



**QHQG-1650/2150Horizontal Foam Cutting Machine**

**Usage instruction**



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## Product Introduction

### 1. General

This handbook provides the install, specification setting, exceptional diagnosis, excludable and announcements of which it is about maintain horizontal foam cutting machine for user. In order to install and operate the machine exactly, please read the handbook carefully before install.

#### ■ Application objects

The instruction adapts to the QHQQ-1650/2150 Horizontal Foam Cutting Machine that our company produce.

## 2. Main Usage

### QHQG-1650/2150 Horizontal Foam Cutting Machine

- This machine adopts the advanced imported inverter timing controlled techniques.

It's used for the reciprocating action for flatly slicing of quadrate foam. Fully automatism number controlled. It's operation is handy and cutting is exact. This machine can also be supplied with a pressure roller.

### Main Technical specification


Model	QHQG-1650	QHQG-2150
Cutting foam size	W1650XL20000mm	W2150XL30000mm
Cutting height	H1200 mm	
Cutting speed	0-25 m/min	
Cutting thickness	2.0-200 mm	
Total power	8.32 Kw	
Machine weight	2000Kg	2200kg
Machine external size	L5800XW3500XH2400mm	L7800XW4200XH2400mm


### Motor configuration

No	Model	Quantity	Power	Usage
1	BMA90L4	1	1.5Kwwith brake	Cutting tool lift
2	Y112M-4	1	4Kw	Blade wheel run
3	Y100L2-4	1	2.2Kw	Platform move
4	YS5622	2	120W	Grinding grinder
5	150FLJ3	1	180W	Grinding grinder vacuum
6	JH18L	1	200W	Pessure motor

## 3. Structure and work principle

### ● Structure

 This machine is component of four parts: holster, blade shelf, workbench , electric control box.

 The holster is made up of pedestal , vertical pole, sliding noose, screws, nut, beam, lift driving mechanism.

📖 The blade shelf is made up of tool rest, blade wheel, drive device, blade, sawtooth, obliquity regulate institution, protection hood.

📖 The workbench is made up of platform, idler pulley, rail, bearer, platform driving derive and cushioning derive.

### ● Work principle:

1. Putting the foam on the platform, when the driving machine passes through the texrope after the worm gear retarder decelerates and forces gear that transmits to the rack under the platform and makes the roller continuously move on the rail. Two top of the rail installs a justable running switch, it would make the platform parallel move on the setting range, but it can get the parallel cutting goals: Between the terrace and the rail have a cushioning device that would reduce the shock when the platform moves.

2. The blade wheel installs on the blade rest, driving motor decelerates and drives the blade wheel operation through belt pulley. Which makes the blade roll round the blade wheel. The blade rest installs blade grinding wheel in order to keep the blade tartness. The blade rest lift is controlled by another driving motor. After retarder decelerated, pass through the two sides of gears to screw that makes the nut and sliding noose and forces the blade rest lift movement.

3. This machine is controlled by operation box. Panel of the operation box set up power switch, various control button, work indicator light, thickness meter, forward, back, setting knob and meter of productivity ect.

4. This machine have blade cutting obliquity regulation mechanism. When blade cut foam, according to the cutting foam thickness and density and choose the difference obliquity( angle of the blade level and horizontal). Angle size value is  $-2^{\circ} \sim +3^{\circ}$

Cutting thickness	Adjust the range of angle
2.5~10mm	0.5°~ 2.5°
10~60mm	-1°~ +1°

5.Using manual nut adjusts the obliquity. loose the another vertical pole before adjust.

After adjusted, tighten the nut again.

#### 4.Fixing process and related notice

##### ● Fixing condition

Surrounding temperature -10°C- +40°C

Relative humidity 60%-95%

Atmospheric pressure 86-106kpa

##### ● Fixing order

↺ Holdter

↺ Blade shelf

↺ Worktable

↺ Electric control box

##### π Fixing steps (reference appendix B,C)

1.Progressing the parallel fit for pedestal.

2.Fitting the vertical pole and screw after revised the pedestal.but must keep the vertical pole and screw balance. Applying blade rest lift electric motor drive the screws movement for many times , in order to whether the machine have large noise and shock.

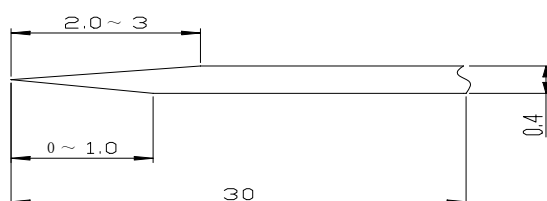
3.After made sure the various upring and parallel each other, then in process the parallel adjusting when you install the workbench.

4.Moving the workbench flatform must keep the placidity and leveling.

