



GLOBAL

PFA SERIES

Instruction & Parts manual

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General Information

Thank you for choosing our security pneumatic button attaching machines. This series includes 01-100SH, 02-100SH, 03-100SH and 01-125SH. To help you familiar with our machines quickly, please read this manual carefully and abide by the rules strictly, thank you.

1. General Introduction of The Machine's Feature

- Our security pneumatic button attaching machines are with following outstanding feature:
- Wide Using Range:** Our machines fit for attaching different styles or sizes eyelets, snap rings, jeans buttons, decoration buttons etc on the clothing, shoes, hats, curtains and other fabric.
- Safety:** Worker's fingers will be very safety and not be hurt by error operation if the security ring is adjusted to the safe operating distance before starting machine.
- Perfect Attaching Effects:** You will get the perfect button attaching effects after adjusting the working pressure, molds position and the button attaching frequency well.
- High Efficiency:** You don't need to adjust the machine when the fabric thickness is changed in a certain range so to save the working time. Moreover, the LED laser positioning light can control the button attaching position precisely in order to improve the working efficiency.
- Environmental Protection:** The working noise is very small, no noise when machine is in standby mode, and the machine's energy consumption is almost zero when in standby mode.

2. Notes for Attention

- The machine's working voltage is AC220V, its working pressure is 0.15~0.8MPa. The power must be turn off when changing the molds. Both the power and the air source must be turn off when repairing the machine.
- It's forbidden to use the machine before adjusting the security ring to the safe operation distance.
- It's forbidden to remove the security ring to work or put your fingers into the ring when machine working.
- To avoid the accident, please use the machine or repair the machine by professional person.
- The machine should be filled with fixed quantity sewing machine oil on time to ensure the service life of pneumatic components and mechanical parts.
- The machine must be water-draining on time, otherwise the water will flow into the pneumatic components and affect the machine's service life. The machine and its control system should be cleaned up every day.

3. Packing List

One machine + one table & stands = one set of goods
We pack each machine and each table & stands in two cartons separately.
Following are the packing lists for our series machines 01-100SH, 02-100SH, 03-100SH and 01-125SH for your reference.

Products in Machine Carton	Quantity	Remarks
Machine	1	All these products are packed together in one carton. There's only 1pc security ring for machine 01-125SH.
Caution Light	1	
Laser Positioning Light	1	
Security Ring	3	
3#, 4# Hex Key	2	
Pressure Meter	1	

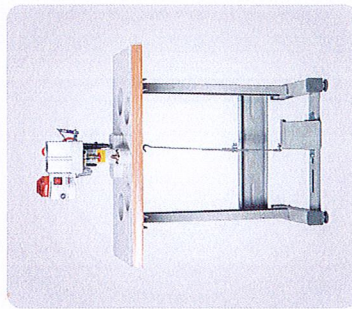
Products in Table & Stands Carton	Quantity	Remarks
Table	1	All these products are packed together in one carton
Stands	1	
Pedal	1	
Draw bar	1	

Packing Description	Gross Weight (kg/ctn)	Net Weight (kg/ctn)	Carton Size (cm)
Machine Carton for 01-100SH	21	19	41×29×37
Machine Carton for 02-100SH	29	27	42×35×47
Machine Carton for 03-100SH	32	30	42×35×47
Machine Carton for 01-125SH	34.5	32.5	42×35×59
Table & Stands Carton	17.5	16.5	82×42×14

4. Machine Photos and Specification

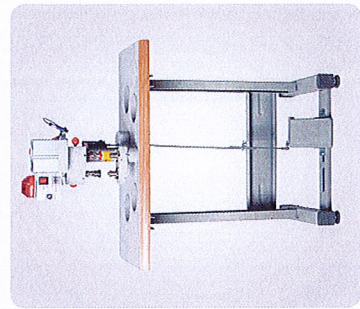
Security Single Head Pneumatic Button Attaching Machine

- Art No.: 01-100SH
- Working Voltage: AC220V
- Working Pressure: 0.15 ~ 0.8MPa
- Attaching Button Pressure: 150 ~ 650kgs (adjustable)
- Button Attaching Frequency: 0.3~1second (adjustable)
- Air Displacement: 0.1m³ /min
- Adjust the down mold to get the best button attaching effect
- Distance between up mold and down mold: 35mm
- Protection Way: Intelligent armguard detection system
- Positioning: with laser positioning light
- This machine can be installed one set of mold to work.
- Machine description: 80*40*106cm



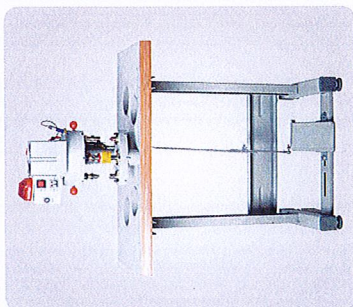
Security Two Heads Pneumatic Button Attaching Machine

