

# HK-11WG Pipeline All-position Automatic Welding Machine



- The HK-11WG pipeline all-position automatic welding machine realizes the all-position automatic welding of pipeline through the fixed pipe and the walking welding carriage. The welding process adopts high-efficiency and low-cost gas metal arc welding (GMAW).
- Characterized by its lightweight and easy-to-carry design, the HK-11WG pipeline all-position automatic welding machine is especially suitable for pipeline automatic welding on the construction site. It has the features such as simple operation, high-speed welding, high production efficiency, low labor intensity and stable welding performance.
- The equipment has a wide range of application: it can be applied to the pipes with diameter  $\Phi 150\text{mm}$  or above; theoretically, there is no limitation of wall thickness on the pipes for welding, as the thick-walled pipes can be welded by multiple layers.



#### Application:

- Oil
- Petrochemical
- Chemical industry
- Thermal power
- Natural gas
- Marine works
- Municipal works



## Part Name:

- ① Hand wheel for front-and-rear fine adjustment
- ② Torch holder
- ③ Electric step-up/step-down regulator
- ④ Vents
- ⑤ Electric step-up/step-down regulator connection line
- ⑥ Handle
- ⑦ Cable anchor
- ⑧ Hand wheel for left and right fine-tuning
- ⑨ Walking carriage
- ⑩ Remote control (control system)

## Main technical parameters:

|                        |                                 |          |
|------------------------|---------------------------------|----------|
| Dimensions             | 250X400X210 mm                  |          |
| Machine weight         | 12Kg (including the oscillator) |          |
| Package dimensions     | 600X375X405 mm                  |          |
| Package weight         | 20.5Kg                          |          |
| Input voltage          | 220V AC 50/60Hz                 |          |
| Oscillating motor      | Stepper motor                   |          |
| Drive mode             | Magnetic wheel drive            |          |
| Welding speed          | 50 ~ 700mm/min                  |          |
| Torch adjustment range | Up and down                     | 25mm     |
|                        | Forward, backward               | 360°     |
| Oscillating parameter  | Left and right stay time        | 0 ~ 2.5S |
|                        | Oscillating speed               | 0 ~ 100  |
|                        | Oscillating distance            | ± 50mm   |



## Pipeline all-position automatic welding machine' s walking carriage:

- Applicable pipe diameter: 130mm and above
- Applicable wall thickness: 4-50mm
- Applicable materials: carbon steel, stainless steel, alloy steel, low temperature steel, etc. (The stainless steel is equipped with a corresponding track)
- Applicable welds: various pipe section welds, such as pipe-pipe welds, pipe-elbow welds, pipe-flange welds, (dummy pipe transition connection is adopted if necessary)
- Drive system: stepper motor wheel worm and gear drive;
- Speed adjustment mode: adjust the speed through the "+" and "-" buttons;
- Adjustment mode: electric control;
- Oscillating system: our company' s proprietary technology "stepper motor oscillation" ;
- Control system: our company' s proprietary technology: digital control



Wire feeding power supply device  
(Original imported wire feeder)

## Wire feeding power supply device of pipeline all-position automatic welding machine:

- The wire feeder can use a filler wire with the diameter among 0.8mm to 1.6 mm, and the diameter of the wire coiler can be up to 300mm with the width reaching 105mm. When the filler wire is selected, it should be noted that the melting point of the wire is roughly the same as that of the base material to be welded.
- Caution: when replacing the filler wire, be sure to check whether the shapes and sizes of the wire feed roller & wire feed roller groove and the guide wire liner pipe match with the wire used. Besides, it is also a must to check whether the polarity used is suitable for the filler wire.
- The user can adjust the pressure of the wire feed roller on the wire feeding mechanism to make the filler wire enter the wire guide pipe and the welding torch smoothly and stably.
- To increase the pressure of the wire feed roller, you can turn the black pressure adjustment knob clockwise.
- To reduce the pressure of the wire feed roller, you can turn the black pressure adjustment knob counterclockwise.
- The adjustment knob is engraved with a pressure adjustment range. The greater the pressure used, the more prominent the marked scale will be.
- For hard carbon steel and stainless steel filler wire, be sure that the pressure set is large enough so as to prevent the filler wire from falling off the wire feed roller.
- Note: Excessive pressure can easily cause deformation and damage of the filler wire, and it can also easily rub or damage the drive wheel bearing, and thus shortens its service life. There are two different sizes of grooves in the drive wheel. The user can open the fastening screw of the drive wheel and rotate the groove required to rotate the drive wheel. The groove used mostly is facing outward.



