

# TIG Cold Wire Feeder



	Item NO.	Picture	Size (mm)	Model /Adjustable Parameters	Machine Model
Wire Feeder	320020-00001H		100*60*82	<b>TIG wirefeeder SB-10-D /TIG</b> <ul style="list-style-type: none"><li>• Current</li><li>• Voltage</li><li>• Wire feeding speed and wire withdraw time</li></ul>	ATIG Series ATIG-P Series ATIG-PAC Series

## 3-SB-10-P

### 3-1 System components

This series of machines can be equipped with many different accessories and can be used in various special sites with different configurations. Please refer to Fig. 3-1-1.

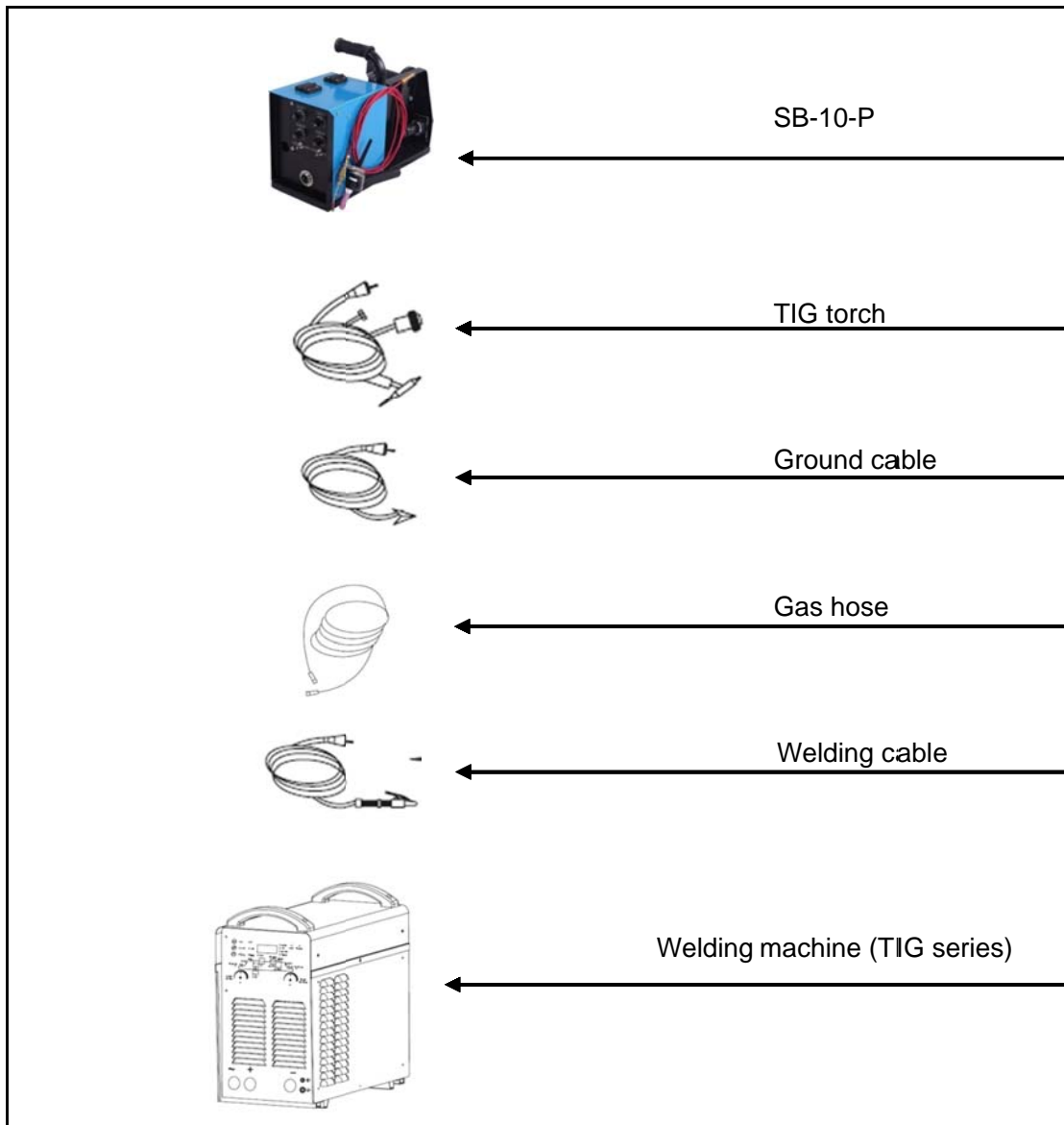


Fig. 3-1-1: System components

### 3-2 Basic equipments for welding

Basic equipments are needed for normal welding. Below are the lists:

