4.0			
		Φ4.5			
		Φ5.0			
	2	Φ4.0			
		Φ4.5			
		Φ5.0			
		Φ6.0			
	2	Φ4.5	90	120	
		Φ6.0	95		
	1	Φ4.5	120	150	
	2				
	2	Φ4.5	175	200	
		Φ6.0			

Types	Dimensions (mm) T x d x L2 x L1				Shape
Plum blossom screws	3	Φ2.0	25	50	
	4	Φ2.0			
	5	Φ2.0			
	6	Φ3.0			
	7	Φ3.0			
	8	Φ3.0			
	9	Φ4.0			
	10	Φ3.0			
		Φ3.5			
		Φ4.5			
	15	Φ4.5			
	20	Φ5.0			
	20	Φ5.0			
	5	Φ2.5	50	75	
	6	Φ2.5			
		Φ3.0			
	7	Φ3.0			
	8	Φ3.0			
	9	Φ4.0			
	10	Φ3.0			

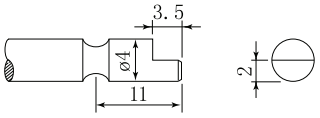
Types	Dimensions (mm) H x d x L2 x L1				Shape
For hexagon socket screws	1.5	Φ2.0	25	50	
	2	Φ2.5			
	2	Φ3.0			
	3.5	Φ3.2			
	2.5	Φ4.5			
	2.5	Φ3.5			
	3	Φ3.5			
	3	Φ4.0			
	4	Φ5.0			
	5	Φ6.0			
	2.5	Φ3.0	35	65	
	4	Φ5.0	40	65	

Accessories

Batch Head

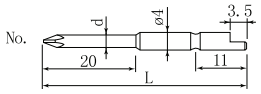
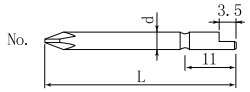
Durable and break-resistant screwdriver batch head that can be used in a variety of models,mainly electric screwdrivers, and can be used for a wide variety of pneumatic and electric products of various sizes.

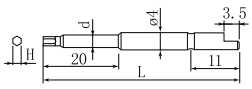
Half-moon (Tail) ∅4mm

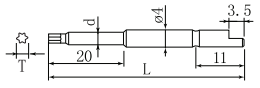
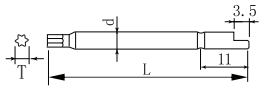


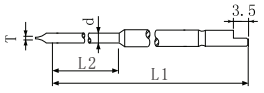
Feature

Application screw specification	M0.4~M2.5
Torque	0~1.2N.m
Advantage	When using a hand-held screwdriver, it has small beating and easy control. When using an airborne screwdriver, it is convenient to load and unload nails

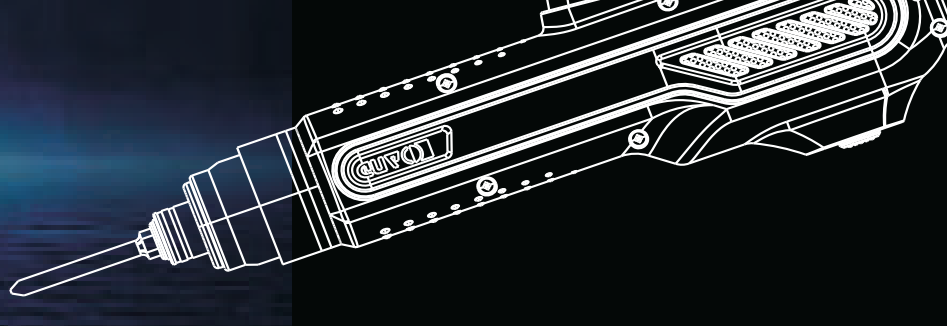
Types	Dimensions (mm) No. x d x L	Shape
For Phillips screws	00 x Φ1.6 x 50	
	00 x Φ1.7 x 44	
	00 x Φ2.0 x 50	
	00 x Φ2.5	
	00 x Φ1.8 x 64	
	0 x Φ1.8 x 44	
	0 x Φ2.5 x 64	
	0 x Φ2.5 x 44	
	0 x Φ2.0 x 64	
	0 x Φ2.5 x 80	
	1 x Φ2.5 x 50	
	1 x Φ3.0 x 50	
	1 x Φ3.5 x 50	
	1 x Φ3.0 x 80	
	1 x Φ3.0 x 44	
	1 x Φ2 x 64	
	0 x Φ2.5 x 80	
	1 x Φ3.0 x 150	
	2 x Φ2.5 x 150	
	1 x Φ3.0 x 44	
	2 x Φ3.0 x 50	
	2 x Φ4.0 x 50	
	2 x Φ4.5 x 50	
	2 x Φ5.0 x 50	
	2 x Φ4.0 x 64	
	2 x Φ4.0 x 75	
	2 x Φ4.5 x 75	
	2 x Φ5.0 x 75	
	2 x Φ6.0 x 75	
	2 x Φ4.0 x 80	
	2 x Φ4.0 x 100	
	2 x Φ4.5 x 100	
	2 x Φ5.0 x 100	
	2 x Φ6.0 x 100	
	2 x Φ4.0 x 150	
	2 x Φ4.5 x 150	

