



Mini Extruder - ME 1 / ME 2



ME 1



ME 2

Instruction Manual

The company reserves the right to change equipment specifications and models without notice. Pictures are representative and may not be part of the standard equipment.

Elgi Rubber Company Limited

2000 Trichy Road • Coimbatore 641 005 • Tamil Nadu • India • +91 (422) 232 1000 • info@in.elgirubber.com • www.elgirubber.com

Contents

- 01 Description3
- 02 Specifications4
- 03 Accessories4
- 04 Tools & Materials Required5
- 05 Installation & Commissioning6
- 06 Pre-Operation Checks6
- 07 Operation7
- 08 Do's and Don'ts8
- 09 Trouble Shooting9
- 10 Preventive Maintenance9
- 11 Electric Schematic Diagram10
- 12 Parts List11

01 Description

The Mini Extruder consists of the following major components:

Pneumatic gun (air tool)

The Pneumatic gun is the power source for the rotation of the screw rod to move the molten rubber to the nozzle.

Note: The Pneumatic gun used is Chicago Pneumatics, model number - CP9286 and is available for 'with Drive' models only. It is not available for 'without Drive' models.

Analog - ME 1 / Digital - ME 2 Controller box

This helps the operator to increase and decrease the temperature according to atmospheric conditions and the production rate.

Barrel

This is the melting chamber in Mini Extruder. It contains a heater and a thermostat. The rubber is fed into the slot on the top side of the barrel and is delivered through the nozzle in front.

Nozzle

This is the part where the molten rubber gets extruded, comes out and gets pasted on the repair area of tyres. There are three types of nozzles (Flat Nozzle, Round Nozzle - 5mm, Round Nozzle - 10mm) used according to the repair size.

Support handle

This helps to tilt and move the Mini Extruder to the required direction and angle it to the operator's convenience while performing the repair.

Clamp

It is used to hang the Mini Extruder in a Repair / Filling Station.

02 Specifications

Catalogue No.	Model
MC 56 - X*	ME 1 - with Drive
MC 57 - X*	ME 1 - without Drive
MC 58 - X*	ME 2 - with Drive
MC 59 - X*	ME 2 - without Drive

X* in Cat. No. denotes power supply specifications (V / Hz / ph)

D - 110 V, 50/60 Hz / 1 PH
E - 220 V, 50/60 Hz / 1 PH

Heater Power	300 W
Temperature range	0 - 120°C
Output capacity	9 Kgs/Hr
Rated Power	440 W (pneumatic)
Weight	4.4 Kgs
Air Consumption	11.3 L/sec

03 Accessories

List of accessories required for Mini Extruder:

Standard

- Rear Exhaust kit
- Nozzles (3 types - Flat Nozzle, Round Nozzle - 5mm, Round Nozzle - 10mm)

Optional

- Nil

04 Tools & Materials Required

Tools and materials required for erection and maintenance:

Tools

Spanners

Double end 12 - 13	1 no.
Double end 14 - 15	1 no.
Double end 16 - 17	1 no.
Double end 18 - 19	1 no.
Adjustable spanner	1 no.

Allen key

Allen key 3mm	1 no.
Allen key 4mm	1 no.
Allen key 6mm	1 no.

Screw driver

Screw driver star end	1 no.
-----------------------	-------

Nylon mallet

Nylon mallet	1 no.
--------------	-------

Materials

Moulded cable - 3 core x 1.5 sq mm copper cable with junction box grounded (length as per site requirement)

Air lubricator ISO 68 or SAE 40 (for FRL in airline)	1/4 ltr.
---	----------

05 Installation & Commissioning

Positioning

- The Mini Extruder is a hand held device. It is suspended using a spring balance or rope near the repair area.
- The area where the machine is located should be sufficiently illuminated.

Connection

- Connect the Mini Extruder with the help of 3 core cable junction box.
- Fix the rear exhaust kit to the air tool handle area as shown in the parts list.
- From the nearest air point, draw a line using a 6mm hose. Connect both the ends with the help of an air connector which fits into coupler.

Setting

- Set the air line regulator at 6.5 kg/cm² by rotating the knob clockwise and then lock it.

