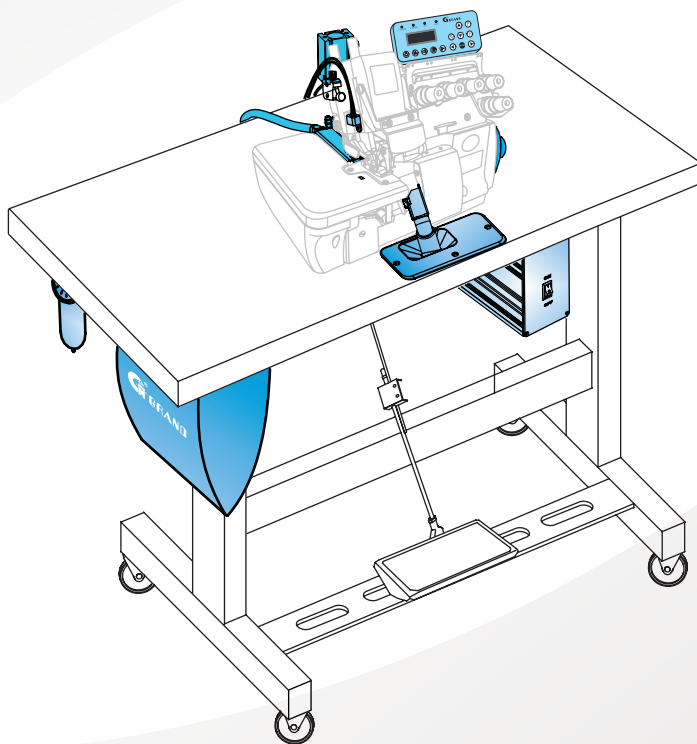


MANUAL 产品手册



**GRAND AUTOMATIC SEWING DEVICE
FOR OVER-LOCK MACHINE SERIES
百川牌包缝机自动化缝纫设备系列**

GMD1-EC-P

伺服直驱电机&全自动气动切线吸风集尘装置
ENERGY-SAVING MOTOR AND CONTROL SYSTEM &
AUTOMATIC THREAD CUTTING AIR ACTION SUCTION DEVICE

1、profile And The Operating Instructions

产品简介及操作说明

1) Product Introduction

产品简介

- ★ Patent design overlook sewing machine automatic trimming device, can adjust arbitrarily according to the technical requirement before and after the length of the line, and is equipped with chain of dust collector device, can before and after adjusting the technique requirements before and after air suction time respectively, high efficiency and energy saving and environmental protection.
专利设计的包缝机自动剪线装置, 可根据工艺要求任意调节前后线链的长短, 并配有前后集尘装置, 可按工艺要求分别调节前后吸风时间, 高效节能环保。
- ★ Using the latest high-speed microcomputer control chip, assure product features.
采用最新的高速微电脑控制芯片, 保证产品功能强大。
- ★ Specially designed infrared light electric system, sensitive and reliable.
特别设计的红外光电系统, 灵敏可靠。
- ★ Easy-to-use design.
简单易用的设计。


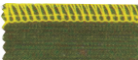

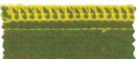
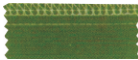


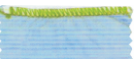


2) Product features

产品特点

- ★ Automatic tuning thread length, without changing the operation moves to learn. Use scissors on the moment when the suction line (not negative pressure), to save energy.
本产品能自动调教线头长短, 无需改变操作动作, 简便易学。采用剪线时上瞬间吸风(没有压), 节省能耗。
- ★ Full auto-control without extra operation, Man-machine interface contro makes program-set & operation more convent.
全自动控制无需工人额外操作, 采用人机界面画面, 操作程序设置和使用更方便。
- ★ Residual thread length is able to set, Many optional functions for different sewing process.
切线带余量可设定, 多种功能选择适合不同缝绉工序。
- ★ Dust-collection is non-continous type save compressed air, Double sensors on motor & knife for safety run.
集尘用气非连续式, 节约压缩空气, 电机和切刀双重安全检测保证安全。
- ★ Suitable for main brand-names at market.
适合市场上大部分主流品牌包缝机。

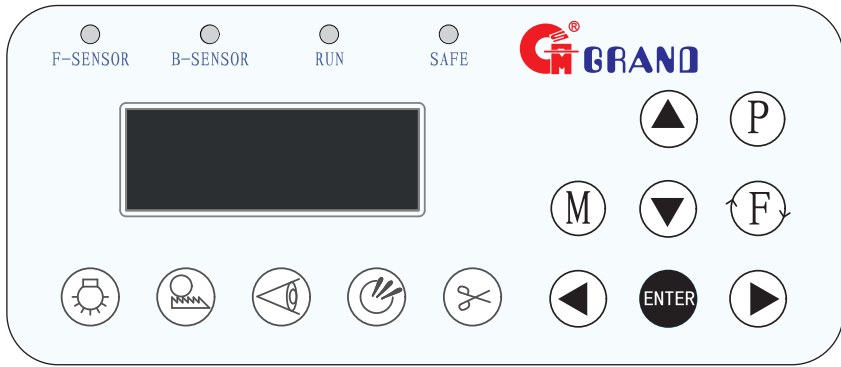
2) Suitable products (partial)

可剪缝制品种类(一部分)

 3线包缝 3 thread	 4线包缝 4 thread	 5线包缝 5 thread	 3针6线标准型 3 needle 6 thread normal thickness	 3针6线极厚料 3 needle 6 thread very thickness
 口袋包边 Covered pocket	 肩带 Shoulder belt	 松紧带 Elastic bet	 密包缝 compact over-lock	 褶裥 Wrinkle

2、CONTROL PANEL INSTRUCTION

控制面版操作说明



控制面版

一、总说明

- 1) 开机同时按P键进入工程设置模式，数码管显示7777，同时Safe灯点亮，并且进入安全模式，此时电机无法启动。这时可以按上下键更改数字至7779，按Enter键进入工程设置模式,数码管显示0。
- 2) 在停机的情况下，按任意功能键（除上下左右、LED、确认键）进入普通设置模式，同时Safe灯点亮，并且进入安全模式，此时电机无法启动。
- 3) 在设置模式中，可以多次按同一按键来选择不同的子设定，选择好要设置的子项之后，可以按上下键来设定不同的参数，设定好参数后，按Enter键可保存退出设定，这时数码管显示（----），再按一次确认键可以退出安全模式，同时Safe灯灭。

注意：全自动模式时，后切完成后自动停电机，半自动模式可设置。

3、CONTROL PARAMETERS

GMD1-EC-P 参数表

(双电子眼反射或单电子眼反射)

