Automatic Plate Beveling Machine
DMM-90X Operation Manual

For your personal safety, before use
Read the manual carefully and keep it properly!

Disclaimer: I enjoy the company of final interpretation of this information, subject to change or update without notice.

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TABLE OF CONTENTS

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Preface:

Thank you for using our product, we expect our products provides enormous convenience for your business.

1. Our company own the final explanation for the product details, any changes without prior notice.
2. This information of the picture, text and data is for reference only, because the product is constantly updated in kind will be changed, the specific parameters to the actual product.

Disclaimer of liability

1. We'll not responsible for any loss cause by working on the others out of its design performance.
2. Must read the manual operation before operating, we'll not bear the loss if any Unreasonable operation.
3. Don't let the machine work more than 2 hours continuously in full load, its working time is 8 hours one day
4. (reduce the time to 4 hours one day at 30 ℃.)
5. Please use the accessories supplied by our company, Without the consent of our company, all the loss cause by unauthorized demolition and replace the accessories not belong to ours , we will not responsible for it.

Part 1 Safety And Warning

1.1 Safety Instruction

Read operation instruction carefully before installation, use and maintenance, especially the part of electrical and rotation exist potential dangerous.

The machine use 380V power supply, Please make the manual as a guide before installation, wiring, start, run or any adjustment; The electrical wiring installation and maintenance personnel must possess the qualifications.

1.2 Safety Caution

- ✧ The final interpretation and modify right is reserved by factory
- ✧ We do not take any responsibility in the case of changing spare parts!
- ✧ We do not take any responsibility for illegal operation!
- ✧ Can not dismantle the machine without consent.

- ✧ Cut off the power when repair the machine!
- ✧ Check the socket, wire and machine before use!
- ✧ Keep the machine dry, not operating in humid environment!
- ✧ Please use the interrupter to protect the machine outdoors!

- ✧ Prohibit wearing gloves while operation the machine.
- ✧ Put on protective goggles, ear plugs!
- ✧ Cut off power and put on gloves when cleaning the iron dust!
- ✧ Plug in socket in switch-off state, and pull out power wire after use!
- ✧ Non-electrician license workers can not do electric install and maintenance.

- ✧ Do not use the power cable to move the machine!
- ✧ Put the power cord behind the machine, not sharp objects!
- ✧ Inspect and maintain by professional person!
- ✧ Operator shall not leave the scene!

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Reject the machine when you find packing broken and obtain deliveryman signature for insurance claim.
Our factory will help you to get missing and broken parts when the machines broken.

Part 2 Machine Introduction

2.1 Main Features

1. Completely Cold processed, No sparks, Will not affect the material of plate
2. Automatic feed, Automatic Marching, high efficiency, one person can operate multiple devices at the same time
3. The machine can flip up and down, can do up and down bevel, save time and labor.
4. Smooth slope, Surface finish can be as high as Ra3.2-Ra6.3
5. Numerical control display screen, simple operation, Bevel speed can be adjustable ,high precision
6. Equipped with CNC blades, Low consumables
7. Bevel Type :V, Y, K, X ,U etc.
8. Can process carbon steel, stainless steel, alloy steel, titanium, and composite plates etc

2.2 Technical data

Machine Model：DMM-90X	Motor Voltage：AC 3PH 380V
Frequency：50/60Hz	Total Power：6520W
Cutting Power：2*3000W	Feed Power：400W
Spindle Speed：750-1440rmin	Feed Speed：0～1500r/min（Adjustable）
Bevel Width：0-70mm (angle is 37.5°)	Single Bevel Width：0-20mm (Q235)
Bevel Angle： 0° ~ + - 60 °（Adjustable）	Clamp Thickness：6~80mm
Min Plate Length：300mm	Min Plate Width：200mm
Worktable Height：820-860mm	Bevel Blades quantity : 7pcs
Clamp Way：electric	Net Weight：250kg
Processing materials: carbon steel, stainless steel, aluminum alloy, copper, composite board, etc.	

2.3 Machine Diagram

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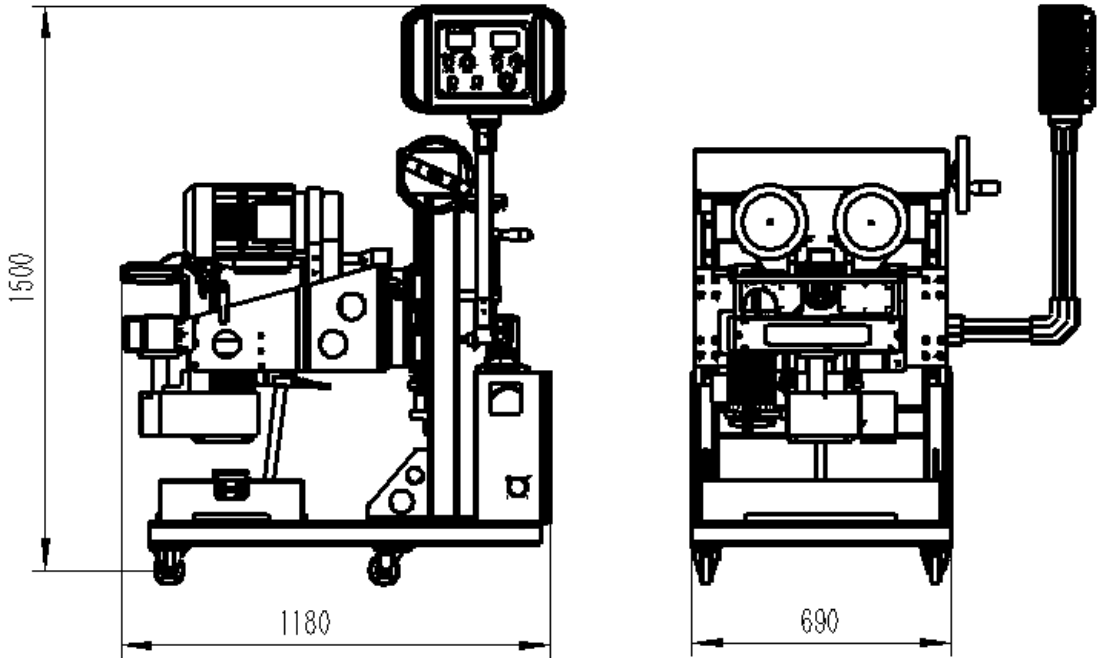

