



# Delta Mixer

## DM 400

Operating instructions



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# 1. Safety

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The following symbols mean:

**Caution!** Read these operating instructions fully before use and pay particular attention to sections containing this symbol.



## GENERAL SAFETY

- Operation of the unit must be carried out according to the given operating instructions.
- The unit should be saved from shocks and falling.
- After transport or storage in humid conditions dry out the unit (2-3 hrs) before connecting it to the mains.
- Do not make modifications in design of the unit.

## ELECTRICAL SAFETY

- Connect only to a power supply with a voltage corresponding to that on the serial number label.
- Ensure that the mains connector is easily accessible during use.
- Before moving the unit, disconnect the mains supply from the mains.
- If liquid is spilt inside the unit, disconnect it from the mains power supply and have it checked by a competent person.

## DURING OPERATION

- Do not operate the unit in premises with aggressive or explosive chemical mixtures.
- Do not operate the unit outside the laboratory premises.
- Do not operate the unit which have not been correctly installed or repaired.
- Under the action of high speed blending, bags can tear down, thus causing sample spillage inside the chamber. Take all necessary precautions to ensure safe operation.
- Do not leave the operating unit unattended.

## BIOLOGICAL SAFETY

- It is the user's responsibility to carry out appropriate decontamination if hazardous material is spilt on or inside the equipment.

# 2. General Information

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Delta Mixer DM 400 is designed to ensure an excellent preparation of solid samples before their analysis.

# 3. Getting started

## UNPACKING:

Remove packing materials carefully and retain for future shipment or storage of the unit.

## THE UNIT SET INCLUDES:

Delta Mixer DM 400.....	1 unit
Drip Tray .....	1 unit
Power Cord .....	1 unit
Operating Instructions.....	1 unit

## SET UP:

- Place the unit upon even horizontal non-flammable surface away from any flammable materials (not less than 30 cm);
- Plug the mains power cord into the 220-240 V~ mains socket and position the unit so that there is ease access to the instrument. (Figure 1/❶)

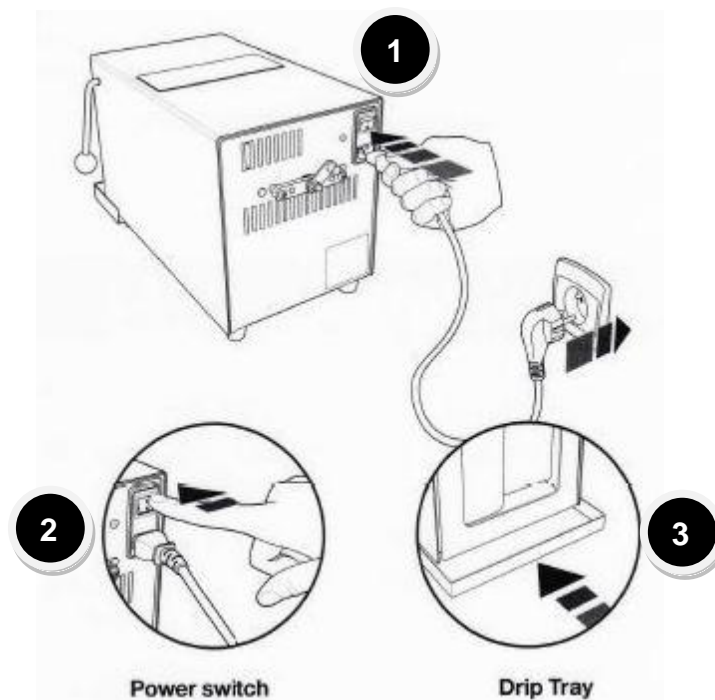


Fig.1

- Turn the main switch **ON**. (Figure 1/❷)
- Slide the drip tray under the blending chamber; this will catch any drops or leaks during blending. (Figure 1/❸)

- On the digital display adjust the timer setting and the blending speed. (Figure 2)
- Increase the blending time by pressing (+) key. (Figure 2/①)
- Decrease the blending time by pressing (-) key. (Figure 2/②)
- Increase the blending speed by pressing (+) key. (Figure 2/③)
- Decrease the blending speed by pressing (-) key. (Figure 2/④)
- If the blending time (+) or (-) key is pressed for 2 second, the increment or decrement becomes bigger respectively.
- The maximum blending time can be set up to 59 minutes 59 seconds.

