WBM SERIES

WBM.60V

CNC Edge Milling Machine

USER OPERATION

DON'T OPERATE THE MACHINE BEFORE READING THE MANUAL

Catalog

1. Disclaimer

- ✧ We'll not responsible for any loss cause by working on the others out of its design performance.
- ✧ Must read the manual operation before operating, we'll not bear the loss if any Unreasonable operation.
- ✧ Don’t let the machine work morn than 2 hours continuously in full load, its working time is 8 hours one day (reduce the time to 4 hours one day at 30 ℃.)
- ✧ 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

2. Preface

Thank you for choosing our "Wenbach GmbH" machine, Hope it helps you on improving efficiency and saving more cost.WBM Series plate beveling machine mainly for plate edge beveling on weld preparation.

For your benefit, Please read this operation manual and related instructions & symbols carefully before machine operation. We will not take the responsibility while defective machine or physical Injury caused by any operation under required. If you have any questions or problems on our machine or files, Please do not hesitate to contact us at " Contact@Wenbach.Com ".

- ➢ We have the right to the final interpretation of this information, We will not give further notice with any alteration.
- ➢ We have the copyright for this file, Please do not copy or amend without our approval.

Thank You !

3. Service

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4. Overview

4.1 Introduction:

This machine process plate automatically with high efficiency; completely cold cutting, non-oxidation on the surface; for the milling cutter, The radiance come to Ra3.2-6.3 the finish on the surface is satisfy with the requirement in welding industry; easily operate and non-pollution.

4.2 Applications

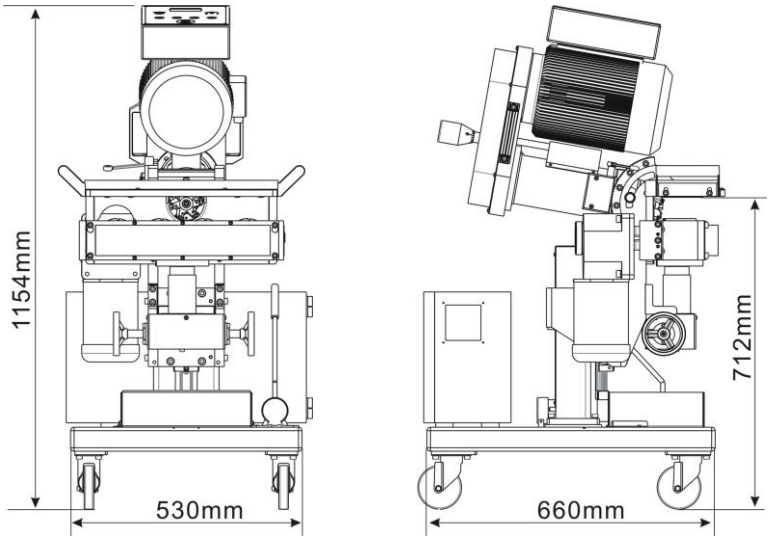
Can be used for fine grain steel, aluminum, chromium, iron and steel products, copper and aluminum processing.

Can be processed into a "k", "v", "u" or "y"-shaped bevel.

4.3 Technical Parameters:

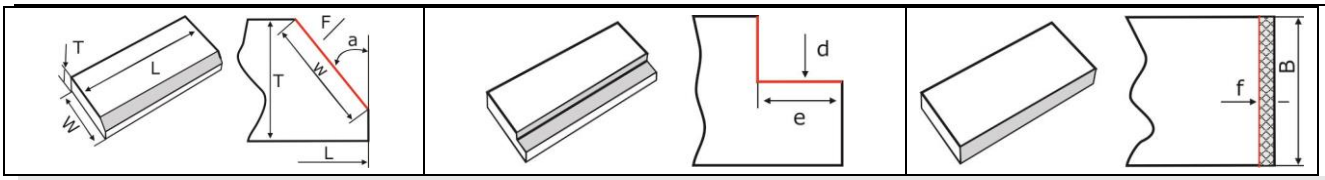
Motor voltage：AC380V 50HZ	Total power：4520W
Cutting power：4000W	Max. Bevel Width：0~45mm
Cutting speed：0~1500mm/min	Bevel Angle ：0° ~60 °(Adjustable)
Single feed rate：0~15mm（Like Q235）	Plate Thickness：8~60mm
Processing Length：≥300mm	Cutter inserts Qty：6pcs
Clamping Width：≥100mm（(No processing side)）	Net weight：215kg

4.4 Machine Diagram



4. 3 Models Option

Product Type WBM Series		100VJ	60V	60VJ	80V	80X
Plate Size	Working Length L（mm）	>300				
	Working Width W（mm）	>100				
	Clamp Thickness T（mm）	8~100	6～60		6～80	
Working Capacity	Bevel Angle a（°）	0～90	0～60	0～60	0～60	0～±60
	Bevel Width W（mm）	0～100	0～45	0～70	0～70	
	Milling Depth d（mm）	20	No	0～15	0～15	
	Milling Width e（mm）	100	No	No	No	
	Feeding Depth f（mm）	30	No	0～15	0～15	
	0° Milling Width B mm	100	No	60	60	
Single Bevel Width (mm)		0~30	0~15		0~20	



5. Safety & Warning

5.1 Safety instructions

	DANGER Improper operation could cause danger or even death!
	WARNING Improper operation could cause danger or serious injury!
	CAUTION Improper operation could cause moderate damage and property loss!

5.2 Safty ware and protective equipment：

Pls do check your wares before operation;Labour suit should be fit and comfortable and long-sleeved clothes suggested

Sandals, high heels, loose shoelaces, and smooth soles are all dangerous

Pls do ware helmet during operation and ware protective glasses and ware gloves to protect your hands during operation

CAUTION

5.3 Protective Device

Please DO NOT remove the protective cover on equipment.

Machine can not be modified without permission.

WARNING

5.4 Operation Cautions

- ✧ Before operation, Please ensure the safe site around. operate machine at 0~40℃.
- ✧ Before operation, Please do not touch rotation parts of machine by hands.
- ✧ After operation, Please do cut off the power and reset machine.
- ✧ Inflammable and explosive articles shall not be placed around the machine.

5.5 Safety Caution

DANGER	✧ Please DO cut off the power before maintenance the machine! ✧ Do check whether any damages on plug, wire, and machine before use every time! ✧ Pls read the operation manual before operation,recognize each spare parts of the machine
WARNING	✧ DO NOT move the machine by power cord ！ ✧ Please use trip circuit breaker to protect machine when out door operation! ✧ Please let only skilled person for machine inspection and maintenance!
CAUTION	✧ Please do stop machine and wear gloves for iron cleaning to avoid any hurts by hot sharp iron pin. ✧ Please place the power cord on machine or behind, do not put it on sharp objects.

5.6 Security Identify

	**Beware of burns** After plate beveling, The Iron pins and Inserts are in hot and sharp, please do not touch by hands.；
	**Electric Shock Risk** It happens on the electric box, Means request professional electrician for inspection and pay attention on the electric shock risk..

	**Hoisting Prompt** During hoisting,Please DO NOT stand under machine to avoid any casualties.
	**Watch Your Hands** It marks on the plate feeding side, means dangerous for hands and please keep distance with machine.
	**Be careful of prick on hands** It markets on the plate feeding side,means dangerous for prick on hands, please do not touch the iron pins or plate by hands after beveling.

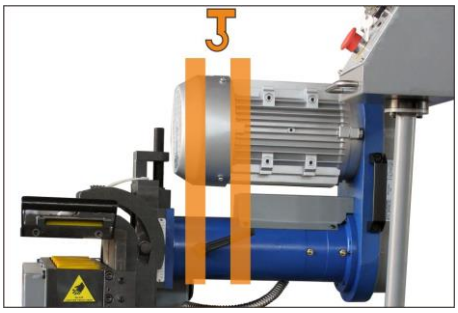
6. Machine Inspection

6.1 Hoisting

Step 1：cut off the steel strip of the fixed machine.

Step 2: The machine is hoisted slowly based on its hoisting position and the height should not rise more 10cm while hanging up, Except crossing obstacles.

NOTE：Please use good quality hoisting belt and available lifting weight should be＞500KGS.

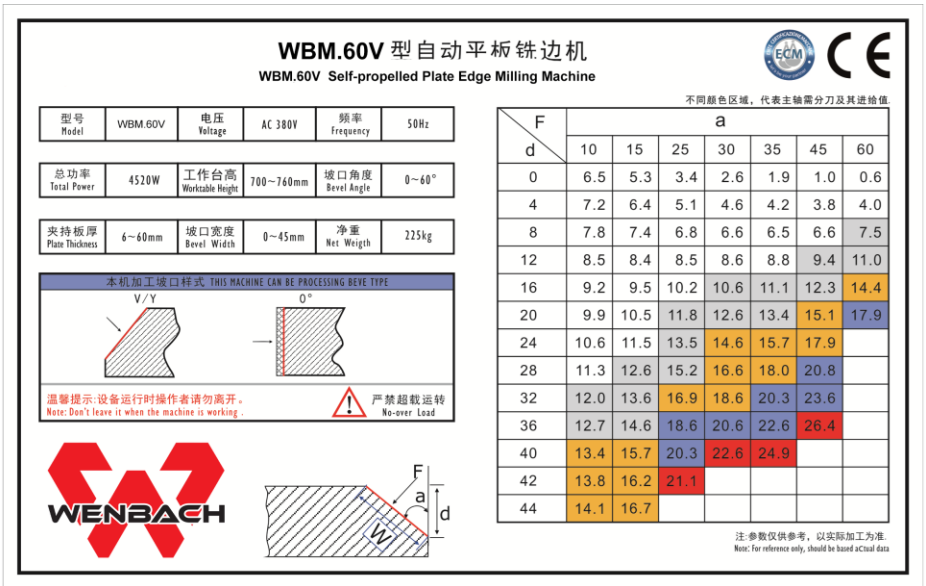


6.2 Wheel Installation：

Someone must support the machine while installing the wheels after the machine is hoisted 200-250mm from the ground.

