麦特自动化
MATE AUTOMATION

## Double Jacket Machine

# MDJ-23

# Operation Manual

SUZHOU INDUSTRIAL PARK MATE AUTOMATION

TECHNOLOGY CO.,LTD

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
ADD: BUILDING 15-1 PUTIAN PRIVATE INDUSTRIAL ZONE WEITING SIP JIANGSU 215122
TEL: 0086-512-6285 0086 FAX: 0086-512-6285 0087

# 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.

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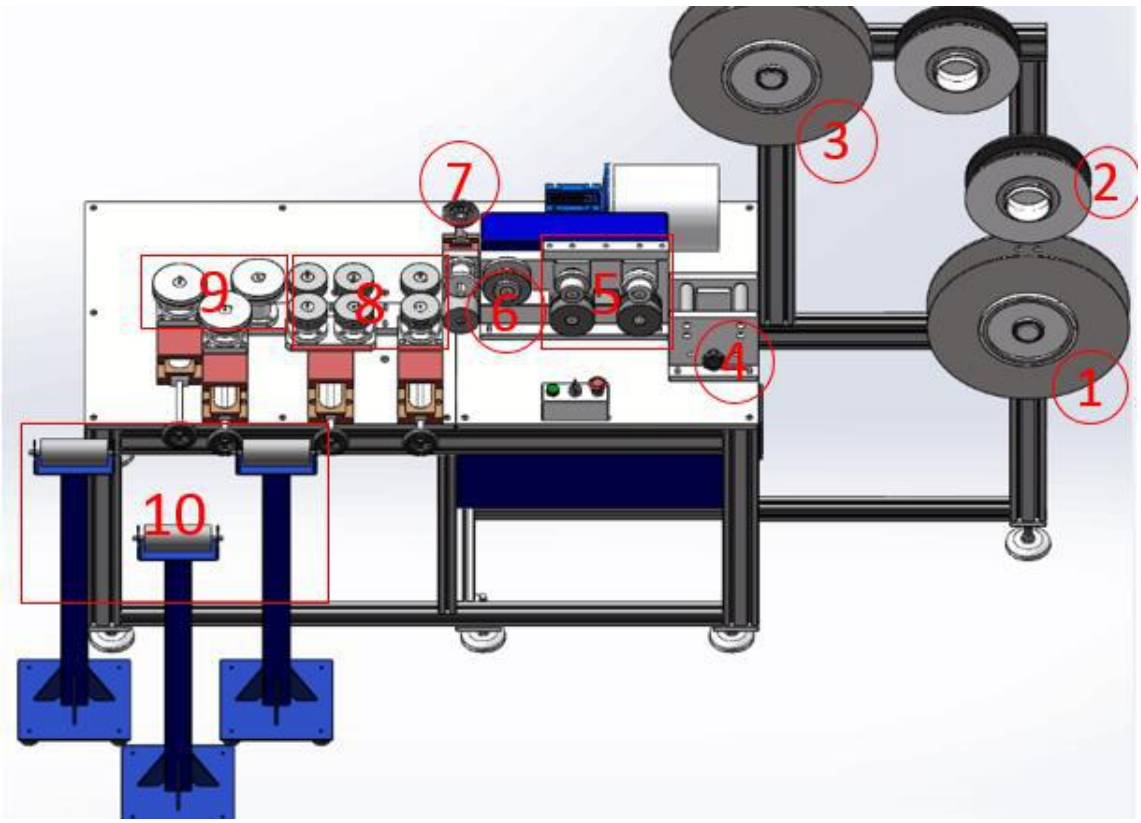
# MDJ-23 Double Jacket Machine (Pic1)

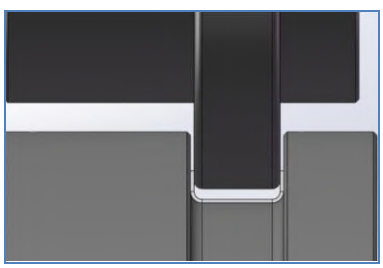



1. **Down steel strip plate**
2. **Graphite plate x 2 or3**
3. **Up steel strip plate**
4. **Down strip centralizer**
5. **Steel strip forming roller set**
6. **Up strip centralizer**
7. **Up strip press roller**
8. **Roller set for closing two edges**
9. **Bending roller set**
10. **Support x 3**

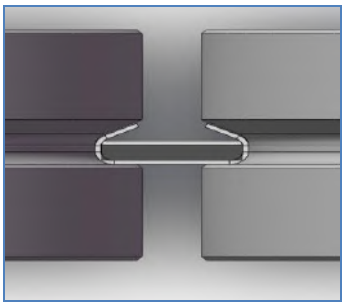
## Machine Structure

**This machine mainly consist of 3 functional roller sets,**
**No.5 is steel forming roller set, consist of two couples of rollers, first one is for pre-forming, the second one is for final forming; see below picture**

