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# NATIONAL CENTRE FOR QUALITY CALIBRATION

4, Abhishree Corporate Park, Nr. Swagat Bungalows BRTS, Iskcon-Ambli Road, Ambli, Ahmedabad-380 058

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**Precision Calibration with National / International Traceability for Temperature, Dimensional, Pressure, Vacuum, Time, Mass, Electrical, Noise, Airflow, Lux & all Special Purpose Instruments in all ranges.**

## Calibration Certificate

Name of Customer → <b>National Centre For Quality Calibration</b> 4, Abhishree Corporate Park, Near Swagat Bungalows BRTS, Iskcon - Ambli Road, Ambli, Ahmedabad-380 058, Gujarat, India.		Certificate No. Date of Issue Date of Calibration Suggested Due Date	NCQC-E/140623/06 15-06-2023 14-06-2023 13-06-2024	
Date Of Receipt / Ref. No. → 14-06-2023		F/CR/E/001/05/1, Issue No.02 Page 1 of 13		
ULR – CC212823000003941F	Discipline → <b>Electro-Technical Calibration,</b> Alternating Current & Direct Current / Temperature Simulation			
Details of Observation of Unit Under Calibration	Identification No. : <b>NCQC/E-02</b> Serial No. : <b>1694005</b> Make / Model No. : <b>Fluke/5500E</b> Name of Instrument : <b>Multi-product Calibrator</b>			
<b>Calibration Results of Source Mode</b>				
<b>Calibration Results of DCV</b>				
Range	Set Points On UUC In mV/V	Reading Observed by 6 ½ Digit Multimeter In mV/V	Absolute Error In mV/V	Expanded Uncertainty (K=2)
329.9999 mV	1.0000	1.0001	0.0001	± 0.424 %
	50.0000	50.0004	0.0004	± 0.424 %
	100.0000	100.002	0.002	± 0.424 %
	200.0000	200.004	0.004	± 0.046 %
	300.0000	300.006	0.006	± 0.046 %
	329.0000	328.994	0.006	± 0.046 %
3.299999 V	0.330000	0.329983	0.000017	± 0.046 %
	3.290000	3.28990	0.00010	± 0.011 %
32.99999 V	10.00000	10.00013	0.00013	± 0.011 %
	20.00000	20.0006	0.0006	± 0.011 %
	30.00000	30.0007	0.0007	± 0.011 %
	32.90000	32.9010	0.0010	± 0.011 %
32.99999 V	32.90000	32.9011	0.0011	± 0.011 %
329.9999 V	329.0000	329.013	0.013	± 0.013 %
1020.000 V	1000.000	1000.007	0.007	± 0.011 %

Traceable To National / International Standards.

Calibrated By

Trupen Parmar

Reviewed and Approved By

Hitesh Limbachiya

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Date Of Receipt / Ref. No. → 14-06-2023		F/CR/E/001/05/1, Issue No.02 Page 2 of 13		
Details of Observation of Unit Under Calibration	Identification No.	: <b>NCQC/E-02</b>		
	Serial No.	: <b>1694005</b>		
	Make / Model No.	: <b>Fluke/5500E</b>		
	Name of Instrument	: <b>Multi-product Calibrator</b>		
<b>Calibration Results of ACV @ 50 Hz</b>				
Range	Set Points On UUC In mV/V	Reading Observed by 6 ½ Digit Multimeter In mV/V	Absolute Error In mV/V	Expanded Uncertainty (K=2)
32.999 mV	1.000	1.0004	0.0004	± 4.810 %
329.999 mV	33.000	33.0012	0.0012	± 0.530 %
	329.900	329.895	0.005	± 0.530 %
3.29999 V	3.29000	3.28976	0.00024	± 0.176 %
32.9999 V	32.9000	32.8990	0.0010	± 0.176 %
329.999 V	329.000	329.007	0.007	± 0.150 %
1020.00 V	1000.00	1000.12	0.12	± 0.098 %
<b>Calibration Results of DC Current</b>				
Range	Set Points On UUC In mA/A	Reading Observed by 6 ½ Digit Multimeter In mA/A	Absolute Error In mA/A	Expanded Uncertainty (K=2)
3.29999 mA	0.01000	0.009988	0.000012	± 2.955 %
	3.29000	3.28977	0.00023	± 0.128 %
32.9999 mA	3.30000	3.29989	0.00011	± 0.128 %
	8.00000	8.00016	0.000016	± 0.128 %
	10.00000	10.00020	0.000020	± 0.128 %
	15.00000	15.00021	0.000021	± 0.128 %
	18.00000	18.00024	0.000024	± 0.128 %
	20.00000	20.0012	0.0012	± 0.076 %
329.999 mA	32.9000	32.8986	0.0014	± 0.076 %
	50.0000	50.0015	0.0015	± 0.076 %
	150.0000	150.0021	0.0021	± 0.065 %
2.19999 A	329.000	329.018	0.018	± 0.065 %
	0.33000	0.329971	0.000029	± 0.084 %
11.0000 A	2.19000	2.18984	0.00016	± 0.153 %
	10.0000	9.99880	0.00120	± 0.190 %

Traceable To National / International Standards.

