

# ROUND BENDING MACHINE

## MODEL: HRBM40HV

Operation Manual

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**· SAVE THIS MANUAL: You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Read all instructions before using this tool!**

## **I. SAFETY INSTRUCTIONS**

- 1. Keep work area clean.** Cluttered areas invite injuries.
- 2. Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.
- 3. Keep children away.** Children must never be allowed in the work area. Do not let them operate machines, tools, or extension cords.
- 4. Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
- 5. Do not force tool.** It will do the job better and more safely at the rate for which it was intended. Do not use inappropriate attachments in an attempt to exceed the tool capacity.
- 6. Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a large industrial tool. Do not use a tool for a purpose for which it was not intended.
- 7. Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
- 8. Use eye and ear protection.** Always wear ISO approved impact safety goggles. Wear a full-face shield if you are producing metal filings or wood chips. Wear an ISO approved dust mask or respirator when working around metal, and chemical dusts and mists.
- 9. Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machine.
- 10. Maintain tools with care.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. The handles must be kept clean, dry, and free from oil and grease at all times.
- 11. Stay alert.** Watch what you are doing; use common sense. Do not operate any tool when you are tired.
- 12. Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician.
- 13. Guard against electric shock.** Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
- 14. Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from the distributor.
- 15. Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment of reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
- 16. Don't leave machine** until it comes to a complete stop.
- 17. Make sure machine is disconnected from power supply** while making maintenance,

adjustment or repair

18. **Always keep hands and fingers away from the rollers.**

19. **Avoid accidental starting.** Make sure switch is in "OFF" position before plugging in power cord.

20. **Ground all machines.** Always make sure your machine is well connected to the earth. It may reduce electric shock hazards.

21. **Don't use in dangerous environment.** Don't use power machine in damp or wet locations, or expose them to rain. Keep work area well lighted

22. **Stop machine** before servicing and when changing accessories such as rollers, etc

23. **General Electrical Cautions :** This machine should be grounded in accordance with the National Electrical Code and local codes and ordinances. This work should be done by a qualified electrician. The machine should be grounded to protect the user from electrical shock.

24. **LABOUR PROTECTION RULES for Round bending machine**







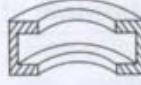

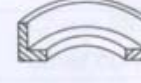



- Take the machine from the mains for any repair of intervention.
- It is forbidden to intervene to the gears during operation. They are protected by guards.
- Check the fastening of the bending rollers on the shafts before starting the machine.
- Do not use pinched or cracked bending rollers.

**Note:** The warning and instructions contained in this instruction manual cannot cover all possible conditions and situations that may occur when using this product. It must be understood that common sense and caution are factors, which cannot be built into this product. These factors must be supplied by the person who operating this piece of equipment.

## II. MAIN SPECIFICATION

MODEL		HRBM40HV
Max capacity(mm)	Pipe steel	φ 70x2
	Square tube steel	30x30
	Round steel	φ30
	Flat steel	60X20
Diameter of roller shaft		φ 40mm
Rotate speed		9.3rpm
Motor Power		1.5kW/2HP
Overall dimension		1340x930x1850mm
Weight		490kgs

## CAPACITY

Capacity	Size(mm)	Min Dia.(mm)	Size(mm)	Min Dia.(mm)
	50x10 20x6	600 800	60x10 40x10	500 650
	60x20 30x6	800 1250	100x15 60x10	920 1150
	30x30 10x10	650 1100	35x35 20x20	600 780
	50x6 30x3	600 500	60x7 50x5	750 500
	50x6 30x3	600 500	60x7 50x5	750 700
	60x40x6 30x15x4	600 900	80x45x6 65x40x5	600 550
	60x40x6 30x15x4	600 900	80x45x6 65x40x5	650 550
	50x5 30x4	500 500	60x5 50x5	500 500
	50x5 30x4	500 500	60x5 50x5	700 700
	Φ30 Φ10	650 1100	Φ35 Φ30	600 650
	50x50x2.5 30x30x2	700 800	60x60x3 40x40x3	600 500
	50x25x2.5 40x20x2	800 1000	70x50x3 50x40x3	1200 800

•All the above processing capacities can be finished by one set of standard combination roller

### III. USE RANGE

#### **A. OPERATION:**

The machine is provided with the tiltable bending mechanism. It works both in the horizontal and the vertical position.