功能	序号	参数	说明	参数范围	备注
编程P (技术区)	P-01	1	手动、 半自动、 全自动	0, 1, 2	0手动 1半自动 2全自动
	P-02		参数恢复		
模式设置M (技术区)	D-01	0	停针模式	0, 1, 2	0下停 1上停 2无定位停针
	D-02	0	反踩模式	0, 1	0起压脚 1上停针
	D-03	1	电机方向	0, 1	0逆时针 1顺时针
	D-04	0	速度显示	0, 1	0不显示 1显示
	D-05	1	停针霍尔设置	0, 1	0为43F单极性 1为41F双极性
	D-06	1	手动开关	0, 1, 2, 3	0剪线 1走针 2剪线+不前切(需手动按一下开关有效) 3不前切(需手动按一下开关有效)
	D-07	500	压脚延时	30-2000ms	抬压脚多长时间放下
	D-08	100	启动保护时间	30-2000ms	压脚放下后多长时间工作
速度F (用户区)	F-01	5500	最高限速	1000-6000	
	F-02	300	最低限速	100-3000	
	F-03	3500	布头(起动)速度	1000-4500	双电子眼: 指布遮住第一电子眼有效 单电子眼: 指布头遮住电子眼与前切之间有效
	F-04	3500	布尾(停机)速度	1000-4500	双电子眼: 指布离开第一电子眼有效 单电子眼: 指布尾离开电子眼有效

3、CONTROL PARAMETERS

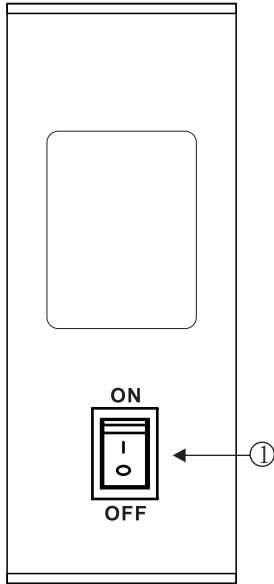
GMD1-EC-P 参数表

(双电子眼反射或单电子眼反射)

速度F (用户区)	F-05	600	停机速度	100-1500	
	F-06	800	定针速度	100-3000	
	F-07	2	减速电流	1-99	
	F-08	20	定针电流	10-990	
	F-09	30	停机电流	2-50	
	F-10	4	加速度	1000-4500	
	F-11	2	速度补偿	2-10	
	F-12	2	速度微调	2-10	
吸风 (用户区)	S-01	2	吸气功能	0, 1, 2, 3, 4, 5	0不吸 1前吸 2前后吸 3后吸 4长吸 5间隔
	S-02	500	吸气持续时间	50-2000ms	
	S-03	500	后面管吸气持续时间	50-2000ms	只有前后吸风
	S-04	200	间隔针数设定	5-1000	只有前后吸风
切刀 (用户区)	C-01	2	切刀功能	0, 1, 2, 3	0不切 1前切 2前后切 3后切
	C-02	10	前切针数	2-99	
	C-03	10	后切针数	2-99	
	C-04	70	后切时间	30-500ms	
	C-05	800	进布速度	100-4500	双电子眼: 指布遮住第二电子眼有效 单电子眼: 无效
	C-06	800	出布速度	100-4500	双电子眼: 指布离开第二电子眼有效 单电子眼: 无效
	C-07	0	后切后是否停针	0, 1	0不停 1停针
<p>开机时, 五个灯全亮。待机时只有红灯亮。F-SENSOR为第一电子眼指示灯(布遮住亮), B-SENSOR为第二电子眼指示灯(布遮住亮), RUN为电机工作灯(电机运行时亮)</p>					

