



麦特自动化  
MATE AUTOMATION

## Weld Bead Grinding Machine

# MWG-15

# Operation Manual

SUZHOU INDUSTRIAL PARK MATE AUTOMATION  
TECHNOLOGY CO.,LTD  
[www.suzhoumate.com](http://www.suzhoumate.com)

Thanks for using our products. Before use, please read this menu carefully and keep it for future reference. Thanks for your understanding if there's any discrepancies between the manual and practical operation process due to technical update ceaselessly.



SUZHOU INDUSTRIAL PARK MATE AUTOMATION TECHNOLOGY CO.,LTD  
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## Company brief

Suzhou Industrial Park Mate Automation Technology Co., Ltd. is a metallic gasket and equipment manufacturing and selling company. We are located in Suzhou - a city well known for its Chinese classic garden, south of Jiangsu Province, China. With our technology, we offer our customers very wide variety of metallic gasket equipments, such as

Spiral wound gasket winding machine;

Kammrofile machine;

Guide rings grooving machine;

Inner ring beveling machine;

Bend & weld machine;

Stamp marking machine;

as well as computer controlled compression tester.

Our concept is to provide our customers with one-stop service for all metallic gasket related products, parts, and equipment. We have successfully sold our products and equipment to customers in the Asia India USA Europe and South America.

We welcome all customers from abroad and home.



## MWG-15 Weld Bead Grinding Machine



### Machine Structure

This machine mainly consist of 3 axis system, X, Y and Z movement controlling, driven by 3 servo motors, as well as a clamp device for holding the ring during process. In 3 axis system, Z axis controls milling tooling, x and y control the ring moving by program.

### Machine Main features

1. Special designed for remove the surplus of ring welding seam, including two surfaces and two beads on OD and ID;
2. Two-step process, first step remove the surplus on up-side surface, OD & ID, then second step remove the surplus on down side surface.
3. Process fully automatically controlled by PLC, all need operator to do is loading and unloading the ring;
4. Suitable for both stainless steel and carbon steel, all sizes of inner ring and guide ring;
5. With pneumatic cylinder controlling clamp, quick load and release rings.

### Machine set up

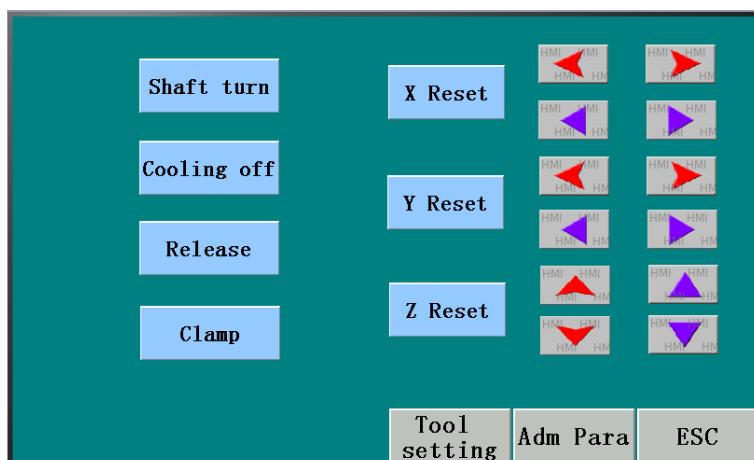
1. Connect cable to power.
2. Connect air pipe to compressed air source.
3. Turn on power.

### How to set up program

Power on, the interface will show first page as following,



Press “MANU” button, it will shows following page, this page is used for only manual control the machine movements.

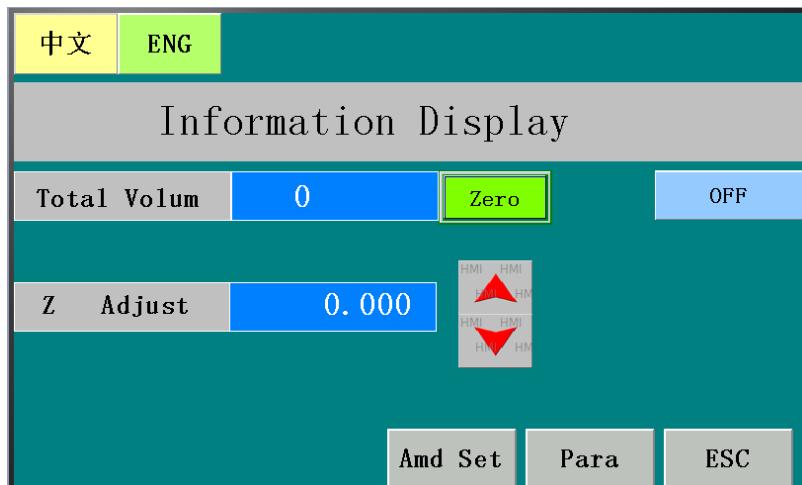


**Note**, Red arrow means fast move, while blue one means slow move.

#### Adm Para

is only for administrator's use, machine operator is not recommended to change any setting unless agreed by manufacturer.

