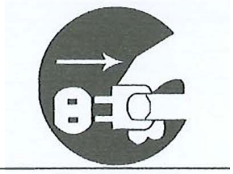
ARCFORCE

THE POWER TO WELD

BETTER QUALITY BETTER WELD

HYDRAULIC WELDING POSITIONER

AFHP1000

Symbol	Meaning	Explain
	General	General precautions, warnings and dangers
	Be careful of hurting your hands	If you reach into the opening, you may hurt your fingers
	Note: Beware of electric shock	Electric shock may occur under certain conditions
	Device grounding	The operator must ground the device through the safety ground terminal
	Pull out the power plug from the socket	When a fault occurs or there is lightning, the operator must pull the power plug out of the socket. In case of danger!
	Pay attention to prevent explosion	An explosion may occur under certain conditions
	Arc	Pay attention to the arc
	Note: overheating!	Under certain conditions, personal injury may be caused due to high temperature
	Note: Flammable!	May ignite under certain conditions

1 Security requirement

1.1 security requirement

> Warning
>
> When the equipment under operation, you should not touch the housing of the electrical machine.
>
> When the equipment under operation, you should not touch the other parts of the machine, to avoid twisted and hurt.
>
> Who do not have operational experience is forbidden to open equipment.

Be careful! Electric shock can kill someone.

Before start the equipment, every operator, containing the user and the repairman, should read this Using instruction.

Every warning and notice describes a situation going against operator. You should be careful and avoid bad situation.

- Do not touch electric part under operation.
- You should turn electricity on after housing and protective door of Control cabinet, operation cabinet and power source are all ready.
- Before the work, operator should wear insulated glove, shoes and clothes and ensure dryness of working environment.
- “light” can hurt eyes and burn the skin when welding. You should wear protective glasses and clothes.
- Splash of hot slag will cause burning and fire. So you should notice fireproofing.

1.2 Instruction of security requirement

1.2.1 Electric shock defending

Power resource of equipment use high voltage . So you should pay attention to followed warning when operating:

• When operating equipment, you should not stand, sit or lie on damp ground or other object.

• Keep the dryness of your glove, shoes and clothes.

• If you have to work near damp place, you should be careful and wear insolated glove and shoes and prepare insolated material to defend electric shock.

• Equip a Circuit breaker that has corresponded safety wire. This circuit breaker is connected to power resource and operator can disconnected the power resource in case of emergency.

• Do not operate equipment when cover of different parts have not been installed. Uncoated power resource is risky.

• When you need to open housing of electric part for repairing, you should disconnect Circuit breaker, to avoid risk bringing by uncoated power resource.

• You should wait at least 5minutes after disconnect main power resource, to let capacitor fully discharge.

• Check on the housing of power cord regularly, if find some damage effecting equipment, you must replace it in time.

• Check on the wire of motor, if find some damage or abrade, replace it in time.

• Before replacing electric part, you should disconnect main power resource or Circuit breaker. After replacing, you should connect power resource after every part

fastened.

• Not permit bypass or short-circuit safety device.

1.2.2 Burning defending

1.2.2.1 Safety of eyes

Protect eyes from highly luminous ultraviolet radiation, light, spark and hot metal.

• Wear color filter or a protective covering ,which is special for welding.

•Tell the people not to watch welding directly. He or she should wear color filter or a protective covering before that.

1.2.2.2 Safety of skin

Protect skin from highly luminous ultraviolet radiation, light, spark and hot metal.

• wear protective glove, shoes and clothes and hat.

• To let the body away when start button of welding, avoiding hurt skin.

• Do not touch the front of welding torch after starting welding. Do not touch workpiece which was welded just now. You only can touch it when fully cooled.

1.2.2.3 Poisonous smoke dust defending

To avoid risk of poisonous smoke dust when welding:

• Proper ventilation are provided in work place.

• Do not weld container with poisonous material or containing poisonous material. It should be clear away before welding.

1.2.2.4 Fire defending

It will hot metal and produce spark and slag when waiting welding. You must be careful of fire.

• Not permit to have naked light in work place.

• Flammable material must be far away from work place, at least 10 meters.

• Workpiece which was welded just now must be fully cooled before touch with Flammable material or to be touched.

• Do not weld container with flammable material or containing flammable material.

• Do not weld in condition which has too much smoke dust or flammable gas.

