



Document Number:	SASoM/EQUIP/090.v2
Title:	Use of the Eppendorf ThermoMixer F1.5/FP
Version:	v2
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Effective from:	09/07/2019
Valid to:	08/07/2024

SOP History		
Number	Date	Reason for Change
v1	09/07/2014	Original
	09/07/2019	Five Year Review

1.0 Purpose –

The purpose of this SOP is to outline the principles of the routine use of the Eppendorf ThermoMixer F1.5/FP in Laboratory 248 at the St Andrews School of Medicine (SASoM).

2.0 Scope –

This SOP applies to routine use and maintenance of the Eppendorf ThermoMixer F1.5/FP within the SASoM.

3.0 Responsibilities –

It is the responsibility of all users of the Eppendorf ThermoMixer F1.5/FP within the SASoM to comply with this SOP.

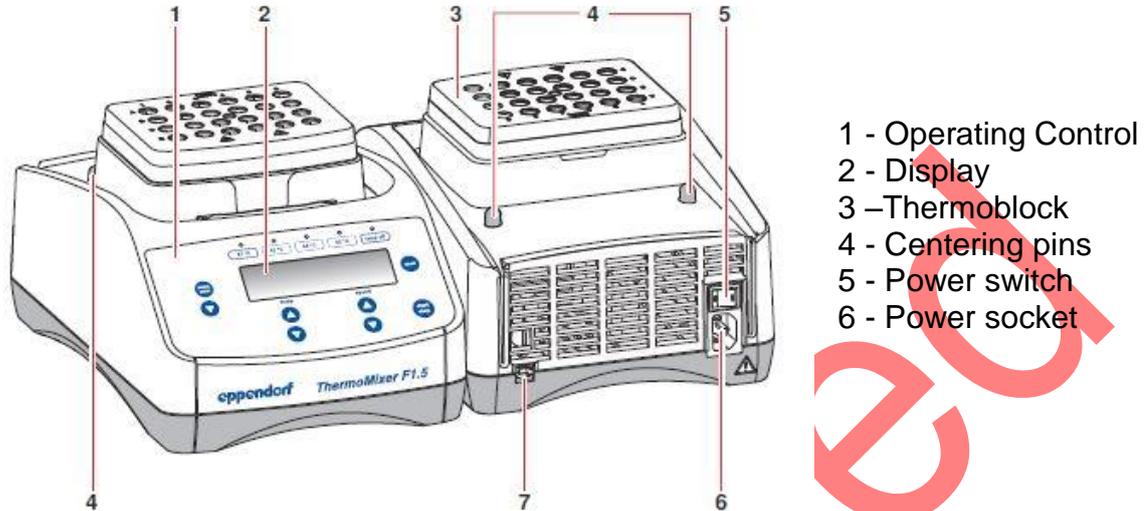
4.0 Procedure –

- The ThermoMixer F1.5 is designed to allow temperature controlled mixing of liquid samples in 1.5mL tubes to ensure rapid and complete mixing of even the smallest samples.
- The instrument can be set at any temperature between 4°C above the ambient temperature and +100°C. There are also quick-set buttons for temperature settings of 37°C, 42°C, 56°C and 95°C.
- The mixing frequency can be set between 300rpm and 1500rpm.

Equipment Operation Procedure

- This instrument is NOT fitted with the ThermoTop and therefore some functions may not be available.

Main Illustration:



- 1 - Operating Control
- 2 - Display
- 3 - Thermoblock
- 4 - Centering pins
- 5 - Power switch
- 6 - Power socket