- Art No.: 02-100SH
- Working Voltage: AC220V
- Working Pressure: 0.15 ~ 0.8MPa
- Attaching Button Pressure: 150 ~ 650kgs (adjustable)
- Button Attaching Frequency: 0.3~1second (adjustable)
- Air Displacement: 0.1m³ /min
- Adjust the down mold to get the best button attaching effect
- Distance between up mold and down mold: 35mm
- Protection Way: Intelligent armguard detection system
- Positioning: with laser positioning light
- This machine can be installed two sets of molds to work, one mold for punching the holes on the fabric, the other mold for attaching the buttons, worker doesn't need to change the mold, which will save time and increase efficiency.
- Machine description: 80*40*113cm



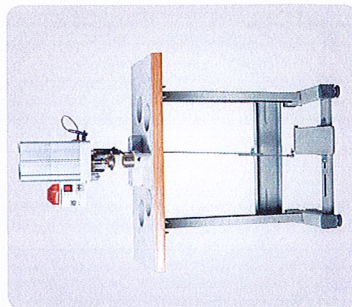
Security Three Heads Pneumatic Button Attaching Machine

- Art No.: 03-100SH
- Working Voltage: AC220V
- Working Pressure: 0.15 ~ 0.8MPa
- Attaching Button Pressure: 150 ~ 650kgs (adjustable)
- Button Attaching Frequency: 0.3~1second (adjustable)
- Air Displacement: 0.1m³ /min
- Adjust the down mold to get the best button attaching effect
- Distance between up mold and down mold: 35mm
- Protection Way: Intelligent armguard detection system
- Positioning: with laser positioning light
- This machine can be installed three sets of molds to work, one mold for punching the holes on the fabric, the other two molds for attaching the buttons, worker doesn't need to change the mold, which will save time and increase efficiency.
- Machine description: 80*40*113cm

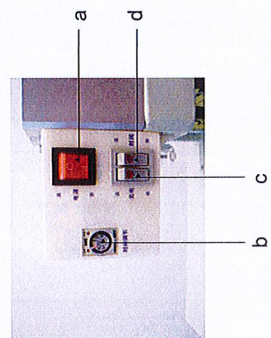


Security Single Head Mighty Pneumatic Button Attaching Machine

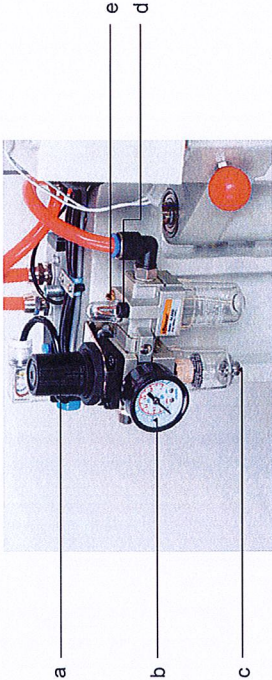
- Art No.: 01-125SH
- Working Voltage: AC220V
- Working Pressure: 0.15 ~ 0.8MPa
- Attaching Button Pressure: 400 ~ 1900kgs (adjustable)
- Button Attaching Frequency: 0.6~3second (adjustable)
- Air Displacement: 0.3m³ /min
- Adjust the down mold to get the best button attaching effect
- Distance between up mold and down mold: 40mm
- Protection Way: Intelligent armguard detection system
- Positioning: with laser positioning light
- This machine has very large button attaching pressure to help you attach the big size eyelets or rings on the curtains, luggage or canvas tents easily.
- Machine description: 80*40*123cm



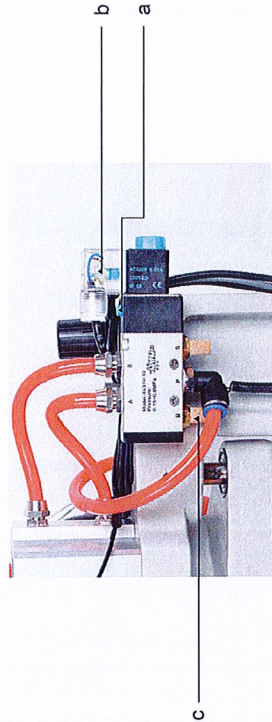
5. Components Description



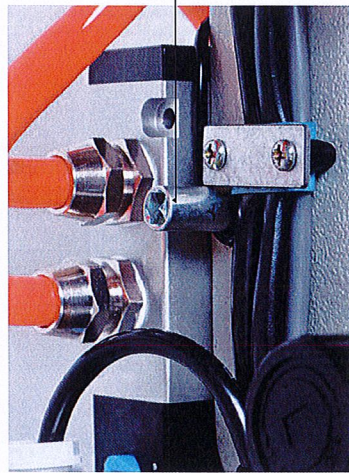
- a) **Power Switch:** the machine's general power switch
- b) **Time Controller:** turn it clockwise, the button attaching time will be increased, turn it anticlockwise, the button attaching time will be reduced.
- c) **Laser Positioning Light Switch:** to control LED laser positioning light.
- d) **Attaching Time Controlling Switch:** turn it on, the button attaching time will be controlled by time controller, turn it off, the button attaching time will be controlled by pedal (i.e. controlled by your foot).