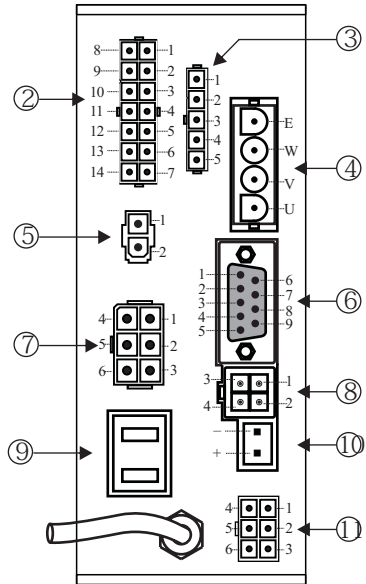
4、GMD1-EC-P SUPPLY BOX INSTRUCTION

GMD1-EC-P 控制盒面板说明



Controller face version

控制器前面板



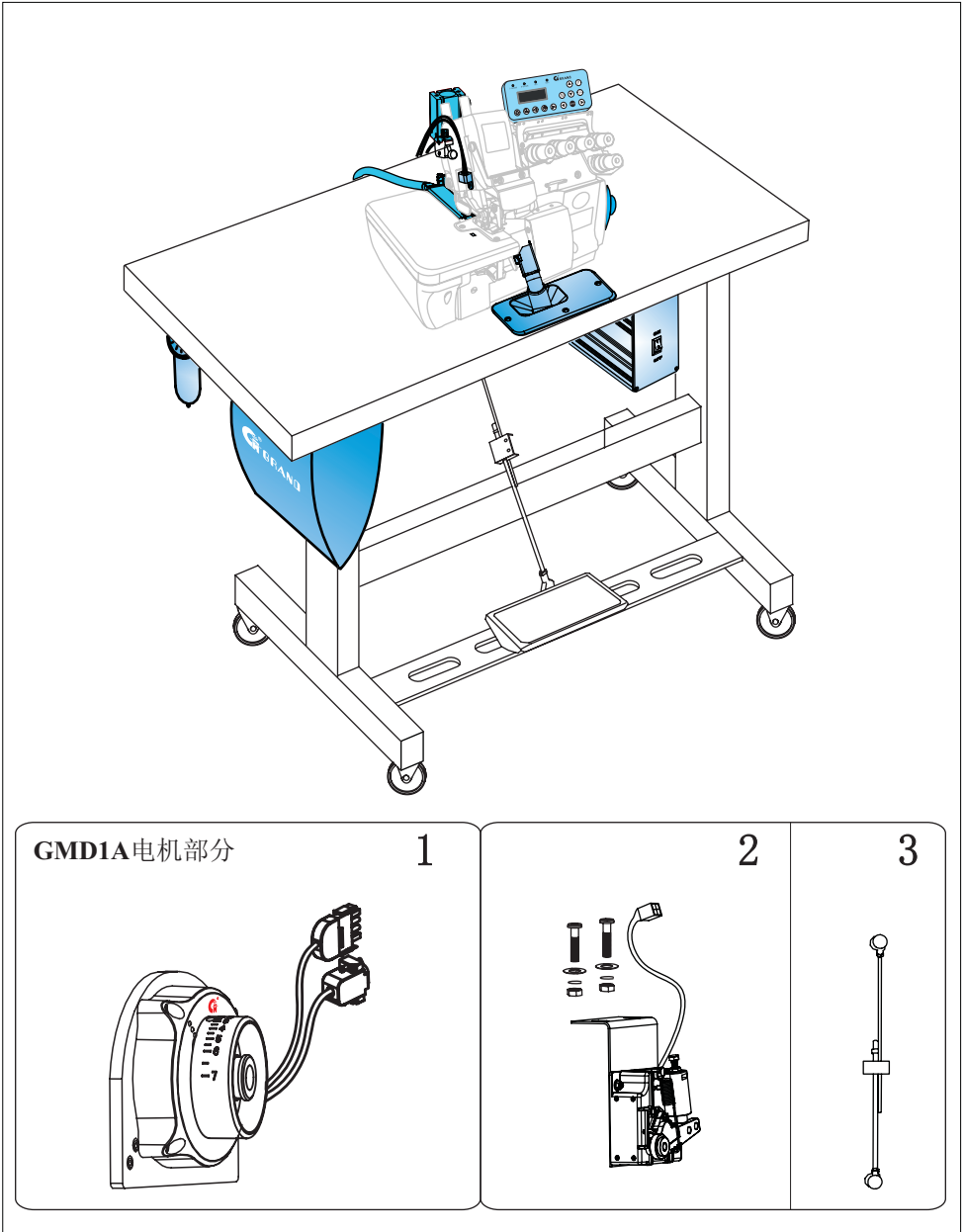
The control box tail version

控制盒尾板

- ① Switch of system power supply
系统电源开关
- ② Number of needles 数针器(1 NC,2 VCC,3 DA,4GND)
Safety switch 安全开关(5,6)
Front electronic eye 前电子眼
(8 +12V, 9 -, 10+CDA,11 -E)
After the electronic eye 后电子眼
(7-E, 12+12V, 13 -, 14+CDA)
- ③ Even the display
接显示器 (1 SDA,2 VCC,3 GND, 4 SCL, 5 Nc)
- ④ Interface of motor Three-phase power supply
电机三相电源接口(E/W/V/U)
- ⑤ Foot lifter solenoid valve
起压脚电磁阀(1VCC, 2GNB)
- ⑥ Interface of motor signal
电机信号接口
(1 NC,2 HSC,3 HS,4 VO,5 +5V,6 NC,7 Ha,8 Hb,9 Hc)
- ⑦ Air suction 吸气(5 VCC, 6 GND)
Thread trimmer solenoid valve 剪线电磁阀(1 VCC,3 GND)
Hand switch 手动开关(2 VCC, 4GND)
- ⑧ Interface of speed governor
调速器接口(1 GNC,2 SING,3 SING,4 +5V)
- ⑨ Two sockets
两位插座 AC220V
- ⑩ Interface of illuminating lamps
照明灯接口 (-,+5V)、
- ⑪ Other 其它功能(1、+24V, 4、SING)
Second Air suction 第二吸气(2、+24V, 5、SING)
Foot 起压脚(3 +24V, 6 SING)

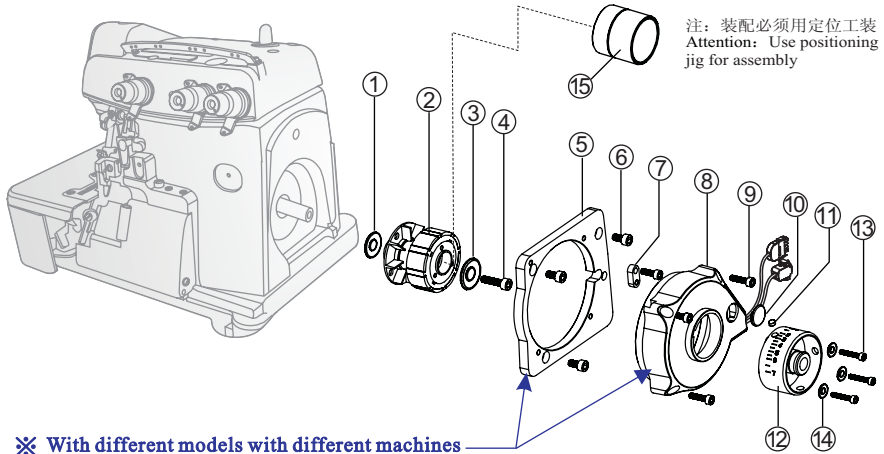
5、GMD1-EC-P ASSEMBLY METHOD

GMD1-EC-P 安装示意图



6、 Direct drive motor parts drawing(GMD1 Series)

直驱电机配件图(GMD1系列)



Motor enclosure (motor) {Portion} 电机壳(电机) {部份}

GMD1-J04(FOR:PEGASUS EX5200)
GMD1-04(FOR:PEGASUS M700)
GMD1-Y04(FOR:747F)
GMD1-Y04(FOR:Yamato-CZ)

Electrical installation board(Portion) 电机安装板(部份)

GMD1-PA08(FOR:PEGASUS EX5200)
GMD1-P08(FOR:PEGASUS M700)
GMD1-S08(FOR:747F)
GMD1-Y08(FOR:Yamato-CZ)

序号	型号	名称		数量	备注
Ref.No	Part No	Description		Qty	RemarkS
1	φ 12	波形垫片	Waveform gaskets	1	
2	GMD1-0	转子组件	The rotor components	1	
3	GMD1-16	平垫片	Flat gasket	1	
4	M6X25	内六角圆柱头螺丝	Inside hexagonal screw	1	
5	GMD1-J08	电机安装板	Electrical installation board	1	FOR:JUKI MO-6700
6	M6X12	内六角圆柱头螺丝	Inside hexagonal screw	4	
7	GMD1-11	连接件	Fittings	1	
8	GMD1-J04	电机壳(电机)	motor enclosure (Motor)	1	FOR:JUKI MO-6700
9	M5X20	内六角圆柱头螺丝	Inside hexagonal screw	3	
10	GMD1-10	护线罩	Substantial cover	1	
11	GMD1-06	强磁铁	Magnet	1	
12	GMD1-09	手轮	Hand wheel	1	
13	M4X30	内六角圆柱头螺丝	Inside hexagonal screw	3	
14	φ 4X φ 8X1	平垫片	Flat gasket	3	
15	GMD1-100	同心度定位工装	Concentricity positioning jig	1	装配用/For assembly

7、The installation instructions(GMD1\2\3 Series)

直驱电机安装说明(GMD1\2\3 系列)

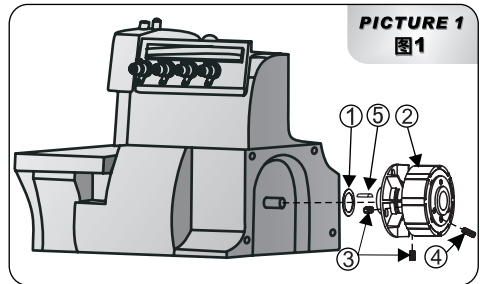
1) Installation rotor components

安装转子组件

(1) First installed on the waveform washers and Flat key(optional)
先装上波形垫片及平键(可选)

(2) Loaded on rotor components, With 2 M4X6mm

and 1 M5X12mm hex tight set screws tight stator
装上转子组件, 用两颗M4X6mm和一颗
M5X12mm内六角紧固螺丝固定好转子。

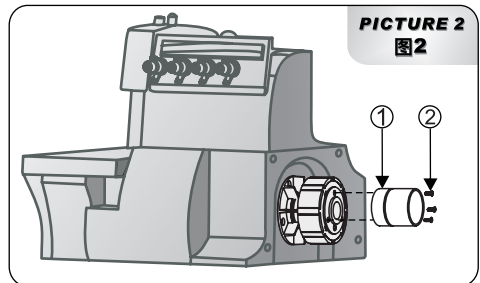


2) Installation Concentricity positioning jig

安装同心度定位工装(必须使用)

With three M4X8mm cross round head screws
good concentricity positioning jig(Prior to
installation, the positioning clamp shall fully
coordinate with the motor)

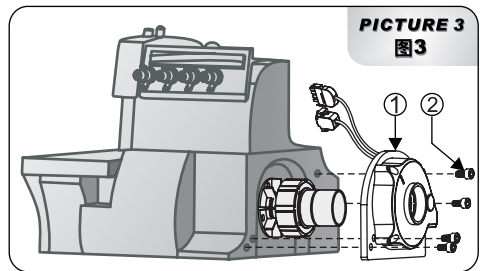
用三颗M4X8十字圆头螺丝固定好同心度定
位工装(同心度定位工装要完全配合电机)