After you choose the desired working position, put the material to be bending between rollers. In order to get the desired bending act upon the leading roller in the bending direction by hand.

The desired profile bending is obtained by turning the upright driving shaft of slide war gradually, as well as the position of the main roller shaft.

The guiding rollers are driven by the bending mechanism activated by the electric motor. It allows repeated travels in both directions.

Starting of the electric motor in the both direction is made using the double pedal.

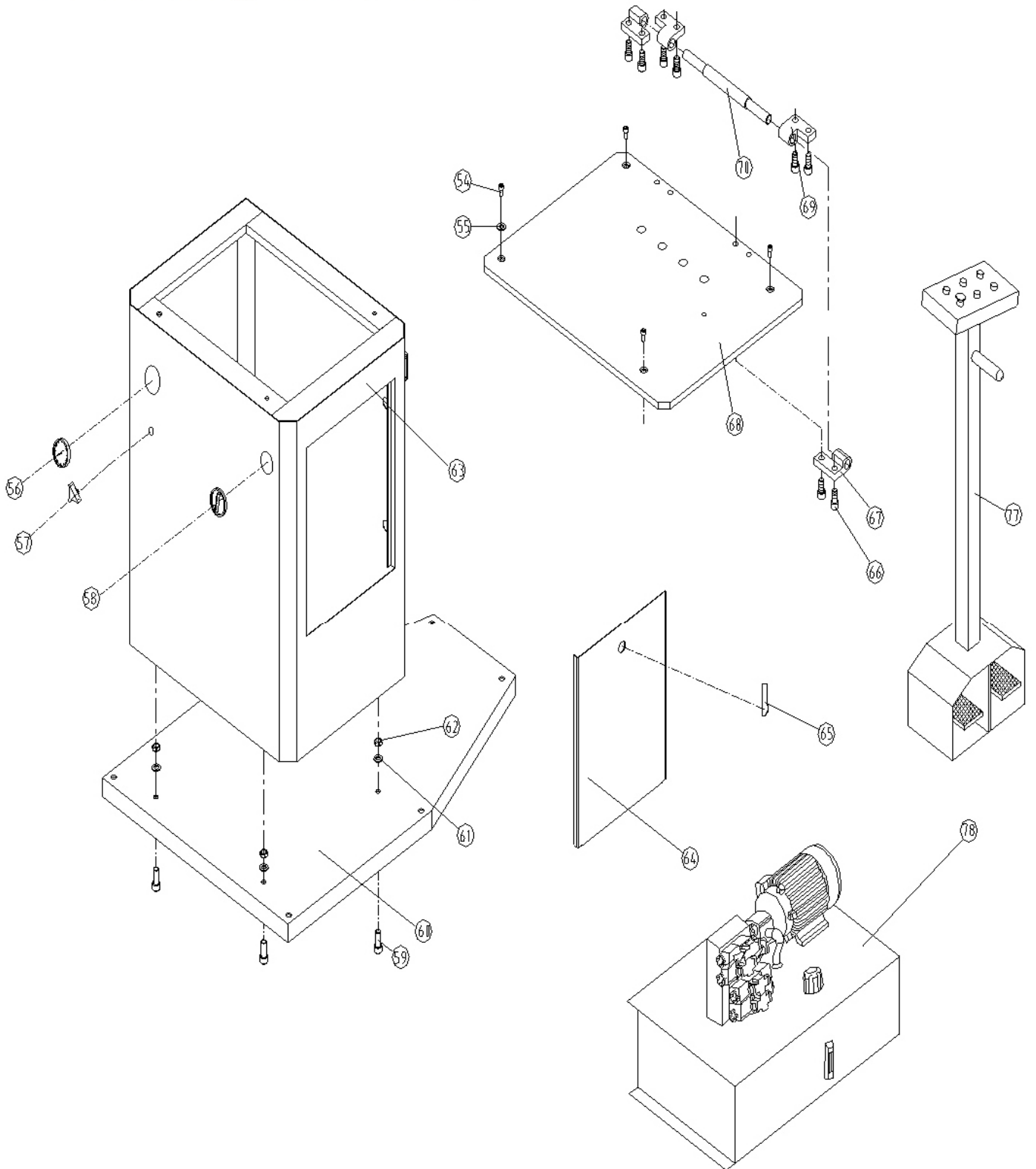
#### **B. We can also supply optional rollers according with your requirement.**