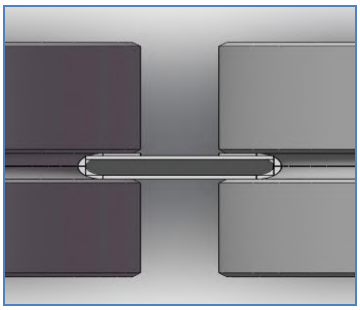

(Pre-forming)


(Final forming)

**No.8 is edge closing roller set, consist of 3 couples of rollers, first couple is for pre-closing, the rest two couples of rollers are for final closing, see below picture,**

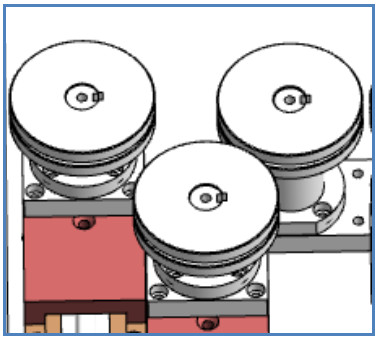


(Pre-closing)

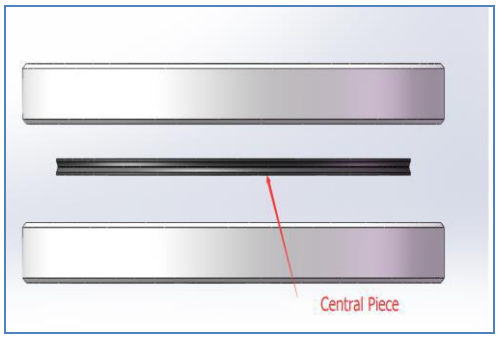


（Final closing）

**No.9 is bending roller set, consist of 3 rollers, see following picture,**



（Bending roller set）




**Mostly the double jacket gasket thickness is 3 mm, some customers may need 4 mm thickness, therefore, they will need one set of differrent edge closing rollers, as well as 3 central pieces of bending rollers.**

## Machine Main features

1. Double Jacket Machine is special designed for making double jacket gasket, it can make the straight double jacket bar and it can also be bent to ring in one process. Straight bar can be used as pass by, welded to ring.
2. Significantly improve the productivity and material utilization compare with the old machine.

## Machine set up

3. Connect cable to power.
4. Connect air pipe to compressed air source.
5. Turn on power.
6. Load all necessary raw materials, like graphite tapes, stainless steel strips, put the narrow strip on the top plate, and down strip on down plate, 2 or 3 layers of graphite tapes in the middle plates.

For raw material specification recommended as below spreadsheet,

| Metal Jacketed Gasket - Raw Material Dimension VS Finshed Gasket Flange Width Recommended （mm） | | | | | | |
|---|---|---|---|---|---|---|
| *Item* | *Gasket Flange Width* | *Steel Strip Thickness* | *Graphite Filler Thickness* | *Graphite Filler width* | *Up Steel Strip Width* | *Down Steel Strip width* |
| 1 | 8.00 | 0.50 | 2.00 | 7.00 | NIL | 18.00 |
| 2 | 10.00 | 0.50 | 2.00 | 9.00 | 9.00 | 21.00 |
| 3 | 13.00 | 0.50 | 2.00 | 12.00 | 12.00 | 23.00 |
| 4 | 16.00 | 0.50 | 2.00 | 15.00 | 15.00 | 26.00 |
| 5 | 18.00 | 0.50 | 2.00 | 17.00 | 17.50 | 30.00 |
| 6 | 19.00 | 0.50 | 2.00 | 18.00 | 18.50 | 32.00 |
| 7 | 20.00 | 0.50 | 2.00 | 19.00 | 19.00 | 33.00 |
| 8 | 22.00 | 0.50 | 2.00 | 21.00 | 22.00 | 35.00 |
| 9 | 24.00 | 0.50 | 2.00 | 23.00 | 24.00 | 36.00 |
| 10 | 25.00 | 0.50 | 2.00 | 24.00 | 24.00 | 38.00 |
| 11 | 28.00 | 0.50 | 2.00 | 27.00 | 28.00 | 42.00 |
| 12 | 30.00 | 0.50 | 2.00 | 29.00 | 28.00 | 48.00 |

Note,

1) Final width of metal jacketed gasket is 3.2 mm or 3.5 mm
2) When Final Thickness of metal jacketed gasket is 4.00 mm graphite with 3 mm thickness is used.
3) Graphite filler width normally 1 mm less than the final gasket flange width.
4) Raw material advised use 304L and 316L, to make small sizes, better use 316L.