5. Fixing the portal frame must keep the level.

6. Block wheel radial must keep the degree of parallel tolerance  $\pm 1\text{mm}$  when you assemble the block wheel.

7. Fixing the blade, two sides of blade should keep between the block wheel. You must adjust the loose and tight of blade well. If it is too loose that makes the blade break and it is too tight that do not get the goal of cutting foam.



8. Putting the grinder electric motor installs to local in 1/3 of the blade.

9. Fixing protect hood must keep unitary parallel and order.

10. Fixing the control box.

⚡ This machine adapts 380V, 50HZ three-phase four-wire power supply, the total power about 8.11KW. The electric power origin from the three-phase four-wire creepage breaker that user supplies, the wire of power supply no less than 6mm .

⚡ The connection of machine is operated by skilled electrician. Both his machine itself and electricity box needs earthing wire that isn't less than 2.5mm of insulation lead , meanwhile, the earthing resistance isn't more than 4 ohm.

⚡ During the machine working, unskilled electrician don't open the control box for safety.

⚡ The machine operation power supply is 380VAC 10 , 50HZ and is belong three-phase four-wire. control of circuit power supply is 220VAC 10 , if you would joint it

mistake, the machine would burn out. Fuse current choose 5A fuse core.

## 5. Operation process and related notice

### Announcements and requirements

1. Please install the shield, blade, grinder and all protecting door well before the machine operate. When cutting foam, no near in case damage.

2. Examining the rail and bilateral barrier before working, in case effect the work performance.

3. Putting the “meter of productivity ”reset before cutting. Every time cut foam, the “meter of productivity ”will automatically add “1”, if you have’t reset it ,the machine will continuously add up.

4. Under “manual” work ways, blade rest lift and workbench advance should pass through operate “reduction”, “thickness”, “advance”, “retreat” button and progress to fit.

5. Pressing the “general supply close” button after cutting, then, the machine will stop. When the machine don’t work, please close the power supply for safety.

6. External connection power must have reliable earthing terminator, earthing web of the machine have reliable connection with external connection power .

### Operation follow:

1. The indicator light is on when the machine is normal electrify, opening the “power off” button likes mushroom. Then ,pressing the “power on”, according to put the blade rest on the indicator light of manual or automatic after the light is on.

2. If the workbench don’t local in the first position, you can press “back off” button on the workbench , then putting the workbench adjust to the top position of front of blade.

3. Pressing blade rest “rise” button, putting the blade rest adjust to adequacy high. Then

putting the waiting foam on the workbench and adjusting the position of foam.

4. Putting the blade high adjust to match for the foam. The operation can use “fall”, “thickness”, “reduction”, “stop” button and work in. but every time just press one button.

5. After adjusting, putting the switch of “workbench select” point at “automatism”.

6. Pressing “setting thickness” button and progressing the preinstall of foam thickness (according to cutting thickness to suppose actually) the thickness of meter of thickness suppose is 1/100mm unit.

7. After all ready, pressing the “workbench running” button, the machine will automatic cut at once until finished.

8. If you want to stop the machine when cutting, putting the switch of “work choose” point to the “manual”.

9. When sharpening, pressing “grinder on”, it will startup at once. If it dose't sharpening, pressing “grinder off”, which it will stop. notice: blade can't sharpen until operation.

## **6. Packagine and conveying**

1. This machine has been unloaded and packed logically before selling, and it is advised to open the package (brief package, wooden box) on the installing place, and make sure that the package is intact before opening.

2. When opening the package, please start from the top, because the side board of the package can be lifted over wholly, and make sure whether the machine is intact, count the accessories according to the packing list. If anything missing, inform the party who is responsible and the related department with a written report. If it is within the range of our company's obligation, please inform our related department.

3. When conveying the machine it is advisable to use equipment like crane, and make sure



that the loading capacity of the conveying equipment. If not having such conveying facility, pad the package box with several steel tubes with the same diameter, and prize the box to roll slowly. It is prohibited to pad the machine directly. that place which can be frayed by the steel wire should be pad with soft objects such as wood and rubber.

4. When choosing the installing place, please consider the craft plant ground position as well as the shake (this machine is not well preformed on shaking condition), especially not by the side of machine tool with great vibration impact. If such circumstance is unavoidable, please pad the machine with cinder, soft board. etc. with 150mm thick.

5. Please check up the insulating resistance of the electrical system, make sure that the value is not less than 1MQ.

## **7. Safety notice:**

1. The machine should have intact earth connection.
2. Those who are not professional technician are prohibited to open the electrical box which might cause injury. When repairing the machine, make sure the power is off, and shut down every device of the machine( pneumatic device, hydraulic device), in case of turning the power on.(a yellow warning notice “keep off the switches when maintaining” is advisable.). Make sure the power is cut off before opening , but if the maintainance should go on with the power, safety protection should be adopted to avoid electric shock.
3. When regulating the fuses, it is prohibited to change the value of the current.
4. The power supply voltage is advisable to exceed 10% of the set voltage to avoid the aging of the insulator.
5. The shield of grinding wheel, strap, blade should be intact when the machine is operating and prohibited to remove.