- a) **Air Pressure Controller:** pull it out and turn it clockwise, the air pressure will be increased, turn it anticlockwise, the air pressure will be reduced, then pull it down to lock.
- b) **Pressure Meter:** to show the working pressure.
- c) **Drainer:** push the drainer's bottom by finger to drain off the water.
- d) **Oil filler:** filling the sewing machine oil from it to lubricate the components. The air source must be turned off when filling the oil, and we suggest you to add the oil quantity to three-quarters of the oil-cup capacity.
- e) **Oil Mass Control Screw:** the oil enters into the pneumatic components when machine working, turn the oil mass control screw clockwise to reduce the oil mass, turn it anticlockwise to increase the oil mass. But the silencer will spray oil if the oil mass increases too much. Please note this screw is already set well before leaving factory, no need to adjust it generally.



- a) **Manual Button:** help you to analyse the problem when repairing machine. Press it, if the up mold punches well, it means the pneumatic components are no problem, the problem is in the power section. Turn the manual button clockwise, the up mold will be locked and not return after punching, turning it anticlockwise to unlock the up mold. It's forbidden to press manual button in general situation in order to avoid the accidents.
- b) **Wire Indicating Light:** the light will on when power on.
- c) **Silencer:** to reduce the noise by discharging the waste gas from it.



Spring Adjusting Nut

Spring Adjusting Nut: the pedal returning is controlled by the spring. Turn this nut clockwise, the pedal returning strength will be tighter, turn it anticlockwise, the pedal returning strength will be looser.

Installation

1. Notes for Attention

- 1) The machine must be installed by professionals.
- 2) Make sure the power supply safety ground and within the correct voltage range.
- 3) Please use about 10mm diameter air inlet pipe, also keep the input air pressure between 0.6MPa ~ 0.8MPa.
- 4) Please choose the air compressor according to your machine's quantity and their air displacement.

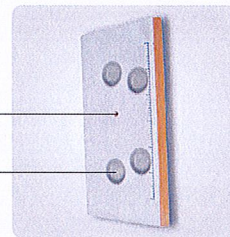
2. Installation Steps

The following installation steps are the same with machine 01-100SH, 02-100SH, 03-100SH and 01-125SH.

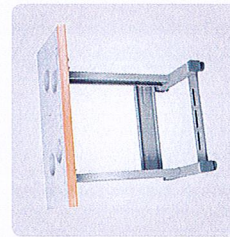
Installation Step for the Table & Stands: install the stands with screws firstly, then put the table on the stands and fix it with wood screws.



Stands

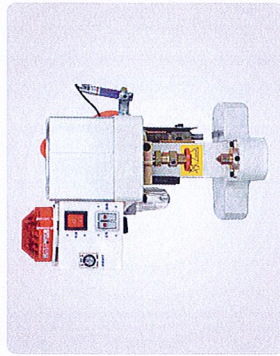


Table

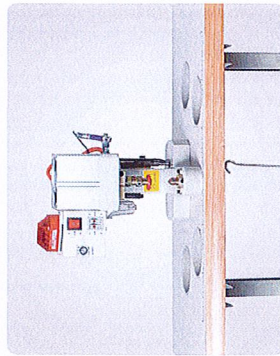


Finished Effect

Installation Step for the Machine: put the machine on the table and aim at the draw bar hole, then fix it with wood screws.

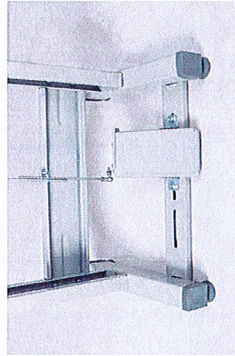


Machine

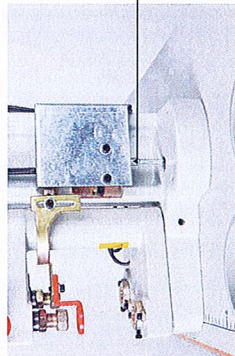


Finished Effect

Installation Step for the Pedal and Draw Bar: fix the pedal on the stands right side with screws, fix the draw bar one end in the draw bar nut which is at the right side of the machine, connect the other end with the pedal. Please note the draw bar should be perpendicular to the pedal and the pedal stepping tightness should be comfortable after installing and adjusting.



Pedal Installation Finished Effect



Draw bar nut

Fix the draw bar one end in the draw bar nut

Installation Step for the Caution Light: fix it on the power control box which is at the left side of the machine with self-tapping screws.