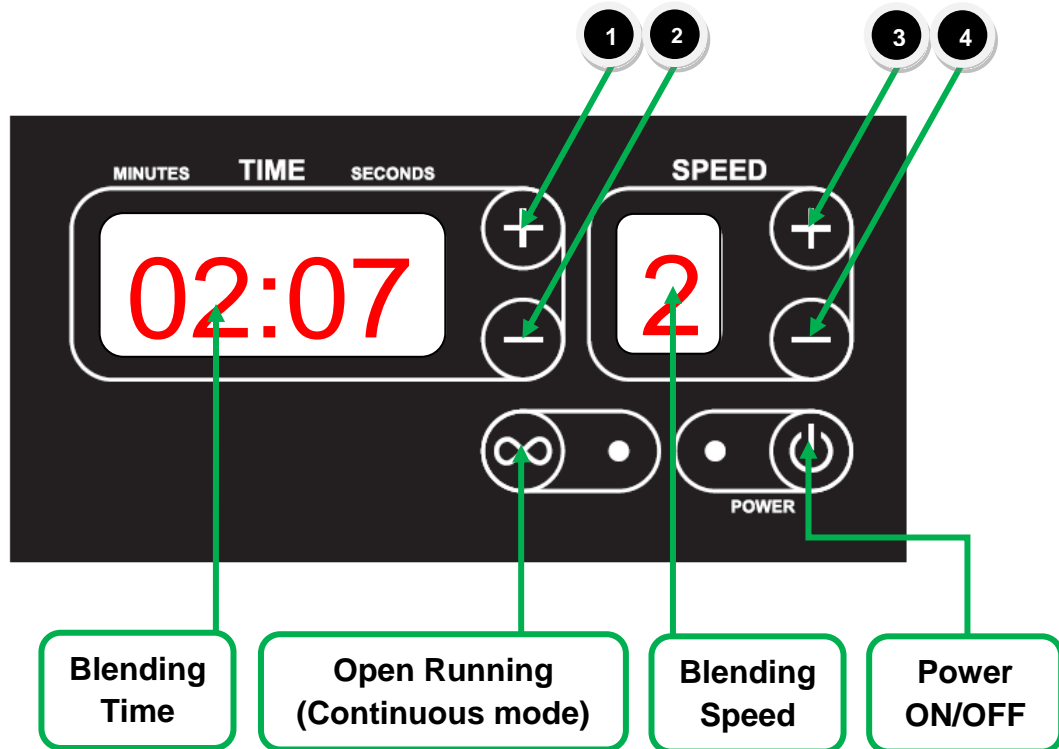


Fig. 2

- According to the nature and the size of the sample, adjust the size of the blending chamber. (Figure 3)

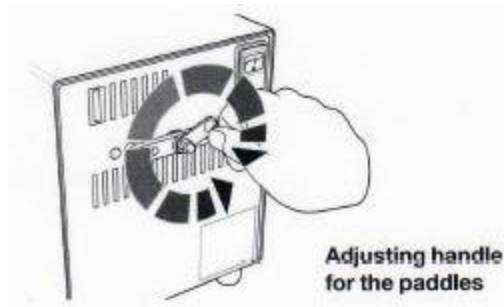


Fig. 3

- Open the door by pulling the lever forwards and upwards. Insert the sterile filter bag containing the sample with the diluting fluid in the unit. (Figure 4)

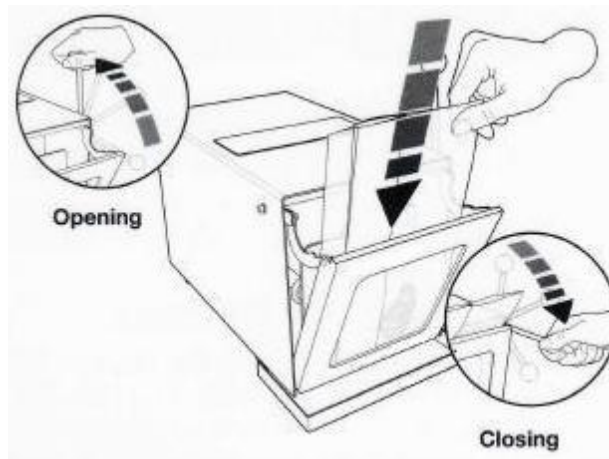


Fig. 4

- Close the door while holding the bag and lowering the lever as far as possible.
- Delta Mixer starts, blends the sample and stops automatically. Open the door and lift out the bag. The sample is homogenized.