- Welding machine
- Welding cable

- Ground cable
- Welding wire
- Welding torch
- Gas regulator, gas hose, gas cylinder (to supply the machine with shielding gas)

### 3-3 Interface

- **Front panel**



Fig. 3-3-1: Front panel

1. Current adjustment knob

Can not use now.

2. Voltage adjustment knob

Can not use now.

3. Wire withdraw adjustment knob

Preset wire withdraw speed.

4. Wire feeding speed adjustment knob

Preset wire feeding speed.

5. Wire feed/wire withdraw switch

6. Manual wire feeding/auto wire feeding switch

Switch on manual position, wire will feed out or withdraw.

Switch on auto position, press torch trigger, wire will feed out or withdraw.

### 7. 2-pin torch trigger socket

Connect with welding torch connector. This socket receives the trigger signal from the torch trigger.

- **Side view**

#### **Left side view**



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Fig. 3-3-2: Left side view

#### **Right side view**

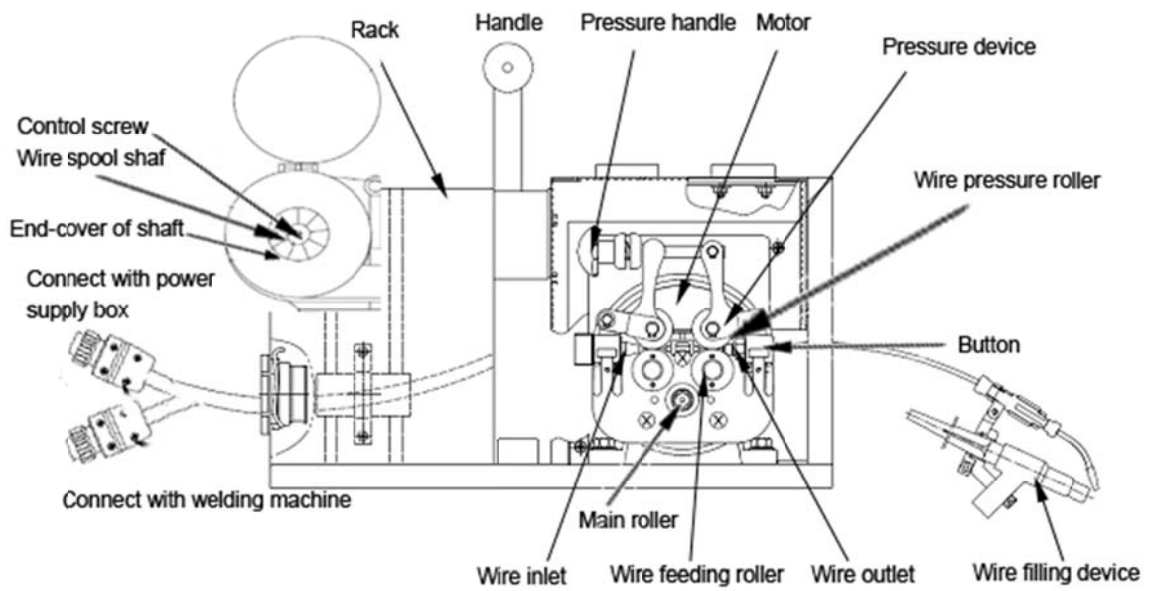


Fig. 3-3-3: Right side view

**Note:** If wire guide hose is damaged, just press this button, then you can pull out wire guide hose. After replace, button will reset by upspring automatically.