Caution Light

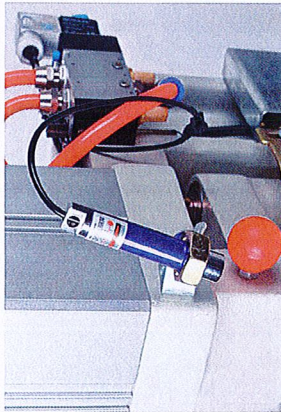


Finished Effect

Installation Step for the Laser Positioning Light: fix it on the right side of the machine.

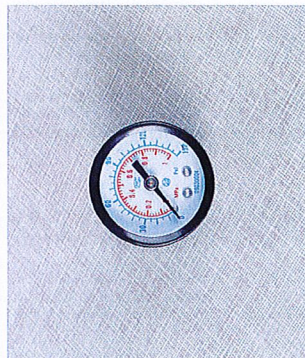


Laser Positioning Light



Finished Effect

Installation Step for the Pressure Meter: fix it on the pressure regulating valve.



Pressure Meter



Finished Effect

Remarks: it's the normal phenomenon if the silencer sprays the oil when you testing the new machine, because the oil in the oil cup may flow into the air pipe if the machine is placed upside down during the transportation. The oil will be discharged from the silencer after starting the machine around twenty times, don't worry.

Instructions

1. Security Ring Working Principle

The working principle of the security ring is based on the distance from security ring bottom to the down mold edge. Normally this distance is set according to your fabric thickness (but the fabric thickness must be smaller than worker's finger thickness).

Once you set a correct safe operation distance, even if you step on the pedal, the security ring will fall down too, but the up mold will not punch if your fingers are on the down mold or very close the down mold. Meanwhile, the control system will alarm automatically, so as to achieve the purpose of the security controls.

2. How to set the molds and security ring:

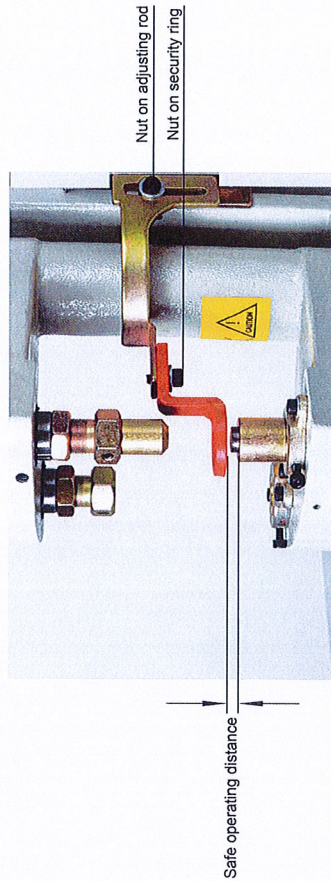
How to set the molds to a correct position:

Fix the up mold and down mold on the machine by hex key firstly, screw the adjusting rod of the up mold to the highest position. Turn off the attaching time controlling switch, turn on the power and air source, adjust the air pressure to about 0.2MPa.

Step on the pedal, the up mold will fall down, move down the adjusting rod of the up mold to a suitable position. (When the up mold edge touches the down mold edge just right, it's the suitable position).

Adjust the down mold position to make its circle center in the same position as the up mold circle center (i.e. the up mold and down mold should be concentric after adjusting).

Repeat above steps several times until the up mold edge touches the down mold edge just right and their circle centers are in a same position, then tighten the screws.



When you step on the pedal, the security ring and up mold will fall down

How to set the security ring to a safe operating distance:

Turn off the power and install the suitable security ring according to your up mold size. Step on the pedal, the security ring will fall down. Adjust its rod to make the distance between security ring bottom and down mold edge same or similar as your fabric thickness. (i.e. the distance between security ring bottom and down mold edge is the safe operating distance, this safe operating distance normally same as the fabric thickness).

If your down mold is made by soft spring, the safe operating distance should be from the security ring bottom to the lowest position of the soft spring after pressing it, because the soft spring has elasticity, you must press the soft spring to its lowest position firstly, then adjust the security ring to get the safe operating distance.

Please pay attention to following information:

- The distance from security ring bottom to down mold edge must NOT more than a finger's thickness!
- The screw of security ring must be tightened when the safe operating distance sets well in order to prevent the distance changing and cause the security ring without valid.
- Forbidden to put the fingers on the down mold edge to test the machine. We suggest you to use nonmetal material such as a thin pencil to test machine's punching effect. For example, put the thin pencil on the down mold, step on the pedal, if the up mold punches down, then adjust your current distance smaller. (But please note the thin pencil's thickness must be smaller than finger's thickness!)
- For machine 02-100SH and 03-100SH, they have two molds / three molds on one turnplate. The height of the two down molds or the height of the three down molds should be same or similar. It's not allowed the height of the two down molds are with large difference for 02-100SH. It's not allowed the height of the three down molds are with large difference for 03-100SH. Because the two down molds on machine 02-100SH are with one same security ring, it can set only one safe operating distance. If the two down molds' height are very different, the security ring maybe lose its protection function. The same principle for the three down molds on machine 03-100SH.