Types	Dimensions (mm) H x d x L	Shape
For hexagon socket screws	1.5 x Φ2 x 44	
	2.0 x Φ2 x 44	
	2.5 x Φ2 x 44	
	3.0 x Φ4 x 44	
	1.27 x Φ2 x 64	

Types	Dimensions (mm) T x d x L	Shape
Plum blossom screws	5 x Φ2 x 44	
	6 x Φ2 x 44	
	8 x Φ2 x 44	
	10 x Φ2 x 64	
	9 x Φ4.0 x 50	
	10 x Φ4.0 x 50	
	10 x Φ4.5 x 50	
	15 x Φ4.5 x 50	
	15 x Φ4.5 x 75	
	20 x Φ5.0 x 50	
	20 x Φ5.0 x 75	
	25 x Φ5.0 x 50	
	25 x Φ5.0 x 75	

Types	Dimensions (mm) T x d x L2 x L1	Shape
For Slotted screws	0.5 x Φ3.0 x 25 x 50	
	0.6 x Φ4.0 x 25 x 50	
	0.75 x Φ5.0 x 25 x 50	
	0.5 x Φ3.0 x 50 x 75	
	0.6 x Φ4.0 x 50 x 75	
	0.75 x Φ5.0 x 50 x 75	

Accessories



For your reference

Batch heads and screws

■ Slotted screws a x b	Machine screws mm	Wood screws mm
1.8 x 0.25	1.0 1.2	
2.5 x 0.35	1.6	1.8
3 x 0.45	2	2.1
4 x 0.6	2.2 2.6	2.4
4.5 x 0.6	3	2.7 3.1
5 x 0.8	3.5	3.5
5.5 x 1.0	4	3.8
6 x 1.2	5	4.5
7 x 1.2	6	4.8 5
8 x 1.6	8	5.5 5.8
9 x 1.6	8	6.2 6.8
10 x 1.6	8	7.5 8
12 x 1.0	8	8

■ Phillips screws	■ Pozi screws	Machine screws mm	Self-tapping screws mm	mm
No.0	—	1.4 1.7 2 2.3 2.6		
No.1	SDV No.1 PZD No.1	2 2.2 2.5 2.9 3.0	2.2 2.9	2.1 2.9 3.0
No.2	SDV No.2 PZD No.2	3.5 4 4.5 5	3.5 4 4.2 4.8	3.5 4 4.5 5
No.3	SDV No.3 PZD No.3	6	5.5 6.3	5.5 6 7
No.4	—	8 10		7 8

Additional Information

For your reference

Torque values for various fastener materials (in Lbf-In unless noted)