06 Pre-Operation Checks

- Proper seating of air tool with Mini Extruder.
- All the nuts mentioned in the parts list are to be tightened properly.
- Remove cured rubber that may be jammed inside the barrel.
- Air tool rotation should have no abnormal noise.
- Safety grounding of main supply voltage.
- Air leaks in pneumatic lines.

07 Operation

Connect the plug to the junction box and switch on the power supply.

Setting temperature in terminal box:

Analog - ME 1

Adjust the temperature controller knob by rotating it such that the pointer indicates 85°C.

Digital - ME 2

Press and hold both arrow buttons (up and down arrows) for 5 seconds. The display of terminal box will show **SET** on the screen. In order to raise the temperature, press the up arrow and for reducing the temperature, press the down arrow.

Recommended set temperature is 85°C.

Wait for the temperature to rise gradually to the set value and when the heater is switched ON, a red light glows continuously. On reaching the set temperature, a green light will glow in terminal box.

Now insert the rope rubber in the slot of the extruder. Meanwhile, press the air tool button. The rubber that is fed melts and is delivered through nozzle.

Hold the extruder handle in the left hand and the air tool in right hand. Apply the molten rubber on the tyre repair area.

08 Do's and Don'ts

Do's

- The device must attain 85°C before feeding in the rope rubber.
- The old stock rubber should be cleaned by running the equipment idle for 3 to 5 minutes before feeding in new rubber.
- Only the recommended rope rubber compound must be used.
- Check and clean if there is any rubber blocked in the nozzle.
- Ensure that the recommended air pressure is maintained.
- The rear exhaust kit must be fit properly.
- Proper earthing must be provided (available with 3 pin connector).

Don'ts

- Do not use the Mini Extruder before reaching the set temperature.
- Do not use cured rubber.
- Do not set the air pressure above the recommended value.
- Do not use the input supply without grounding.
- Do not use 2 pin or open wire to the connector to connect the heater with the power supply.
- Do not attempt to open the air tool to repair.

09 Trouble Shooting

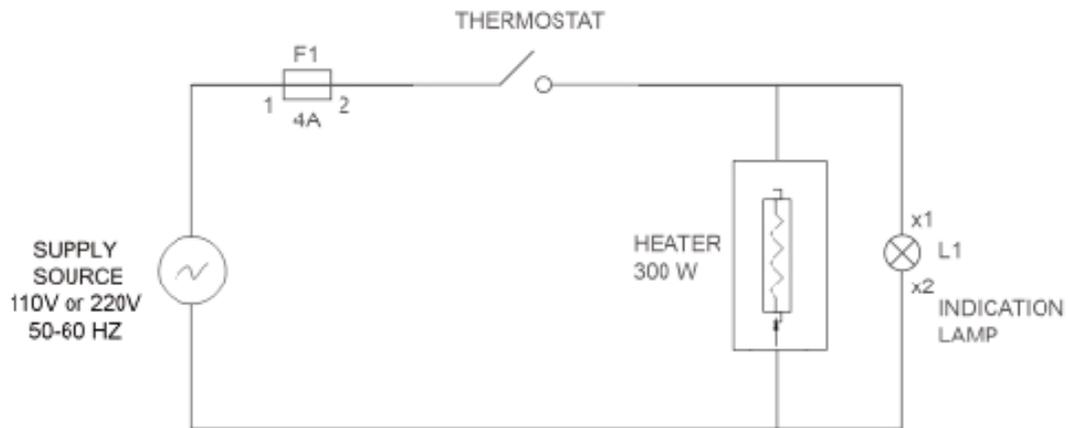
Symptoms / Problems	Possible Causes	Remedies
Noise occurs	Cured rubber is inside	Clean the screw rod, nozzle and re-assemble
Senses body earth	No grounding is done	Earthing should be done in junction box
Body and air tool rotates separately	Cured rubber which is jammed doesn't allow the screw rod to rotate	Clean the cured rubber
Air tool does not rotate properly	Air pressure is not sufficient, no proper lubrication	Set required air pressure, check and fill SAE 40 oil in lubricator