3. How to use the machine to attach buttons on fabric

Put the buttons on molds to test the machine's attaching function. Use the minimum working pressure (0.15MPa) for testing firstly, then adjust the working pressure larger bit by bit according to the button attaching effect. The max working pressure is 0.8MPa, normally the working pressure will be set 0.5MPa to 0.6MPa.

Turn on the attaching time controlling switch, adjust the time controller according to the button size and customer's requirements. Normally we set attaching time to 0.4-0.5second for machine 01-100SH, 02-100SH and 03-100SH, set attaching time to 0.8-1second for machine 01-125SH.

Turn on the laser positioning light switch, move the lamp holder to let the red laser light aiming at the attaching center, in this way, you can attach the button on fabric's correct position easily.

If you step the pedal slowly (i.e. more than 0.5second), the control system will alarm automatically and the machine will stop working, this is to avoid the accident in case of worker puts the fingers from the top of the security ring.

For machine 02-100SH, if you want to turn the turnplate to change the mold, please step the pedal to half position firstly, then turn the turnplate and move the foot from the pedal. During this period, the caution light will shine, it's the normal phenomenon.

When you put the buttons on the up mold or down mold, you must do that under the bottom of the security ring, meantime, it's forbidden to step on the pedal, in order to avoid the accident.

Common Problems

Problem Description	Reason Analysis	Solving Way
No any indication shows on the control panel after power on	Power switch is off or breakage / The wire in the power plug is breakage	Turn on the switch or change a new power switch / Change the wire in the power plug
Caution light shining as soon as the pedal is stepped	0.5second time controller is breakage / Stepping speed is too slow	Change a new time controller / Step the pedal within 0.5second
Caution light continually shining	Pedal is stepped by foot / Return spring of the pedal too loose or is breakage	Move the foot to let the pedal return / Tighten the return spring or change a new return spring
Step on the pedal, coil light of magnetic valve is on, but the up mold doesn't punch down	Magnetic valve coil is breakage / The rod of magnetic valve is stuck	Change a new magnetic valve coil / Clean the rod, add lubricating oil
Light of magnetic valve is flashing, up mold punch quickly or up mold don't punch.	The punching time is set too short / 1second time controller is breakage	Adjust the punching time longer / Change a new 1second time controller

Laser positioning light off	Laser positioning light switch didn't turn on or breakage / Transformer or laser positioning light is breakage	Turn on the switch or change a new switch / Change a new transformer or change a new light
Security ring without valid when punching, time controller light and caution light are both not work	Normally closed contact of up micro switch is open circuit / Normally closed contact of down micro switch is open circuit / Time controller coil is open circuit	Change a new up micro switch / Change a new down micro switch / Change a new time controller
No pressure or very low pressure indicated on pressure meter after aerate	Pressure meter is broken / Pressure is not adjusted to the appointed data / Pressure regulating valve is broken	Change a new pressure meter / Turn air pressure controller clockwise to adjust / Change a pressure regulating valve
Pressure drop is large when punching, it's dropped from 0.6MPa to around 0.1MPa	Air inlet pipe diameter is too small / Pressure regulating valve is broken	Change a bigger air inlet pipe / Change a pressure regulating valve
The pressure can't be adjusted more than 0.7MPa	The input pressure is only 0.7MPa	Adjust the air compressor pressure higher
Button can't be attached tightly on the fabric	Working pressure too low / Up mold adjusting rod too high / Button size too large or button material too hard	Adjust a suitable pressure / Adjust the up mold adjusting rod to a suitable position / Change a machine style to punch
Up mold punches as soon as the air source turn on	Manual button of the magnetic valve is locked	Press the manual button and turn it anticlockwise
Up mold can't go back well after punching for machine 02-100SH or 03-100SH	Return spring of the die sleeve is breakage / There's burr in the die sleeve inner wall / The screw on die sleeve it too tighten	Change a new return spring / Clean the burr and add lubricating oil / Loose the screw
Punching skewing on machine 02-100SH or 03-100SH	Up mold and down mold are not concentric / the die sleeve is too loose	Adjust the down mold to the same circle center with up mold / tighten the die sleeve screw or change a new die sleeve
Up mold punches fast but go back slow or punches slow but go back fast	Connecting pipe between cylinder and magnetic valve is blocked / the silencer is blocked	Dredge the pip / Clean the silencer or change a new silencer
Slight air leakage on silencer	Flat ring on magnetic valve is wear down / the C ring on cylinder valve is wear down	Change the flat ring / Change the C ring

Quality Warranty Description

We offer one-year free quality guarantee service for all our customers if the problem is caused by our machine's own quality or the machine is broken under the correct operation situation.