Part 3 Machine prepare

1. Remove the wooden box

2. Cut off the strip of the fixed machine
3. According to the lifting position for lifting, lifting to slowly increase; the wheels, from the ground 200-250mm equipment can be suspended; moving height should not exceed 100mm, except during obstacle crossing.

Note: the lifting points can be used for lifting equipment, lifting should rise slowly. Please use the equipment in the process of lifting, lifting belt intact, lifting weight lifting equipment should be more than 500kg.

3.1 Walking Wheel Installation

Equipment lifting up, namely from the ground 200-250mm both can be installed walking wheel, operators pay attention to safety, there must be people to stabilize the equipment.

Note: do not touch the lifting device while lifting, the equipment must be stable, to prevent any damage for workers.

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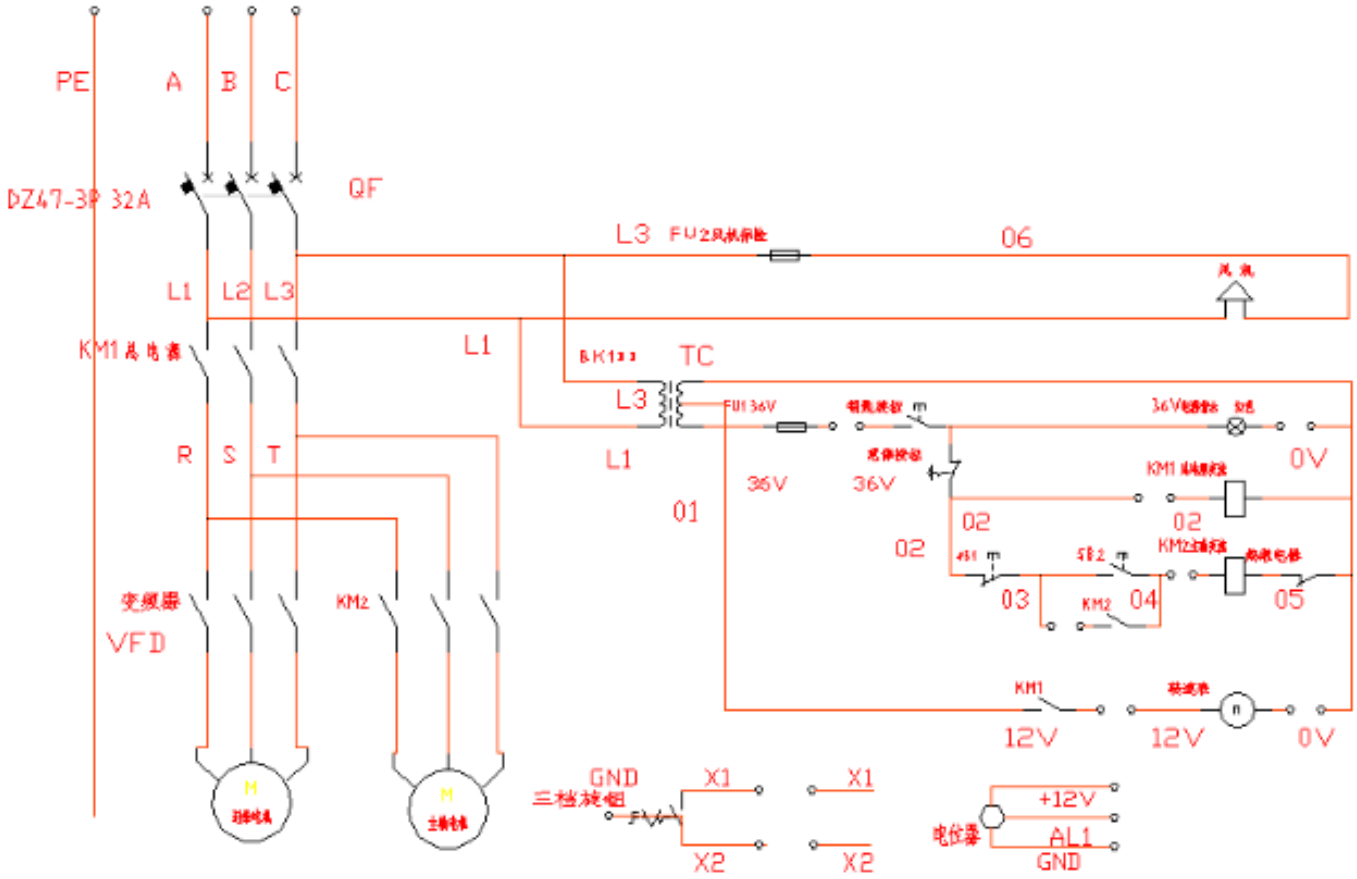
3.2 Electric Installation