10 Preventive Maintenance

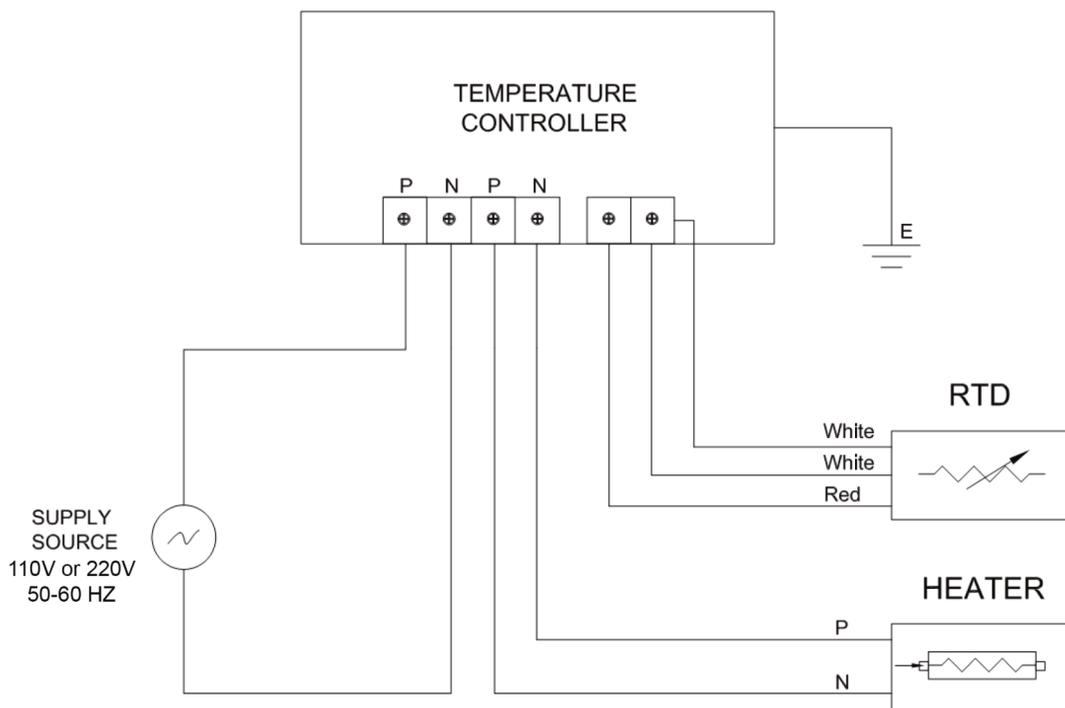
- The Mini Extruder requires regular maintenance.
- Make sure that a Filter-Regulator-Lubricator is present in the line feeding the tool and those units are properly monitored and maintained.
- The Mini Extruder should be disassembled once every three months or depending on the usage. The extruder screw should be removed and cleaned, the shank of the screw polished and the unit can be reassembled.
- This operation requires very little time and will prevent costly down time if any foreign materials cause the extruder screw to seize.