3) Installation the motor

安装电机

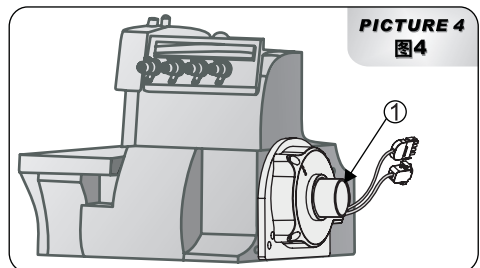
Aim the place, mount motor, with four
M4X12mm inside hexagonal cylindrical
head screw lock.(Attention: To align the motor
housing side slot on the positioning ring)
对好位置, 装上电机, 然后再用四颗
M4X12mm内六角圆柱头螺丝固定好。
(注意: 电机外壳边要对准定位圈上的槽)



4) Taking out the positioning clamp

取出同心度定位工装

Loosen the screw, Taking out the
positioning clamp
松开螺丝, 取出同心度定位工装。



7、The installation instructions(GMD1\2\3 Series)

直驱电机安装说明(GMD1\2\3 系列)

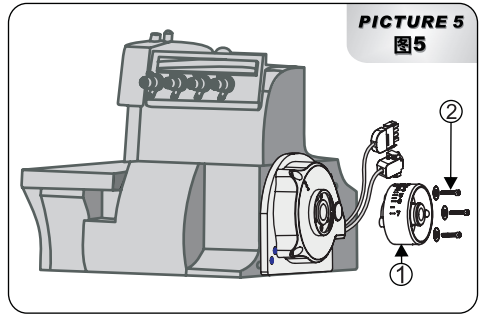
5) Installation the hand wheel

安装手轮

Aim the place, Loaded on the handwheel, with four M4X12mm inside hexagonal cylindrical head screw lock.(Attention: While installing the hand wheel, the machine needle is adjusted to the highest position, roll the rotor to adjust the needle to the highest position and make sure the magnetic steel of the hand wheel is in alignment with the Hoare of the motor shell.)

对好位置，装上手轮，然后再用三颗M4X30mm内六角圆柱头螺丝和三个平垫圈固定好。

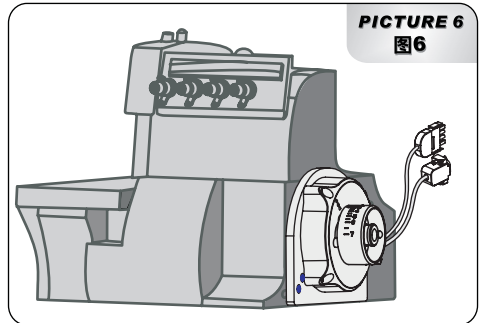
(注：安装手轮要注意上下定针，上下针的位置，转动里面的转子使针位调最上针位置，手轮磁铁对准霍尔位置。)



6) Adjust the needle positioning position,

complete installation

调整手轮定针位置, 完成安装



Attentions 注意事项

1. If the positioning clamp does not fully coordinate with the motor, there will be bad concentricity existing, which will directly the output capacity of the motor.

如定位夹具没有完全配合电机就会出现同心度不好，会直接影响电机输出功率。

2. Before taking out the positioning clamp, the terminal surface of the rotor and the terminal surface of the stator coiled silicon steel sheet must be on the same flat surface。In the event of unparallel, the methods of adding and reducing wavy spacers are adopted to make them be on the same flat surface; otherwise the quantity of electriccurrent will disaccord and influence the capacity and rtational speed of the motor.

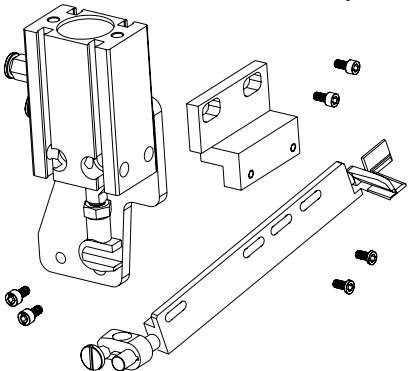
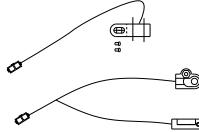
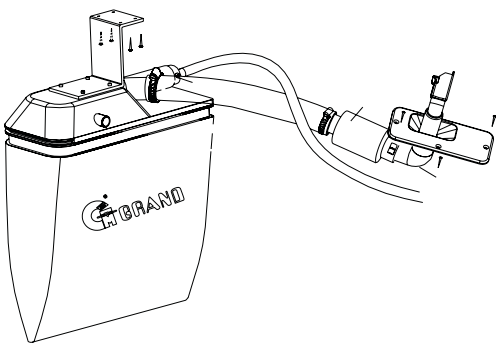
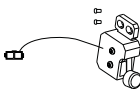
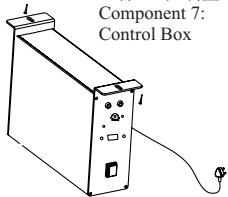

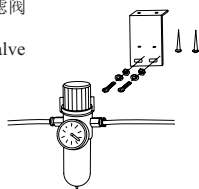
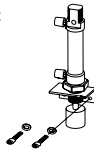
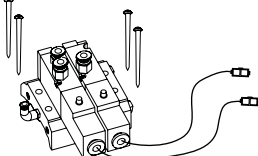
在取出定位夹具前转子的端面与定子矽钢片的端面必须在同一平面上。如不平行则采用增减波形垫片的方法使其处于同一平面，否则会出现电流大小不一致，影响电机功率和转速。

3. While installing the hand wheel, the machine needle is adjusted to the highest position; the magnetic steel of the hand wheel is in alignment With the Hoare of the spear plate.