External ground wire diameter size should follow requirement (Copper wire)	
Phase wire diameter S（mm^2）	Ground wire diameter S d（mm^2）
S≤16	S
16＜S≤35	16
S＞35	S/2

1） Electrical symbol description

QF：Power switch	SB1：Emergency stop	KM：AC	VFD：Frequency converter
B：transformer	SB2：Power switch	FU：Fuse	HF：Tachometer

2） Electric principle diagram



3） Protection measures

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1. Electrical connection and protection should Consistent with local regulations.
2. Please verify power supply equipment, our machine is AC 3PH 380V 50Hz.
3. Connect the Aviation plug (the attachment with the machine) with one end of cable， the another end connect with the power supply.



4. Dangerous in the humid environment.
5. According to direction on the machine to feed plate, process work piece after cutter rotate.

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After machine is wired, please turn on switch and observe the rotation direction of the cutter head

Cutter head rotation direction: counterclockwise

If the cutter head rotates in the wrong direction, please replace the 2 live wires at will.

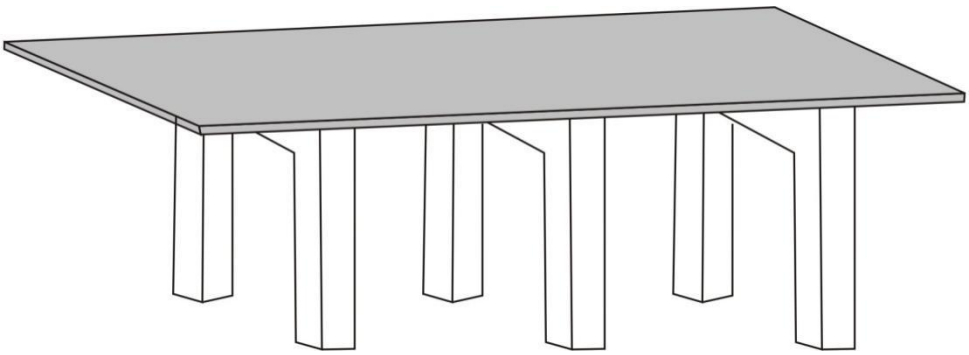
3.3 Steel Plate Worktable

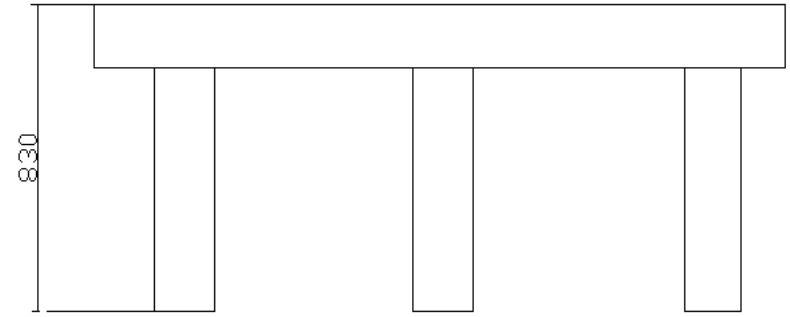
1）Small Steel Plate

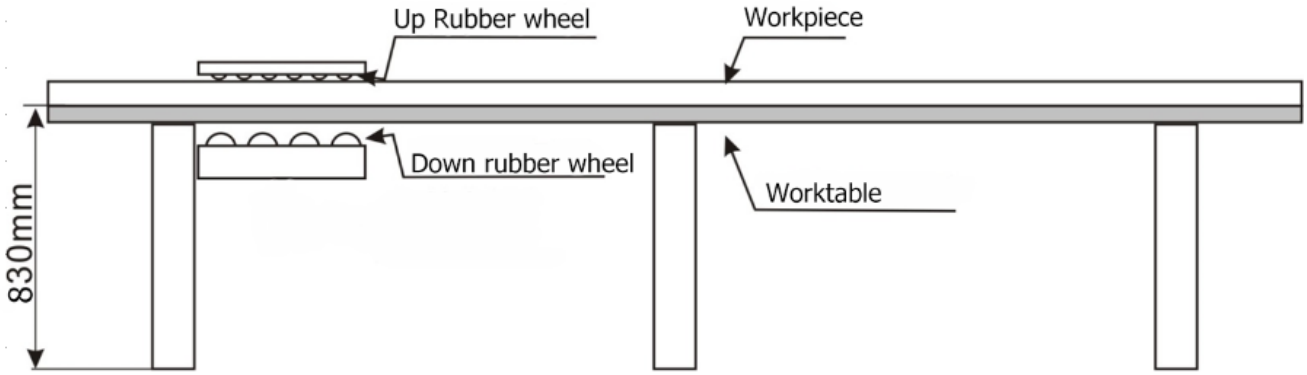
please put the steel plate on the machine, and operate directly.