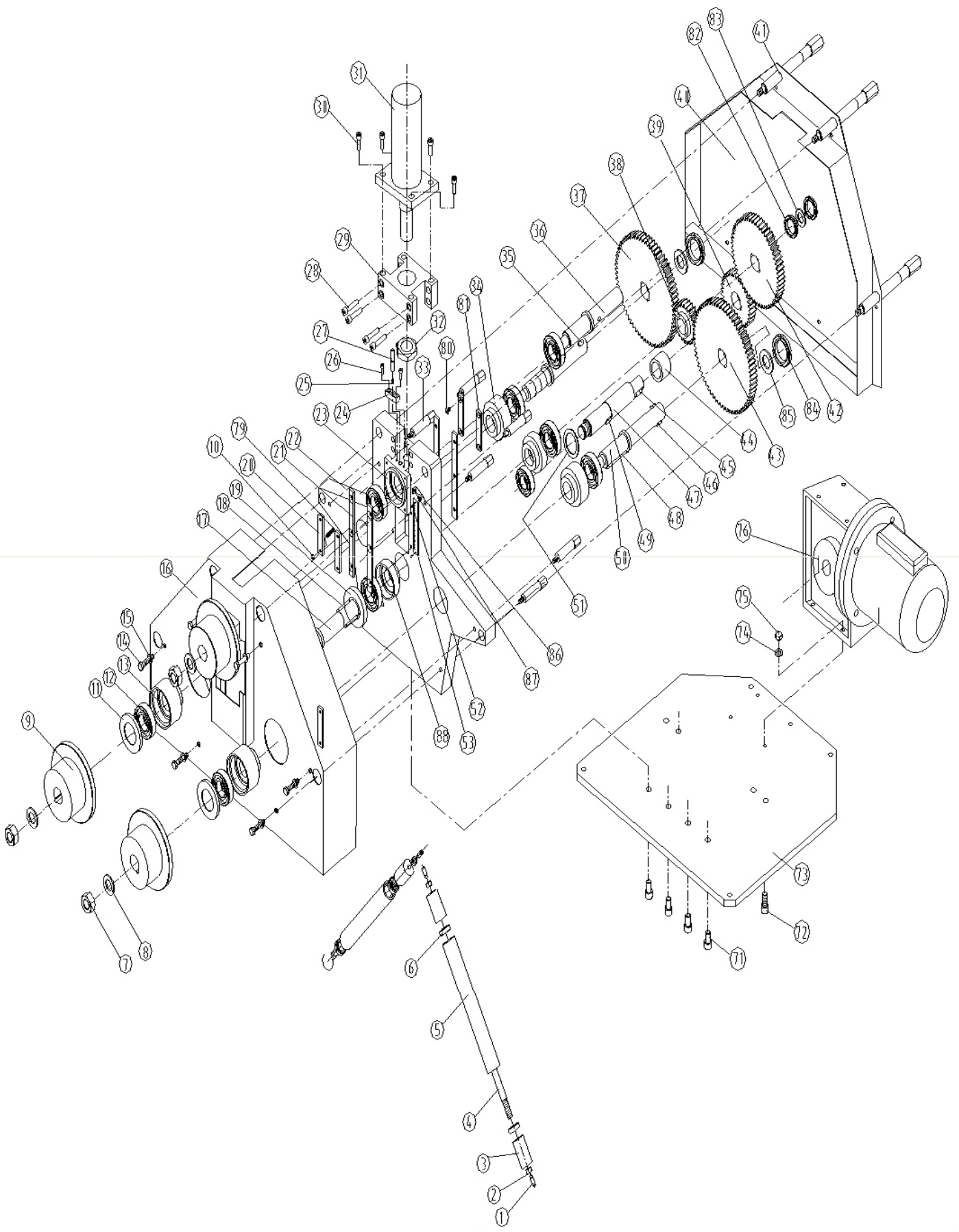
### IV. MAINTENANCE

Clean, grease and make the necessary adjustments before each operation.