Screw size	Number of threads per inch	cross screw driver bits	Mild steel	18-8 Stainless steel	316 Stainless steel	Brass	Silicon Bronze	2024-T Aluminum	Models	Socket head cap screws	Flat head screw	Fastening screw	Round head screw
0	31	0	0.11	14 ozf-In	16 ozf-In	11 ozf-In	13 ozf-In	8 ozf-In		0.29	0.23	8 ozf-In	1.5
1	25	0	0.17	0.17	0.17	0.14	0.17	9 ozf-In		0.51	0.47	1.8	2
	28	0	0.23							0.54			
2	22	0.11	0.25	0.28	0.29	0.23	0.26	0.16	0.28	0.85	0.47	1.8	4
	25	0.11	0.31	0.34	0.36	0.28	0.32	0.19	0.35	0.90			
3	19	0.11	0.40	0.44	0.45	0.36	0.41	0.24	0.45	1.24	70.79	5	5.5
	22	0.11	0.45	0.50	0.52	0.41	0.46	0.27	0.50	1.36			
4	16	0.11	0.53	0.59	0.62	0.49	0.54	0.33	0.60	1.81	1.07	5	7.5
	19	0.11	0.67	0.75	0.78	0.61	0.69	0.41	0.76	2.03			
5	16	0.23	0.78	0.87	0.92	0.71	0.80	0.47	0.88	2.71	2.15	9.5	11
	17	0.23	0.96	1.06	1.11	0.87	0.98	0.57	1.08	2.71			
6	13	0.23	0.98	1.08	1.14	0.89	1.01	0.60	1.11	3.39	2.15	9.5	12.5
	16	0.23	1.23	1.37	1.44	1.12	1.27	0.75	1.39	3.84			
8	13	0.23	2.01	2.24	2.34	1.83	2.08	1.22	2.34	6.22	3.45	19.4	23
	14	0.23	2.24	2.49	2.60	2.03	2.31	1.36	2.53	6.55			
10	9	0.23	2.35	2.60	2.69	2.10	2.40	1.56	2.93	8.93	7.35	33.5	45
	13	0.23	3.36	3.58	3.74	2.93	3.31	2.17	3.94	10.17			
1/4″	8	0.34	7.35	8.50	8.90	6.95	7.77	5.15	9.64	22.60	15.82	77.9	105
	11	0.34	10.17	10.62	11.19	8.70	9.83	6.44	11.98	25.99			

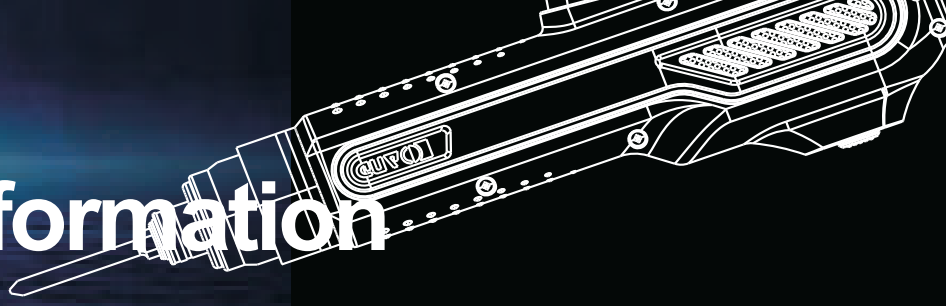
Small Metric Fastener's Torque Values (kgf-cm)

Types	Metric Screw Size									
	M 2.0	M 2.3	M 2.6	M 3.0	M 3.5	M 4.0	M 4.5	M 5.0	M 6.0	M 8.0
Pan Head	0.14	0.23	0.32	0.48	0.80	1.18	1.67	2.35	4.12	10.2
Round head	0.15	0.25	0.35	0.52	0.89	1.28	1.86	2.55	4.61	11
Flat head	0.15	0.15	0.35	0.50	0.86	1.28	1.77	2.55	4.41	10.8
Oval head	0.18	0.38	0.41	0.60	1.02	1.47	2.26	2.94	5.20	12.9