2）Large Steel Plate

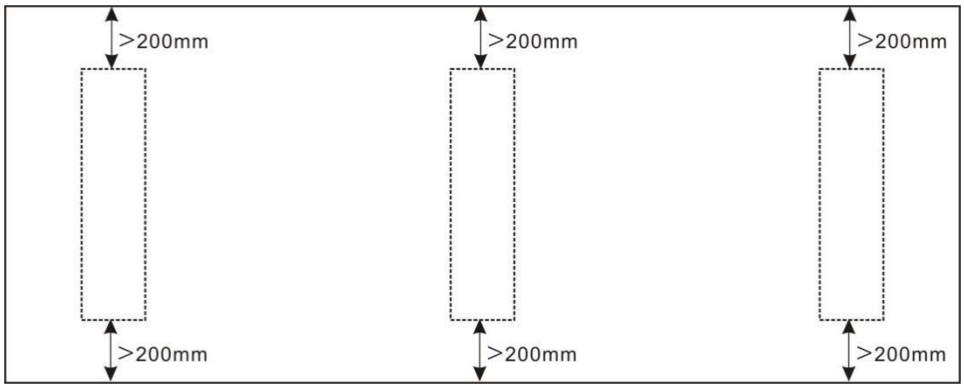
Processing large plate, you can refer to the following picture to do a worktable to support the sheet needs processed. (820-860mm) (Figure for reference only, can be made according to the situation)

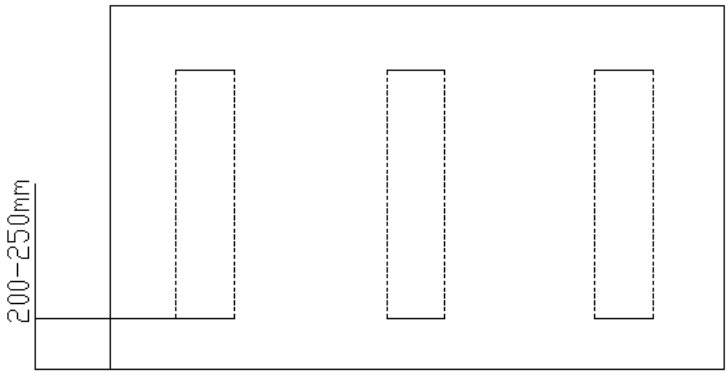






Put the plate needs processed on the table, keep 200-250mm the Plate edge and support stand.





Note: Processing big plate , Clean the travel route, if the ground is not flat, please laid on plate on ground.

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3.4 Steel Plate Preprocessing

1) No Welding slag on the bevel surface

use machine operate directly

2) Have Welding slag on the bevel surface

Plasma, flame or laser cutting the plate, there will be welding slag on the surface of the steel plate.

Note: The hardness of the plate edge will be improved after high temperature.

Welding slag and bur will affect the cutter tools and reduce machine service life.

Before use our machine , you need use polisher remove welding slag on the surface of the steel plate.

Part 4 Machine Operation

4.1 Machine Height Adjustment

According to worktable height , Rotate turbine handle wheel to adjust the machine height.

4.2 Machine Flip Over

Pull the star wheel , rotate handwheel, flip over machine

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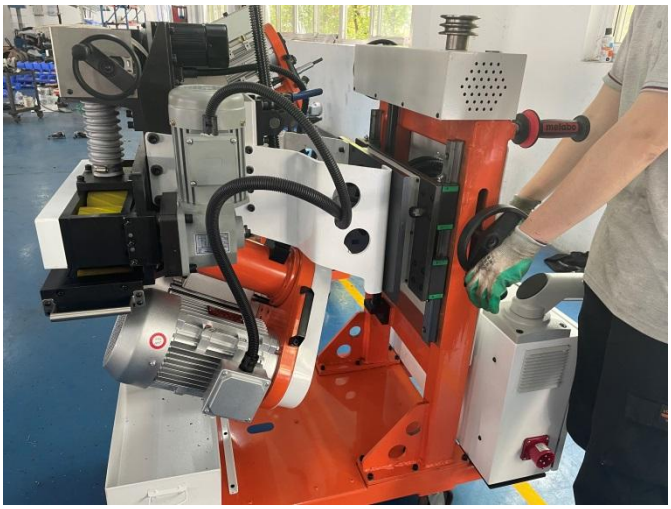
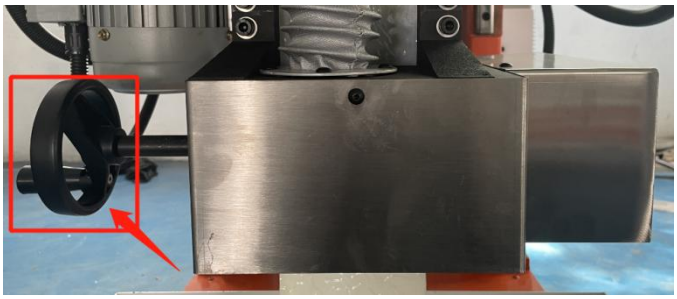
Down Bevel



4.3 Steel Plate clamping

- Put steel plate in the machine , Electric clamping



Note:

Electric clamping achieve by push button

The left hand wheel is a spare, when the electric clamping function is damaged or fails, use manual clamping

- Put steel plate in the machine
- Release Emergency Stop Button
- Press Clamping Button

