

LIGHT POLE SHUT & WELDING MACHINE

**MODEL : LPSW--450/12000**

***Suitable light pole sizes:***

***Max diameter: 450 mm***

***Max Thickness: 8 mm***

***Max Length: 12000 mm***

**1、 Machine Overview :**

This type light pole shut and welding machine is suitable for one piece type polygonal or circle taper light pole. it is automatic welding line, the dolly with speed adjustable motor can pull (or push) the light pole from small end to big end, The hydraulic cylinder through mechanical chain, worm wheel push the clamping wheel to close the pole and do welding at same time.

**2、 The machine includes the following items:**

- 1) Long working table with rack for pull dolly.
- 2) Dolly for pulling pole
- 3) Pole clamping and welding center
- 4) Submerged Arc Welding and Gas-shielded welding(CO<sub>2</sub>) Welding system, including welding wire feeding system.
- 5) The flux transport and recovering system
- 6) Back support unit
- 7) Hydraulic controlling system
- 8) Electric control system

**3、 Main Technical Parameters:**

- Light pole shape: taper polygonal or circle
- Workable Diameter : 60-450 mm
- Workable length : 12000 mm
- Dolly length : 1500 mm

- Power of pump station : AC 4 KW
- Power of pulling dolly : AC,4 KW , Speed changeable by VFD
- Working Speed : 1.1~2m/min
- Welding Machine : 630A, (Submerged Arc Welding or Gas-shielded welding(CO<sub>2</sub>) Welding)
- Welding wire diameter : 1.2、 1.6、 2mm welding wire, according the pole thickness and welding type SAW or CO2 way.
- Gross weight : 7000 kg
- Overall sizes(L x W x H): 22000x2000x2000 mm
- Suitable light pole Diameter and Thickness ( Low carbon steel yield strength Q235)

Diameter (mm)	60	70	200	250	450
Thickness (mm)	≤3	≤4	≤5	≤6	≤8

**4、 Details of the machine**

**4.1 Hydraulic clamping structure**

The shutting way of the light pole is realized by the hydraulic cylinder driving the chain, sprocket, and then gear with pinion. Eight clamping heads synchronous moving and tightly clamping the light pole. The clamping mechanism is fixed on a 50mm thickness plate. Both surface of the board and the holes in the middle are finished by our imported equipment from Swiss. In the clamping process, the gears and racks are always under stress, and the material and processing technology requirements are very high. We use high-quality 40Cr steel, after heat treatment and tooth surface quenching, the hardness of the tooth surface can reach HRC50. Each set of clamping head adopts three wheels arranged in a line. The clamping head can swing to be suitable for different diameter taper tubes. The transport line of the oil



pipes in the machine is realized by seamless steel pipes. The independent hydraulic pump station is connected to the main hoist through high-pressure rubber oil pipes. The pressure holding valve and pressure meter are installed next to the operation box, which is convenient for workers to adjust at any time.

#### 4.2 Dolly moving system

Dolly can move on the base with the light pole. A lifting paw fixed on the trolley can clamp the light pole and follow the trolley to move together. The trolley driven system: AC motor ---- Cycloid pinwheel reducer----Sprocket、chain ---- Gear. The long rack is fixed on the base. The welding speed can be adjusted by AC VFD. The gear can be manually clutched with the rack. When welding is not required, workers can drag the gear out of the rack, and then push the trolley to move quickly back and forth on the base, Saving lots of working time and improve work efficiency. On the other side of the host, that is the inlet of the machine, a supporting passive roller is usually used to support the light pole to slide on the triangular track.

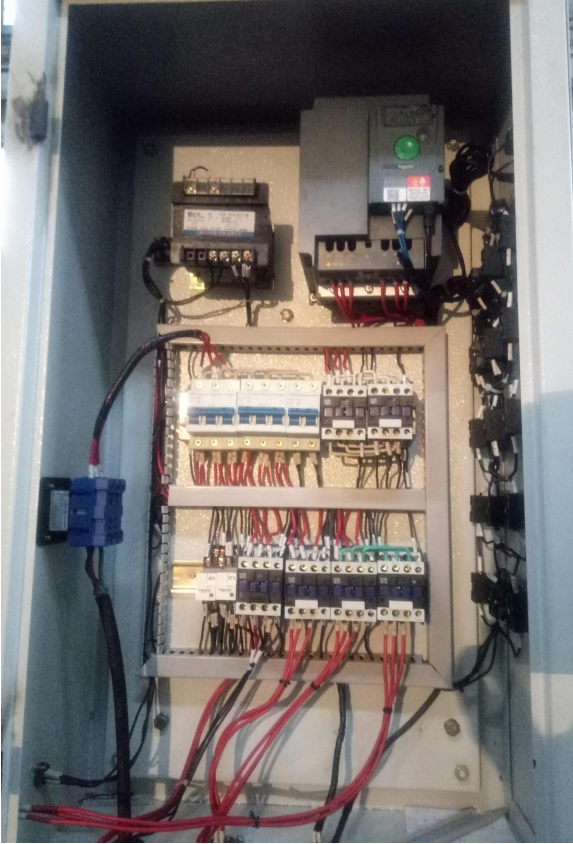


The end face of each base is processed by end face milling machine to ensure that the base is connected in a straight line. The accuracy of the moving position of the trolley on the base is realized by three-sided guide wheels.

#### 4.3 Electric / hydraulic control and flux delivery system

The electric control panel was hanged at the outlet of the machine. The control function are consists of : hydraulic clamp tight、 hydraulic clamp loose、 car forward、 car reverse、 flux start、 flux stop etc. The electromagnetic valve control of the pumping station is connected to the control box through the aviation plug, which avoids the customer's field wiring. It is convenient for overseas users to install and debug. The wire of the moving car fixed in the plastic tank towline. It not only avoids the abrasion of the cables in use, but also ensures the overall coordination and beauty of the equipment.

Flux delivery system is mainly used for the transportation and recovery of flux during submerged arc welding way.



Electric cabinet



Electric control panel



Hydraulic pump station



Flux delivery system

#### 4.4 Welding power

We often use Zhouxiang ZX5-630 Submerged arc welding power. According to the special process of lamp pole manufacturing, our welding power source has been improved in process. Ensure the long-term safe and efficient use of customers. If customers need, we can also choose welding power sources of other brands, such as Lincoln, Miller, etc.

### **5、 Option:**

#### 5.1 USA Lincoln DC-630 welding machine

#### 5.2 Fast motorized return back for dolly

For the standard machine, the dolly return back can be motorized with working speed, it is very slow for return back process. So, normally, the operator will open the dolly clutch and push the dolly by manual.

If we want to reduce the manpower, we have option: Fast motorized return back for dolly. The operator only push button, the dolly will be back to the welding head.

#### 5.3 Both Side additional hydraulic cylinder

It is suitable for small diameter big thickness light pole, or steel plate with high tensile strength light pole. With this additional option, the diameter and thickness relations, please see technical parameters, all pole can be suitable. And easy for operation.