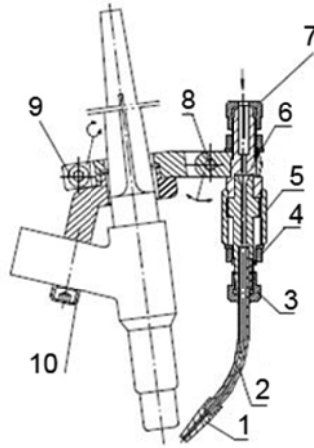


Fig. 3-3-4: Wire filling device

1. Contact tip: standard is  $\Phi 1.0 \sim \Phi 2.5$ .
2. Wire filling device goose neck
3. Hex nut
4. Flat square nut
5. Knurled nut: adjust knurled nut, welding torch barrel can fine adjust up and down, range is 10mm.
6. Wire guide nozzle pipe sleeve
7. Hex nut: release hex nut, install wire feeding hose into wire guide nozzle pipe sleeve, then tighten hex nut.
8. Inner hex screw
9. Inner hex screw: release to adjust angle.
10. Pressure cover: pressure well after welding torch installation.

### 3-4 Connection

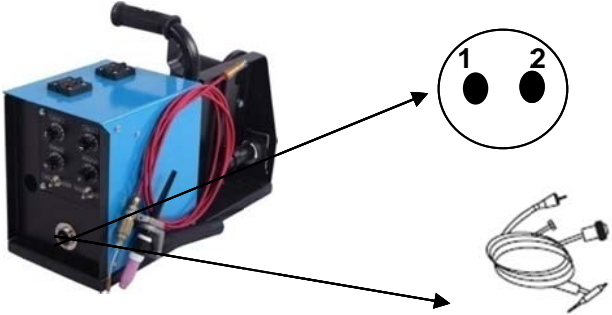
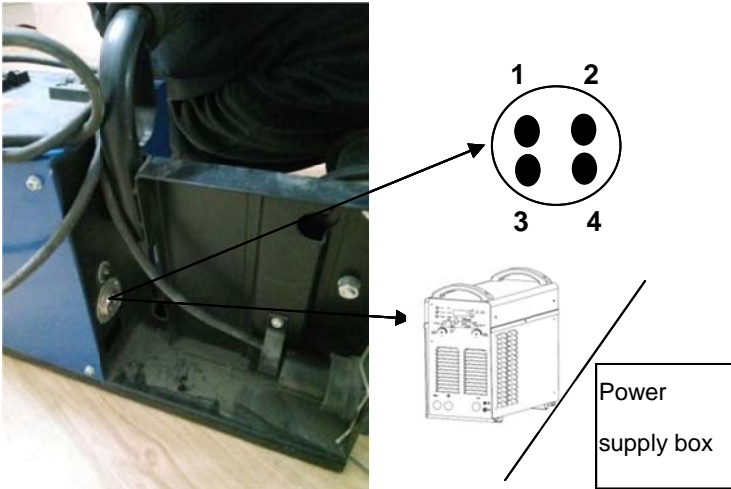
Torch trigger socket	Socket pin	Description
	1, 2	Torch trigger
	1,2	AC36V
	3,4	Welding machine switch signal

Table 3-4-1: Connection

### 3-5 Installation and operation



**Warning!** Electric shock is very dangerous. If the welding machine is plugged into the mains electricity supply during installation, there is a high risk of very serious injury and damage. Only carry out work on the machine when

- the welding machine mains switch is in the “OFF” position,
- the welding machine is unplugged from the mains.