Press “AUTO”, it will show following page,





Total Volum --- How many pieces of ring be processed

Z Adjust --- provide user a convenient way to adjust the milling tool's height, in case your initial heights setting is not perfect right, you can adjust it during process.

OFF

--- This is button provide user two options, off means flat surface + cylinder surface, while on means flat surface only; In most case, switch it as off.

Para

Press **Para**, it will come to the parameter setting page as following,

Para	
Ring OD	0. 000
Flange Width	0. 000
Bead height	0. 000
Tool OD	0. 000
Feeding speed	0
Mill timers	0
<b>And Set</b> <b>Return</b>	

Ring OD --- Ring outside dimension;

Flange width --- Ring flange width, which determine the milling blade go cross the ring flange;

Bead height --- Means welding seam height, normally don't need to anything to it, this is for machine maker's purpose;

Tool OD --- Tool outside dimension, normally don't need change unless you change different type of tool, you can make slight change in order get better ex-circle and inside circle milling finish.

Feeding Speed --- determine tool feeding speed, for different material, you can set up different speed, for example, carbon, you may increase speed a little bit, for hard material like stainless steel or alloy material, lower speed properly.

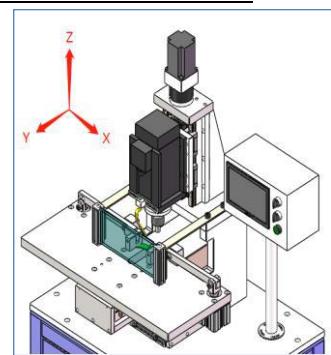
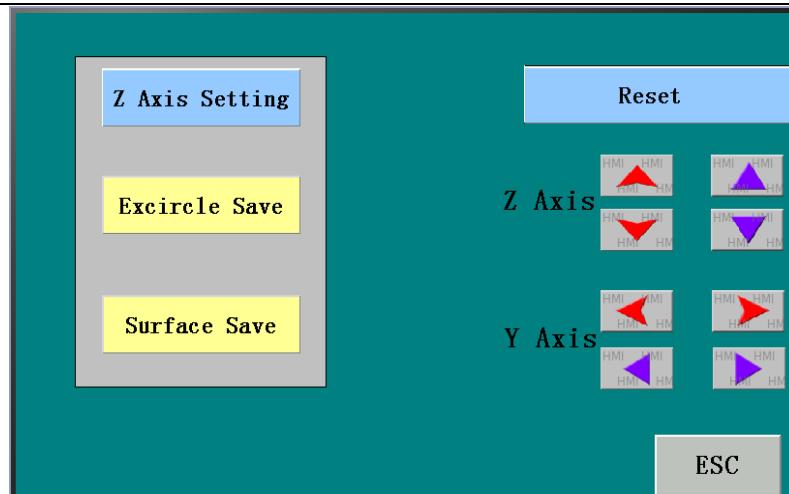
Mill times --- This is only for surface process, define one single process or multiple process, in case the welding bead is much, then you can type in 2 or 3, so machine will process 2 or 3 times, normally set it as 1, machine will go with one single process;

After set up parameters, you will need to do tool setting. Come back to manual page by press "Manu".

Press "Shaft turn" to turn on the tool motor, then press "Tool setting", it will come to the tool setting page as following, this page is for set up the initial position where milling start, tool setting is basically for set the tool start positions, actually set up Z axis's start positions, eg. Ex-circle position and Surface position.

Press the Z axis setting, the tool will come down to initial position ready for tooling set up, then you can use the arrows at the right side to move the tool to the start positions, red arrow means fast moving, while blue one means slow moving. First set up ex-circle position, then set up surface position, save both by press Ex-circle save and Surface save respectively, tool setting is finished.

Details please see following pictures,



Machine has additional option, use the controlling hand-wheel to move the tool.

Once tool start positions set up, machine is ready for automatic processing.

## Machine operation

Step 1 Load ring, and press the foot switch clamp the ring, make sure the ring welding section roughly locate the center position;

Step 2 Press “Start” button, the machine will start process ex-circle and up side surface, after finish, press foot switch to release the ring;

Step 3 Turn over to the other side, press foot switch again clamp the ring, then press “Start” again, the machine will process the surface of other side and inside circle. Press foot switch to release the ring. Whole process accomplished.

## Machine specification

Type	MWG-15
Profile L*W*H	900*1000*1550
Net weight	290KG
Power Supply	2.6KW
Voltage	380V
Size scale	3" and above
Thickness	2-5 mm
Maximum width	60 mm
Cycle time (one side)	15-20 Seconds
Work mode	Automatic
Process control	PLC programmed
Ring load and unload	Manual
Accuracy	+/-0.05 mm



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## **Safe Instruction**

1. Operator must wear glass to protect eyes during the whole process.
2. Press the red button in any emergency situation.

**END**