Check the temperature of bearings(touching them by hand) during operation. The temperature must not exceed 50° .

## V. Parts drawing and Parts list







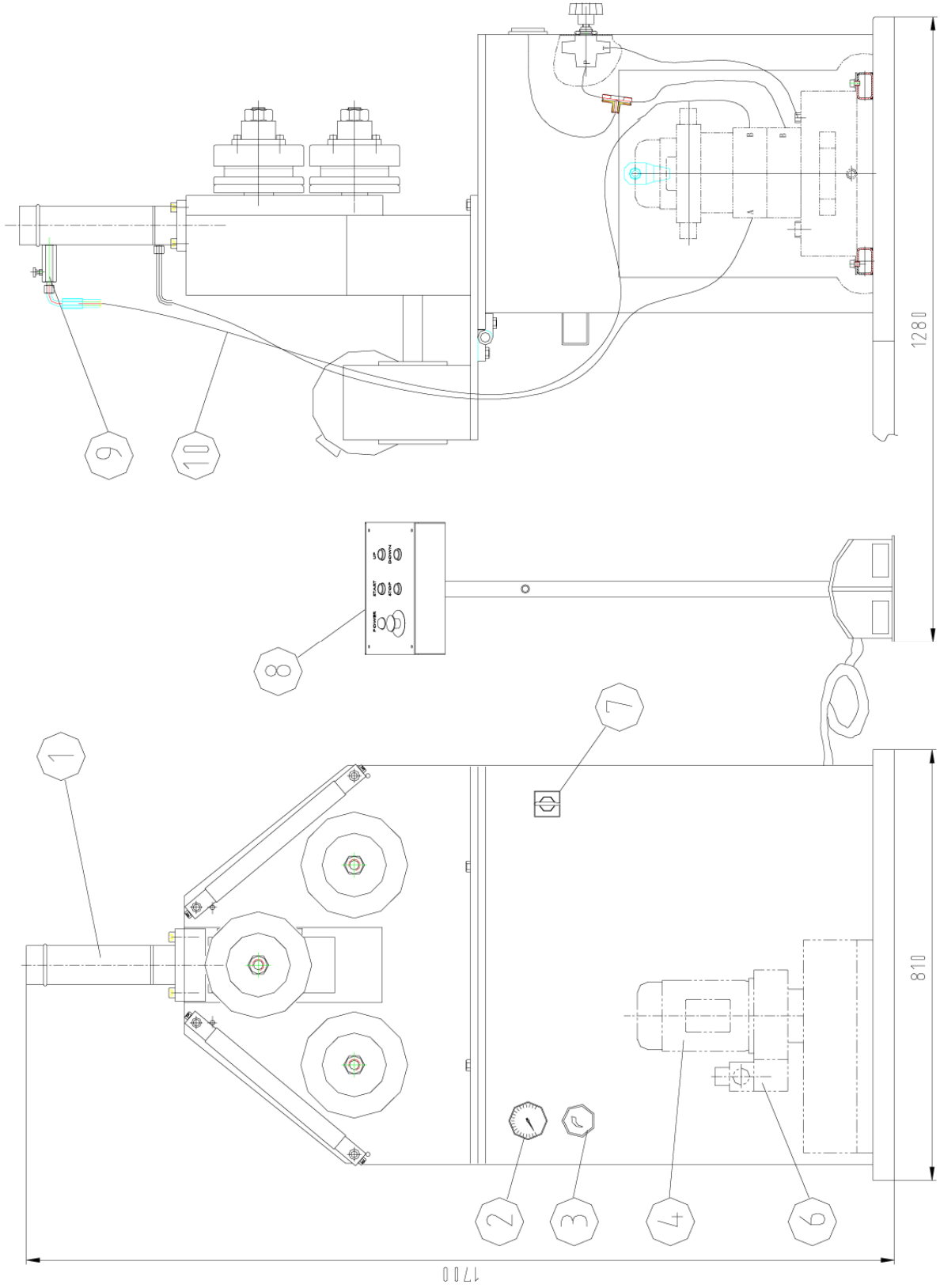
## VI. Parts list

Part #	Description	Q'ty	Part #	Description	Q'ty
1	screw	4	34	bearing seat	2
2	nut	4	35	key	2
3	supporting seat	4	36	upper shaft	1
4	shaft	2	37	gear	1
5	shaft sleeve	2	38	gear	1
6	bearing	4	39	gear	1
7	nut	3	40	black cover	1
8	washer	3	41	adjusting bolt	4
9	mould	3	42	gear	1
10	nut	4	43	gear	1
11	dust cap	3	44	key	1
12	bearing	4	45	key	1
13	bearing sleeve	2	46	key	4
14	screw	6	47	shaft	1
15	washer	6	48	key	4
16	front co	1	49	key	1
17	shaft	1	50	shaft	2
18	key	1	51	washer	1
19	ring	1	52	rivet	2
20	adjustable plate	2	53	Labels	1
21	plate	4	54	hex. Screw	4
22	body frame	1	55	washer	4
23	upper shaft seat	1	56	meter	1
24	fixture block	1	57	indicator light	1
25	spring	1	58	switch	1
26	hex. Screw	2	59	hex. Screw	4
27	pin	1	60	base plate	1
28	hex. Screw	4	61	washer	4
29	hydraulic cylinder block	4	62	nut	4
30	hex. Screw	4	63	stand box	1
31	hydraulic cylinder	1	64	door of the electric box	1
32	nut	1	65	lock	1
33	supporting shaft	6	66	hex. Screw	4

Part #	Description	Q'ty	Part #	Description	Q'ty
67	A hinge A	2	78	hydraulic pressure station	1
68	support table	1	79	oil pointer	1
69	hinge B	2	80	Screw	1
70	rotating shaft	1	81	base plate	2
71	hex. Screw	4	82	nut	2
72	bolt	4	83	baffle ring	1
73	turning table	1	84	nut	3
74	washer	4	85	baffle ring	3
