

Suzhou SIP Automation Tech. Co., Ltd 苏州工业园区麦特自动化技术有限公司

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MK-03S Kammprofile Machine Operation Manual

Suzhou SIP Mate Automation Tech Co., Ltd

www.suzhoumate.com

Thanks for choosing Mate product. Please read through the manual carefully before operating the machine. Keep this manual in a safe place for future reference. Due to continuous technology upgrade, there may be some differences between manual and machine itself, please feel free to ask for latest information from us.

Agenda

1 Company Brief

2 Machine Introduction

3 Operation Guide

4 Machine Specification

Company Brief

Suzhou SIP Mate Automation Technology Co., Ltd. is located in Well-known Suzhou Industrial Park, east of Suzhou, within the 2 hours car driving far from the Shanghai Pudong International Airport, and Shanghai harbor, one of the biggest harbor in China, as well a major one in the world.

With a strong R&D team, Mate can always provide customers tailor-made automation solution; therefore, help customers improve productivity meanwhile, saving cost dramatically.

Our specialties include energy industry; automobile industry; electronic industry and so on. We have been successfully sold our machines and equipment domestically as well as to many countries in North-America, Europe, and Asian Pacific.

“Create value for customer” has been always our key concept and company motto. Sincerely hope that Mate can become customers’ assistant to help them grow their business to great success.

Machine main

1 MK-03S is special designed machine for making small sizes of kammprofile gasket, work range from ½ inch to 18 inch;

2 MK-03S machine is a multiple-function machine, besides making kammprofile, it is also capable to do job like guide ring grooving and inner ring chamfering if deploy proper sizes of fixtures;

3 With Numeric control system make process fully automatic except ring loading and unloading;

It can make all types of kammprofile machine, work with our MK-03 Kammprofile machine provide customers full sizes range kammprofile gasket producing capability.

4 Use vortex air cooling to cool down cut insert.

5 Work mode is basically like a CNC lathe, with pneumatic jaw, the operator can load and unload ring

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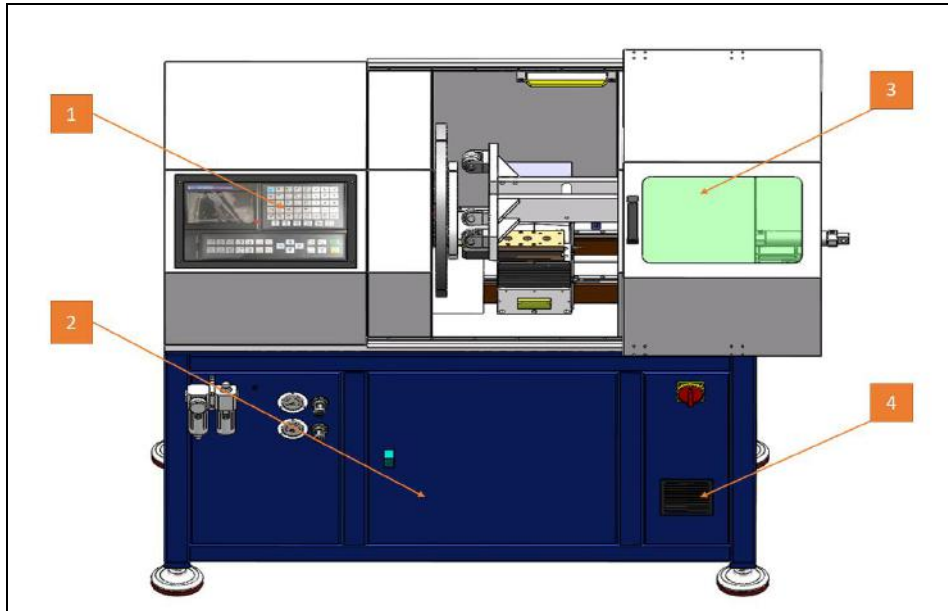
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quickly.

6 Deployed horizontal press device, which is very useful when you process 200mm-450mm diameter rings, horizontal press device can eliminate the ring's deformation, therefore ensure the kammprofile quality.