HiArc M350A / M500A  
(Original imported)

## HiArc M350A / M500A kemppe welding inverter:

### Technical Parameters:

| HiArc                          |   | M 350A            | M 500A            |
|--------------------------------|---|-------------------|-------------------|
| Power voltage                  | 3~50/60 Hz  | 380V(-10%~+15%)   | 380V(-10%~+15%)   |
| Rated power at maximum current | 60% ED  | 14.3 kVA          | 24.5 kVA          |
|                                | 100% ED   | 10 kVA            | 17 kVA            |
| Supply current                 | $I_{1+}$ maximum value  | 22 A              | 37 A              |
| 6.4 1/4                        | $I_{1+}$ RMS  | 17 A              | 29 A              |
| Output, at 40°C                | 60% ED  | 350 A / 31.5 V    | 500 A / 39.0 V    |
|                                | 100% utilization factor   | 270 A / 27.5 V    | 390 A / 33.5 V    |
| Fuse (time-delay)              |   | 20 A              | 35 A              |
| Open circuit voltage           |   | 50-60 V           | 60-70 V           |
| 60% power factor               |   | 0.88              | 0.92              |
| 100% power                     |   | 87%               | 87%               |
| Welding range                  |   | 13-35 V           | 13-35 V           |
| External size                  | L × W × H   | 647 × 385 × 485mm | 716 × 385 × 485mm |
| Weight                         |   | 36 kg             | 41 kg             |
| EMC rating                     | This product is classified as Class A electromagnetic compatibility |                   |                   |
| Protection level               |   | IP23S             | IP23S             |
| Gas heating link               |   | 36 V/150 W        | 36 V/150 W        |





## Pipeline all-position automatic welding machine:

- Working principle

It realizes the all-position automatic welding of pipeline through the fixed pipe and the walking welding carriage. The welding process adopts high-efficiency and low-cost CO<sub>2</sub> gas shielded welding.