安装手轮时，把缝纫机机针调到最高位，手轮的磁钢对准盖板的霍尔。

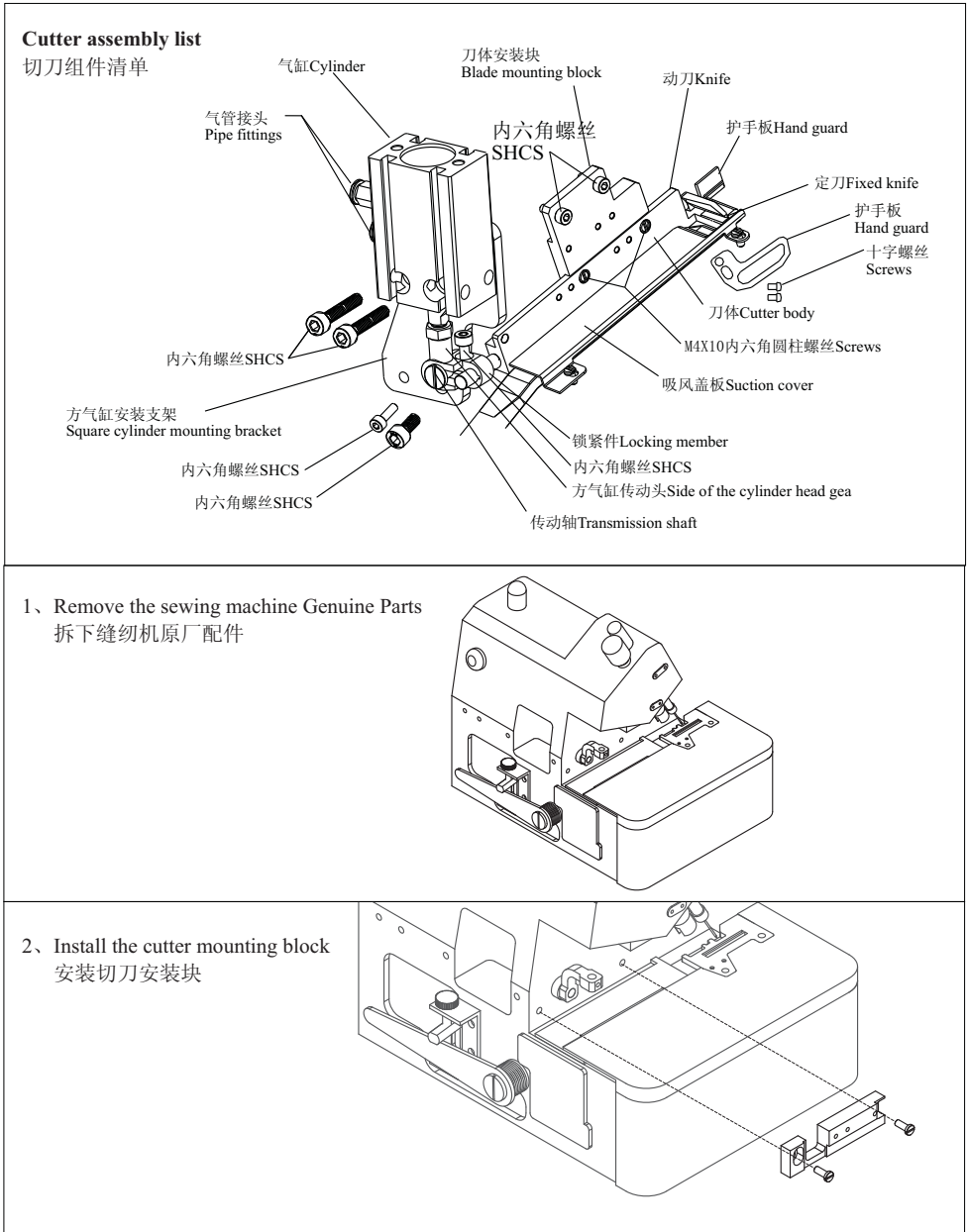
8、EC-P Product packaging component diagram

EC-P 产品包装组件图

<p>组件1: 切刀 Component 1: cutter</p> 	<p>组件2: 上下电子眼 Component 2: upper and lower electronic eye</p> 	
<p>组件4: 集尘装置 Component 4: dust collector</p> 	<p>组件3: 手动开关 Component 3: Manual Switch</p> 	
<p>组件7: 控制盒 Component 7: Control Box</p> 	<p>组件8: 控制器 Component 8: Controller</p> 	<p>组件5: 调压过滤阀 Component 5: Filter regulator valve</p> 
<p>组件9: 起压脚 Component 9: The presser foot</p> 	<p>组件6: 电磁阀 Component 6: solenoid valve</p> 	

9、Cutter Installation and commissioning instructions

切刀安装和调试说明（一）

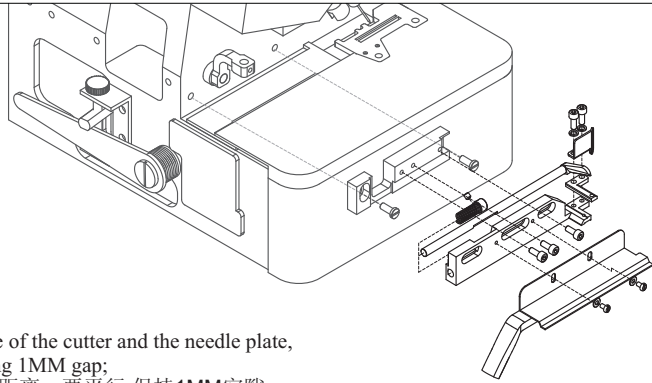
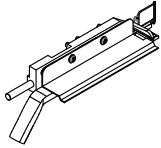


9、Cutter Installation and commissioning instructions

切刀安装和调试说明（二）

3、Install Cutter

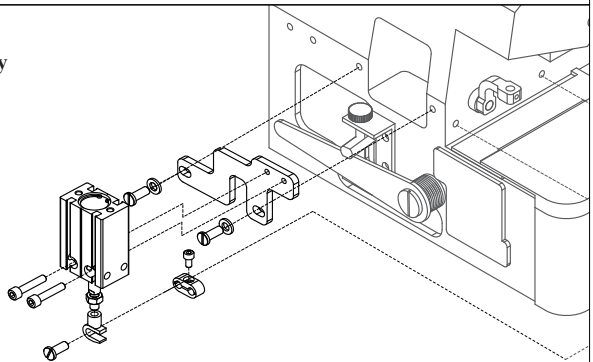
安装切刀



Note: The distance of the cutter and the needle plate, to parallel, keeping 1MM gap;
注意:切刀与针板距离, 要平行,保持1MM空隙;

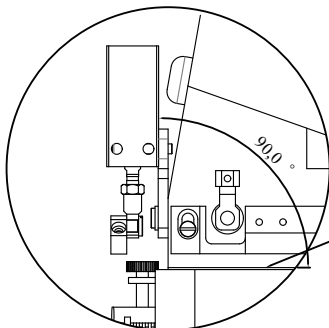
4、Install the cutter cylinder assembly

安装切刀气缸组件

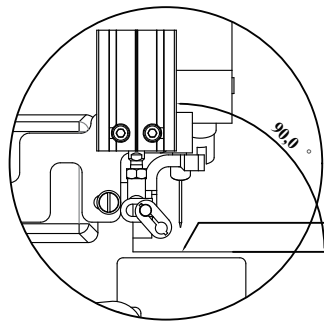


Note: When installing the cylinder with the sewing table to table to remain vertical.