Machine overview



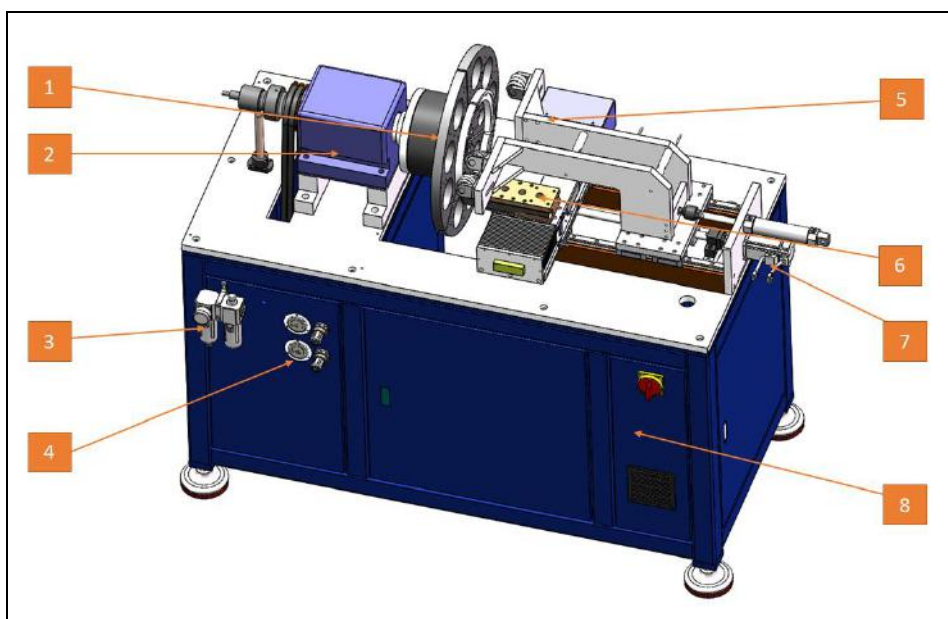
1 Control panel

2 Scrap (scurf) collect

3 Slide door with window transparent

4 Electronic cabinet

Machine details 1



1 Round plate with holes to mount fixtures

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2 Die casting main shaft box

3 Compressed air drier and lubricate

4 Air pressure regulators

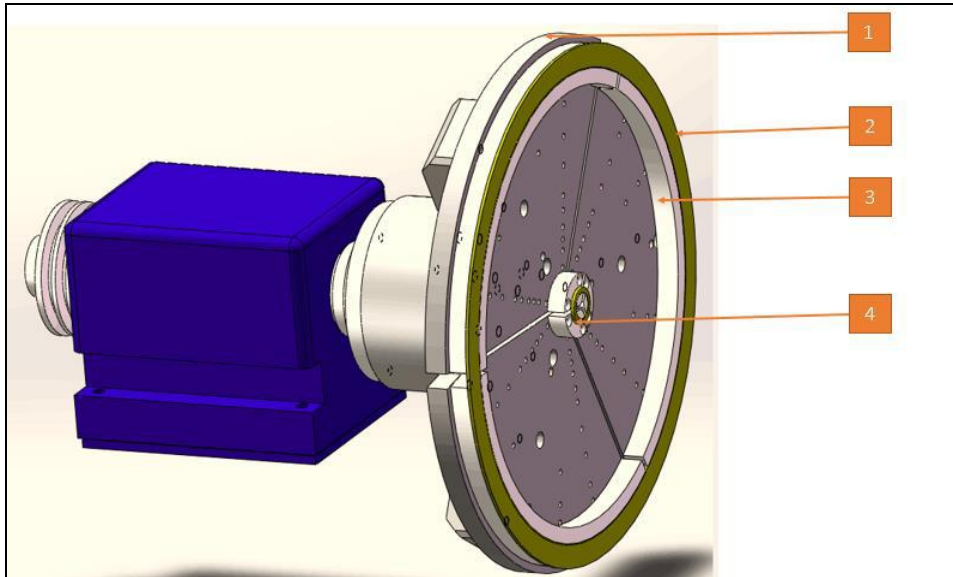
5 Horizontal press, maintain certain level pressure to the ring during processing