6.It is prohibited to stand frontage when the blade working in order to avoid accident.

7.It is prohibited to stand on the machine moving in case make the flatform inbalance and it make the wrong cutting foam and avoid accident.

8.It is prohibited to touch the strap, chain, blade.etc with hands or any other object, or get close to them, which is dangerous.

9.It is prohibited to stand under the conveying or the lifting objects in order to avoid accident.

10.when appearing the fault,it is up to the skilled repairman repair it.

## **8.Clean mainterance**

1. The electric device should often keep the cleanliness and keep away from grease,dust .

2. After finishing the cutting foam, cleanning the dust and adding lubricant at once.

3. When short circuit, please replacing with the same capacity fuse, brass wire is strongly prohibited.

4. The rolling axletree in the rotating motor should be cleaned once a month (with kerosene or diesel) and replaced the lube .Gears, chain wheels and so on also should be lubricated after cleaning after every day's work.

5. The blade is located in tention with the machine operation. Please loose the blade after get off work,make sure the life of blade.

6. If stop using the motor, electrical devices for a long time( more than a month) in wet weather, before using them again, the insulation of the devices should be tested, and the motor should be turned on solely for one hour in order to get rid of the moisture.

7. Make sure the machine has well earth connection, if the earth connection screw has any oil filth or stain, clean it up promptly.

8. Pay attention to the exposed soft tubes and wires, keep them from crushing or breaking.
9. Check the flexibility of the connecting point and interlock setting regularly.
10. Use the machine properly according to the specification.

## 9. Diagnoses and handling of daily malfunction

NO	Abnormal phenomena show	Cause and handle
1	Blade box over heated	1. whether the operation is too long
		2. whether the density of cutting foam is too high
		3. Regulate the blade box and parallel the blade to the inner horizon of the blade box step, ensure the easy turning with hands. The blade is beyond the blade box 10-6mm.
		4. replacing the blade box in a pinch.
2	The grinding motor librated too seriously	1. whether the grinder circle is balance.
		2. whether the grinder motor shaft is curve or distortion
		3. replacing the motor shaft in a pinch.
3	Abnormal noise of the blade wheel	1. The dirt on the blade wheel is too thick: use soft abrasive fabric to clean and lubricate.
		2. device is too loose → tighten the blade,
4	Uneven Cutting	1. whether examing the meter of thickness and the rotary encoder are normal.
		2. the position of blade operation is wrong --- exam the its horizontal degree
		3 The angle between the blade plane and the horizon: when cutting 2.5mm ~ 10mm, beveled angle about $0.5^{\circ} \sim 2.5^{\circ}$ , and 10mm ~ 150 mm, about $-1^{\circ} \sim +1^{\circ}$
		4. The cutting not excat — examing the cutting accuracy, ture work select to automatism, then operete with empty object. visually check whether the every cutting is of the same thickness according to the rulers near the slip noose.
		5. examing whether the blade rest is blunt or curl.
		6. whether the joint kit between the rotary encoder and turn-screw are loose or skid
5	Cutting mark too obvious	1. whether the blade is sharp
		2. whether the blade librates or the joint uneven.
		3. whether the blade surface is clean
		4. whether the flatform stepped is smooth and the rail is clean.
		5. whether blade nip is too tight
6	Abnormal noise of the blade strap	1. examing whether blade wheel axletree is intact.
		2. examing whether blade surface is intact.
7	The portal frame lift and fall too noise	1. examing vertical pole and screw whether it keeps lubricate .
		2. examing vertical pole and slip noose whether its have sundries or junk.

**Appendix A****PC specification setting**

NO	Name	Setting value
1.00	IN	1000
2.00	IN	N
2..00	IN	UP
4.00	OUT	Std
5.00	OUT	HOLD
6.00	TP	C
7.00	PS	1
8.00	DP	0
9.00	W	40
10.00	RST	20ms
11.00	KEY/P	L1

**Appendix B****2.2KW transducer specification setting**

No	Name	Customer setting value
0	Torsion upgrade	6%
7	Acceleration time	3
8	Deceleration time	1.1
9	Electric current protect	6
38	Input frequency	70
44	Acceleraion and deceleration time	5
56	Current surveillance norm	6
71	Applying electric motor	5
79	Operation model select	2
80	Electric capacity	2.2
83	Electric motor rating pressure	400
903	Frequency setting pressure gain	70
904	Frequency setting current offset	0
905	Frequency setting current gain	50

Remark: the rest date of only for reference, other power of inverter and electric motor refer to the enactment.