NOTE：Please do not touch the lifting device while lifting and keep hoisting safety for machine stable to ensure person safety.。

6.3 Name Plate:Detailed Parameters On The Nameplate



WBM.60V 型自动平板铣边机

WBM.60V Self-propelled Plate Edge Milling Machine

型号 Model	WBM.60V	电压 Voltage	AC 380V	频率 Frequency	50Hz
总功率 Total Power	4520W	工作台高 Worktable Height	700~760mm	坡口角度 Bevel Angle	0~60°
夹持板厚 Plate Thickness	6~60mm	坡口宽度 Bevel Width	0~45mm	净重 Net Weigth	225kg

本机加工坡口样式 THIS MACHINE CAN BE PROCESSING BEVE TYPE

V/Y　0°

温馨提示:设备运行时操作者请勿离开。 Note: Don't leave it when the machine is working.

严禁超载运转 No-over Load

不同颜色区域，代表主轴需分刀及其进给值

F \ a	10	15	25	30	35	45	60
0	6.5	5.3	3.4	2.6	1.9	1.0	0.6
4	7.2	6.4	5.1	4.6	4.2	3.8	4.0
8	7.8	7.4	6.8	6.6	6.5	6.6	7.5
12	8.5	8.4	8.5	8.6	8.8	9.4	11.0
16	9.2	9.5	10.2	10.6	11.1	12.3	14.4
20	9.9	10.5	11.8	12.6	13.4	15.1	17.9
24	10.6	11.5	13.5	14.6	15.7	17.9	
28	11.3	12.6	15.2	16.6	18.0	20.8	
32	12.0	13.6	16.9	18.6	20.3	23.6	
36	12.7	14.6	18.6	20.6	22.6	26.4	
40	13.4	15.7	20.3	22.6	24.9		
42	13.8	16.2	21.1				
44	14.1	16.7					

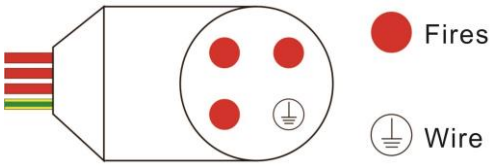
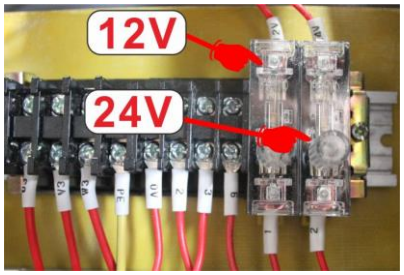
注:参数仅供参考，以实际加工为准。 Note: For reference only, should be based aCtual data

7. Installation & Diagram

CE Certified Requirements	External ground wire diameter size should follow requirement (Copper wire)	Phase wire diameter S（mm²）	Ground Wire Diameter Sd（mm²）
		S≤16	S
		16＜S≤35	16

		S＞35	S/2

7.1 ： Electrical installation

	***Wire Installation*** ✧ For safety, This machine is using 3 fire wire and 1 ground wire (Null line will affect the inverter) ✧ Electric wire size should be diameter 1.5mm² for 3 phase. ***Power AC380V 50HZ，electric connection should follow local rules。***
	***Cutter Head Rotation*** Check the cutter head rotation if it is correct direction, if not, can change the rotation by changing any 2 of the fire wire location.
	***Spindle Motor Wihout Rotation*** The spindle motor does not turn when power is on, open the electric box and press the reset button. (this operation is also applicable to troubleshooting the motor after overloading.)
	***No data on digital display*** If no power in electric box when power is on,Check the 24V fuse if blowout. **NOTE :This operation is ONLY available when the troubleshooting not solved.** If no data on digital display when power is on, Check the 12V fuse if blowout, or contact with us directly. **NOTE :This operation is ONLY available when the troubleshooting not solved.**

7.2 Electrical symbols	**7.3.Electric Box Diagram: Converter and digital parameters already settled, Please do not change anyhow to avoid any equipment troubles.**

QF：Power switch

SB1：Emergency stop

SB2：Power switch

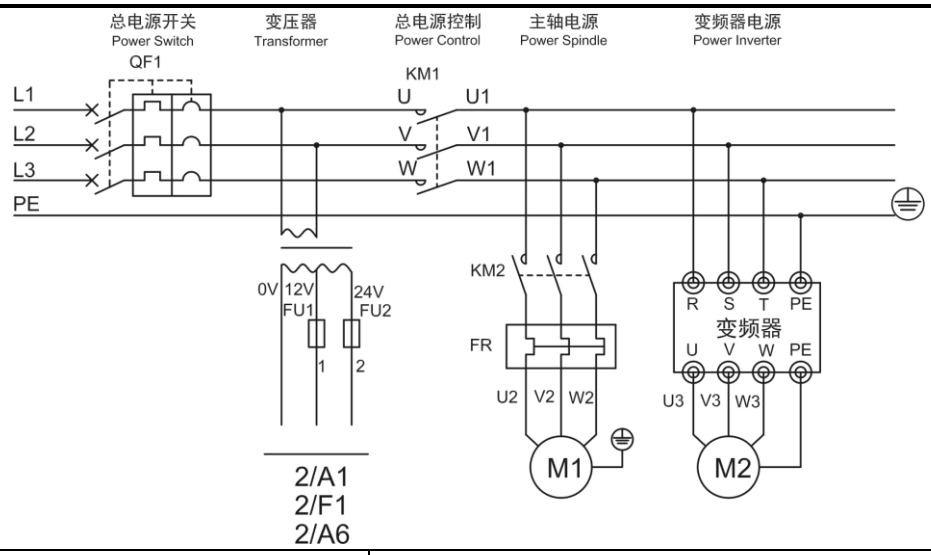
B：transformer

KM：AC

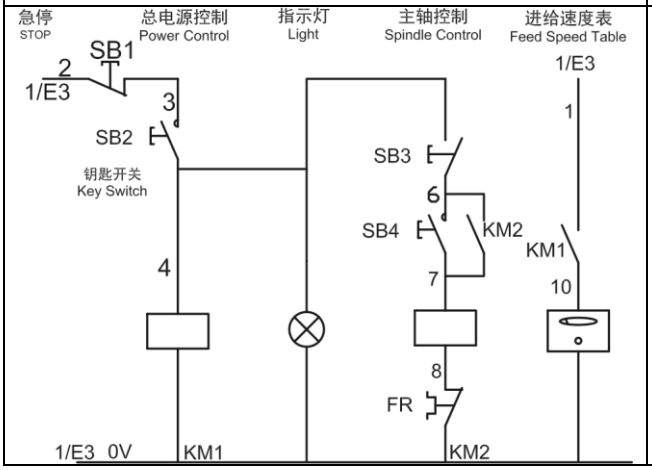
FU：Fuse

VFD:Frequency converter

HF：Tachometer



7.4 Control Box Diagram



7.5 Common Protection Measure:

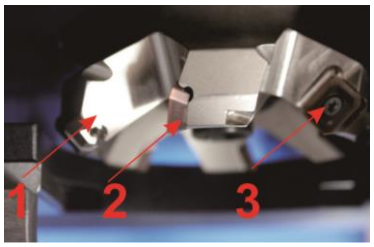
1) Electric connection and protection should follow the local regulations;
2) Cable side for connecting aviation plug,another side for power;
3) DO NOT use the machine in humid environment to avoid causing danger.
4) Feeding plate as per instruction, Inserts touch the plate only after cutter rotating.

7. 6 Cutter & Insert Replacement:

Ensure power off before replacing Cutter head or Inserts

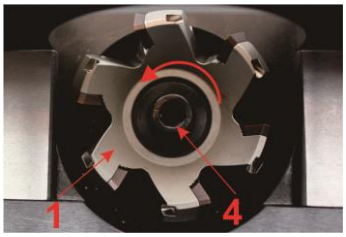
1)Please pay attention on the sharp edge of inserts and high temperature when replacing Inserts or cutters to avoid any dangers.

2)Suggest to do cleaning before replacement and wear gauntlet.