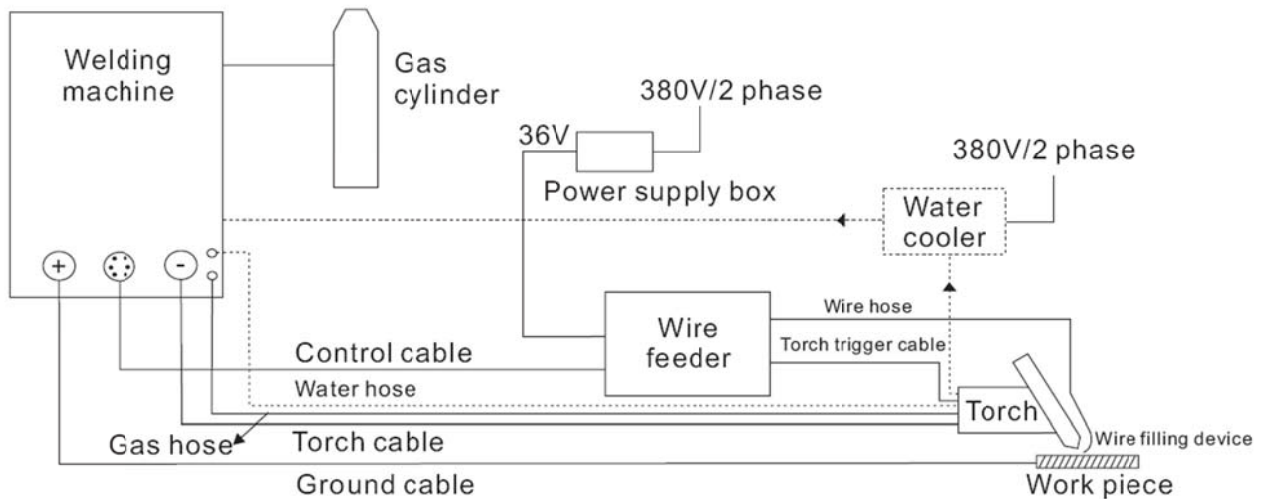


Fig. 3-5-1: Installation

● **Installation of wire feed rollers**

The proper wire feed rollers must be chosen according to the size and material of the wire. Types of wire feed rollers as Fig. 3-5-2:

Type 1: for hard wire, such as carbon steel wire, stainless steel wire.

Type 2: for soft wire, such as aluminum and aluminum alloys, also for copper and copper alloy wire.

Type 3: for flux-cored wire

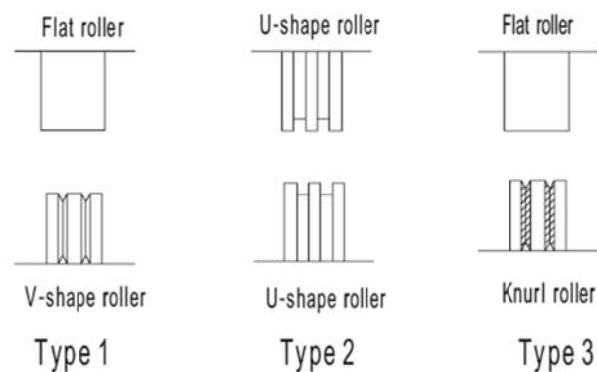


Fig. 3-5-2: Wire feed rollers

**Important!** When use pressure handle to adjust wire feel roller pressure, too much pressure will cause wire crushed, and the wire coating be damaged, and it will cause the wearing out of feed rollers and increase the wire feeding resistance.

Suitable pressures for wires of different materials and diameters are as shown in Fig. 3-5-3.