Torque units conversion table

Units	Imperial			Metric			International System of Units		
	ozf.In	Lbf. In	Lbf.ft	gf.cm	kgf. cm	kgf.m	mN.m	cN.m	N.m
1 ozf.In =	1	.0625	.005	72	.072	.0007	7.062	.706	.007
1 Lbf.In =	16	1	.083	1152.1	1.152	.0115	113	11.3	.113
1 Lbf.ft=	192	12	1	13826	13.83	.138	1356	135.6	1.356
1 gf.cm =	.014	.0009	.00007	1	.001	.00001	.098	.01	.0001
1 kgf.cm =	13.89	.868	.072	1000	1	.01	98.07	9.807	.098
1 kgf.m =	1389	86.8	7.233	100000	100	1	9807	980.7	9. 807
1 mN.m =	.142	.009	.0007	10.2	.01	.0001	1	.1	.001
1 cN.m =	1.416	.088	.007	102	.102	.001	10	1	.01
1N.m=	141.6	8.851	.738	10197	10.2	.102	1000	100	1

Additional Information



For your reference

Screw tightening torque value standard table (N.m)

Screw diameter dimension (d/mm)	Screw strength grade-standard screw					Screw strength grade -high impedance screw		
	3.6	4.6	4.8	5.8	6.8	8.8	10.9	12.9
M1	0.010	0.014	0.019	0.023	0.028	0.038	0.053	0.064
M1.2	0.020	0.027	0.036	0.045	0.054	0.073	0.103	0.123
M1.4	0.033	0.044	0.059	0.074	0.088	0.118	0.166	0.199
M1.6	0.048	0.064	0.085	0.106	0.128	0.17	0.238	0.288
M1.8	0.075	0.099	0.132	0.166	0.2	0.265	0.373	0.45
M2	0.099	0.132	0.176	0.22	0.264	0.35	0.5	0.595
M2.5	0.203	0.27	0.36	0.444	0.54	0.72	1.02	1.21
M 3	0.351	0.467	0.62	0.78	0.935	1.24	1.75	2.1
M4	0.802	1.07	1.4	1.78	2.14	2.9	4	4.8
M5	1.57	2.1	2.8	3.5	4.21	5.5	8	9.4
M6	2.71	3.61	4.8	6.02	7.22	9.7	13.6	16.2
M8	6.57	8.7	11.6	14.6	17.5	23	33	39
M10	13	17.5	23	29	35	47	65	78
M12	22.6	30	40	50	60	80	113	135
M14	36	48	65	79	95	130	180	215
M16	55	73	98	122	147	196	275	330
M18	75	101	135	168	202	270	380	450
M20	107	143	190	238	286	385	540	635
M22	-	194	230	324	-	518	728	874
M24	-	249	295	416	-	665	935	1120
M27	-	360	435	600	-	961	1350	1620
M30	-	492	590	819	-	1310	1840	2210
M36	-	855	1030	1420	-	2280	3210	3850
M42	-	1360	-	2270	-	3640	5110	6140
M45	-	1690	-	2820	-	4510	6340	7610
M48	-	2040	-	3400	-	5450	7660	9190

⚠ The above torque value is for reference only, the specific need to judge according to the screw size, screw material and workpiece mater