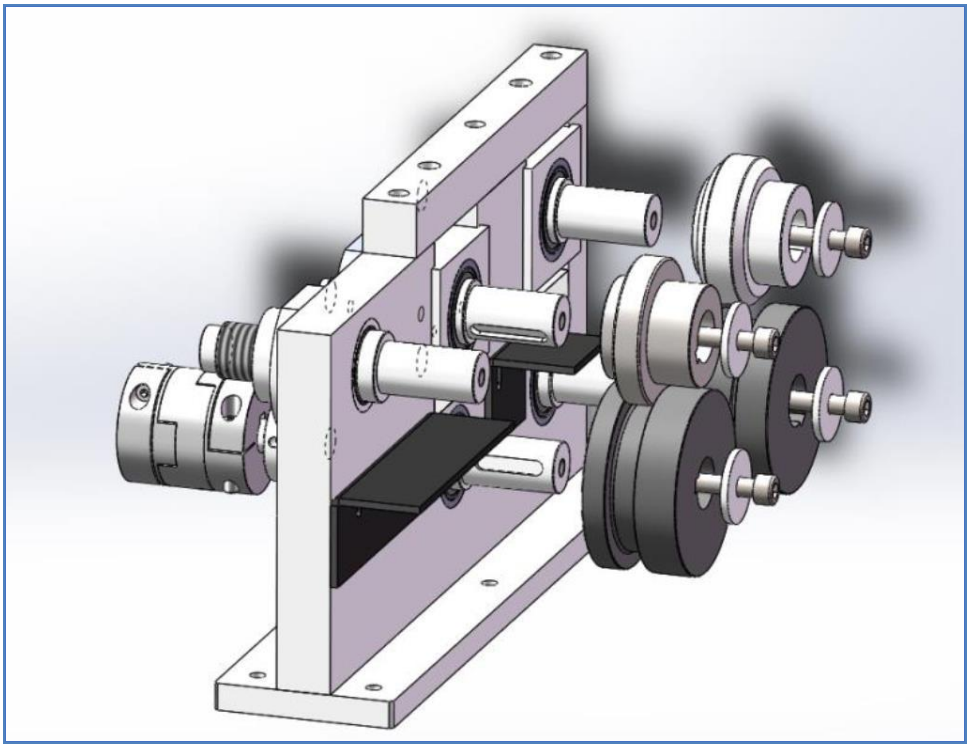
## Machine operation

Step 1 Feed the down strip go through the centralizer first, then go through the female pre-forming roller, then press down the up roller until bottom.
Step 2 Turn the switch to “Forward”
Step 3 After strip going through pre-forming roller set, guide the strip into the final forming roller set, press down the up roller until bottom.
Step 4 Feed two filler tapes into the formed strip, meanwhile feed the up strip on top of it.
Step 5 Adjust down the up strip press roller on the top of up strip, provide proper pressure on it.
Step 6 Guide all the materials to edge closing roller sets, move the roller forward by the hand wheels to close the edge of steel strip, within closing rollers set, there 3 couples of rollers, first couple is for pre-forming, the rest 2 couples of rollers are for final closing. Wheel the rollers until both edges embed into the slots of rollers.
Step 7 Tune the motor speed at slow level, slowly guide the bar into bending roller set, slightly move the last bending roller to bend the bar into radius you want. Principle is, the wider bar, the bigger diameter can be bended to.

### How to change over

To make different flange width of gasket, you would need to change the forming roller

sets as following picture, also you would need to change the material to proper width as shown in the material specification sheet above.



**Important Tips**

The correlation between bar width with minimum size limit is roughly like the data in machine specification as below.

## Machine specification

| | |
|---|---|
| Type | MDJ-23 |
| Machine profile | 2150*700*1900 |
| Max occupation | 2200*700 |
| Net weight | 350KG |
| Power supply | 2.2 KW |
| Drive motor | 2*1.1 KW |
| Voltage | 380V |
| Work mode | Semi-automatic |
| Bending capability | Yes |
| Ring Size | 10''-3500 mm |
| Max Thickness | 4 mm |
| Line Speed | 0-200 mm/s |
| Material suited | SS & Alloy |
| Min Size can bend for 25mm width | 900 mm Dia |
| Min Size can bend for 20mm width | 800 mm Dia |
| Min Size can bend for 16mm width | 600 mm Dia |
| Min Size can bend for 13mm width | 200 mm Dia |
| Min Size can bend for 10mm width | 150 mm Dia |

## Safe Instruction

1. Operator must ware glove to protect hands from steel strip sharp edges and steel flash.
2. Use necessary tools to guide the strips go through each roller sets, and keep hands away from rollers.
3. Don't open electronic box when electrician is absence.

**END**