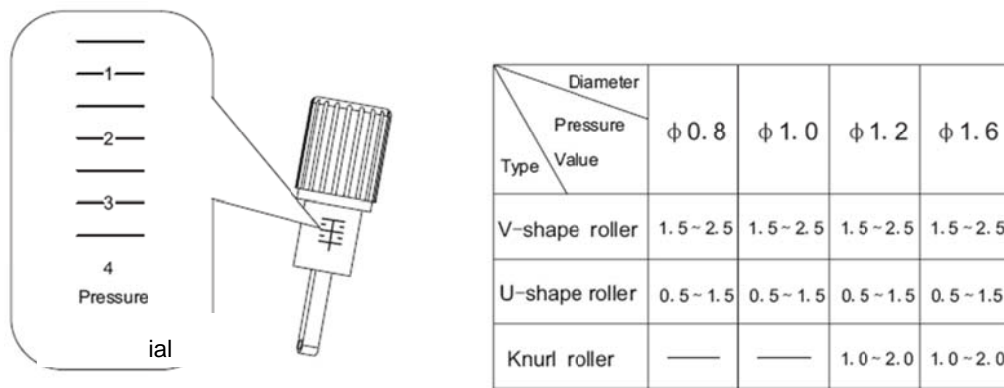


Fig. 3-5-3: Wire feed rollers installation parameter

### Installation step

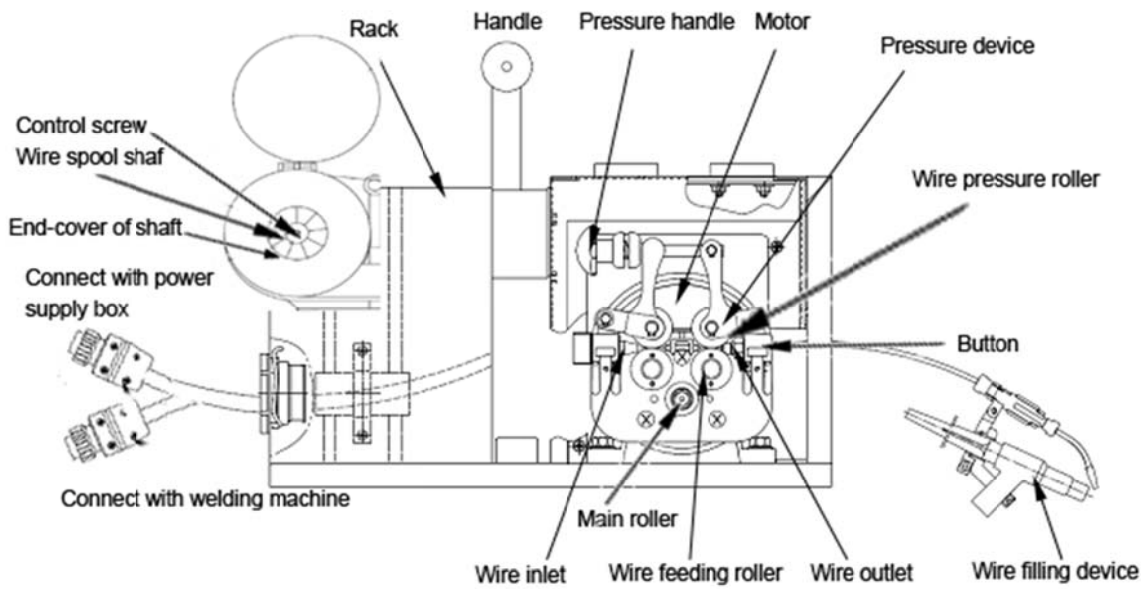


Fig. 3-5-4: Side view

1. Power off the wire feeder;
2. Open the side panel;
3. Press the pressure handle downward;
4. Pull up the pressure device;
5. Remove the fixed wire pressure roller or wire feeding roller by the screw driver;
6. Replace by the proper wire pressure roller or wire feeding roller;
7. Fix the wire pressure roller or wire feeding roller by the screw driver.

**Important!** Regulating the pressure of feeding rollers with the pressure handle, ensure the wire go through the guiding tube smoothly, and there should be a bit brake force where the wire come out from the conductive tip to avoid the wire feed rollers skidding.

**Important!** There is a scale for wire feeding pressure on the Pressing Handle (Fig. 3-5-3), different



materials and sizes of the wires are corresponding to different pressures value. Actual pressure adjustment standard is according to torch cable length, torch type, wire feed condition and wire type.



**Note!** Too much pressure will cause wire crushed, and the wire coating will be damaged, and it will cause the wearing out of feed rollers and increase the wire feeding resistance.

### ● Installation of wire spool



**Warning!** The drop of wire spool will cause danger! Ensure the wire spool fixed in the bracket firmly.

#### **Installation steps:**

1. Power off the wire feeder;
2. Open the cover of wire spool (this cover is optional);
3. Screw off the end-cover of shaft;
4. Fix the wire spool into the shaft and make sure of the correct direction;
5. Insert driving lever into reserved hold of wire spool;
6. Adjust the force by adjust control screw;



**Note:** To twist control screw by screw wrench can adjust braking force. Proper force should be ensured to avoid wire scatter when wire spool stops running. But the force cannot be too strong so as to avoid motor overload.

7. Twist the end-cover of the shaft.
8. Open side panel of wire feeder;
9. Pull pressure handle forward;
10. Pull up the pressure device;
11. Take the end of wire, cut off the curve part;
12. Straighten the front 15 cm part of wire;
13. Insert the wire into wire tube, and also into the tube of wire filling device about 5cm;
14. Press the pressure device downward;
15. Push the pressure handle back to vertical;
16. Adjust the pressure force;
17. Straighten the welding torch and detach the contact tip of wire filling device;
18. Connect 4-pin control socket on wire feeder with control cable;
19. With one end of control cable connects with wire feeder control socket on welding machine;
20. With the other end of control cable connects with power supply box;
21. Switch on the welding machine;
22. Press the auto wire feeding button and hold until the wire comes out from the wire filling device;

### 3-6 Technical data



**Note!** Please use the wire feeder with suitable welding machine. Use with improper welding machine will not weld and even machine will be damaged.