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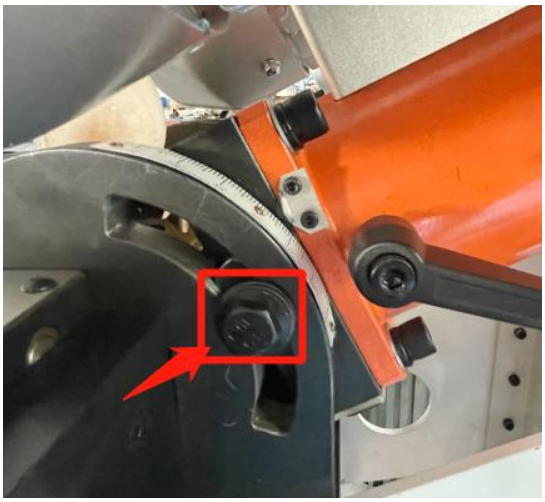
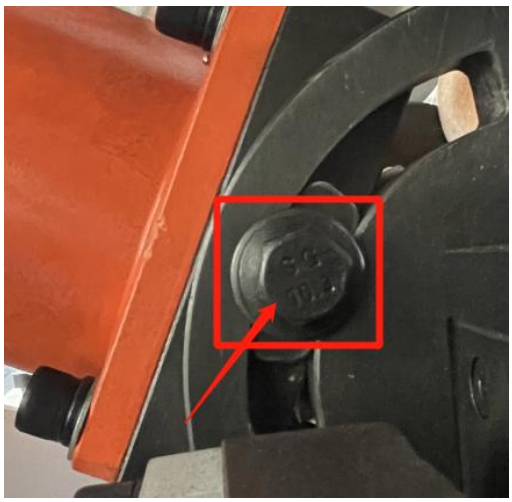
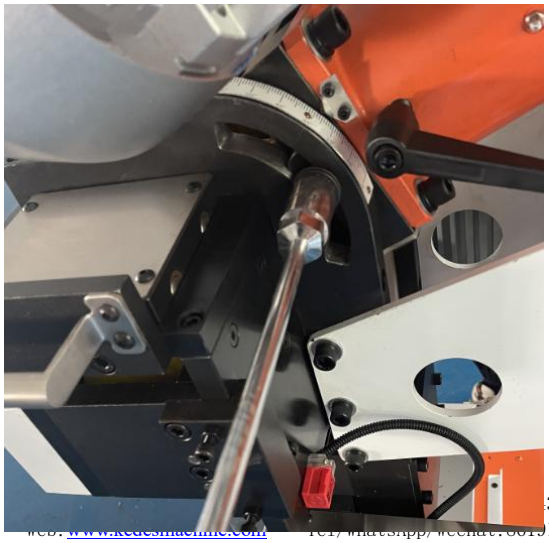
- According to Plate thickness , rotating left handle after the wheel pressing stop rotating.

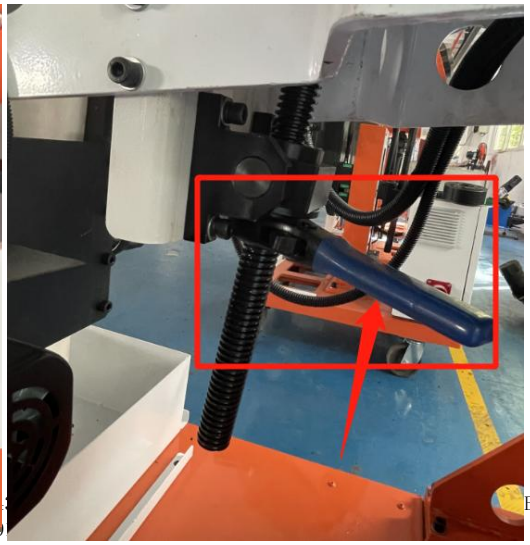
4.4 Bevel Angle Adjustment

1. Use "wrench" Loosen the left and right "screw"
2. According to the "bevel angle ", used "handle" adjusting the machine bevel angle;
3. To the required angle after tightening the locking screw.









Bevel angle 0- + -60 degree can adjustable

4.5 Bevel Depth Adjustment

Bevel depth adjustment: milling depth adjustment can be according to the following table.

