



# CALIBRATION CERTIFICATE

Certificate Number: H00G83AUZV-0

Order Number: 222-766

**RAININ**  
Pipetting 360°

**Customer** Houston Forensic Science Center  
Jennifer O'Callaghan  
500 Jefferson St  
Houston, TX 77002-7300

**Location** 500 Jefferson St

**Serial Number** PU08808

**Model** THERMO FINNPIPETTE F2 20-200 YELLOW

**Next Service** 31.Oct.2024

**Service Plan** Onsite: Single Channel PM, 3x5 AR

**Inspection** Over All Condition: Good

**Preventive Maintenance:** Piston cleaned and re-greased  
**Adjustment:** No-Adjustment made

**As left-Passed** Steven Murray 30.Oct.2023

|                   |                        |  |                          |                                  |                           |                   |
|-------------------|------------------------|--|--------------------------|----------------------------------|---------------------------|-------------------|
| <b>Conditions</b> | <b>Humidity</b>        | Start   End<br>49.4 %   49.4 %   | <b>Air Temperature</b>   | Start   End<br>19.5 °C   19.5 °C | <b>Z-Factor</b>           | 1.0028 µl/mg      |
|                   | <b>Air Pressure</b>    | 1012.1 hPa   1012.1 hPa  | <b>Water Temperature</b> | 19.5 °C   19.5 °C                | <b>Evaporation</b>        | 0 mg              |
| <b>Equipment</b>  | <b>Balance</b>         | C132316237Next Cal. (30.Nov.2023)Readability (0.0001 g)  |                          |                                  | <b>Specification Type</b> | Custom            |
|                   | <b>Climate Monitor</b> | Bar. pressure abs. air pressure (2112149)Next Cal. (01.Dec.2023)   Humidity (2112149)Next Cal. (01.Dec.2023)   Temp (2112149)Next Cal. (01.Dec.2023) |                          |                                  | <b>Pipette Tip</b>        | Customer Supplied |

| Test Volume (µl) | Weighings |          |          |          |          |
|------------------|-----------|----------|----------|----------|----------|
|                  | 1         | 2        | 3        | 4        | 5        |
| 20.0 µl          | 20.6 mg   | 20.2 mg  | 20.7 mg  | 20.6 mg  | 19.8 mg  |
| 100.0 µl         | 99.7 mg   | 99.6 mg  | 99.8 mg  | 100.1 mg | 99.8 mg  |
| 200 µl           | 198.3 mg  | 199.0 mg | 199.2 mg | 199.0 mg | 198.9 mg |

| Test Volume (µl) | Mean Volume (µl) | Systematic Error |                |           |               | Random Error |            |             |           | Expanded Uncertainty (µl) | Status |
|------------------|------------------|------------------|----------------|-----------|---------------|--------------|------------|-------------|-----------|---------------------------|--------|
|                  |                  | Error (µl)       | Limit (+/- µl) | Error (%) | Limit (+/- %) | Error (µl)   | Limit (µl) | Error (CV%) | Limit (%) |                           |        |
|                  |                  |                  |                |           |               |              |            |             |           |                           |        |
| 20.0             | 20.4             | 0.44             | 0.60           | 2.185     | 3.0           | 0.38         | 0.60       | 1.849       | 3.0       | 1.1 µl (k=2.87)           | Passed |
| 100.0            | 100.08           | 0.08             | 3.0            | 0.07944   | 3.0           | 0.19         | 3.0        | 0.1875      | 3.0       | 0.54 µl (k=2.43)          | Passed |
| 200              | 199.4            | -0.56            | 6.0            | -0.2816   | 3.0           | 0.34         | 6.0        | 0.1720      | 3.0       | 1.0 µl (k=2.87)           | Passed |

## As left History



Syst. Error 07/21 10/2101/2204/2207/2210/2201/2304/2307/23 10/23  
Rand. Error Pass Pass Pass Pass Pass Pass Pass Pass Pass Pass



Syst. Error 07/21 10/2101/2204/2207/2210/2201/2304/2307/23 10/23  
Rand. Error Pass Pass Pass Pass Pass Pass Pass Pass Pass Pass



Syst. Error 07/21 10/2101/2204/2207/2210/2201/2304/2307/23 10/23  
Rand. Error Pass Pass Pass Pass Pass Pass Pass Pass Pass Pass



Authorized Signatory, Steven Murray  
30.Oct.2023

**METTLER TOLEDO**  
ACCREDITED LABORATORY  
7500 Edgewater Drive  
Oakland, CA 94621

This calibration covered by this certificate is in accordance with ISO 8655-7:2022 and PS-125. Its measurements are traceable to SI through N.I.S.T. This laboratory has been accredited by A2LA for the requirements of ISO/IEC 17025:2017. The reported expanded uncertainty of measurement (U) is stated as the standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95 %. Statement of compliance does not include the measurement of uncertainty. Mettler-Toledo Rainin LLC grants permission to reproduce this document in full only. ©2020 Mettler-Toledo Rainin, LLC