注意: 气缸安装时要与各缝台台面要保持垂直。



缝台台面
Sewing
table tops



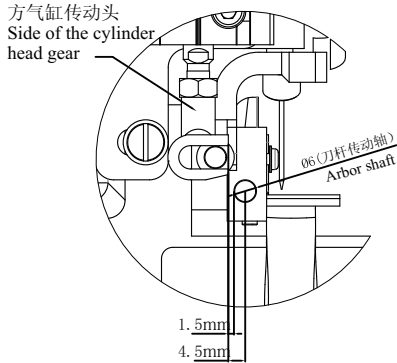
缝台台面
Sewing
table tops

9、Cutter Installation and commissioning instructions

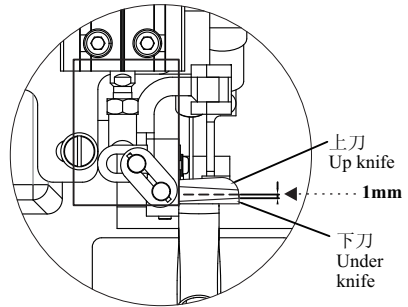
切刀安装和调试说明（三）

5、Adjust the cylinder and the knife closed position

调整气缸与切刀闭合位置

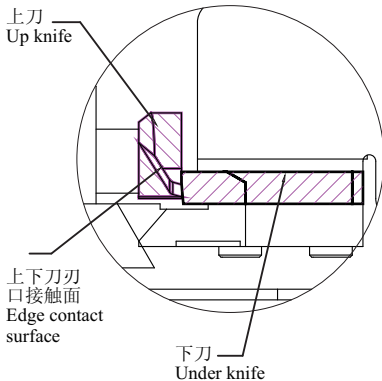


调节方气缸支座，使方气缸传动头右端平面与刀杆传动轴的距离，如图所示
Adjust square cylinder bearing, the square drive head right plane and cylinder arbor shaft distance as shown

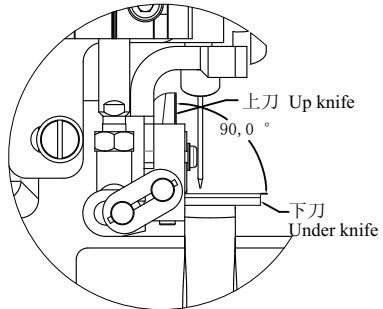


当气缸行程为0位时，可调节气缸轴上的螺母，使上下切刀重合的位置为1mm

When the cylinder stroke can be adjusted when the cylinder axis of the nut, the upper and lower position of the cutter overlap of 1mm



上下刀刃口接触面一定要平行，重合
Mouth contact surface of the upper and lower blade must be parallel, coincide.



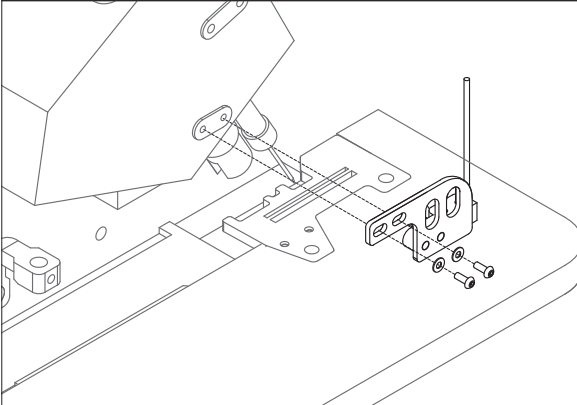
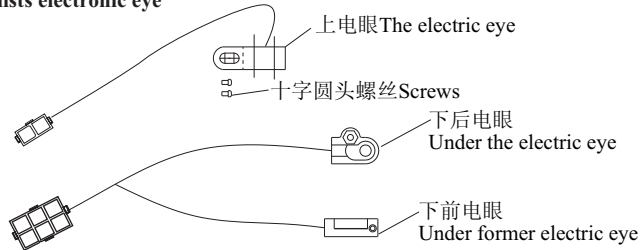
气缸行程为最长时，上刀在 90° 位置
Cylinder stroke is the longest, the upper knife in the 90° position

10、 Electronic eye installation instructions

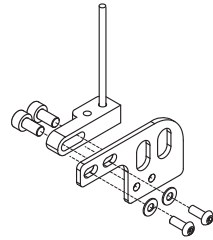
电子眼安装和调试说明（一）

The upper and lower parts lists electronic eye

上、下电子眼组件清单

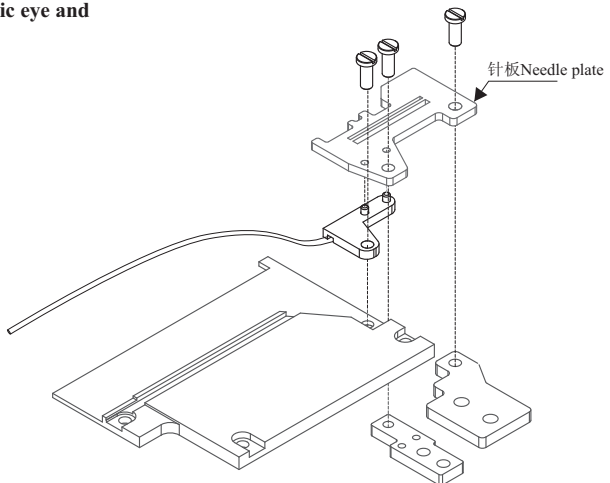


1、 the installation on the electric eye (Requires electric eye up and down vertically on the radio) 安装上电眼



2、 Install the lower front electric eye and next after the electric eye

安装下前电眼下后电眼



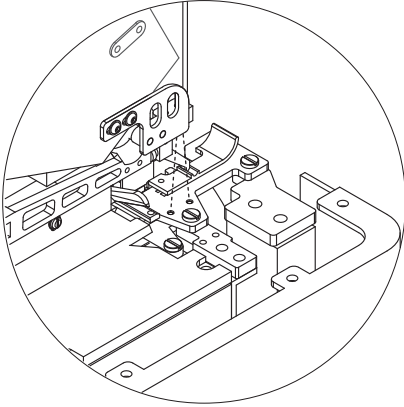
10、Electronic eye installation instructions

电子眼安装和调试说明（二）

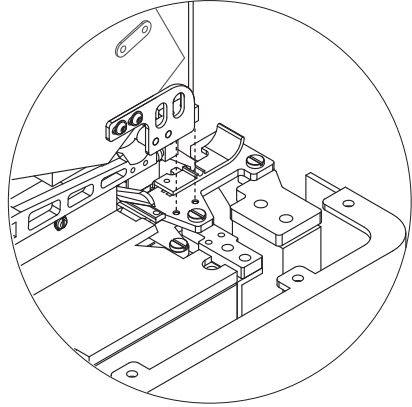
3、 Adjusting the electric eye position, Ensure consistent electric eye position up and down

调整电眼位置，确保电眼位置上下一致（要求上下电眼垂直对射）

一对二 A pair of two

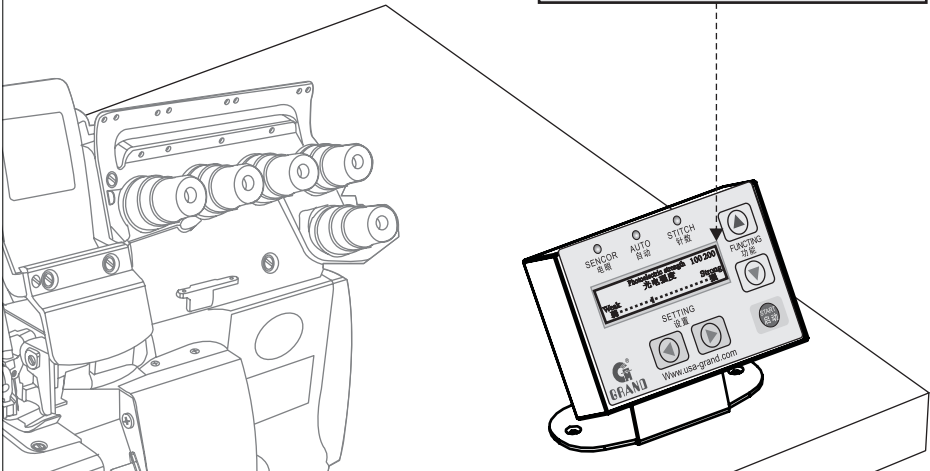
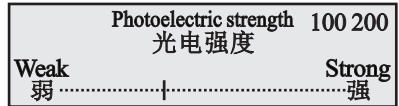