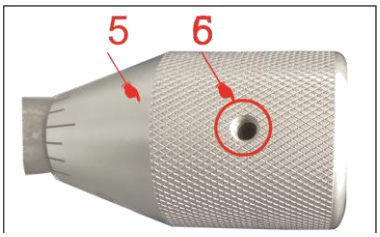
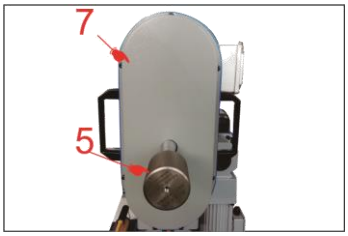
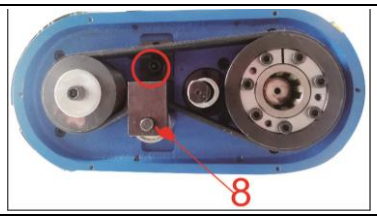
Insert Replacement

1. Adjust the cutter head angle to a suitable one for replacing Inserts (Like photo "1" is cutter head, "2" is Inserts, "3" is Screws.
2. 2.Using Tool “T15” screwdriver， Take off screws“3” to replace the Inserts

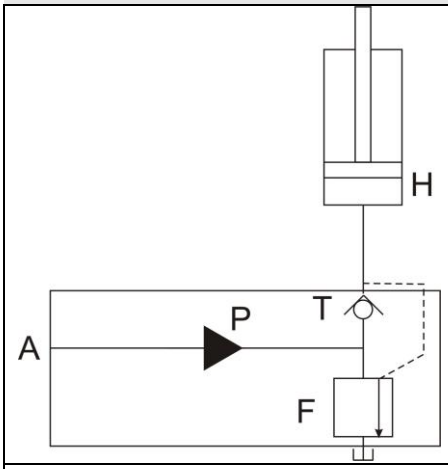
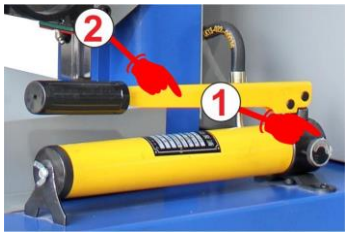


Cutter Head Replacement

1. Adjust the cutter head angle to a suitable one, Stable cutter head "1" by stick to ensure it will not rotate.
2. Use the Hex screwdriver to turn the screw “4” in the direction of the arrow to remove the screw. Then cutter head is taken out. (it not taken out, you can use sticker to tap the cutter head gently and then take out the cutter head by hands)

	***Belt replacement 1*** ✧ Take out the two jackscrews in hole of position “6” ✧ Totate and take out the handwheel Notice：Remember there are two jackscrews,if one the handwheel cannot be taken out。
	***Belt replacement 2*** Dismantle the bolt which fix the shell of “7” and take the shell “7” out
	***Belt replacement 3*** Dismantle the bolt which fix the tensioner of “8” then the belt can be taken out

8. Hydraulic schematic diagram

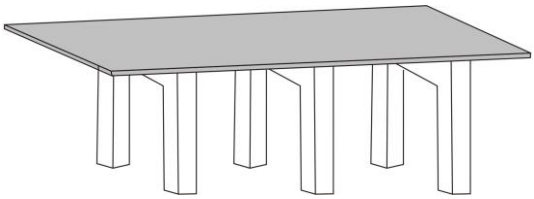
	**8.1 Hydraulic schematic diagram** A：Oil Intake Hole T：Check Valve H：Hydraulic Cylinder P：Hydraulic Oil P：Relief Valve A、P、T、F are for manual pump units ◆ Hydraulic oil can be filled through “ Oil Hole A” while low. ◆ The nozzle can be re wound by raw materials belt to achieve sealing when the outlet of “ Check Valve T” leak out. ◆ If the equipment don’t use it for long time, Slowly release “ relief valve F” to make the “Hydraulic Cylinder H” to the lowest state. See the troubleshooting page for details on problems
	**8.2 Use of Hydraulic System：** ✧ Turn “Flow Valve 1” clockwise to the working state. ✧ The device will be lifted up by repeatedly press “ Handle 2”. On this process the Max. Height of “ Handle 2” cannot up to “ Thickness Compaction Hand wheel”. ✧ When the device is not used, slowly turn “ Flow Valve 1” counterclockwise to ensure the device to the lowest position. **NOTE：Do not use brute force to avoid damage to the hydraulic pump.**

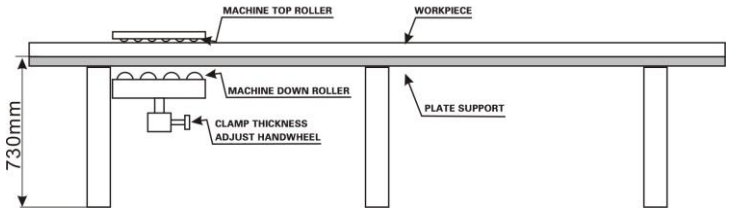
9. Bevel Preparation

Request to considered with full plate factors when setting up the bevel parameters specially plate hardness will be increase after oxygen cutting.

9.1 Plate placement & Plate cleaning:

1）make a simple plate support as below picture.(Picture for reference only)	2）We suggest to set height at 730mm,Set table height refer to your plate thickness, Max height at 765mm.





3）Put the metal plate on support showed as below, make the beveling edge about 200-250mm.

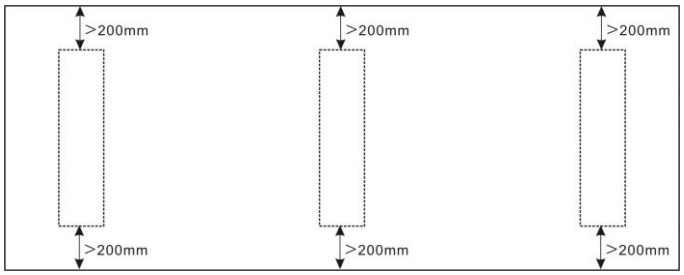
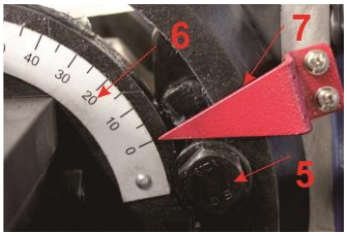


Plate cleaning:

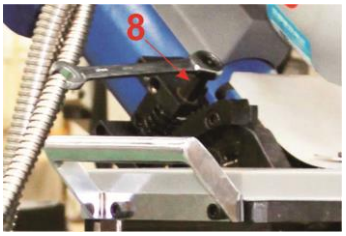
- ✧ No welding slag on the bevel surface.
- ✧ Welding slag and bur will affect the cutter tools and reduce machine service life.

9.2 Bevel Angle & Bevel Depth Adjustment:



Bevel Angle Adjustment

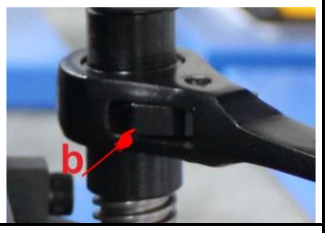
1.Loose bolt “5”（“6”-Angle Ruler、 “7”-Angle Indicator Arrow)

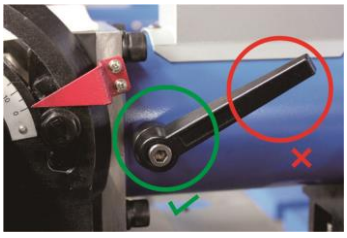


Bevel Angle Adjustment

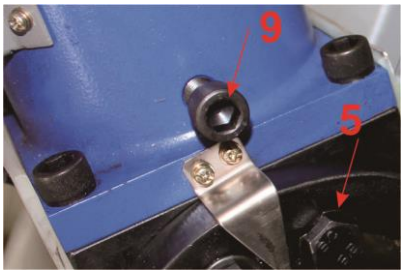
2.Rotate the Ratchet Wrench “8” and adjust required angle. After that tighten the bolt “5”

NOTE : Adjusting the “b” on the ratchet wrench can change the rotate direction of angle.



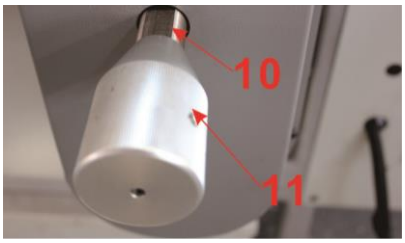


Notice：The model which using the locking wrench will require operation on the position of green cycle,not red cycle to avoid the damage of wench.



Bevel Depth Adjustment

1. Loose bolt “9”



Bevel Depth Adjustment

2. Rotate hand wheel “10”, and adjust to required bevel depth according to the scale parameter table and required bevel width.