GMMA-80A 型主轴进给参考表（F：手轮参数）

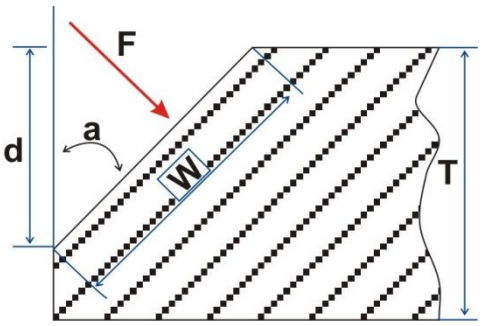
d：加工深度、T：夹持板厚、

w：坡口宽度、a：坡口角度、F：主轴进给

注：1.此参数表为参考数据，以实际加工为准。

2.不同颜色代表分次进给最大进刀量。

3.单次进给根据材质不同可适当增减进刀量。



F / d	a											
	5	10	15	20	25	30	35	40	45	50	55	60
0	11.1	9.4	7.8	6.3	4.9	3.7	2.7	1.9	1.3	0.8	0.5	0.4
4	11.5	10.1	8.8	7.6	6.6	5.7	5	4.5	4.1	3.9	3.8	3.9
6	11.7	10.4	9.3	8.3	7.5	6.7	6.2	5.8	5.5	5.4	5.4	5.6
8	11.8	10.8	9.8	9	8.3	7.7	7.3	7	6.9	6.9	7.1	7.4
10	12	11.1	10.3	9.7	9.1	8.7	8.5	8.3	8.3	8.5	8.7	9.1
12	12.2	11.5	10.9	10.4	10	9.7	9.6	9.6	9.7	10	10.3	10.8
14	12.4	11.8	11.4	11	10.8	10.7	10.8	10.9	11.1	11.5	12	12.6
16	12.5	12.2	11.9	11.7	11.7	11.7	11.9	12.2	12.6	13	13.6	14.3
18	12.7	12.5	12.4	12.4	12.5	12.7	13.1	13.5	14	14.6	15.3	16
20	12.9	12.9	12.9	13.1	13.4	13.7	14.2	14.8	15.4	16.1	16.9	17.8
22	13	13.2	13.4	13.8	14.2	14.7	15.3	16	16.8	17.6	18.5	19.5
24	13.2	13.5	14	14.5	15.1	15.7	16.5	17.3	18.2	19.2	20.2	21.2
26	13.4	13.9	14.5	15.2	15.9	16.7	17.6	18.6	19.6	20.7	21.8	23
28	13.6	14.2	15	15.8	16.8	17.7	18.8	19.9	21	22.2	23.5	
30	13.7	14.6	15.5	16.5	17.6	18.7	19.9	21.2	22.5	23.8	25.1	
32	13.9	14.9	16	17.2	18.4	19.7	21.1	22.5	23.9	25.3	26.7	
34	14.1	15.3	16.5	17.9	19.3	20.7	22.2	23.8	25.3	26.8		
36	14.3	15.6	17.1	18.6	20.1	21.7	23.4	25	26.7	28.4		
38	14.4	16	17.6	19.3	21	22.7	24.5	26.3	28.1	29.9		
40	14.6	16.3	18.1	19.9	21.8	23.7	25.7	27.6	29.5			
42	14.8	16.7	18.6	20.6	22.7	24.7	26.8	28.9	30.9			
44	15	17	19.1	21.3	23.5	25.7	28	30.2	32.4			
46	15.1	17.4	19.7	22	24.4	26.7	29.1	31.5	33.8			
48	15.3	17.7	20.2	22.7	25.2	27.7	30.3	32.8				
50	15.5	18.1	20.7	23.4	26.1	28.7	31.4	34				
52	15.7	18.4	21.2	24	26.9	29.7	32.6	35.3				

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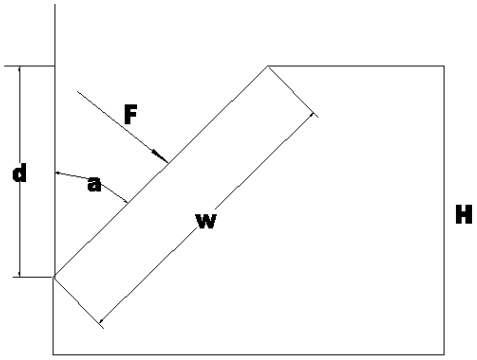
54	15.8	18.8	21.7	24.7	27.7							
56	16	19.1	22.2	25.4	28.6							
58	16.2	19.5	22.8									
60	16.4	19.8										

DMM-90X Type of spindle feed reference table

d：Processing depth　T：Clamp plate thickness

w：Bevel width　a：Bevel angle F：Spindle feed



Note:

1. this parameter list for reference, with the actual processing as the standard.

2.different colors represent maximum amount of feed.

3.single feed max value can be adjusted according to different materials (increase or decrease amount of feed).

Set single bevel depth based on different materials.

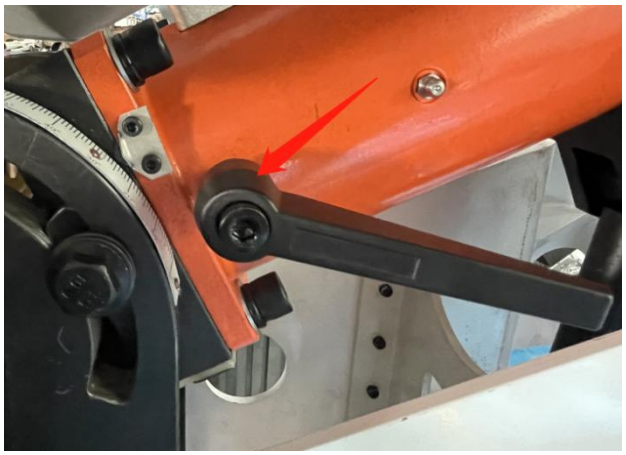
Any operating beyond the scope of machine performance will cause the damage of turbo, cutter and spindle.

Set the cutter before operation

Make the cutter head and the steel plate touch

Record the feed scale at this time.

Then start operation



loosen the tight handle, use a wrench to adjust the volume (according to scale)

Note:

After the depth adjustment, use sample plate to test **(Refer to actual cutting depth)**

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4.6 Speed Adjustment

- The spindle speed can be adjusted according to the plate material.
  For example : The speed of carbon steel is greater than the speed of stainless steel
- The feeding speed can be adjusted according to the cutting depth , the control panel is equipped with a feed speed meter, can display the speed.

Note： Process the front and back ends of the steel plate at use slow speed.

