




Mastercycler® ep

SOP - Operational Qualification

eppendorf



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Table of contents

1	Electrical test – Mastercycler ep	1-1
1.1	Introduction	1-1
1.1.1	Abbreviations	1-1
1.2	Test in accordance with IEC 61010-1 (EN 61010-1).....	1-1
1.3	Test in accordance with VDE 701/702	1-1
1.4	Test in accordance with NFPA 99 (U.S. only)	1-2
2	OQ – Mastercycler ep	2-1
2.1	Introduction	2-1
2.1.1	Abbreviations	2-1
2.2	Device data	2-1
2.3	Function tests	2-2
3	List of tests – Mastercycler ep	3-1
3.1	Device data	3-1
3.2	Test list	3-1



1 Electrical test – Mastercycler ep

1.1 Introduction

- The electrical safety test may only be performed by a qualified electrician.
- The following documents also apply with regard to the electrical safety test:
 - The latest version of the service manual.
 - The operating manual shipped with the device.
- ◊ Where needed, supplement the electrical safety test with further documents, e.g. descriptions, print outs, records and reports. List these documents under remarks.

1.1.1 Abbreviations

SM – Service Manual

BA – Operating Manual



The test can be conducted in accordance with either IEC 61010-1 (corresponds to EN 61010-1) or VDE 701/702.

In the U.S., the protective earth current is measured in accordance with NFPA 99.

1.2 Test in accordance with IEC 61010-1 (EN 61010-1)

No.	Section SM/OM	Procedure	Measured value	passed	failed
EP 01	————	Leakage current max. 3.5 mA in single fault condition.			
EP 02	————	Accessible current max. 0.5 mA in normal case.			

1.3 Test in accordance with VDE 701/702

No.	Section SM/OM	Procedure	Measured value	passed	failed
EP 03	————	Protective earth resistance max. 0.3 Ω, up to 5 m cable length.			
EP 04	————	Protective earth current max. 3.5 mA.			
EP 05	————	Accessible current max. 0.5 mA.			

1 Electrical test – Mastercycler ep

1.4 Test in accordance with NFPA 99 (U.S. only)

No.	Section SM/OM	Procedure	Measured value	passed	failed
EP 06	_____	Protective earth current max. 0.5 mA.			

Remarks:

Place, date:

Signature:

2 OQ – Mastercycler ep

2.1 Introduction

- The operation qualification (OQ) must be performed by a technician with the manufacturer's authorization only.
- The OQ should be performed at least every 2 years.
- The following documents also apply with regard to the OQ:
 - The latest version of the service manual.
 - The operating instructions shipped with the device.
- ◊ Where needed, supplement the OQ with further documents, e.g. descriptions, print outs, records and reports. List these documents under remarks.

2.1.1 Abbreviations

OQ – Operational Qualification

SM – Service Manual

BA – Operating Manual

2.2 Device data

Organization/operator:

Place of use of the device (building, floor, room, lab etc.):

Storage location of the operating manual:

Storage location of the service manual:

Device stock number:

Manufacturer: Eppendorf AG

Type designation:

Serial number:

Power in volts:

Frequency in Hz:

Installation date (day/month/year):

Device code:

Software version:

2 OQ – Mastercycler ep

2.3 Function tests

No.	Section SM/OM	Procedure	yes	no
OQ 01	SM, Chapter 3 "Settings"	The fan below the thermoblock has been inspected and functions.		
OQ 02	SM, Chapter 3 "Settings"	The three thermosegments (left, middle, right) can heat and cool. The sensors correctly display the temperature.		
OQ 03	SM, Chapter 3 "Lid Z-drive"	The heating lid reaches the specified temperature. (LID Z–drive)		
OQ 04	SM, Chapter 3 "Lid Z-drive"	The heating lid can be fully moved up and down. (LID Z–drive)		
OQ 05	SM, Chapter 3 "Lid Z-drive"	The microswitch on the heating lid functions. (slide switch, LID Z–drive)		
OQ 06	SM, Chapter 3 "Lid Z-drive"	The silicone button on the heating lid functions. (user switch, LID Z–drive)		
OQ 07		The mechanical heating lid can be fully moved to the front and back.		
OQ 08	SM, Chapter 3 "Lid X-drive"	The motorized heating lid can be fully moved to the front and back. (LID X–drive)		
OQ 09	SM, Chapter 5	The thermoblock reaches the preset temperatures. (temperature validation set)		

Remarks:

Place, date:

Signature:

3 List of tests – Mastercycler ep

3.1 Device data

Organization/operator: _____

Place of use of the device (building, floor, room, lab etc.): _____

Storage location of the operating manual: _____

Storage location of the service manual: _____

Device stock number: _____

Manufacturer: Eppendorf AG _____

Type designation: _____

Serial number: _____

Power in volts: _____

Frequency in Hz: _____

Installation date (day/month/year): _____

3.2 Test list

Recurring tests (Operation qualification / electrical test in accordance with checklist)				
Test type	Test date	Tester	Remarks	Next test

3 List of tests – Mastercycler ep

Recurring tests				
(Operation qualification / electrical test in accordance with checklist)				
Test type	Test date	Tester	Remarks	Next test

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