NOTE: Parameters for reference, Please refer to the actual bevel size after first testing.

d：Bevel depth　　a：Bevel angle

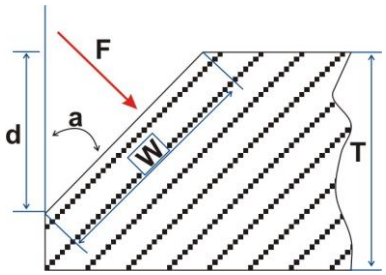
F：Spindle feed scale（hand wheel）

W：Bevel width　　T：Processing plate thickness

For example：Bevel angle=30deg，bevel depth=10mm，adjust the feeding to 7.6

Notice：1.The parameters chart only for reference,be subject to the actual processing

2.Different colors means the max feeding per cut

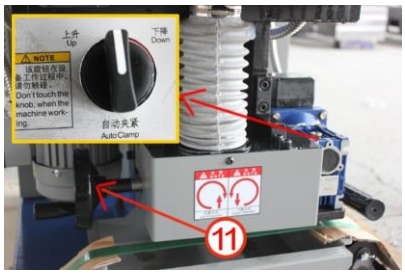


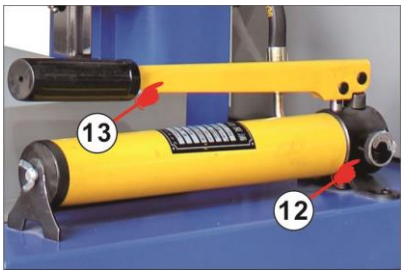
F / d	a										
	10	15	20	25	30	35	40	45	50	55	60
0	6.5	5.3	4.3	3.4	2.6	1.9	1.4	1.0	0.7	0.6	0.6
4	7.2	6.4	5.7	5.1	4.6	4.2	4.0	3.8	3.8	3.8	4.0
6	7.5	6.9	6.4	5.9	5.6	5.4	5.2	5.2	5.3	5.5	5.8
8	7.8	7.4	7.0	6.8	6.6	6.5	6.5	6.6	6.8	7.1	7.5
10	8.2	7.9	7.7	7.6	7.6	7.7	7.8	8.0	8.4	8.8	9.2
12	8.5	8.4	8.4	8.5	8.6	8.8	9.1	9.4	9.9	10.4	11.0
14	8.9	9.0	9.1	9.3	9.6	10.0	10.4	10.9	11.4	12.0	12.7
16	9.2	9.5	9.8	10.2	10.6	11.1	11.7	12.3	13.0	13.7	14.4
18	9.6	10.0	10.5	11.0	11.6	12.2	13.0	13.7	14.5	15.3	16.2
20	9.9	10.5	11.1	11.8	12.6	13.4	14.2	15.1	16.0	17.0	17.9
22	10.3	11.0	11.8	12.7	13.6	14.5	15.5	16.5	17.6	18.6	
24	10.6	11.5	12.5	13.5	14.6	15.7	16.8	17.9	19.1	20.2	
26	11.0	12.1	13.2	14.4	15.6	16.8	18.1	19.3	20.6	21.9	
28	11.3	12.6	13.9	15.2	16.6	18.0	19.4	20.8	22.1		
30	11.7	13.1	14.6	16.1	17.6	19.1	20.7	22.2	23.7		
32	12.0	13.6	15.2	16.9	18.6	20.3	21.9	23.6	25.2		
34	12.4	14.1	15.9	17.8	19.6	21.4	23.2				
36	12.7	14.6	16.6	18.6	20.6	22.6	24.5				
38	13.1	15.2	17.3	19.4	21.6	23.7					
40	13.4	15.7	18.0	20.3	22.6	24.9					
42	13.8	16.2	18.7	21.1							
44	14.1	16.7	19.3								
45	14.3										

The scale=8 when angle=0

With the incerasing of feeding depth,reduce the feeding speed,make the feeding speed between200-400mm/min when depth 20mm(Q235 for example,make the speed at 200mm/min if stainless steel)

9.3 Adjust the clamping thickness and height：





Clamp Thickness Adjustment

Rotate control box switch can be clamping the plate.

Rotate hand wheel“11” to clamp the work piece

Adjust the height:

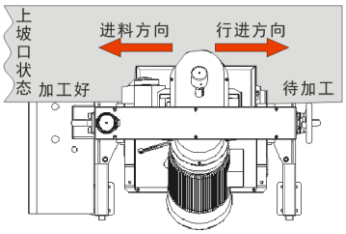
1. lift: clockwise rotation bolt "12", repeatedly press the handle "13".
2. reduction: reverse clockwise rotation bolt "12", turn to the required height after the clockwise rotation to the cut-off position.

9.4 Adjust the speed:

Adjust the feed speed:

Rotation “5”.

Note: in the cutting process, the feed speed and the spindle speed can be adjusted properly on the control panel.



When equipment is processed, it is processed along the arrow direction.

9.5 Route： if the ground is not flat, please lay on plate on ground.

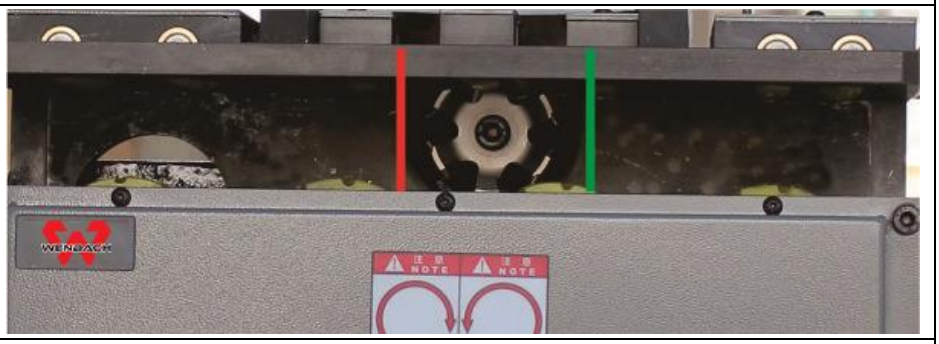
Note: be sure to confirm the rotation direction of cutter and the feeding direction consistent with regulations, the blade cannot contact plate.

10. Basic operation

10.1 Feed rate reference table(the below parameter just for reference, please take the actual operation as standard)

No more than the red line of the work piece head is placed in the red line to the green line area as the "low speed area"; the end of the green line (more than a work piece cutter) after "speed"; "to complete the area close to the red line at the end of the work piece"

Material	thick	start	Speed up
Q235	150-250	300-800	300-500
45#	150-250	300-700	300-500
16Mn	150-250	300-600	300-500
AL	150-250	300-1000	300-800
306	150-200	200-500	200-300
316L	150-250	200-400	200-300



10.2 设备各部件说明

“1”-Feed Speedometer: Showing current cutting speed, “2”-Feeding Speed Table: Showing current feeding speed “3”-Spindle Switch: switch for cutting spindle “4”-Speed Control Knob:cutting spindle speed adjustment, range from 750-1500r/min(Subject to actual testing) “5”-Positive & Negative Rotation Knob:Adjust the feeding direction “6”-Speed Control Knob:feeding speed adjustment, range from 0-1500mm/min “7”-Indicator:Lights up while machine powered(White Light) “8” Safety Lock: For lock the use of machine. Key should be kept by operator or warehouse manager. “9” Emergency Stop: Immediately press “Emergency Stop” while an emergency occurs and the power will be completely cut off.	

“1”Control box:electrical control, operation interface; “2”Electric motor:Upper spindle power; “3”Top pressure roller: compression mechanism of workpiece; “4” Handle:Movement of equipment; “5”&“15” Stop block：stick close to it when feeding “6”Gear set：Power transmission of the travelling pressure roller; “7”Protection cover：screw inside,need regular lubrication “8” Automatic clamping mechanism：manual or electric “9”Chip trough:Collection of iron chips; “10”Walking Wheel “11”Feed handle：bevel depth adjustment “12”Housing：belt inside “13”Spindle：connecting the motor with belt “14” Screw：bevel angle adjustment “16” rubber wheel：Bottom pressure roller “17” Electrical Cabinet “18”Power plug “19” Hydraulic pump：adjust the machine height “20” Pedestal:supporting for whole machine;	

10. 3 Basic Operation

Small Plate Beveling…… As a manual operation to adjust the required bevel type, angle, depth, cutting speed and feeding speed, and then start to work.