6 Cutter base, with X & Y two axis controlling the cut insert processing to ring

7 Servo motor, there are two, one controlling X and one control Y

8 Power switch

Machine details 2



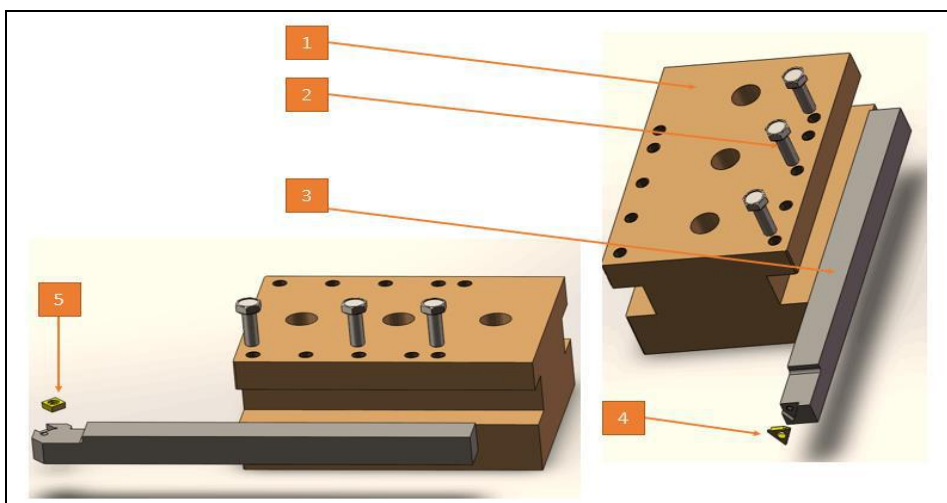
1 Round plate --- with screw holes where varieties of fixtures mounted to it

2 Ring --- Held by the fixture, expand by pneumatic cylinder

3 Fixture --- each size ring need one set of fixture

4 Smallest ring --- work range on this plate 1/2-18 inches

Machine details 3



1 Cutter base --- allows changing cutter holder, with 2 positions

2 Server motor --- drive the blade up and down (Z axis control)

3 Cutter holder --- inserts replaceable

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4 Cut insert --- used for outer grooving, LG kammprofile gasket

5 Cut insert --- used for flat surface and serration as well as chamfering

Operation Guide

Set up machine

Power on, the display will show the page (Pic1)



How to set up initial position for cutter?



Press  it will show below page (pic2), in which user can set up initial position for cutter.



(Pic2)

Set up initial position

Step 1 load the ring to fixture, press footswitch to hold the ring (kammprofile ring and inner ring will be held from inside, while guide ring will clamped from outside),

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Step 2 Press , , ,  manually control cut blade move to the initial

position quick, when the blade move to close enough to the part then press  reduce speed, then press the above 4 keys again to move slowly the blade toward the part until blade touch the parts,

press  come to the next page (see Pic 3) record position under “X” and “Z” .

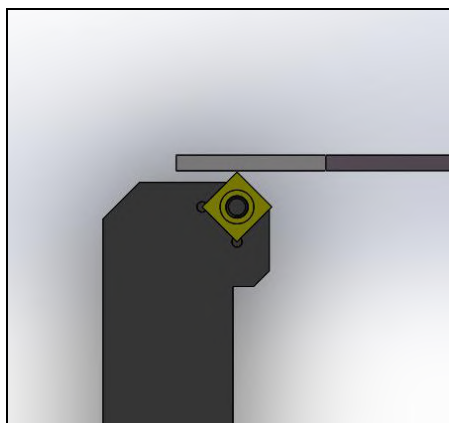


[OFT]	OFT.NO	Z	X	R	T	S	Y
01		0000.000	0000.000	0000.000	0	00	0000.000
02		0000.000	0000.000	0000.000	0	00	0000.000
03		0000.000	0000.000	0000.000	0	00	0000.000
04		0000.000	0000.000	0000.000	0	00	0000.000
05		0000.000	0000.000	0000.000	0	00	0000.000
06		0000.000	0000.000	0000.000	0	00	0000.000
07		0000.000	0000.000	0000.000	0	00	0000.000