We have to take the repairing cost if the problem is caused by one of the following cases:

- * Wrong operation on machine or human destruction, not obey the machine operation manual terms etc.
 - * Unauthorized disassemble the machine.
 - * Consumable pieces such as: screws, springs, up die set, down die set, seals and other spare parts.
- The terms final interpretation authority belongs to the manufacturer.

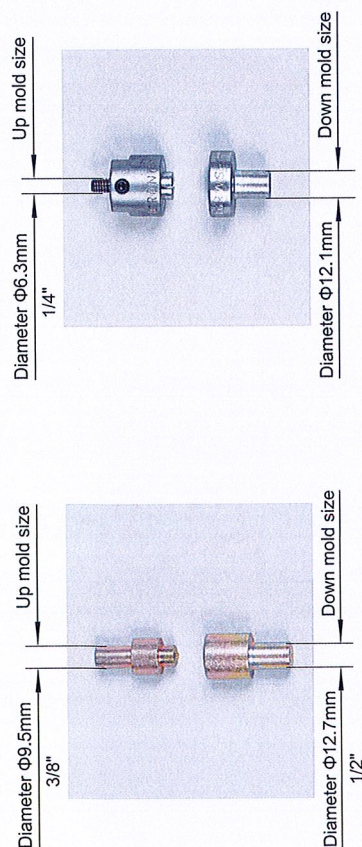
Remarks:

Please choose the correct working voltage, power plug and correct molds size when purchasing our machines. Because the working voltage, power plug and molds size are different in every country.

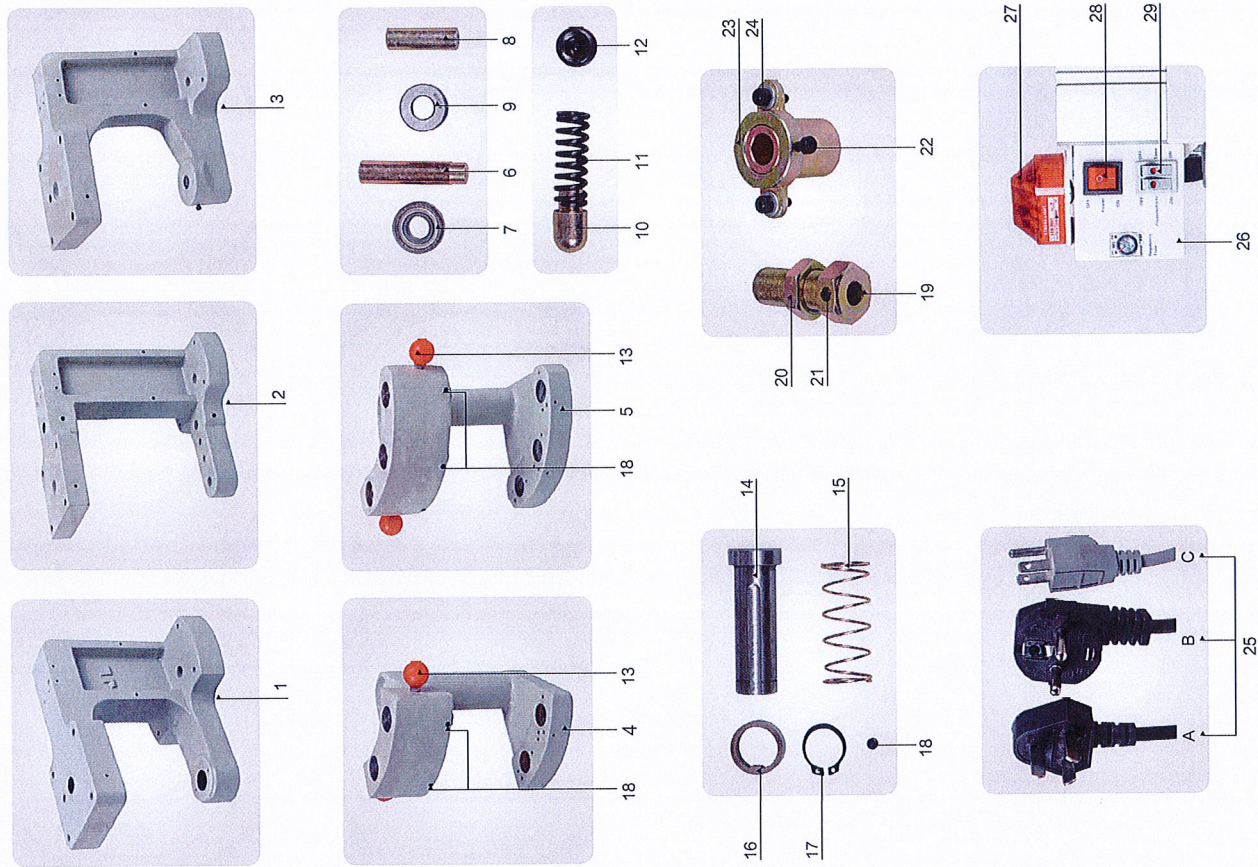
The working voltage is AC220V or AC110V, the power plugs have 3 flat plug, Europe plug, US plug etc