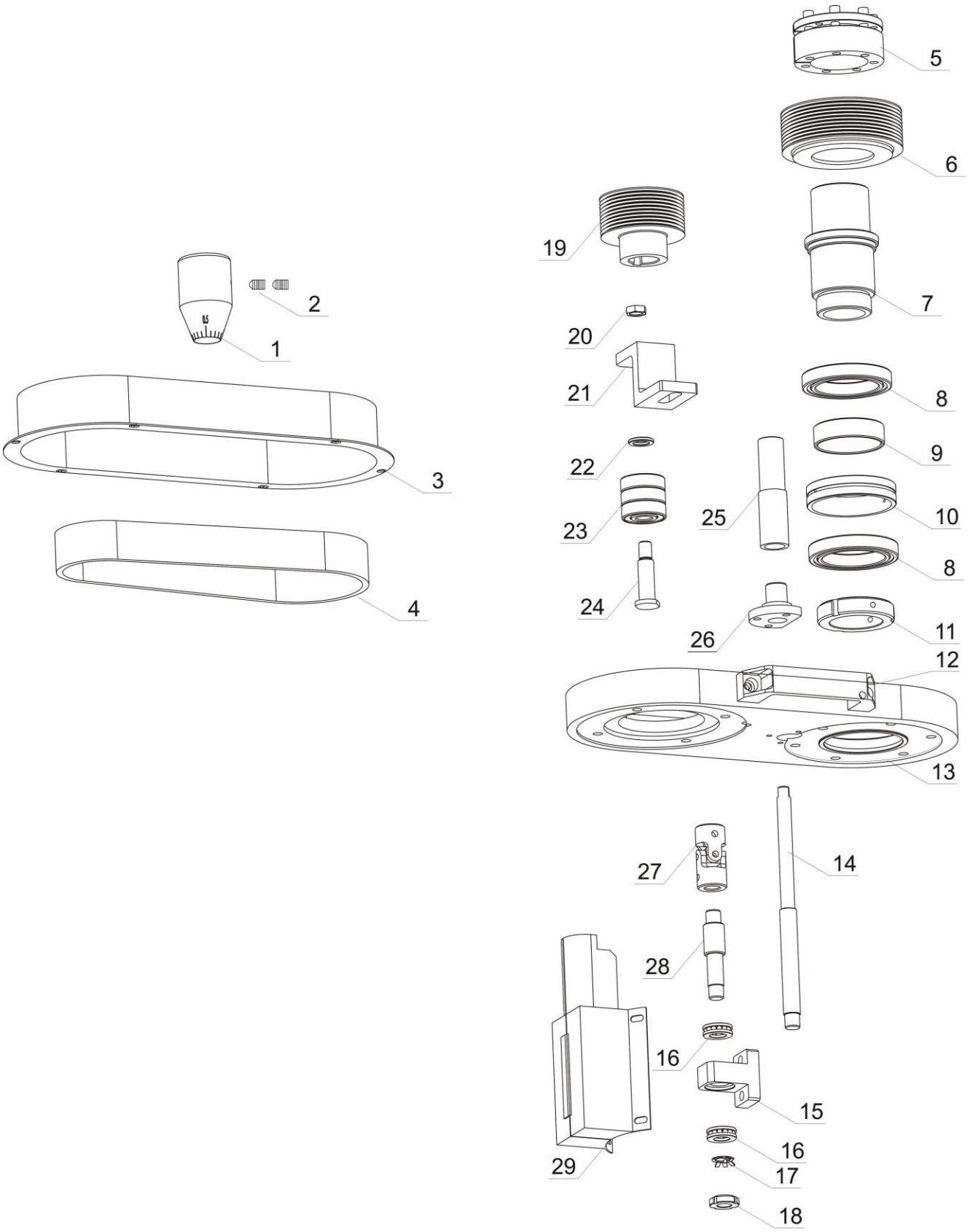
Large Plate Beveling……When bevel large size metal plate, which need to put it on the auxiliary support attachment,and then adjust the required bevel angle,bevel depth, feeding speed and cutting speed on the machine to complete work.

10.4 Operation Steps:

	1) Working Piece Location……Workpiece should be stick along with the feeding limit block and Plate leading end should keep distance 10-15mm with cutter head; 2) Working Piece Clamping……Please refer to operation 9; 3) Start to milling……Power On, Turn on Spindle 5-10 seconds to stable rotation speed and feeding speed. ***After Beveling*** Close the feed, close the spindle, and loosen the clamping wheel. Make feeding speed back to "0"

11. Assembly parts

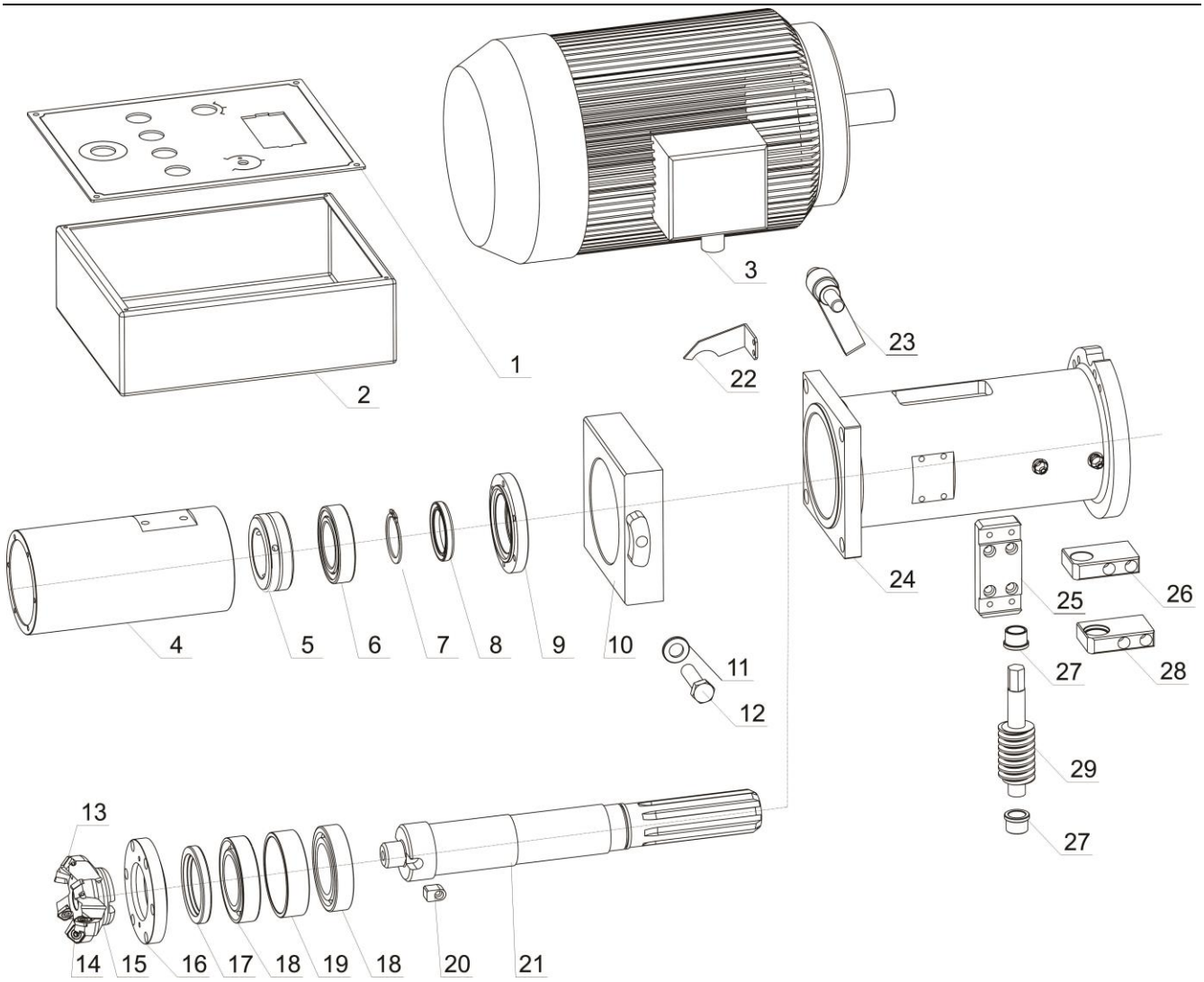
Assembly drawing 1：



No.	Item	Order no.	Quantity		No.	Item	Order no.	Quantity
1	Index handle seat	WBM.60V-008	1		16	Bearing	S-51102	2
2	Jackscrew	S-M5*8	2		17	Lock washer	S-14	1
3	Pulley shield	WBM.60VJ-023	1		18	Block nut	S-M14*1.5	1

4	Belt	S-PK740	1		19	Motor pulley	WBM.60VJ-024	1
5	Tension sleeve	S-Z3-55*85	1		20	screw nut	S-M12*1.5	1
6	Big pulley	WBM.60VJ-025	1		21	Belt Tensioner support	WBM.60VJ-007	1
7	Splined sleeve	WBM.60VJ-027	1		22	Belt Tensioner contour pad	WBM.60VJ-009	1
8	Bearing	S-61912-2Z	2		23	Bearing	S-6302-2Z	3
9	Inner spacer sleeve	WBM.60VJ-026	1		24	Belt Tensioner screw	WBM.60VJ-008	1
10	Outer spacer sleeve	WBM.60VJ-029	1		25	Depth indicator sleeve	WBM.60V-008	1
11	Block nut	S-M52*1.5	1		26	Depth indicator nut	WBM.60VJ-033	1
12	Handle	S-120	2		27	Universal joint	S-04G-A14-A14	1
13	Motor mounting plate	WBM.60VJ-022	1		28	Spindle feed adjusting short shaft	WBM.60VJ-030	1
14	Spindle feed adjusting long shaft	WBM.60V-005	1		29	Feed screw cover	WBM.60V-007.02	1
15	Spindle feed adjusting seat	WBM.60VJ-031	1					