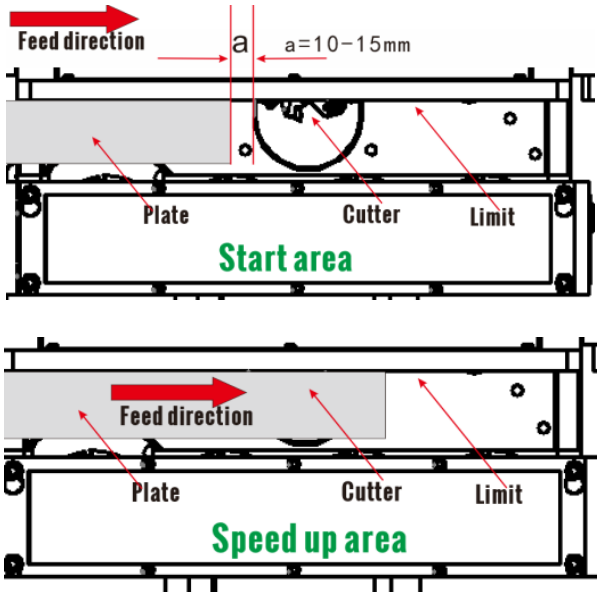
Rotate the feed speed knob to adjust the feed speed

Feed speed table(the below parameter just for reference, the enlarger beveling surface shall reduce the milling speed, please take the actual operation as standard)

start area --- the head located a
Speed up area--- touch with Wearable pieces
Complete area --- the end located b

Slowly change the speed (mm/min) thick: mm

Material	thick	start	Speed up	complete
Q235	3-6	150-250	300-800	300-500
	＞6	150-250	300-800	300-800
45#	3-6	150-250	300-800	300-800
	＞6	150-250	300-700	300-700
16Mn	3-6	150-250	300-800	300-500
	＞6	150-250	300-700	300-700
AL	3-8	150-250	300-1000	300-800



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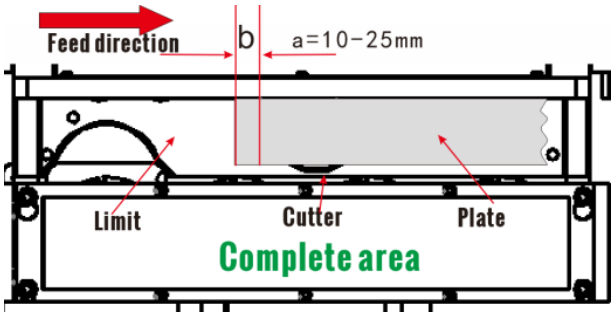
	＞8	200-300	300-1000	300-1000	
306	3-8	150-250	300-800	300-500	
	＞8	150-250	300-800	300-800	
316L	3-8	150-250	300-800	300-500	
	＞8	150-250	300-800	300-800	

Operation steps：

1) Knife wheel steering

confirm the cutter rotation direction.

2) Put the work piece 1

The side with the feed end close to the limit block

3) Put the work piece 2

Keep the 10-15mm distance between work piece and cutter tip (as shown above the "initial zone" for clamping state)；

4) Put the work piece 3

The work piece is pressed

5) Start milling

First open the main 10-15 seconds after the spindle speed is stable, the switch speed required by the feed speed

6) Finish milling

Turn off the feed, close the main shaft, loosen the pressing wheel, and leave the equipment out of the processing zone.

Do not have electricity when clamping

The workpiece side must be close to the limit block, and to ensure that the end of the distance between the blade and the cutter head；

Please open the feed button, will feed speed to 0

After processing, please feed speed to 0.

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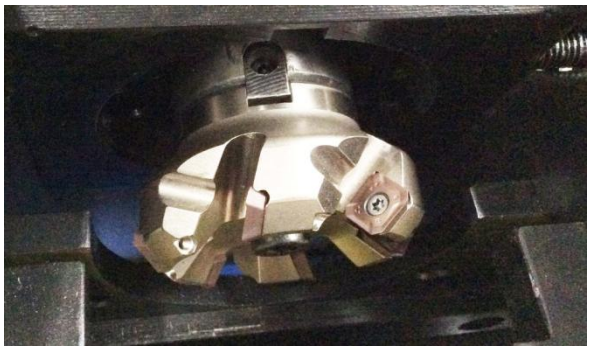
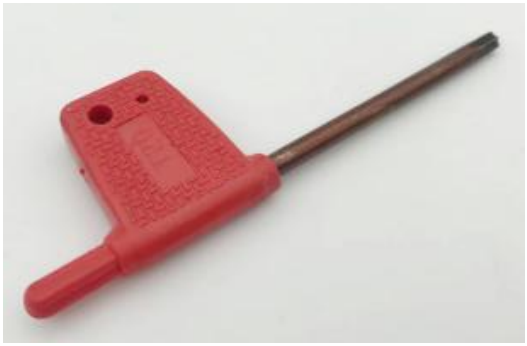
4.7 Tool Blades and cutter Installation And Removal

1) Tool Blades Installation And Removal

1. Cut off the power supply;
2. loosen the angle adjusting bolt, adjust the bevel angle to Appropriate angle;
3. loosen "Screw", rotary "handle" to facilitate the removal of the blade position, then tighten the bolt indent";
4. Using "special spanner ”to replace the tool ; T15 spanner
5. Locking all the bolts after replace the tool.

Note： when changing the bevel blades , replace the blades screw together.