Overview of operating controls

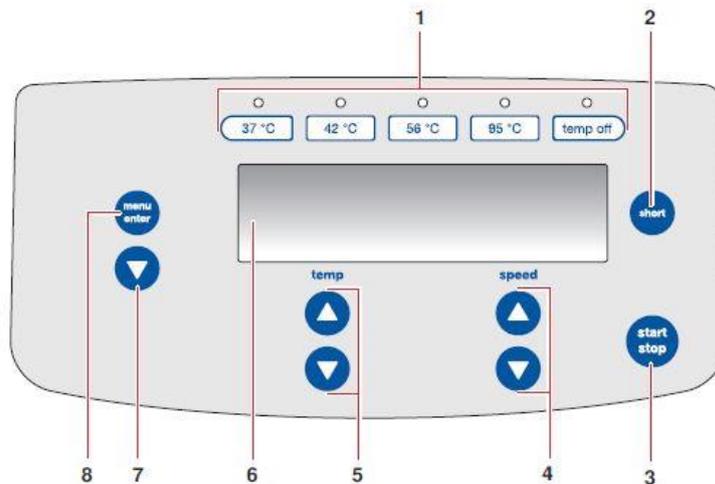


Fig. 3: Operating controls

<p>1 Temperature keys with control LEDs Select a temperature or switch off temperature control</p>	<p>2 short key Short Mix runs as long as the short key is being pressed (see p. 18).</p>
<p>3 start/stop key Start or stop mixing/temperature control</p>	<p>4 Arrow keys speed Set the mixing frequency Keep the arrow key pressed: quick setting</p>
<p>5 Arrow keys temp Set temperature Keep the arrow key pressed: quick setting As soon as the target temperature is modified, the device begins to perform temperature control.</p>	<p>6 Display</p>
<p>7 Menu arrow key Navigate the menu: Set the key lock or the volume</p>	<p>8 menu/enter key Open the menu. Confirm your selection</p>



Equipment Operation Procedure

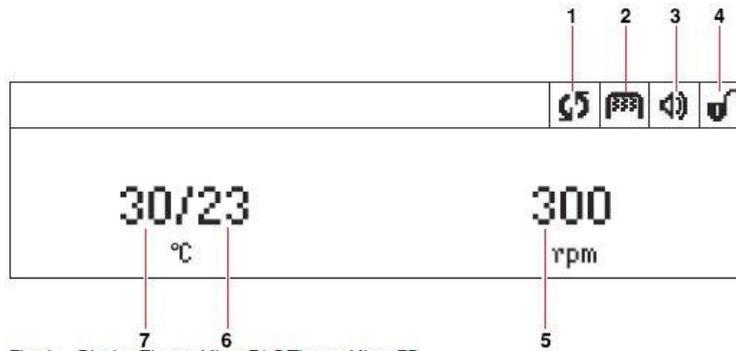


Fig. 4: Display ThermoMixer F1.5/ThermoMixer FP

1 Device status Device is performing mixing/temperature control.	2 ThermoTop ThermoTop has been attached. To prevent the formation of condensate, the device heats up the ThermoTop, before the temperature of the thermoblock is controlled.
3 Speaker Speaker switched on. Speaker switched off.	4 Key lock Key lock activated: Parameters cannot be changed. No key lock.
5 Mixing frequency	6 Actual temperature When the actual temperature flashes on the display, the device is not in temperature control mode operation.
7 Set temperature When the set temperature has been reached, only one value is displayed.	

Operation:

1. Switch on the instrument using the switch at the back of the machine.
2. Press the 'menu / enter' button to access the 'key lock' (on / off) and volume (off, 1, 2, 3) functions. The status of the key lock and volume settings is shown in the top right hand corner of the display panel.
3. If heating to 37°C, 42°C, 56°C you can select one of the pre-set temperature buttons at the top of the display (37°C, 42°C, 56°C and 95°C). If you wish to mix samples at room temperature, disable the heating block by selecting 'temp off'.
4. To manually select a desired temperature, adjust the temperature display using the 'temp' ▲ / ▼ arrows. Holding the arrow buttons down will make the display change faster. The device will apply the new temperature as soon as the buttons are released. The display panel will then show the set temperature / actual temperature.
5. Manually select the desired mixing frequency using the 'speed' ▲ / ▼ arrows. Holding the arrow buttons down will make the change faster. The display panel will then show the actual speed (rpm) once the start button is pressed.
6. Press the start / stop button to activate mixing.
7. Terminate the run by pressing start / stop and turning off the power switch.



8. Clean up all spillages if required.

5.0 Personal protection –

Howie coat must be worn at all times.

6.0 Training –

All users have to be trained before using the Instrument by a designated person.

7.0 Related documents –

7.1 Instrument Manual.

7.2 Risk assessments – RA/GEN/008 (Hot plates and stirrers)

8.0 Approval and sign off –

Author:

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Position: Research Fellow

Signature: _____ Date: _____

Management Approval:

Name: Peter Mullen

Position: Research Fellow

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QA release by:

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