二对二 Two pairs of two



4、 adjust the intensity of electric power vision

调整电眼光电强度



11、Manual switch installation instructions

手动开关安装和调试说明

List of Manual switch assembly

手动开关组件清单图

M4X12十字螺丝Screws

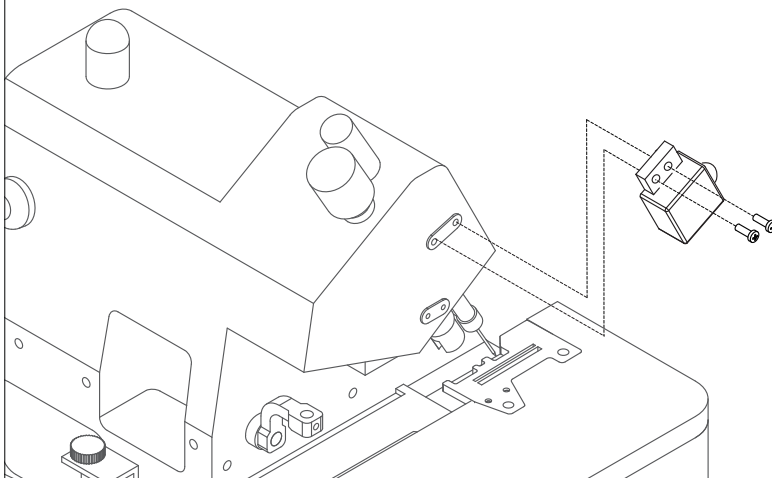
M4X16 螺丝Screws

M5 螺丝Screws

Kv-04小微动开关组件
Micro Switch Components

The manual switch with screws in the machine head specified location, reference Figure

将手动开关用螺丝固定在机头上指定位置，参考如图

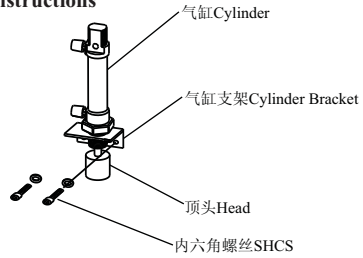


12、Presser foot installation instructions

起压脚安装和调试说明

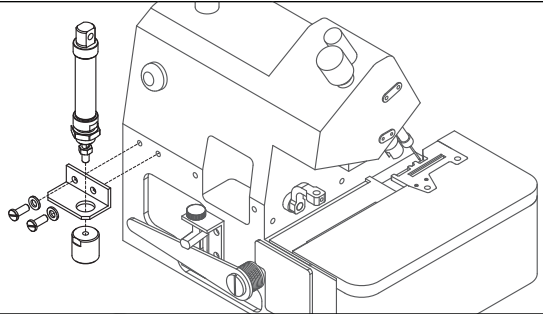
Presser foot from the installation and commissioning instructions