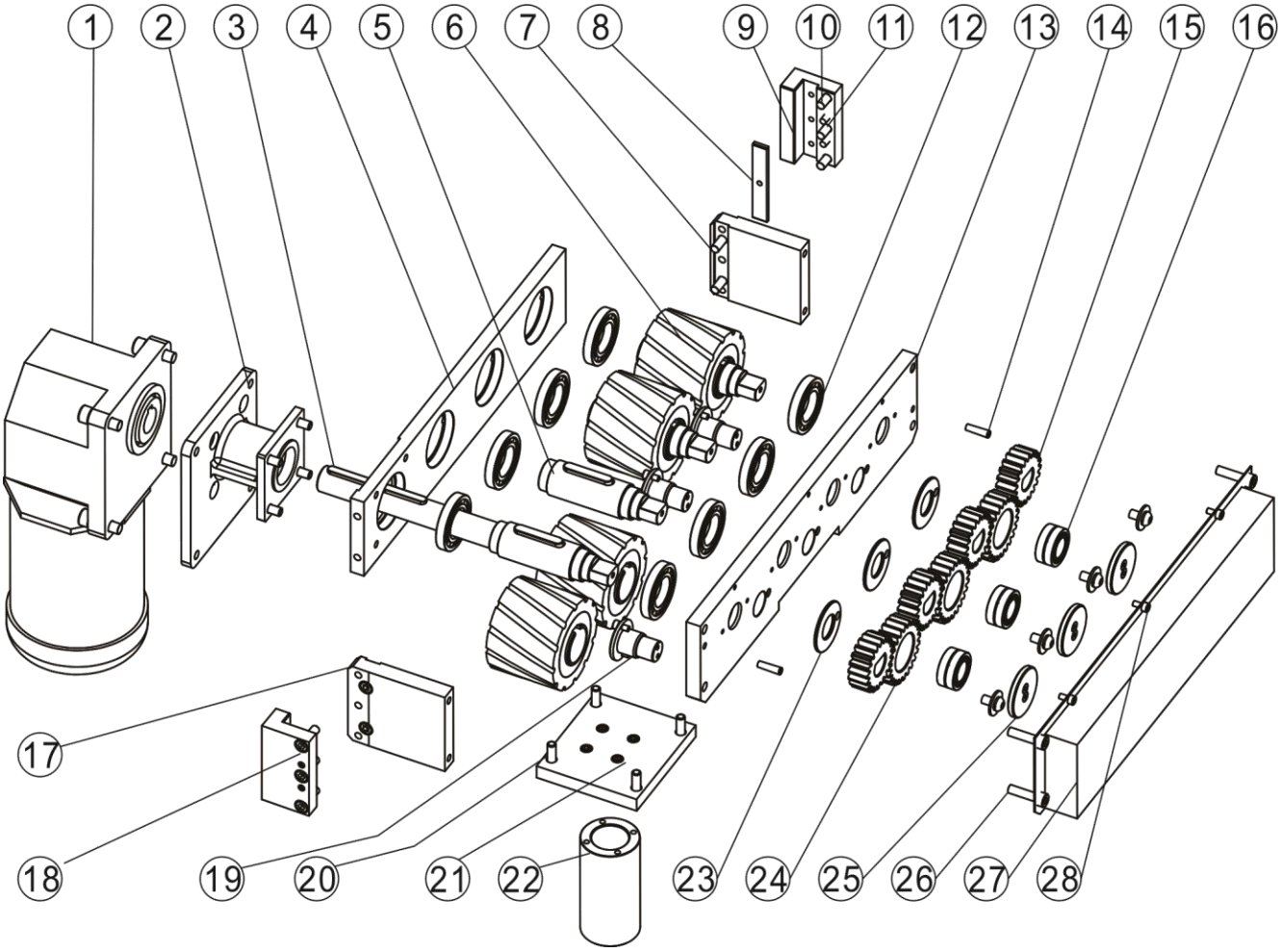
Assembly drawing 2：



No.	Item	Order no.	Quantity		No.	Item	Order no.	Quantity
1	Control panel	WBM.60VJ-098	1		16	Spindle top cover	WBM.60VJ-003.02	1
2	Control box	WBM.60V-026	1		17	Seal ring	S-50*68*8	1
3	Electric motor	S-4KW-B14	1		18	Bearing	S-7009AC	2
4	Spindle housing	WBM.60V-001	1		19	Spindle spacer sleeve	WBM.60VJ-004	1
5	Block nut	S-M45*1.5	1		20	Cutter locating key	WBM.60VJ-006	2
6	Bearing	S-6008-2Z	1		21	Spindle	WBM.60V-002	1
7	Circlip	S-A40	1		22	Arrow	WBM.60V-011	1
8	Seal ring	S-B-38*52*7	1		23	Necked handle	S-M12*25	1
9	Spindle top cover	WBM.60VJ-005	1		24	Guide bush body	WBM.60V-001	1
10	Rotator	WBM.60V-004	1		25	Lift worm support	WBM.60V-010.02	1
11	Flat washers	S-12*2.5	2		26	Worm support	WBM.60VJ-017U	1
12	Bolt	S-M12*45	2		27	Copper nut	60VJ-01-03-18	2
13	Inserts	S-ACP300	6		28	Worm support	WBM.60VJ-017D	1

14	Inserts screw	S-M3.5*8	6		29	Worm	WBM.60VJ-032	1
15	Cutter head	S-63-22-6T	1					

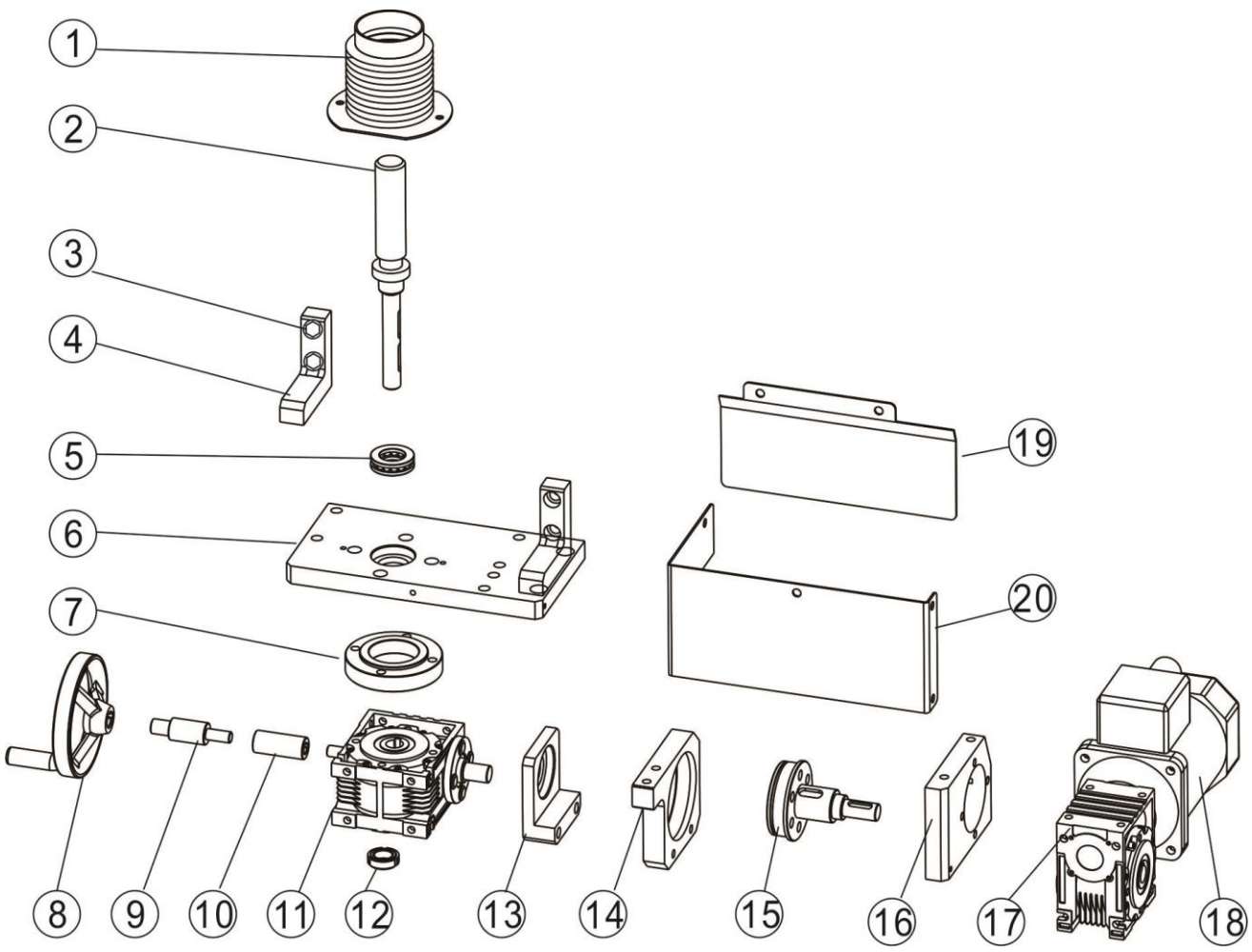
Assembly drawing 3：



No.	Item	Order no.	Quantity		No.	Item	Order no.	Quantity
1	Reducer	S-240-1	1		15	Driving gear	WBM.60VJ-045	4
2	Motor support	WBM.60VJ-049	1		16	Bearing	S-4904	4
3	Primary shaft	WBM.60VJ-051	1		17	Walking prop A	WBM.60VJ-042	1
4	Walking prop	WBM.60VJ-037	1		18	Left guide rail	WBM.60VJ-052	1
5	Driving wheel axle	WBM.60VJ-038	1		19	Driven gear shaft	WBM.60VJ-047	3
6	Driving wheel axle	WBM.60VJ-041	4		20	Bolt	S-M8*20	4
7	Walking prop B	WBM.60VJ-043	1		21	Thickness nut seat	WBM.60VJ-040	1
8	Stopper rod	WBM.60VJ-046	1		22	Lead screw nut seat	WBM.60VJ-048	1
9	Right guide rail	WBM.60VJ-053	1		23	Bearing ring	WBM.60VJ-054	3
10	Bolt	S-M8*16	10		24	Driven gear	WBM.60VJ-044	3
11	Cylinder pin	S-6*24	4		25	Bearing ring	WBM.60VJ-054	3
12	Bearing	S-16006ZZ	8		26	Bolt	S-M8*25	4