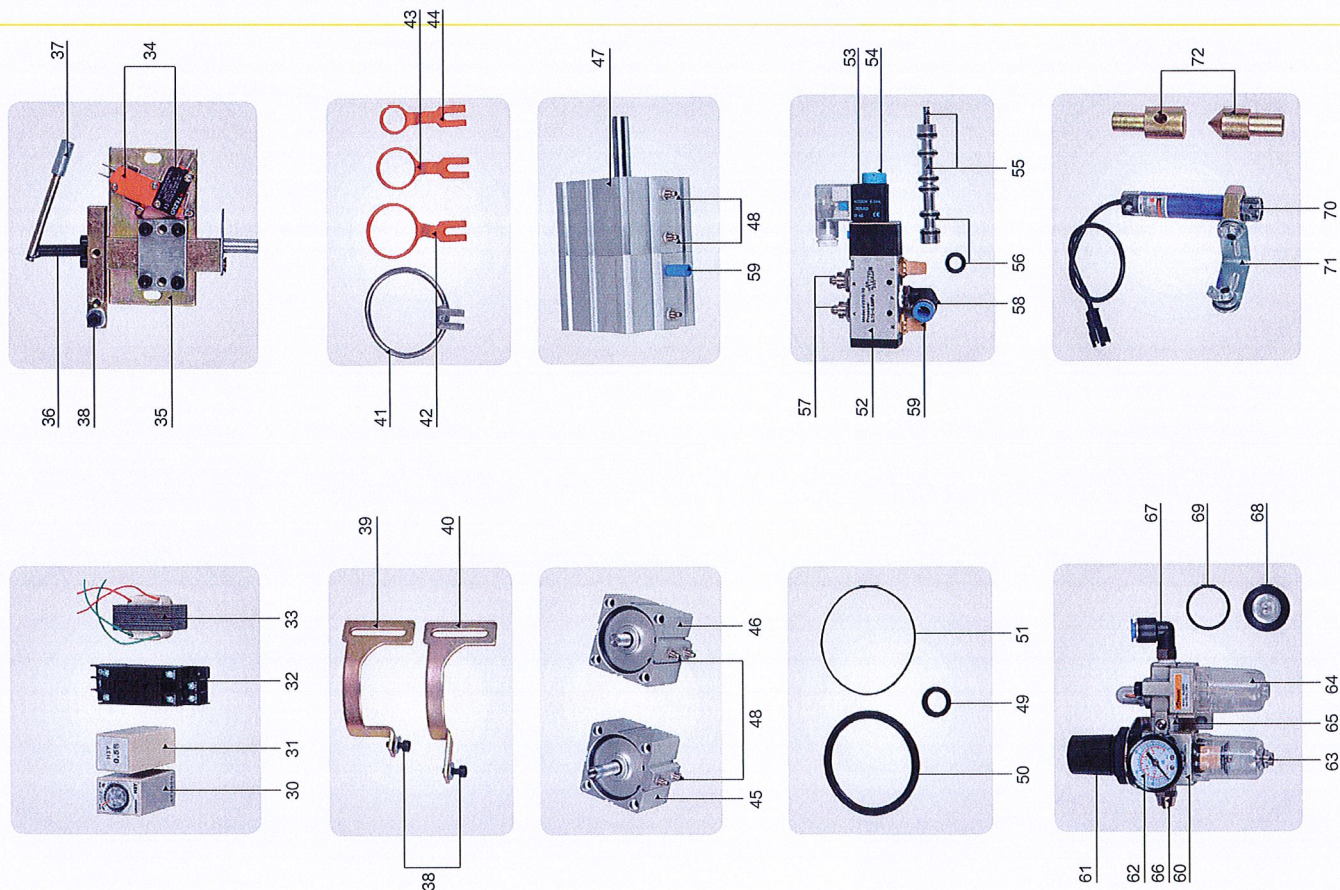
Following are our general mold sizes for your reference, we can do the special mold sizes according to customer's requirements.