Model		SB-10-P
Motor voltage		DC24
Wire diameter		Φ0.8mm~Φ2.4mm
Wire spool	Shaft diameter	Φ50mm
	External diameter	Φ300mm
	Width	103mm
Rated traction		200N
Wire feeding speed		0.15~2m/min
Cable length		3m
Wire type		Stainless steel or mild steel solid wire (aluminum wire)
Wire spool weight (kg)		20
Wire feeder weight (kg)		10
Dimension (mm)		480*200*270

Table 3-6-1: Technical data

### 3-7 Main components list

Item	Quantity	Remark
Spring piece	2	
Nut	2	M4
Main roller	1	Φ12
Nut	1	M12X1.25
Copper sleeve	2	10X15.1X19X12
Wire feeding roller	2	1.2-1.6
Washer	2	10X20X2.4
Spring	1	19X2.5X27
Middle wire guide tube	1	Φ5XΦ3X30
Motor	1	SB-10-P motor reducer1:150, 120SN10-CS

Table 3-7-1: Main components list

## 4-TROUBLE SHOOTING



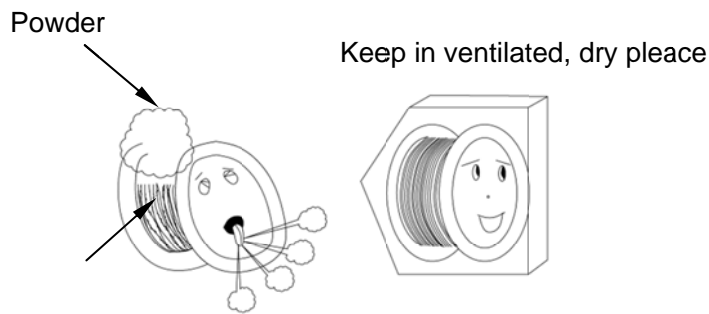
**Note!** The following troubles and causes are uncertain. However, during the normal welding, that might happen.

Item	Description	Problem	Remedy
Pressure handle dial	<ul style="list-style-type: none"> <li>● Whether set pressure matches with wire diameter</li> </ul>	Pressure is smaller, roller skids; pressure is stronger, roller wears easily	Adjust pressure according to pressure handle adjustment method
Wire guide tube	<ul style="list-style-type: none"> <li>● Whether there is dust around inlet of wire guide tube and wire feed roller</li> </ul>	Too much dust accumulation, wire feeding is not smooth	Remove dust
Wire feeding roller	<ul style="list-style-type: none"> <li>● Whether wire diameter is agreed with wire diameter marked on wire feeding roller</li> </ul>	If not, wire feeding is not smooth	Replace wire feeding roller
	<ul style="list-style-type: none"> <li>● Contact face condition between wire feeding roller and wire</li> </ul>	Contact face is worn, wire feeding is not smooth	Replace wire feeding roller
Wire pressure roller	<ul style="list-style-type: none"> <li>● Whether rotate smoothly</li> </ul>	If not, wire feeding is not smooth	Replace wire pressure roller
Cable	<ul style="list-style-type: none"> <li>● Whether cable is worn or broken</li> </ul>	If yes, local heats seriously	Replace new cable

Table 4-1: Trouble shooting

## 5- CARE AND MAINTENANCE

- Periodically clean wire guide hose and wire feeding roller and replace if worn. Dirt and serious worn wire feeding roller will influence normal wire feeding.
- Blow out or vacuum the inside of the feeder.
- Periodically clean wire feeding hose. Wire powder and dirt inside of wire feeding hose will influence normal wire feeding.
- Keep wire in ventilated, dry place. Rusted, dirty wire will influence welding seam formation.



- Motor and reducer do not need refuel and maintain usually. If they have problem, please contact with sales department or manufacturer.