

# SERVICE MANUAL

## Rotator

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### MX-RD-E Economical Rotator



VERSION20170204

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DOMINIQUE DUTSCHER SAS

## Chapter 1: Working Principle

### 1.1 Introduction

Rotators give gentle but effective mixing of biological samples held 1.5mL to 50ml micro tubes, and are used in a variety of applications including immune precipitations, prevention of blood coagulation, latex diagnostics, etc.



FIG.1

Fig.1 is the structural of MX-RD-E, speed control knob on the control pannel.

User can set the rotate speed though the knob. Range of speed is 0~80r/min.

- ✓ Power supply: 100-240VAC → power outlets → PCB24VDC → system control power supply

## Chapter 2: Removal and Installation of Instrument

When instrument failure occurs, first, you should conduct a failure analysis; if the failure is caused by the damage of instrument hardware, the related component must be repaired or replaced. Here are the relevant contents of the replacement and disassembly of instrument.

### 2.1 Removal

Tool: cross screwdriver



Step1:

Take down the plastic cap marked by red circle.



Step 2:

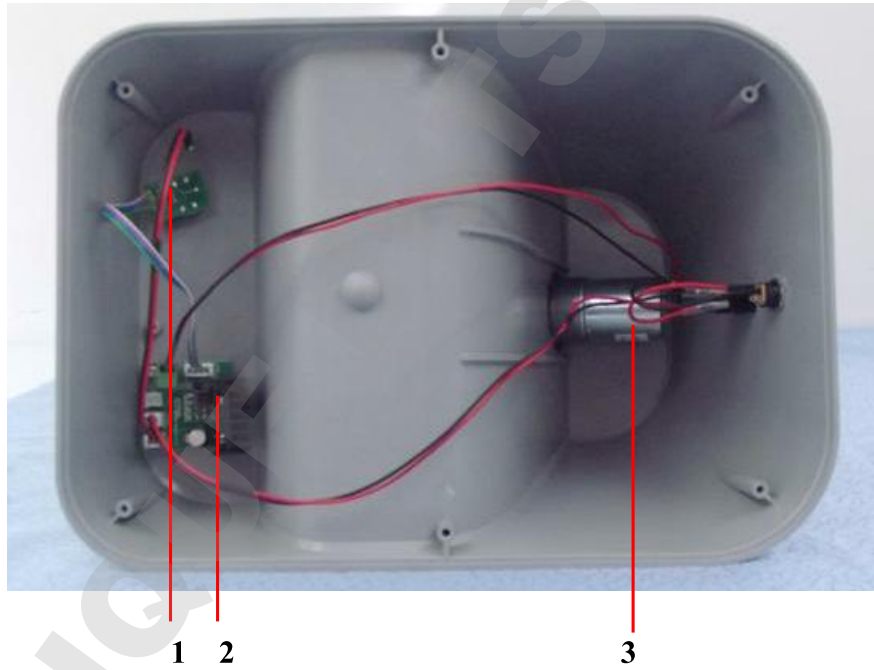
Remove the 3 screws marked by red circle and keep them well, take down the disc.



Step 3:

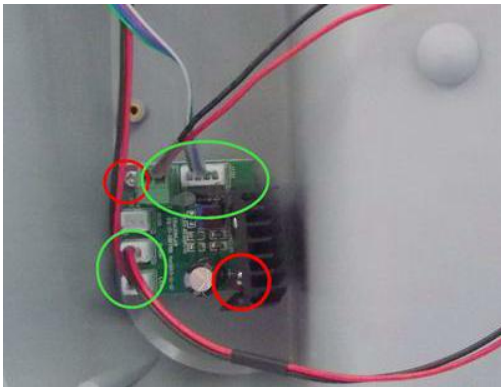
Remove the 6 screws marked by red circles and keep them. Then you can disassemble the instrument.

## 2.2 Main spare parts



Item	Spare part	Part number
1	Potentiometer	18101049
2	driven board	18101113
3	motor	18200912

## 2.3 Replace the driven board



Step 1:

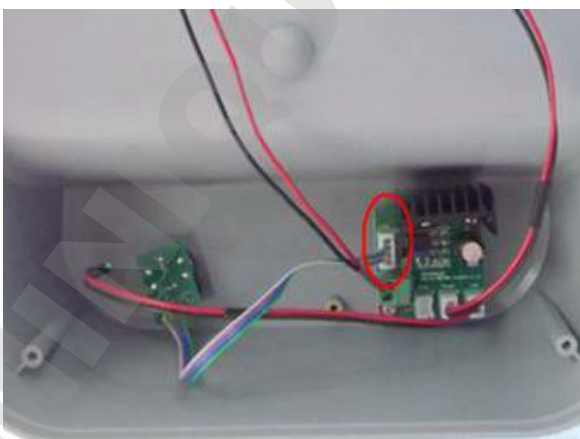
Remove the 2 screws marked by red circle, unplug connectors marked by green circle, then replace the driven board and assemble it in sequence.

## 2.4 Replace the Potentiometer



Step 1:

Take down the plastic knob, remove the screw marked by red circle and keep it well.



Step 2:

Unplug the connector marked by red circle, then replace a new potentiometer.

## 2.5 Replace the motor



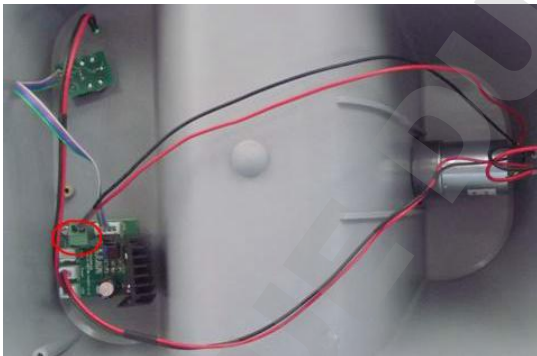
Step 1:

Remove the 3 screws marked by red circle.



Step 2:

Remove the 2 jackscrews marked by red circle



Step 3:

Unplug the connector marked by red circle, then take down motor and replace a new one, then assemble it in sequence.

## Chapter 3 Trouble Shooting

FAULT CODE	PROBLEM	CAUSE	SOLUTION
E01	No operation response (LED off)	No power supply	Check and connect the power supply, then power on again
		The power switch put off	Put on the power switch
		Connection is failure	As shown in the chapter 2.2, open the instrument and check all the connection, re-connect.
E02	Instrument doesn't working	No setting target speed	Rotating the knob to set a target speed, and the speed indicator is on.
		The drive board is failure	Replace the drive board, please reference chapter 2.3
		Motor is failure	Replace a new motor
		Some gears are broken	Replace new gears
		The photoelectric switch is failure	Replace the photoelectric switch