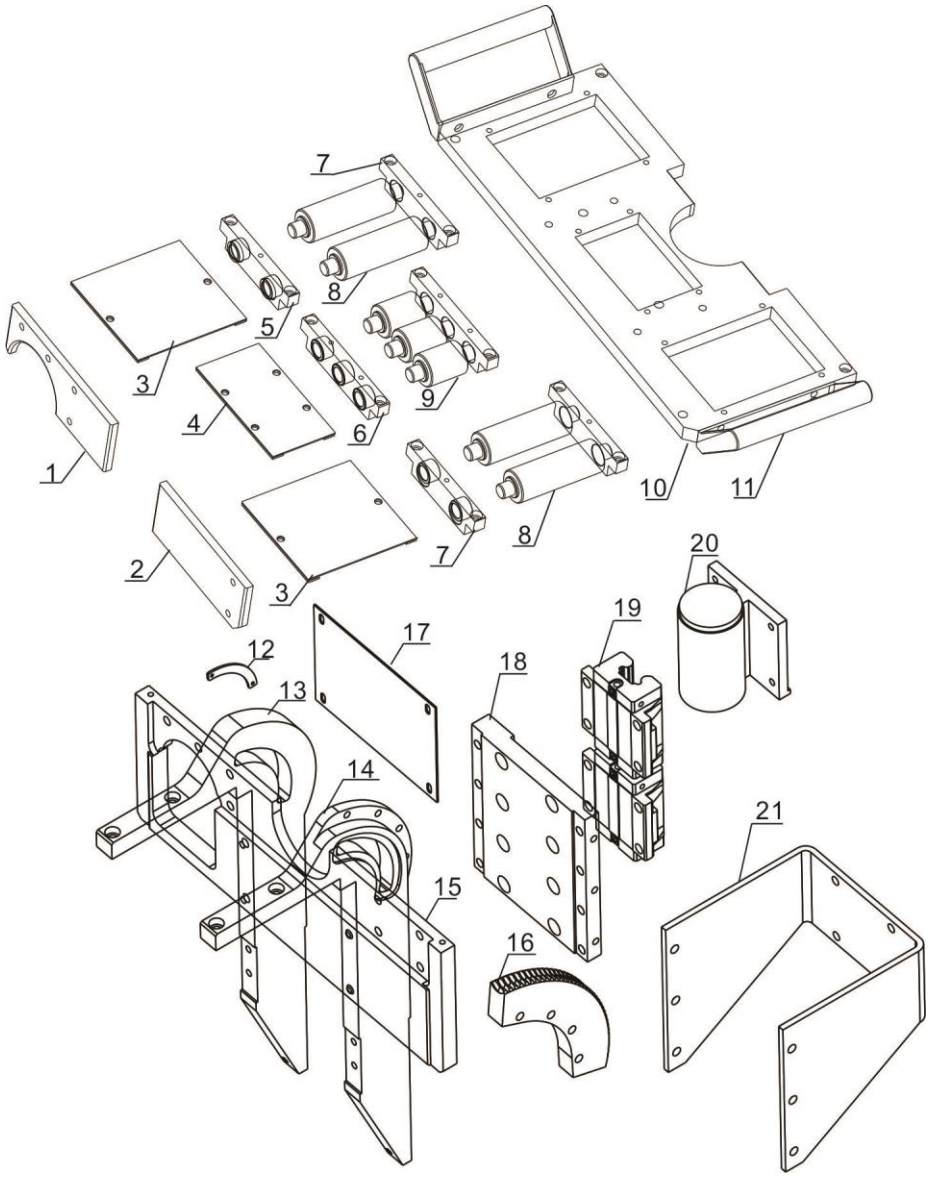
13	Mounted panel	WBM.60VJ-039	1		27	Gear House	WBM.60VJ-050	1
14	Cylinder pin	S-6*20	4		28	Bolt	S-M510	6

Assembly drawing 4:



No.	Item	Order no.	Quantity		No.	Item	Order no.	Quantity
1	Protective sleeve	S-60VJ-60	1		11	Gearbox	S-NR3014	1
2	Clamping screw	WBM.60VJ-065.02	1		12	Block nut	S-M14*1.5	1
3	Bolt	S-M8*16	4		13	Limit bearing seat	WBM.60VJ-090	1
4	Clamping reducer support	WBM.60VJ-075	2		14	Overload clutch bearing seat	WBM.60VJ-081	1
5	Bearing	S-51104	1		15	Clutch spring seat	WBM.60VJ-083	1
6	Clamping reducer connecting plate	WBM.60V-028	1		16	Gear motor connecting plate	WBM.60VJ-082	1
7	Sleeve	WBM.60VJ-084	1		17	Reducer	S-NRMV-030-7.5-5	1
8	Hand wheel	S-12*100	1		18	Electric motor	S-IK-120W	1
9	Handwheel axis	WBM.60VJ-063	1		19	Back board	WBM.60V-029	1
10	Coupling	WBM.60VJ-062	1		20	Lifting front cover	WBM.60V-030	1

						housing		

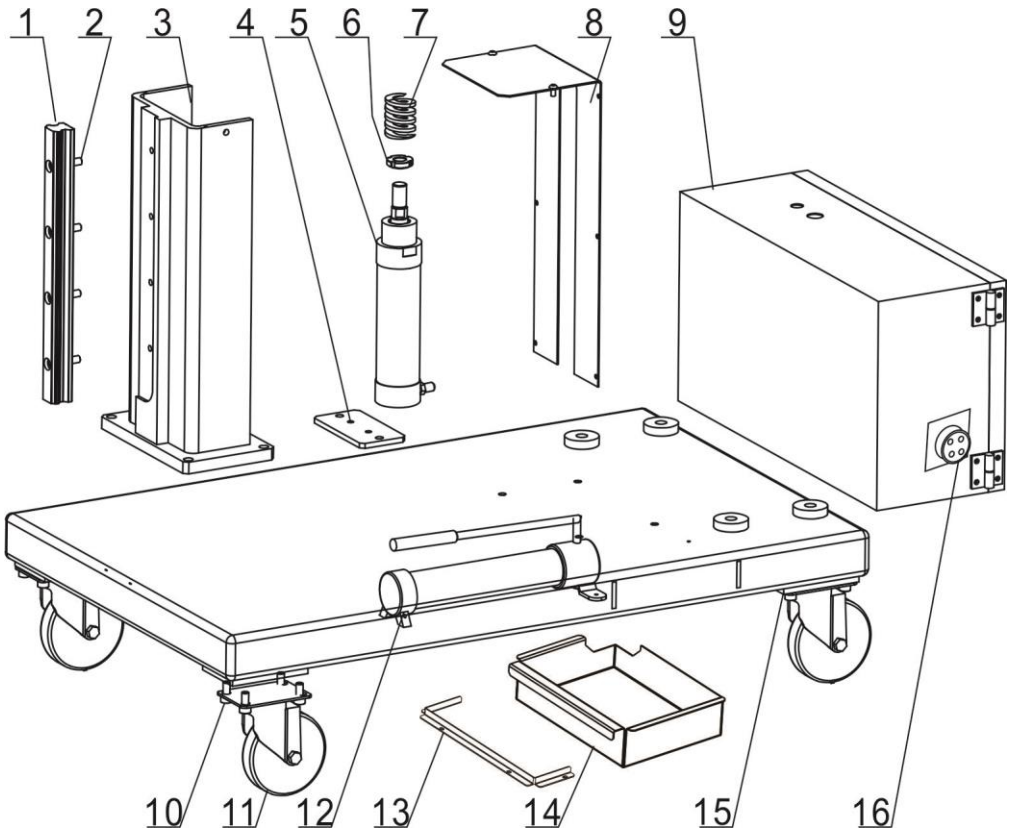


Assembly drawing 5:

No.	Item	Order no.	Quantity		No.	Item	Order no.	Quantity
1	Quench insert	WBM.60V-016L	1		12	Angle card	WBM.60V-021	1
2	Quench insert	WBM.60V-016R	1		13	Left adjusting bracket	WBM.60V-025	1
3	Long press wheel cover plate	WBM.60VJ-077	2		14	Right adjusting bracket	WBM.60V-013	1
4	Multi-distance press wheel cover plate	WBM.60V-022	1		15	Fixed plate	WBM.60V-015	1
5	copper bush	S-14*20*12	14		16	Angle turbine	WBM.60V-014.02	1
6	Porous press wheel support	WBM.60V-018	2		17	Iron filings backsplash	WBM.60V-017	1