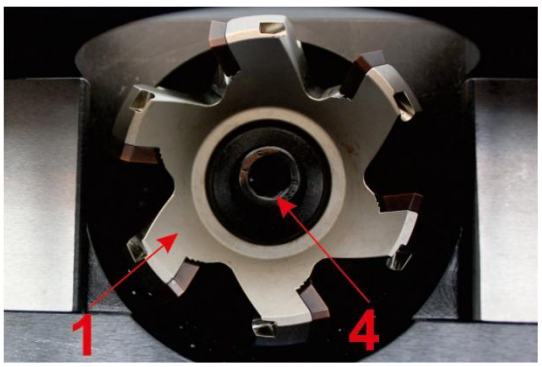


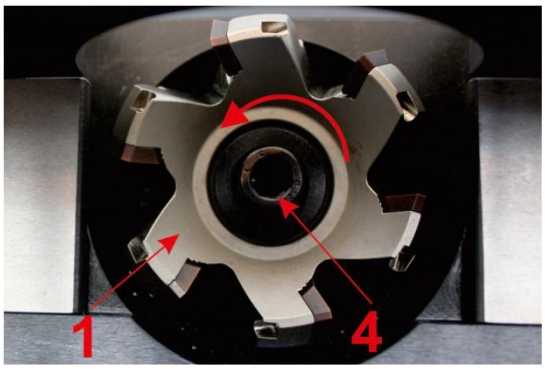


2) Cutter Installation And Removal

1. Relieve the blade to an appropriate angle, and use a wooden stick to resist the knife plate "1" to make it unable to rotate.

2. Rotate the screw in the direction shown in the arrow to remove the screws, and the knife tray can be taken out (if it cannot be taken out, you can use a wooden stick to tap the knife tray slightly, and then remove it.)





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	Installation and disassemble of the cutting tool , please take care of the sharp edge and high temperature, they will make the damage for your hands. Please clean up the Scrap by pneumatic gun and wear the protection gloves before replacing the tool.

Part 5 Digital display panel indication

"1" Spindle speed monitor: display the current spindle speed

"2" Feed speed monitor: display the current feed speed

"3" Spindle Control Button : control cutter rotation turn on or turn off

"4" Spindle Control Knob : control cutter rotation speed

"5" Automatic clamping button: automatic clamping tightness

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"6" Speed Control Button : control Rubber wheel rotation direction

"7" Spindle Control Knob : control Rubber wheel rotation speed

"8" Power light: On when the device is powered on (Red)

"9" Emergency: Control the power supply.

- ✧ Do not work more than 4 hours continuously.
- ✧ Temperature of gear box grows fast after work for some time, but boiling grease benefit to abstract heat to a heat balance situation.
- ✧ If over loaded, the thermal element in electric box will start and cut off power supply. Reset thermal element when it cold enough, otherwise the machine will be stopped again.

Part 6 Lubrication And Cleaning

Item	Lubrication method	cycle
complete machine	Spray anti-corrosion oil, remove iron pin, and a dustproof cover, straight in a dry place	3 months or a long time not to use
Compaction guide rail	The use of compressed air cleaning iron pin	After each walk
	Filling the guide rail oil or lubricating oil	3-6 months
Lifting screw (compression)	The use of compressed air cleaning iron pin	After each walk
	Filling the guide rail oil or lubricating oil	3-6 months
Around the machine	Use a broom to clean up in time, so as to avoid excessive accumulation of equipment.	Clean up according to the actual situation
Reducer	Filling gear oil	Lifelong maintenance free
Control box,	Cover dustproof and rainproof cover	Long time no use(include electric box)
Cutter	damaged the cutter and screw	
Cutter screw	If it's broken in the tray, please use the drill out	

Part 7 Trouble Repair And Maintenance

NO	fault	Maintenance and repair
1	Energized equipment, no reaction	Check whether there is electricity line
2	Have electricity, the machine is stop	Check whether the "emergency stop" button is pressed, or the control box breaker trip
3	Feed gear has abnormal sound	Fill the gear oil, the general gear will not be broken
4	Pressing wheel can't be compressed	Whetter an iron pin ont the wheel or plate
5	Steel plate is ejected	Look at the feed direction is consistent with the provisions of the equipment
6	Processing of steel plate, blade break	Check if the tool is in contact with the machined parts without rotation
7	Begins milling, the blade is broken	Reduce the feed depth

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8	Electrical control part of failure or other reasons	Communicate with manufacturers in a timely manner
9	culty falling	Carefully check whether the motor is connected to the chip collector.
10	Difficulties in rotation	Check whether the locking bolt is removed.

- ✧ According to the different processing materials, feed depth, cutting speed and other factors, it is recommended to change the direction of the blade in a timely manner and the fixed screw.
- ✧ General 30-100 meters to replace a blade angle, blade to avoid damage;

Generally 30-100 meters to replace a blade fixed screw, long time to use the screw to reduce the intensity, there is a risk of breakage, screw once the damage is difficult to be removed;

Part 8 Warranty Card

WARRANTY CARD

Company name			
Address			
Contact person		**Phone number**	
Model No.			
Series No.		**Production date**	
Warranty period	**12 months**		

Inspector:

Company seal:

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Warranty Rules:

1. Warranty period start from the date shipped on board, 12 month free warranty.

2. Over warranty period, spare parts charge at cost price.

3. Within warranty period, the following conditions are not included in guarantee:

a) Improper operations not following the operation manual

b) Damage by self-maintain

c) Damage by force majeure or transport

d) Can not present this certificate

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