## CAUTION!

- **The unit must be installed upright, on a stable, horizontal surface; never run the unit in any other position! Always use an earthed plug.**
- **Never open the housing of the machine without first unplugging the unit from the electric mains.**
- **Use and maintenance of Delta Mixer DM 400 are reserved for qualified person.**
- **Always use Delta Mixer DM 400 with a grounded plug.**
- **In normal use, limit the non-stop cycle to 15 minutes.**
- **For your security and work comfort, please read the operating instructions guide.**
- **IF YOU ARE NOT SURE, PLEASE CONSULT US FOR ADVICE BEFORE USING. THE HOUSING SHOULD ONLY BE REMOVED BY QUALIFIED AND DULY AUTHORIZED STAFF.**

## TROUBLE-SHOOTING

PROBLEMS	CHECK
Unit does not start	Power supply is correctly connected
	Main switch (at the rear of the unit) must be in <b>ON</b> position
	Door is closed correctly
	Fuse is <b>OK</b> / Mains power cord is <b>OK</b>
	Voltage of power supply is correct
Door closes incorrectly	Check that it is correctly positioned on the bar at the bottom of the door
Blending is not satisfactory	Adjust the paddle position using the handle behind the unit (Figure 3)
Blending time is wrong	Adjust the timer
Bags leak during the cycle or at the end of blending	Use good quality bags
Bags leak often during the cycle or at the end of the blending, when blending hard (wood, fibers...) or heavy material	If necessary, increase the dead space between door and paddles from 2 to 4 or 5mm and / or reduce blending speed



# 4. Specifications

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- Bags capacity 80 to 400mL.
- Speed 4, 6, 8, & 10 strokes/sec.
- Dead space between door and paddles 0 to 15mm.
- Door opening 270°
- Timer 1 second – 59min 59 sec, open running and Count-down
- Size 41 X 24 X 25 cm
- Nett weight 17 kg
- Power supply 220V AC, 50/60Hz
- Fuses 220/230V 1.25A (Dimension: 5 X 20mm)
- Drip tray Available

# 5. Guarantee and Service

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## GUARANTEE

Delta Mixer DM 400 is a laboratory unit. Industrial use, over-loaded and daily non-stop use can damage you Delta Mixer and invalidate your guarantee.

Delta Medical Equipment Services will repair the unit free-of-charge according to the guarantee conditions on the guarantee card. The unit must be returned carriage-paid to our laboratory.

Delta medical will extend the guarantee period from **1 to 3 years** for users who return the guarantee card to us in 8 days following the purchase.

**Our guarantee becomes void in case of incorrect use or opening of the unit by unqualified or unauthorized person.**

## SERVICE & MAINTENANCE

There are no user-serviceable parts inside the unit. For all maintenance and repairs return to our service department or our distributor.

## MAINTENANCE AND CLEANING

- The housing may be cleaned with standard household products for cleaning stainless steel.
- To clean the blending chamber, proceed as follows:
  - \* Lift the lever to open the door and then unhook the lower edge of the door from the axis bar.
  - \* Swing the lower edge of the door upwards and lay the door flat on top of the unit.
  - \* Clean the blending chamber and paddles. (All stainless steel)
  - \* Reposition the door, **ensuring that it is correctly centered on the lower bar.**
  - \* Plug the unit into the power socket.
  - \* Put the switch at the top left of the back to **ON**.
  - \* Close the door gently.
  - \* Start and test the unit.

- You do not need to dismantle or unplug the mixer; the adjustment of the dead-space between door and paddles is automatic.
  - \* Unlock the crank located at the back of the unit by pulling out the latch.
  - \* Turn the crank clockwise to reduce the space (the paddles move towards the door) or anti-clockwise to increase the space.