Additional Information

Batch rod/sleeve standard part specifications
Imperial conversion table

Inch	=	mm	Inch	=	mm	Inch	=	mm	Inch	=	mm	Inch	=	mm
1/32	=	0.7988	1-1/32	=	26.1938	2-1/32	=	51.5938	3-1/32	=	76.9938	4-1/32	=	102.3938
1/16	=	1.5875	1-1/16	=	26.9875	2-1/16	=	52.3875	3-1/16	=	77.7875	4-1/16	=	103.1875
3/32	=	2.3812	1-3/32	=	27.7812	2-3/32	=	53.1812	3-3/32	=	78.5812	4-3/32	=	103.9812
1/8	=	3.1750	1-1/8	=	28.5750	2-1/8	=	53.9750	3-1/8	=	79.3750	4-1/8	=	104.7750
5/32	=	3.9688	1-5/32	=	29.3688	2-5/32	=	54.7688	3-5/32	=	80.1688	4-5/32	=	105.5688
3/16	=	4.7625	1-3/16	=	30.1625	2-3/16	=	55.5625	3-3/16	=	80.9625	4-3/16	=	106.3625
7/32	=	5.5562	1-7/32	=	30.9562	2-7/32	=	56.3562	3-7/32	=	81.7562	4-7/32	=	107.1562
1/4	=	6.3500	1-1/4	=	31.7500	2-1/4	=	57.1500	3-1/4	=	82.5500	4-1/4	=	107.9500
9/32	=	7.1438	1-9/32	=	32.5438	2-9/32	=	57.9438	3-9/32	=	83.3438	4-9/32	=	108.7438
5/16	=	7.9375	1-5/16	=	33.3375	2-5/16	=	58.7375	3-5/16	=	84.1375	4-5/16	=	109.5375
11/32	=	8.7312	1-11/32	=	34.1312	2-11/32	=	59.5312	3-11/32	=	84.9312	4-11/32	=	110.3312
3/8	=	9.5250	1-3/8	=	34.9250	2-3/8	=	60.3250	3-3/8	=	85.7250	4-3/8	=	111.1250
13/32	=	10.3188	1-13/32	=	35.7188	2-13/32	=	61.1188	3-13/32	=	86.5188	4-13/32	=	111.9188
7/16	=	11.1125	1-7/16	=	36.5125	2-7/16	=	61.9125	3-7/16	=	87.3125	4-7/16	=	112.7125
15/32	=	11.9062	1-15/32	=	37.3062	2-15/32	=	62.7062	3-15/32	=	88.1062	4-15/32	=	113.5062
1/2	=	12.7000	1-1/2	=	38.1000	2-1/2	=	63.5000	3-1/2	=	88.9000	4-1/2	=	114.3000
17/32	=	13.4938	1-17/32	=	38.8938	2-17/32	=	64.2938	3-17/32	=	89.6938	4-17/32	=	115.0938
9/16	=	14.2875	1-9/16	=	39.6875	2-9/16	=	65.0875	3-9/16	=	90.4875	4-9/16	=	115.8875
19/32	=	15.0812	1-19/32	=	40.4812	2-19/32	=	65.8812	3-19/32	=	91.2812	4-19/32	=	116.6812
5/8	=	15.8750	1-5/8	=	41.2750	2-5/8	=	66.6750	3-5/8	=	92.0750	4-5/8	=	117.4750
21/32	=	16.6688	1-21/32	=	42.0688	2-21/32	=	67.4688	3-21/32	=	92.8688	4-21/32	=	118.2688
11/16	=	17.4625	1-11/16	=	42.8625	2-11/16	=	68.2625	3-11/16	=	93.6625	4-11/16	=	119.0625
23/32	=	18.2562	1-23/32	=	43.6562	2-23/32	=	69.0562	3-23/32	=	94.4562	4-23/32	=	119.8562
3/4	=	19.0500	1-3/4	=	44.4500	2-3/4	=	69.8500	3-3/4	=	95.2500	4-3/4	=	120.4500
25/32	=	19.8438	1-25/32	=	45.2438	2-25/32	=	70.6438	3-25/32	=	96.0438	4-25/32	=	121.4438
13/16	=	20.6375	1-13/16	=	46.0375	2-13/16	=	71.4375	3-13/16	=	96.8375	4-13/16	=	122.2375
27/32	=	21.4312	1-27/32	=	46.8312	2-27/32	=	72.2312	3-27/32	=	97.6312	4-27/32	=	123.0312
7/8	=	22.2250	1-7/8	=	47.6250	2-7/8	=	73.0250	3-7/8	=	98.4250	4-7/8	=	123.8250
29/32	=	23.0188	1-29/32	=	48.4188	2-29/32	=	73.8188	3-29/32	=	99.2188	4-29/32	=	124.6188
15/16	=	23.8125	1-15/16	=	49.2125	2-15/16	=	74.6125	3-15/16	=	100.0125	4-15/16	=	125.4125
31/32	=	24.6062	1-31/32	=	50.0062	2-31/32	=	75.4062	3-31/32	=	100.8062	4-31/32	=	126.2062
1	=	25.4000	2	=	50.8000	3	=	76.2000	4	=	101.6000	5	=	127.0000

⚠ Note: Please wear appropriate protective measures when using, do not use without any protection.

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