起压脚安装和调试说明



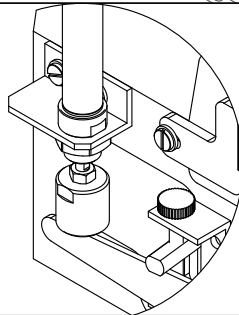
1、Install cylinder assembly

安装气缸组件



2、Debug bracket and head position

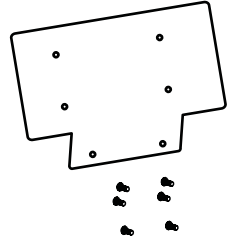
调试支架和顶头的位置



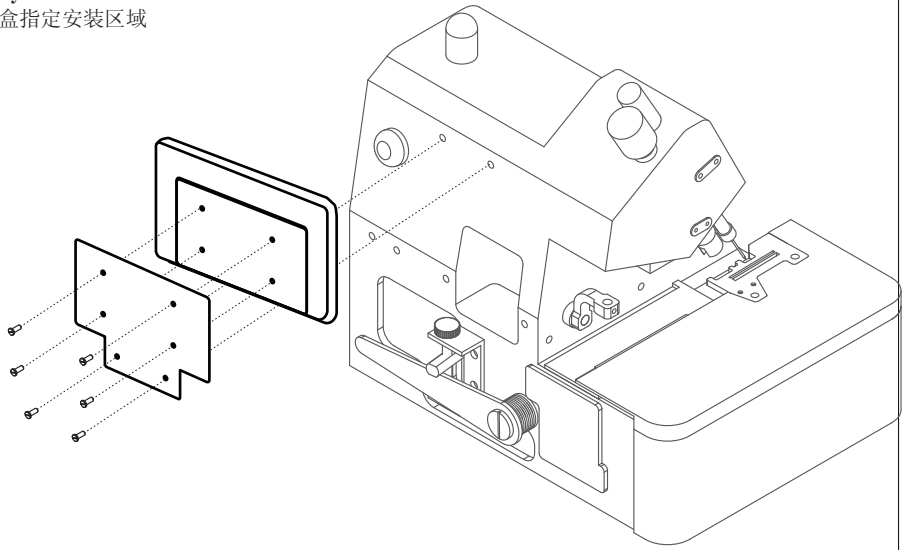
13、Controller Installation

控制器安装

Controller component list 控制器组件清单



Specify the installation area 控制盒指定安装区域

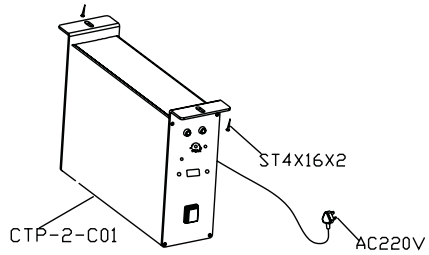


14、Control Box Installation

控制盒安装

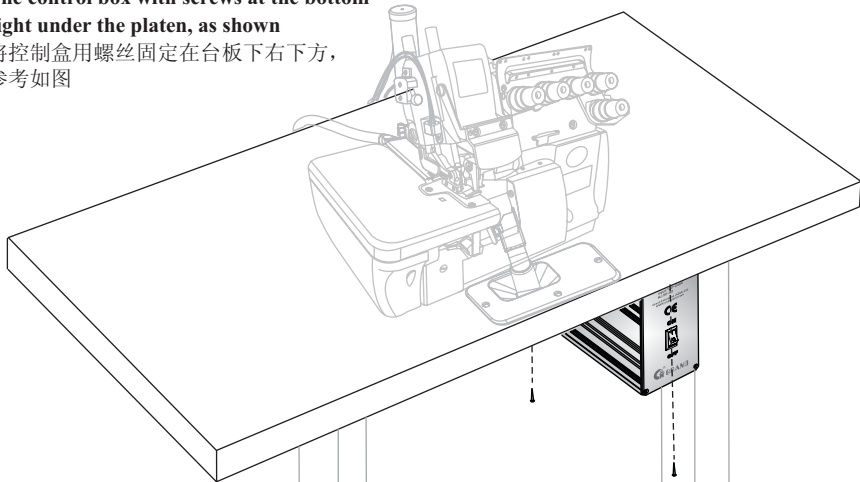
Inventory control box assembly

控制盒组件清单



The control box with screws at the bottom right under the platen, as shown

将控制盒用螺丝固定在台板下右下方，
参考如图

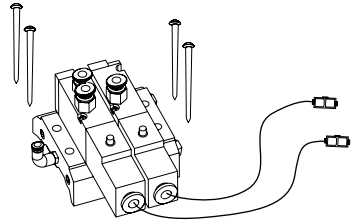


15、Solenoid valve Installation

安装电磁阀

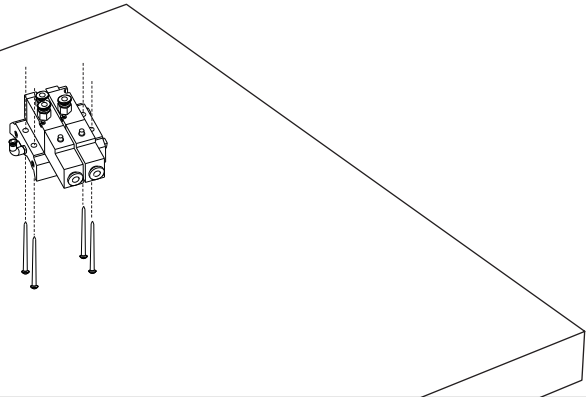
Solenoid valve assembly list

电磁阀组件清单



The solenoid valve screws in the bottom right of the platen position, as shown in reference

将电磁阀用螺丝固定在台板后右下方位置，参考如图

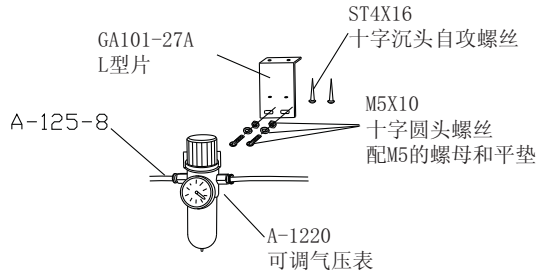


16、Filter regulator Installation

安装调压过滤阀

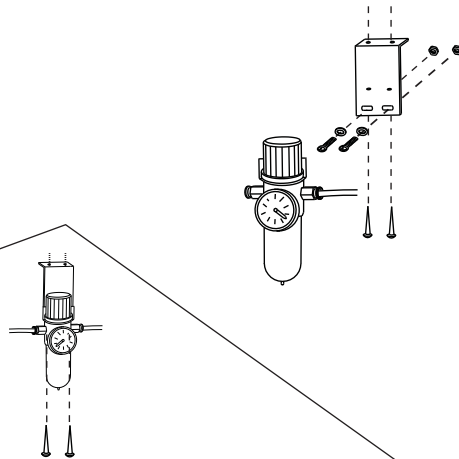
Filter regulator valve list

调压过滤阀清单



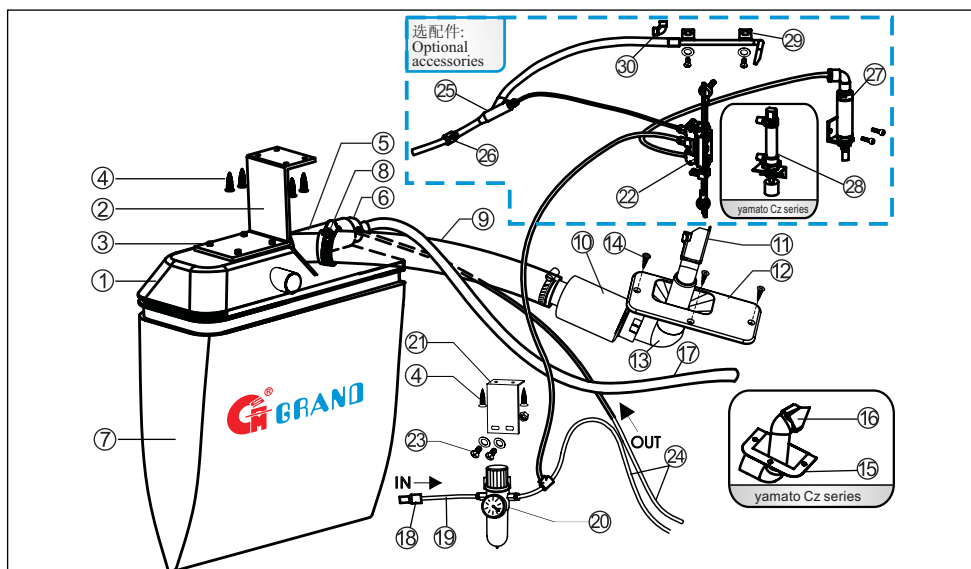
The filter regulator with screws in the lower right corner of the platen position, as shown in reference

将调压过滤阀用螺丝固定在台板后右下角方位置，参考如图



17、ASPIRATION DEVICE ASSEMBLY

气动吸尘装置装配图



序号	型号	名称		数量	备注
Ref.No	Part	Description		Qty	Remarks
1	183-04x	方盖	The vacuum cleaner cover	1	
2	GA101-25F	方盖Z板	Adapter plate	1	
3	M6X8	内六角柱头螺丝	Screw	4	
4	ST5X25	十字沉头自攻螺丝	Screw	6	
5	A-401-1	透明弯管(三通)	Transparent pipe	1	
6	A101-1A	真空器	Vacuum	1	
7	A-301YA	布袋	Clothbag	1	
8	A101-22-44	不锈钢管箍	Hose clamp	2	
9	A-127	透明软管	Hose	1	
10	183-01x	消音器	Muffler	1	
11	GA101-99-1	吸线嘴	Suction nozzle	1	
12	GA101-98-1	吸线漏斗	Suction line funnel	1	
13	A-312	90度透明弯管	Transparent tube bending	1	
14	ST4X16	十字沉头自攻螺丝	Screw	3	
15	A-200YA	吸线盒	Suction line funnel	1	
16	A-220YA	吸线嘴	Suction nozzle	1	
17	A-126Xφ13	软管	Hose	1	
18	φ8=>φ6	气管接头	Gas-type fitting	1	
19	A-125Xφ8	Pu气管	Pu trachea	1	
20	A-1220	调压过滤阀	Marsh bellofram	1	
21	GA101-27	L型片	L-type films	1	
22	A-100-3	拉杆开关	Lever switch	1	
23	M5X10	十字圆头螺丝	Screw	2	
24	A-125Xφ6	Pu气管	Pu trachea	3	
25	A-128	真空发生器	Vacuum generator	1	
26	GA101-22	消音排气管	Deleting the exhaust	1	
27	A-101-10	气缸	Cylinder	1	
28	A-180-2020	气缸(配yamato)	Cylinder	1	
29	SC	SC件(配不同的机型用不同的配件)	SC accessories	1	With different models with no accessories
30	φ11X90	90度管接头	90 pipe joints	1	



中國裝配&銷售中心

中山百川匯盈精密實業有限公司

Zhongshan Grand Precision Industrial Ltd.

地址: 廣東省中山市港口鎮木河涇工業區

Muhejing Industrial Zone, Gangkou Town,
Zhongshan City, Guangdong Province

TEL: (86) 760-88414888

FAX: (86) 760-88414668

<http://www.usa-grand.com>

Email:sales@usa-grand.com

sale@usa-grand.com