1.2.2.5 Explosion defending

When using Tank Rotator to weld:

• Do not work in the condition which has explosive dust and steam.

• Do not weld pressure vessels or other closed vessels.

1.2.2.6 Input power resource

• Ensure power resource has connected to socket which has grounded line. Or grounded line should connect to grounded line of circuit breaker.

• Nut and bolt of grounded line must be fasten to ensure security.

1.2.2.7 Working cable and working bench

• Use good metal clamp to connect working cable to workpiece or work bench

• Working bench should connect to ground well.

• Reduce cable pressure to the best of one's ability. To ensure cable not suffer pressure from outside, especial exit place and connected place. You should fix cable at place where can sustain well and bent radius should as big as possible.

1.2.2.8 Machine defending

• Gears rotate and front of machine move when equipment under operation. The operator should avoid being twisted and hurt.

• If there are many metal material and workpeice, you should avoid being injured.

•Operator should bear switch of power resource in mind. Operator can disconnect the power resource or circuit breaker in case of emergency.

2 Summary

This machine is mainly used for taking position for welding. By the working table elevating, the workpiece can be positioned and achieve the welding position by the worktable tilting and rotating.

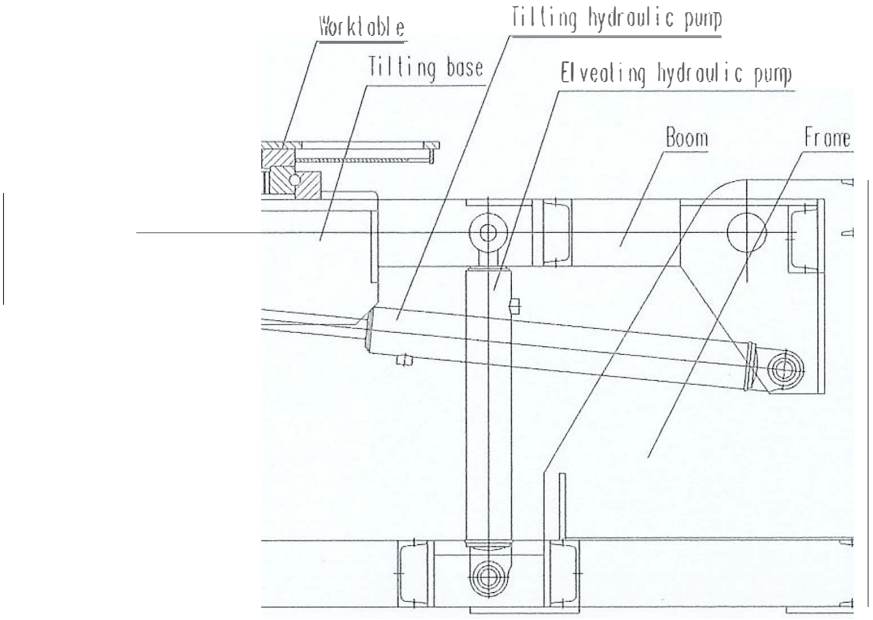
It can improve quality of welding and save times of moving and human resource, is a way to improve efficiency rapidly.

3 Technical parameter

Rated loading:	1000Kg
Rotating speed:	0.1～1.2rpm
Worktable size:	Φ1000 mm
Tilting angle:	0～135°
Rotating power:	0.75kW
Hydraulic motor power:	1.5kW
Speed adjusting way:	VFD
Max eccentric distance:	100mm
Max gravity center distance:	200mm
Boom tilting angle:	0° ～45°
Worktable height:	850mm～1570mm

4 Construction features

4.1 This equipment include Frame, Tilting device, Rotating device, Elevating device, Hydraulic system and Electrical system etc.



4.2 Tilting device achieve tilting function depend on Hydraulic pump, angle is 0～135 degrees. Titling base supported by boom, and can adjust height according to Elevating hydraulic pump. Worktable installed on the tilting base, and it won't tilt itself within rated loading.

5 Test operation

5.1 Clear out unnecessary sundries in work place before using, especially do not lay heavy thing on working table, for fear breaking equipment when overturning.