7	Long distance pressure roller support	WBM.60VJ-057	4		18	Sliding block fixed plate	WBM.60V-019	1
8	Top pressure roller（long)	WBM.60VJ-056	4		19	Sliding block	S-HGW30	2
9	Top pressure roller（short)	WBM.60VJ-070	3		20	Spring sleeve	WBM.60VJ-061	1
10	Bottom fixed plate	WBM.60V-012	1		21	Lift connecting plate	WBM.60V-020	1
11	Handle	WBM.60VJ-071	2					

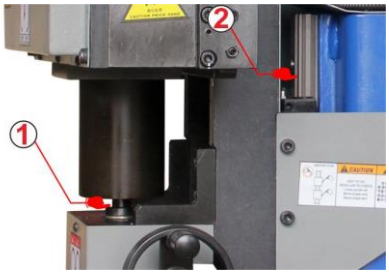
Assembly drawing 6：

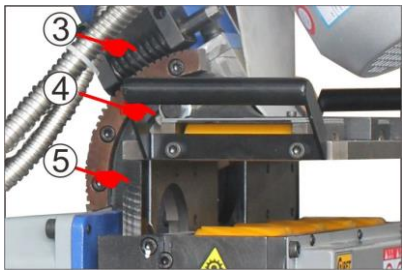


No.	Item	Order no.	Quantity		No.	Item	Order no.	Quantity
1	Linear guide	S-HGW30-330	1		9	Electric cabinet	WBM.60V-024.02	1
2	Bolt	M8*20	4		10	Bolt	S-M8*16	16
3	Support column	WBM.60VJ-095	1		11	Universal wheel	S-4-100	4
4	Cylinder mounting plate	WBM.60VJ-097	1		12	Manual pump	S-CP180	1
5	Cylinder	S-40/20*80+FA	1		13	Supporting structure	WBM.60VJ-094	1
6	Nut	S-M16*1.5	1		14	Chip sink	WBM.60VJ-093	1
7	Mold spring	S-35*50	1		15	Base	WBM.60VJ-091	1
8	Column cover	WBM.60V-023	1		16	Socket	S-TYP2618	1

12. Lubrication & Cleaning

Lubrication Location	Lubricating Method	Lubricating Method
Complete machine	Spray anti-corrosion oil, remove iron pin, and a dust-proof cover, straight in a dry place	3 months or a long time not to use
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	Clean up the scraps by air compressor	While needed
	Add Gear oil	Life free maintenance
Control/Electric Box	Cover with dust and rain shield	When long time not to use
Inserts	Replace Inserts and screws in time when any broken found	As per manual point 7
Inserts Screw	If the knife is broken in the tray, please use the drill out	As per manual point 7
Main Shaft	Injet lubricating oil into the inlet on the side of spindle （Can not use grease instead)	Once every 3 months





Lubricating Oil Injet and scraps cleaning

【“1”Lead Screw】Adjust the thickness, Clean scraps, Spray anti-corrosion oil once a month;

【“2”Guide Rail】Clean up the iron scraps every day, Spray lubricant if not use for a long time.

NOTE：Anti-corrosion oil can use【WD40】

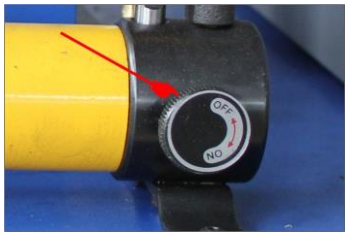
Lubricating Oil Injet and scraps cleaning

【“3” Angle Hole】Clean up the iron scraps before adjust the angle,ad spray the anti-corrosion oil once a month;

【“4”Guide Rail】Clean up the iron scraps everyday, spray the anti-corrosion oil once a month.

【“5”Lead Screw】Spray the anti-corrosion oil once a month.

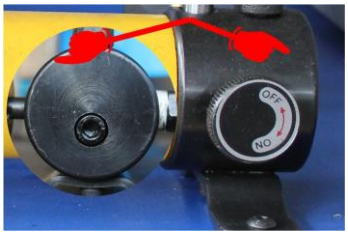
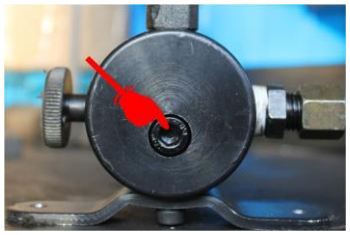
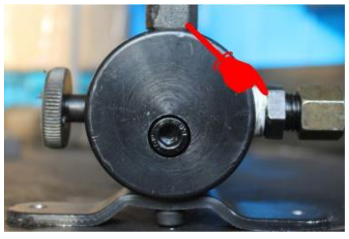
The feed depth adjustment screw is lubricated once a month, and the feed screw cover can be disassembled during lubrication



Hydraulic system decompression

After one day working or not using the equipment for a long time, please rotate the relief valve knob to relieve pressure and reduce the load of the hydraulic system.

13. Common Trouble Repair & Maintenance

NO.	Fault		Maintenance & Repair
1	No response from electrical equipment	No electricity	Check the wire of electricity
		Broken Line, Poor Connect	Check if anywhere broken line or poor connection
2	Electrical OK, Still no response	Emergency on	Rotate the “emergency” button
		Power lock not open	Move the key on the panel
3	Rotation Error	Spindle Rotate Error	Change the wire line sequence
		Feed motor rotate Error	Check the "Feed switch "" L or R" on panel"
4	Abnormal Noise	From Motor	Power supply shortage
		From Gear	Gear wear, inject with lubrication oil
5	Spindle not run	Over load	Power off and reset on the "Disconnector"（Refer to point 7）
		Lock nut off	Lock up the Jam Nut (Overload)
		Bearing Broken in main shaft	Replace the Bearing
6	The compression can't be tightened		Check if any scraps stick on the rollers or plates
7	Workpiece ejected or deflected		Ensure if the feeding direction correct with request
8	Serious Spark during operation	Overload	Reduce the bevel depth or speed, can add coolant properly when process stainless steel plate
		The Inserts wear	Replace Inserts
9	Inserts smashed with workpiece		Check if the inserts already contact with plate before feeding
10	Can't process with thin plate		Specified Working range for machine, Contact with supplier
11	Inserts cracks once start beveling		Reduce feeding depth
12	Artifacts Skid	Low friction coefficient	Increase the friction of feed wheel and add force to the conveyor
		Feed speed doesn't match	Reduce feeding speed
13	Hydraulic cylinder unable to lift		
		Tap the hand pump head with a wooden stick	Unscrew the top screw and clean up any impurities
			
		Open back cover and fill with hydraulic oil	Hydraulic joint leakage: rewrap raw material belt seal
14	Electric control Error or any others		Contact with supplier in time
15	Difficult to rotate the angel		Ensure if already loosen jam nut or any scraps in the

		rotate holes.
16	Feed wheel not working	Check if any problem on the feeding gear

CAUTIONS

- ✧ Replace the direction of insert and fixing screws in time according to different factors of different processing materials, feeding depth, and cutting speed, etc.
- ✧ Recommend to replace the angle of insert cutting between 30-100m to protect the insert.
- ✧ Recommend to replace the screws of insert cutting between 30-100m to lower the risk of insert damage.

NOTE: The professional worker will decide if that can be taken out or not based on different situation if the screws are broken out, otherwise that may cause cutter head cannot work normally.

14. Packing List

NO.	Description	Model	Qty	Unit	Remark
1	Plate Edge Milling Machine	WBM.60V	1	Set	
2	Insert	ACP300	2	Set	Including in cutter head
3	Screw	M3.5*8	2	Set	Including in cutter head
4	**Allen key**		1	Set	
5	**Ratchet spanner**		1	Pc	
6	**Spanner**	19	1	Pc	
7	Cutter wrench	T15	1	Pc	For Insert Replacement
8	Industrial Plug	4075	1	set	Imported(On Electric Box)
9	Tool Kit	4111	1	Pc	
10	**Universal wheel**	5001	4	Pc	Walking Wheel
11	**Screw**	M8*16	16	Pc	For fixing universal wheels
12	Oil pot		1	Pc	
13	Package Box	Plywoodcase	1	Pc	Fumigation-Free Export Package
14	Operation Manual		1	Pc	

15. Vulnerable Parts List

NO.	Part NO.	Qty in set	Description	Diagram	Remark
1	S-ACP300	6	Inserts	Assembly drawing 2：13#	Replacement period as per the operation manual
2	S-M3.5*8	6	Inserts	Assembly drawing 2：14#	
3	S-63-22-6T	1	Cutter head	Assembly drawing 2：15#	Replace when The bolt is broken and cannot be removed
4	WBM.60VJ-056	4	Top pressure roller（long)	Assembly drawing 5：8#	Change as per needs

5	WBM.60VJ-070	3	Top pressure roller（short)	Assembly drawing 5：9#	
6	WBM.60VJ-041	4	Driving wheel	Assembly drawing 3：6#	Change as per needs
7	S-16006ZZ	8	Bearing	Assembly drawing 3：12#	Change as per needs
8	S- PK740	1	Belt	Assembly drawing 1：4#	Change as per needs
9	S-14*20*12	14	Copper bush	Assembly drawing 5：5#	Use on Top pressure roller
10	S-60VJ-60	1	Protective sleeve	Assembly drawing 4：1#	Pressure for the screw

NOTE: Inserts and screws are regular wear and tear parts which can stock accordingly. For other parts may need to replace, please check as per your needs.