11 Electric Schematic Diagram

ME 1

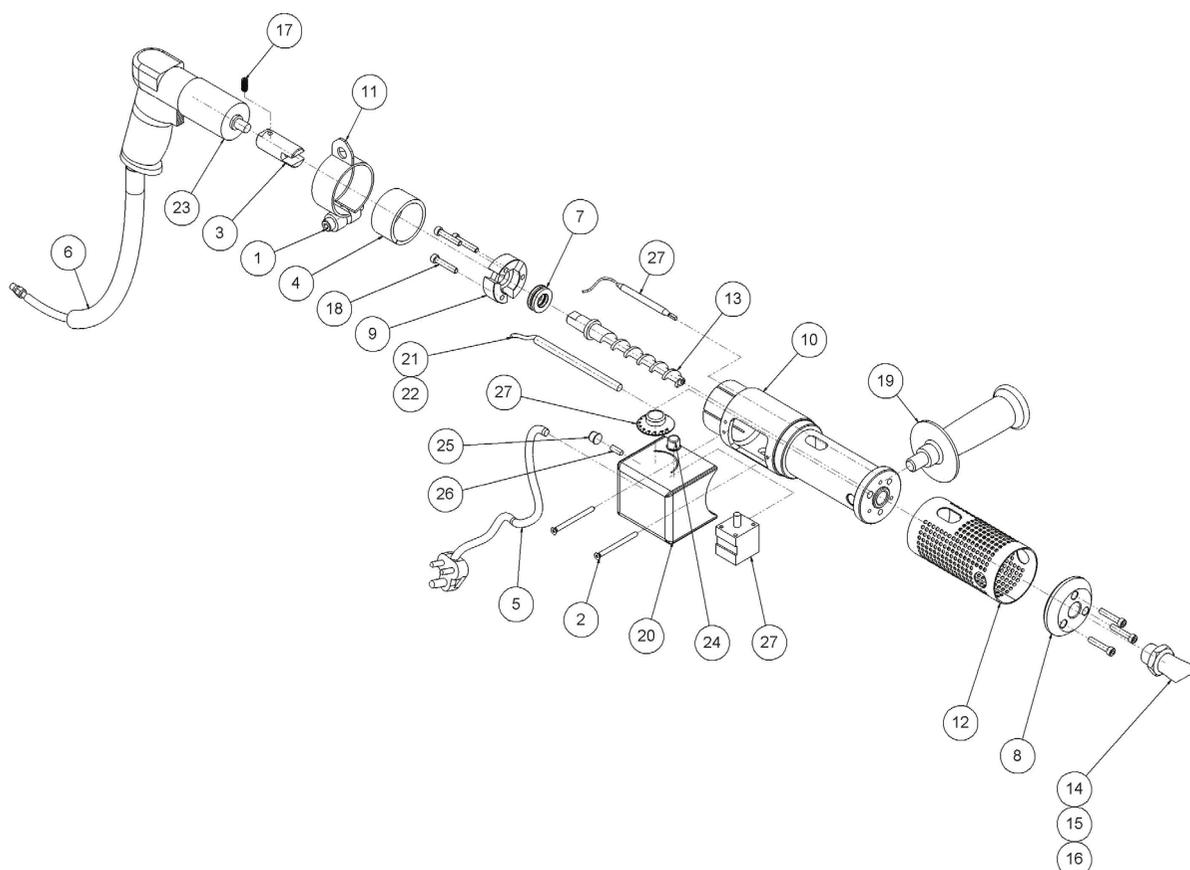


ME 2



12 Parts List

ME 1 with Drive

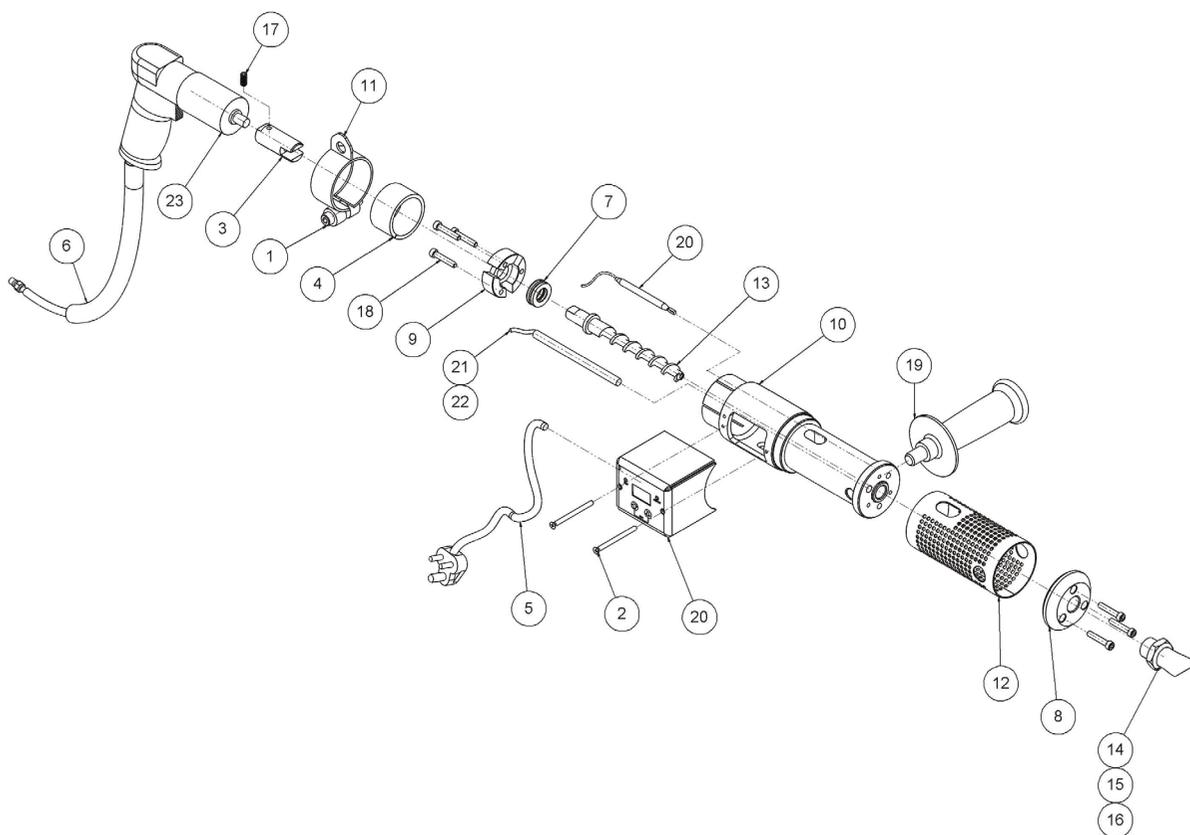


S. No.	Spare Parts	Order Code	S. No.	Spare Parts	Order Code
1	Clamp Screw	MC 56/1	15	Round Nozzle - 5mm	MC 56/15
2	Terminal box screw	MC 56/2	16	Round Nozzle - 10mm	MC 56/16
3	Adapter	MC 56/3	17	Adaptor Screw	MC 56/17
4	Sleeve	MC 56/4	18	Cap screw	MC 56/18
5	Cable	MC 56/5	19	Handle	MC 56/19
6	Rear Exhaust kit	MC 56/6	20	Terminal Box	MC 56/20
7	Bearing	MC 56/7	21	Heat Element 110V	MC 56/21
8	Cap Front	MC 56/8	22	Heat Element 220V	MC 56/22
9	Cap Rear	MC 56/9	23	CP Air tool	MC 56/23
10	Barrel	MC 56/10	24	Indication Lamp	MC 56/24
11	Clamp	MC 56/11	25	Fuse Holder	MC 56/25
12	Body Cover	MC 56/12	26	Glass Fuse	MC 56/26
13	Extruder Screw	MC 56/13	27	Thermostat (Analog)	MC 56/27