5.2 Ensure lubricating oil and electric line before turning up.

5.3 There is an equipment connect to ground under working table. Connect before welding.

5.4 Notice if there is thing preventing rotating before turning over.

5.5 There is timing knob with data appearance on the electric control box. It's very easy to change speed.

5.6 Cutting off electrical source after using for fear changing of pressure break equipment. Clear out dust on worm wheel to prolong service life.

6 Maintenance

6.1 Be familiar with operation followed using instruction. Stop to turn up machine when not knowing function of equipment well.

6.2 Positioner should be fastened by bolt.

6.3 Check elasticity phenomena of firmware. It should not have unusual noise when turning.

6.4 Check press-button with its appearance.

6.5 Check line connects to ground for security.

6.6 When equipment go wrong, cutting off electrical source, check or maintenance.

6.7 Control cabinet must be according with system drawing, check exactly and no fault of connecting.

6.8 Check insulation of cable usually, you should stop using if there is damnify. Operation must be safe and operator must wear protection.

6.9 Equipment should not be used under condition rainy or excessive hot, for fear breaking electrical eleme.

7 Parameter and adjusting of transducer

Function	Parameter	Function	Parameter
Pr.1-00 frequency	50/60	Pr.1-08	10
Pr.2-00 CMD	1	Pr.1-09	2.5
Pr.2-03	1	Pr.1-10	1.5
	5		
	2		

Adjusting of speed is related to quality of welding. So it must adjust after a term using. Start rotating, adjust speed to a frequency and test practical circle of rotating in one minute. Compare this data to data on panel. Ensure that test result is as same as display though adjusting potentiometer RP2.

8 Fault removing

8.1 Cause of fault

Overturning electromotor does not work.

Cause: [1] unusual import pressure

[2] QF1 element move

[3] No output from transformer

[4] Breakdown of control button

[5] Wrong connection of electric machine

Solution: [1] Import normal pressure

[2] Restoration

[3] Repair or replace

[4] Repair or replace

[5] Correct connection or change electric machine

8.2 Cause of fault

Overturning electromotor does not have adjusted speed

Cause: [1] Fault of line

[2] Fault of parameter

[3] Breakdown of potentiometer

[4] Breakdown of adjusting machine

Solution: [1] Repair

[2] Reset parameter

[3] Repair

[4] Replace

8.3 Cause of fault

Adjusting machine is out of control.

Cause: [1] Breakdown of potentiometer

[2] Breakdown of adjusting machine

Solution: [1] Examine line and replace potentiometer

[2] Repair adjusting machine

8.4 Cause of fault

Rotating data not fit actual one and can not be adjusted.