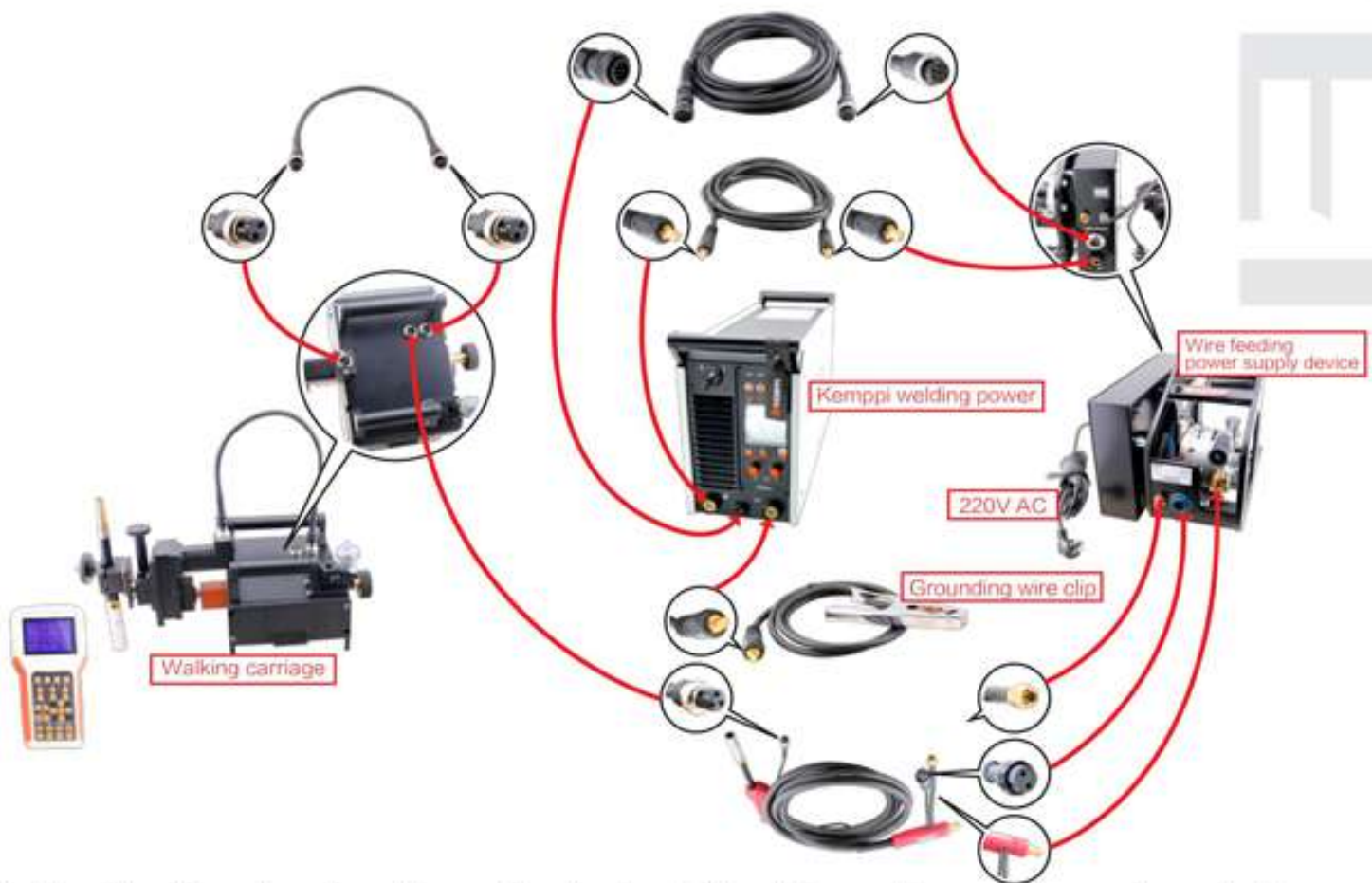
- Structure overview and description:

The pipeline all-position automatic welding machine consists of four parts: control system, welding carriage, welding power, wire feeding device and accessories.





Pipeline all-position automatic welding machine (basic model) connection method



Pipeline all-position automatic welding machine (equipped with welding machine power) connection method

## HK-11WG pipeline all-position automatic welding machine *assembly 1:* (Basic model)



Walking carriage



Remote control  
(control system)



Oscillator  
(including front-and-rear  
fine adjustment)



Power control box



Oscillation connecting line  
(0.5m/2 × 0.75mm<sup>2</sup>)



Power cord  
(2.5m/3 × 0.75mm<sup>2</sup>)



Welding carriage connecting line  
(20m/2 × 0.75mm<sup>2</sup>)



Welding torch connecting line  
(5m/2 × 0.75mm<sup>2</sup>)



Fuse



Allen wrench



Instruction manual  
Certificate

## HK-11WG pipeline all-position automatic welding machine *assembly 2:* (Equipped with welding machine power)



Walking carriage



Kempfi M500A welding inverter  
(Original imported)



Wire feeding power supply device  
(The wire feeder is original imported)



Remote control  
(Control system)



Oscillator  
(including front-and-rear  
fine adjustment)



Welding machine's signal line  
(15m/7 × 0.5mm<sup>2</sup>)



Welding cable connecting line  
(10m/35mm<sup>2</sup>)



Oscillation connecting line  
(0.5m/2 × 0.75mm<sup>2</sup>)



Ground wire  
(1.5m/35mm<sup>2</sup>)



CO<sub>2</sub> welding torch  
(5m)



Fuse



Allen wrench



Instruction manual  
Certificate



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