75	nut	4	86	Screw	4
76	motor	1	87	Screw	4
77	pedal switch	1	88	bearing seat	2

# VII、HYDRAULIC PARTS

INSTRUCTION FOR HRBM40HV:

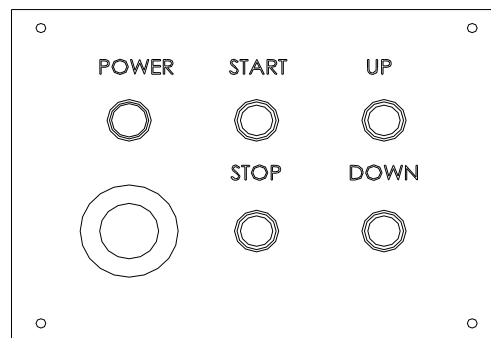


S/N	Description	Qty	S/N	Description	Qty
1	Hydraulic cylinder	1	7	Power switch	1
2	Pressure gauge	1	8	Operation panel	1
3	Pressure regulating valve	1	9	Flow control valve	1
4	Motor	1	10	Oil tube	2
6	Magnetic valve	1			

### Hydraulic operation:

Driven of the upper roll is controlled by the #1 hydraulic telescopic link, couple of the lower rollers is driven by reduction gear box.

Different profile size or wall thickness is adjusted according with #9 flow valve which control the upper roll moving speed.

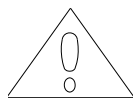


1) Rotate #7 power switch from 0 to 1, then machine is power on, also at #8 operation panel the indicating light POWER is lit ,press START button, then the hydraulic pump start to work, press STOP button or emergency button, then hydraulic pump stop work.

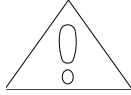
2) Press button UP ,the upper roller raising, if press button DOWN, the upper roll declining; when treading the foot pedal, the two lower rolls running, please note that the upper roll can't run together with lower roller at the same time; the upper roll only running when foot pedal stops work.

3) The hydraulic station can not work at the emergency status, please resetting.

4) If power supply wiring not correct, the pump motor will not work too.