14	Flat Nozzle	MC 56/14			

Note: For ME 1 without drive, Exclude S.No.23 - CP Air tool

12 Parts List

ME 2 with Drive



S. No.	Spare Parts	Order Code	S. No.	Spare Parts	Order Code
1	Clamp Screw	MC 56/1	13	Extruder Screw	MC 56/13
2	Terminal box screw	MC 56/2	14	Flat Nozzle	MC 56/14
3	Adapter	MC 56/3	15	Round Nozzle - 5mm	MC 56/15
4	Sleeve	MC 56/4	16	Round Nozzle - 10mm	MC 56/16
5	Cable	MC 56/5	17	Adaptor Screw	MC 56/17
6	Rear Exhaust kit	MC 56/6	18	Cap screw	MC 56/18
7	Bearing	MC 56/7	19	Handle	MC 56/19
8	Cap Front	MC 56/8	20	Thermostat (Digital)	MC 58/20
9	Cap Rear	MC 56/9	21	Heat Element 110V	MC 56/21
10	Barrel	MC 56/10	22	Heat Element 220V	MC 56/22
11	Clamp	MC 56/11	23	CP Air tool	MC 56/23
12	Body Cover	MC 56/12			

Note: For ME 2 without drive, Exclude S.No.23 - CP Air tool