Cause: [1] Breakdown of potentiometer

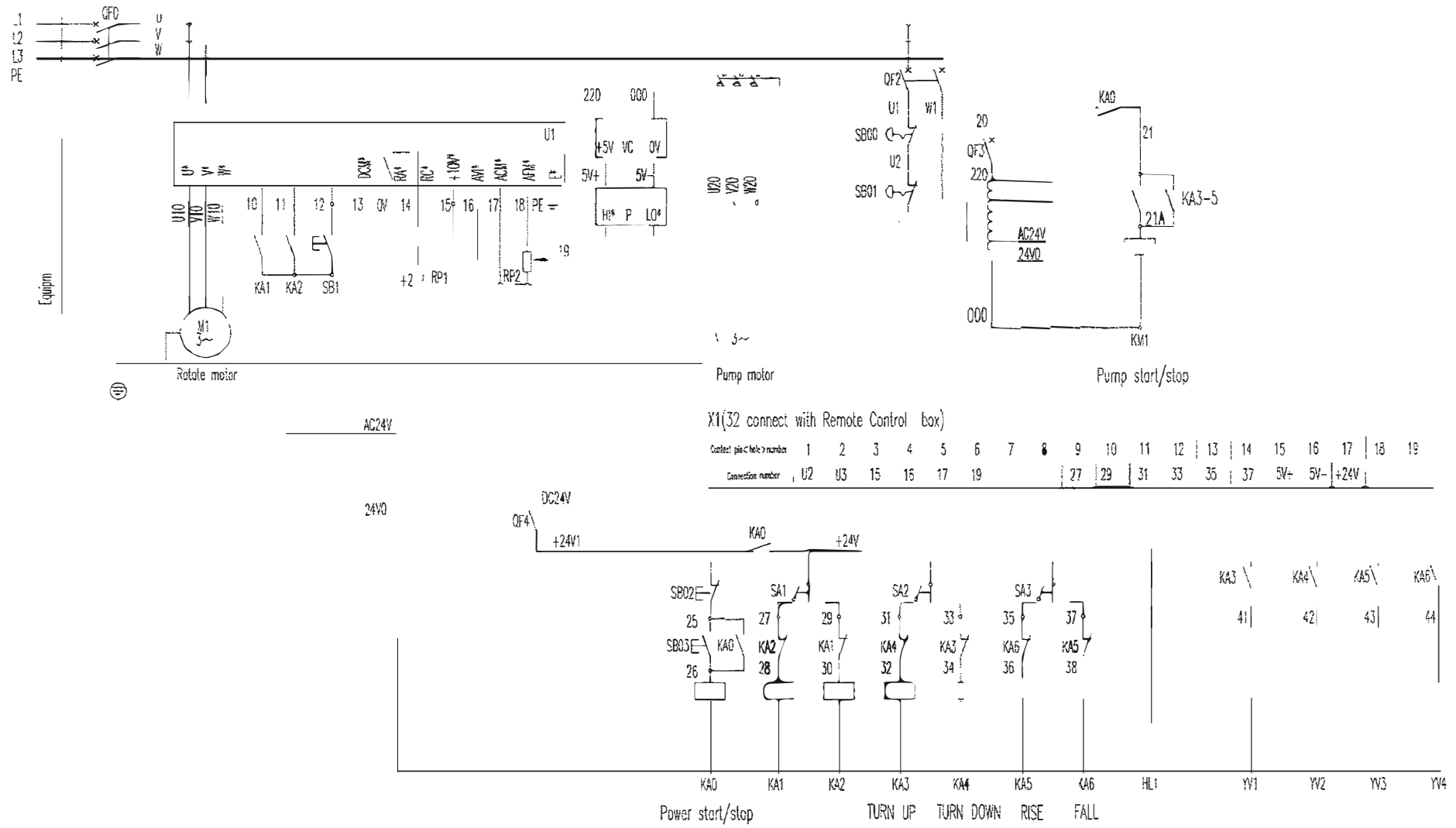
[2] Breakdown of display

[3] Breakdown of adjusting machine

Solution: [1] Examine line and repair

[2] Replace

[3] Examine adjusting machine


L1
L2
L3
PE
QF0
U
V
W
U1
U10
V10
W10
Equipm
Rotate motor
M1
KA1
KA2
SB1
RP1
RP2
220
000
+5V
VC
0V
5V+
5V-
HI*
P
LO*
U20
V20
W20
Pump motor
QF2
SB00
SB01
KA0
QF3
AC24V
24V0
KA3-5
21A
KM1
Pump start/stop
X1(32 connect with Remote Control box)
Contact pin-hole number
Connection number
U2
U3
15
16
17
19
27
29
31
33
35
37
5V+
5V-
+24V
AC24V
24V0
DC24V
QF4
+24V1
SB02
SB03
SA1
SA2
SA3
KA3
KA4
KA5
KA6
HL1
YV1
YV2
YV3
YV4
Power start/stop
TURN UP
TURN DOWN
RISE
FALL
Control panel
XT
Input wire of Power Supply
(4×2.5mm²)
M1
5mm²
M2
(4×1.5mm²)
YV1-YV4
6×0.5mm²
Control panel
(10×0.75mm²)
e Control box(X
(19×0.5mm²)
Designe
Proofer
Auditing
Technicsl
Si nature Date
Hydraulic positioner
HBJY10
Drawin· marker Amount Weight
1:1.2
Total 1 piece
Page 1
Electrical drawing

Certificate of approval

Product name	Model	No
Welding Positioner	**HBJY-10**	

Inspection Items

Rated loading	**1000kg**
Rotating power:	**0.75kW**
Hydraulic motor power:	**1. 5kW**
Worktable size:	**Φ1000 mm**
Max eccentrics Distance	**100 mm**
Max distance of Gravity center	**200 mm**

The product accords with the technical criteria and is allowed to sell

Identifier：

The packing list

HBJY10 Hydraulic Welding Positioner

No.	Name	Qty	Unit
1	Hydraulic Welding positioner	1	unit
2	Electrical control cabinet	1	unit
3	Double Foot switch	1	unit
4	Wireless remote control	1	unit
5	Use instruction	1	piece