Caution: Before start machine, please loosen the vent screw on the reduction gear box.



Caution: Normally, when pack up machines the hydraulic pressure is adjusted below 10MPa, and data showing from #2 pressure gauge is below 8MPa. When at loading status, data of #2 could be adjusted by #3 pressure regulating valve, please be attention that the pressure is better to be below 8MPa.

Adjustment for #3 pressure regulating valve: loosen the bolt, when handle feed in then pressure data raise, when handle backout then data lessen. Please lock the screw once the pressure data is fixed.

5) Different profile size or wall thickness is adjusted according with #9 flow valve which control the upper roll moving speed. Threaded rod shorten then speed slow, if threaded rod extension then speed up.

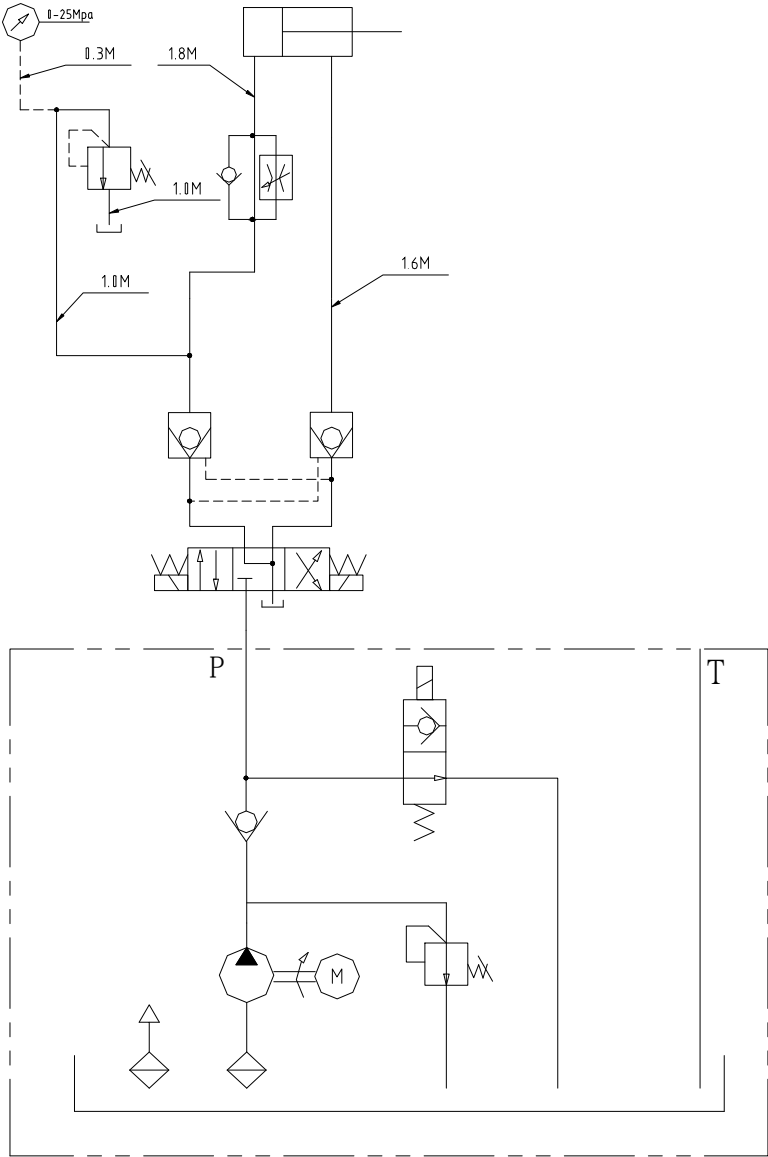
The overall pressure could be adjusted by twist the screw, screw in then pressurizing, screw out then pressure decay.



\* Lubrication and maintenance:

- 1) Dismantle the oil tank cover frequently, and check the oil level.
- 2) Dismantle the gear protection cover frequently, for lubricating the gears.

Hydraulic diagram



**Note:** This manual is only for your reference. Owing to the continuous improvement of the machine, changes may be made at any time without obligation on notice. And please note the local voltage while operating this electric machine.