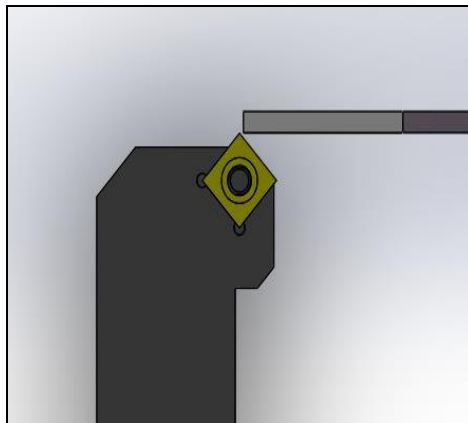
EDIT JOG AUTO PAR OFT DGN

(Pic 3)

Kammprofile process, you need save surface position and edge position both,



Surface position



Edge position

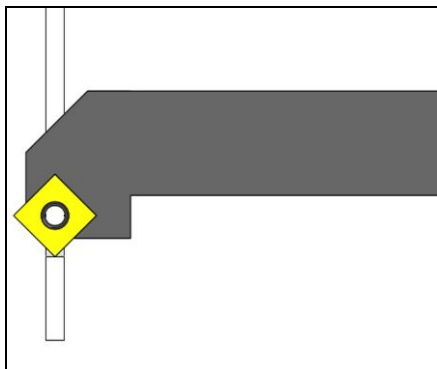
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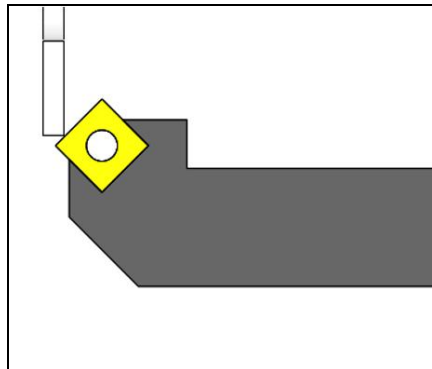
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Grooving process



Chamfering process



How to pick up program

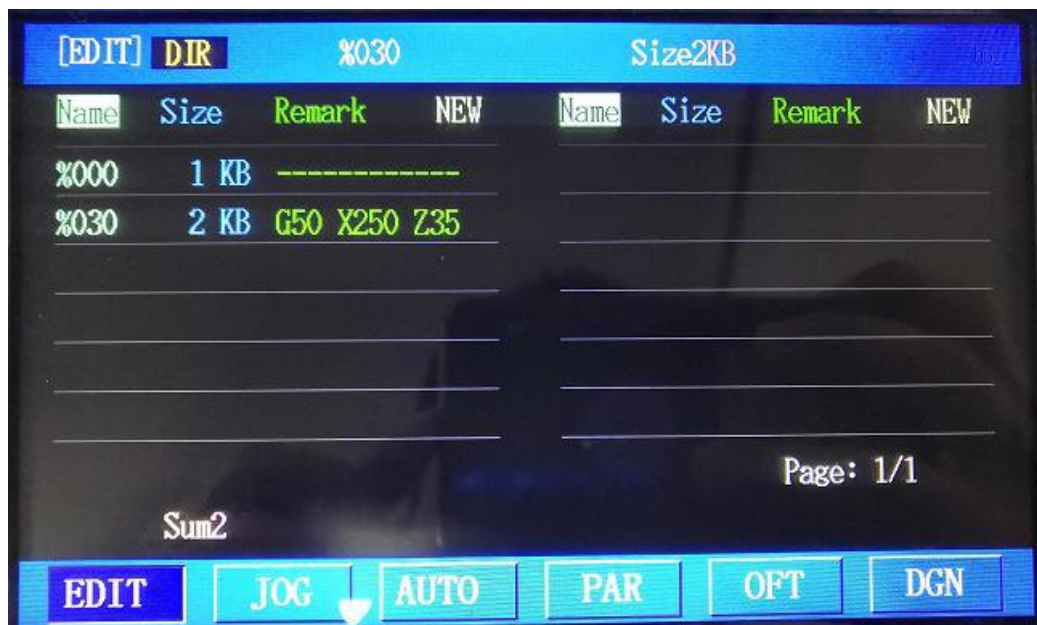


Press  come to the page as (Pic 4) shown, see the left side program numbers such as