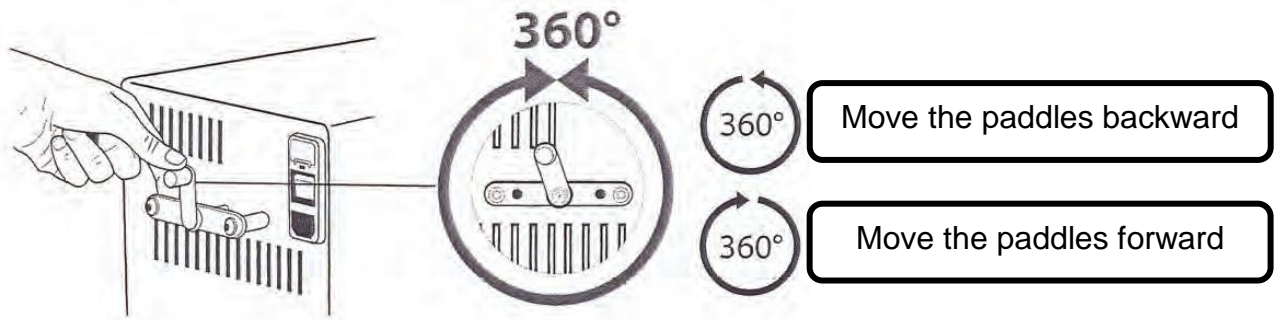


Fig. 5

- \* Lock the crank by pushing the latch back into one of the two holes.
- To set the standard dead space, please move the paddles forward while the Delta Mixer is working until the paddles touch the door. You will hear a louder noise. Then, move back the paddles 2mm. This is a good position of the paddles (in general) for your sample.

## REMOVING THE HOUSING

This operation should only be carried out exceptionally, by authorized and qualified staff.

- Unplug the power cord from the mains.
- Remove the screws holding the housing in place using a 2.5mm allen screwdriver.
- Unhook the lower edge of the door from the axis bar.
- Swing the lower edge of the door upwards and lay the door flat on top of the unit.
- Disconnect the 10 pin flat ribbon cable (FRC Cable) from controller circuit of the housing and remove it.
- To close the Delta Mixer, follow these instructions in reverse.



**delta medical equipment services**

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# DELTA MIXER DM 400

## PLEASE RETURN YOUR DELTA MIXER GUARANTEE CARD WITHIN 8 DAYS

and benefit the free guarantee extension from 1 to 3 years.  
(Kindly read our general guarantee conditions overleaf)

Delta Mixer serial number

Date of purchase

Authorized dealer's seal

Please send or mail us the card below.  
Keep this part as proof.

Guarantee extension is validated on receipt of this card by  
**Delta Medical Equipment Services**

E-28 krishna leela society, Pancham co-op bank lane, Harni varashiya ring road, Vadodara 390006 (Gujarat)  
Email: [deltamedical@rocketmail.com](mailto:deltamedical@rocketmail.com)

Company's name (End -User)		Date of purchase
Name of concern person		Company's seal of your dealer
Address:		
Tel.:	Mob.:	Any comments? Please inform us, we will appreciate your advice!
Email:		
Applications:		

**DELTA MEDICAL EQUIPMENT SERVICES**

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## GENERAL GUARANTEE CONDITIONS

Delta Mixer is guaranteed for a period of 12 months starting on the shipment date indicated on the delivery note. The guarantee is extended to 3 years if the end-user returns the card within 8 days following the purchase.

This guarantee covering parts and workmanship will be ensured by calling your dealer. As malfunctions are rare, please read the "TROUBLE SHOOTING" and check your Delta Mixer before any call.

The return of a unit will only be accepted with a repair reference number (Issued by our authorized dealer). The unit must be returned to us freight pre-paid, in its original packaging or in a similarly protected case.

It is hereby stipulated that this unit must be used for laboratory applications only, and must be maintained according to the instructions in the present user's handbook.

In the case of damage caused by use of the unit for which it was not designed or by unauthorized repairs, the liability of Delta Medical Equipment Services and its authorized dealers to honor the guarantee will be void.