Up Mold Sizes	Φ10mm	Φ7mm	Φ9.5mm (3/8")	M8 Thread	Φ7.9mm Thread (5/16")	Φ6.3mm Thread (1/4")
Down Mold Sizes	Φ12mm	Φ19mm	Φ9.5mm (3/8")	Φ12mm	Φ19mm	Φ12.1mm



Components List





No.	Components Name	Art No.	Quantity	Remark
1	01-100SH machine body	03001	1	Suit for machine 01-100SH
2	02-100SH machine body	03002	1	Suit for machine 02-100SH
3	03-100SH machine body	03003	1	Suit for machine 03-100SH
4	01-125SH machine body	03004	1	Suit for machine 01-125SH
5	02-100SH turn plate	03005	1	Suit for machine 02-100SH
6	03-100SH turn plate	03006	1	Suit for machine 03-100SH
7	Arm shaft of turn plate	03007	1	
8	Upper bearing of turn plate	03008	1	
9	Lower shift of turn plate	03009	1	
10	Lower bearing of turn plate	03010	2	
11	Locating pin of turn plate	03011	2	Φ10×26mm
12	Spring of locating pin	03012	2	M12×8mm
13	Screw of locating pin	03013	2	
14	Ball handle on turn plate	03014	3	
15	Die shaft	03015	3	
16	Spring of die shaft	03016	3	Φ26×60mm
17	Die shaft sleeve	03017	3	
18	Snap spring of die shaft	03018	3	
19	Screw for die shaft sleeve	03019	3	M6×6mm
20	Adjusting rod of up mold	03020	3	Special size can be made according to customer's requirements
21	Locknut of up mold	03021	3	
22	Lock screw of up mold	03022	3	M6×6mm
23	Lock screw of down mold	03023	3	M4×15mm
24	Down mold sleeve	03024	3	Special size can be made according to customer's requirements
25	Fastening screw of down mold sleeve	03025	6	M4×12mm
26	Power plug wire	03026	1	A: 3 flat plug B: Europe plug C: U.S. plug
27	Power control box	03027	1	A: plastic casing B: the whole box
28	Caution light	03028	1	
29	Power switch	03029	1	

No.	Components Name	Art No.	Quantity	Remark
30	1second time controller	03030	1	Machine 01-125SH should use 3seconds time controller
31	0.5second time controller	03031	1	
32	Controller socket	03032	2	
33	Transformer	03033	1	Input AC220V, output AC3.6V
34	Up micro switch Down micro switch	03034	2	
35	Security ring connection	03035	1	
36	Return spring	03036	1	Φ7.5×35mm
37	Tension spring adjusting rod	03037	1	E: M6×80mm F: M6×50mm
38	Fastening screw for security ring rod	03038	2	M5×12mm
39	01 security ring rod	03039	1	Suit for machine 01-100SH and 01-125SH
40	02 security ring rod 03 security ring rod	03040	1	Suit for machine 02-100SH Suit for machine 03-100SH
41	01-125SH Security ring	03041	1	We can make inner dia.60mm ring for customer
42	Big security ring	03042	1	Suit for machine 01-100SH, 02-100SH and 03-100SH
43	Normal security ring	03043	1	Big security ring inner dia. 38mm, normal ring inner dia. 28mm, small ring inner dia. 18mm
44	Small security ring	03044	1	
45	01-100SH Cylinder	03045	1	Suit for machine 01-100SH
46	03-100SH Cylinder	03046	1	Suit for machine 02-100SH and 03-100SH
47	01-125SH Cylinder	03047	1	Suit for machine 01-125SH
48	1/4-10 straight coupling	03048	2	
49	Dustproof seal ring for cylinder	03049	1	E: 20×28×6mm F: 25×33×6mm
50	C ring for cylinder valve	03050	1	E: 84×100×6mm F: 108×125×6mm
51	O ring for cylinder cover	03051	2	E: Φ100×2mm F: Φ125×3mm
52	4V310 magnetic valve	03052	1	Whole set, without connector
53	Magnetic valve coil	03053	1	
54	Compact nut	03054	1	Plastic nut
55	Valve rod, Spring	03055	1	A: valve rod B: spring
56	Flat coil	03056	6	Φ7.6×Φ12.5×1.5mm
57	3/4 -10 straight coupling	03057	2	
58	3/4-10 elbow coupling	03058	1	

No.	Components Name	Art No.	Quantity	Remark
59	1/4 Silencer	03059	2	
60	AC2010 pressure regulating valve	03060	1	Whole set, without connector
61	Pressure regulating knob	03061	1	
62	Pressure meter	03062	1	
63	Water cup, Drain unit	03063	1	A: water cup with drain unit, B: only drain unit
64	Oil cup	03064	1	
65	fixed support	03065	1	
66	1/4-10 straight coupling	03066	1	Air compressor coupling
67	1/4-10 elbow coupling	03067	1	
68	Pressure regulating film	03068	1	Φ36×1mm
69	Sealing up O ring	03069	1	Φ34×2.5mm
70	Laser positioning light	03070	1	
71	Laser positioning light stand	03071	1	
72	3mm punching mold	03072	1	We can do different molds according to customer's requirements

Note:

Please indicate the component's art number, order quantity and your machine style when purchasing components.

Please indicate the power voltage in your country when purchasing power section components.

Remark of No.37, 49, 50 and 51 has "E" and "F" option. "E" option is suit for machine 01-100SH, 02-100SH and 03-100SH, "F" option is suit for machine 01-125SH.

Please indicate the option when purchasing.