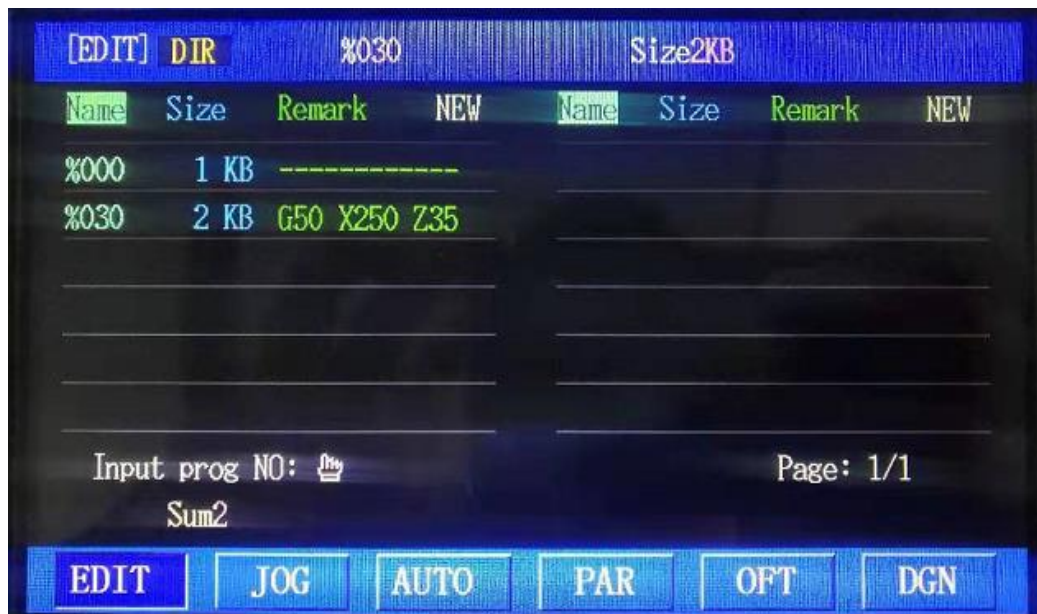
001,002,030 etc. Press  come to the page Pic 5, press 001 press  finish program set up.



After program set up press  come to auto page (Pic 7) program is ready for processing.

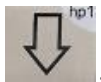


(Pic 4)



(Pic 5)

How to modify the program,

Come to the program page shown as (Pic 6), then press ,  ^{hp1},  ^{hp3}, 

move the cursor to position where need to modify, press  delete the value and type in revised value, modification accomplished.



(Pic 6)

After program modification, press  come to auto page (Pic 7) program is ready for

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processing.

There are 3 programs pre-installed in the machine, 000 Chamfer program, 001 Grooving process, 002 Kammprofile process.

Additional Tips



1st Tip, the operator must wear glass for eye protection.

For more information for Numerical Control System operation and programming, please refer to GSK928TD-V1.0

Machine Specification

Profile	1360*860*1690mm
Weight	560 KG
Power	3.0 KW
Voltage	380V Adjustable
Process control	Numerical control system
Servo motor	Yes
Work range	1/2"-18"
Material suited	CS SS, Alloy
Thickness scale	3-6mm
Max Flange width	60mm
Work height	930mm +/-50mm
Kammprofile type	All types of Kammprofile
One side CT	3-5 minutes
Setup time	2 to 5 minutes
Load & Unload	Manual
Process	Side by side
Linear speed	80 - 120 m/minute
Cooling	Vortec air cooler
Air consumption	0.8 Cubic meter/ minute

The end.