Calibrated By		Reviewed and Approved By	
	Trupen Parmar		Hitesh Limbachiya

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### Details of Observation of Unit Under Calibration

Identification No.	: NCQC/E-02
Serial No.	: 1694005
Make / Model No.	: Fluke/5500E
Name of Instrument	: Multi-product Calibrator

### Calibration Results of AC Current @ 50 Hz

Range	Set Points On UUC In $\mu\text{A}/\text{mA}/\text{A}$	Reading Observed by 6 ½ Digit Multimeter In $\mu\text{A}/\text{mA}/\text{A}$	Absolute Error In $\mu\text{A}/\text{mA}/\text{A}$	Expanded Uncertainty (K=2)
329.99 $\mu\text{A}$	30.00	30.0017	0.0017	$\pm 0.430 \%$
3.29999 mA	0.33000	0.329940	0.000060	$\pm 0.259 \%$
32.9999 mA	3.3000	3.29985	0.00015	$\pm 0.550 \%$
329.999 mA	33.000	32.9956	0.0044	$\pm 0.256 \%$
	329.000	329.021	0.021	$\pm 0.270 \%$
2.19999 A	2.19000	2.19024	0.00024	$\pm 0.317 \%$
11.0000 A	10.0000	10.00040	0.00040	$\pm 0.250 \%$

### Calibration Results of Resistance ( 4 wire )

Range	Set Points On UUC	Reading Observed by 6 ½ Digit Multimeter In $\Omega/\text{K}\Omega/\text{M}\Omega$	Absolute Error In $\Omega/\text{K}\Omega/\text{M}\Omega$	$\pm$ Expanded Uncertainty (K=2)
10.999 $\Omega$	1.000 $\Omega$	1.00014	0.00014	$\pm 0.370 \%$
	10.900 $\Omega$	10.8990	0.0010	$\pm 0.045 \%$
32.999 $\Omega$	32.900 $\Omega$	32.9015	0.0015	$\pm 0.027 \%$
109.99 $\Omega$	109.90 $\Omega$	109.907	0.007	$\pm 0.025 \%$
329.99 $\Omega$	200.00 $\Omega$	200.011	0.011	$\pm 0.025 \%$
	329.00 $\Omega$	329.013	0.013	$\pm 0.025 \%$
1.09999 K $\Omega$	0.33000 K $\Omega$	0.330041	0.000041	$\pm 0.025 \%$
	1.09000 K $\Omega$	1.090033	0.000033	$\pm 0.025 \%$
3.29999 K $\Omega$	3.29000 K $\Omega$	3.28976	0.00024	$\pm 0.025 \%$
10.9999 K $\Omega$	10.9000 K $\Omega$	10.9010	0.0010	$\pm 0.025 \%$
32.9999 K $\Omega$	32.9000 K $\Omega$	32.9014	0.0014	$\pm 0.025 \%$
109.999 K $\Omega$	109.000 K $\Omega$	109.0042	0.0042	$\pm 0.025 \%$

Traceable To National / International Standards.

Calibrated By

Trupen Parmar

Reviewed and Approved By

Hitesh Limbachiya

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Details of Observation of Unit Under Calibration	Identification No.	: <b>NCQC/E-02</b>
	Serial No.	: <b>1694005</b>
	Make / Model No.	: <b>Fluke/5500E</b>
	Name of Instrument	: <b>Multi-product Calibrator</b>

### Calibration Results of Resistance (2 wire)

Range	Set Points On UUC	Reading Observed by 6 ½ Digit Multimeter In $\Omega/K\Omega/M\Omega$	Absolute Error In $\Omega/K\Omega/M\Omega$	± Expanded Uncertainty (K=2)
10.999 $\Omega$	1.000 $\Omega$	1.00037	0.00037	± 0.370 %
	10.900 $\Omega$	10.8995	0.0005	± 0.046 %
32.999 $\Omega$	32.900 $\Omega$	32.9020	0.0020	± 0.027 %
109.99 $\Omega$	109.90 $\Omega$	109.906	0.006	± 0.025 %
329.99 $\Omega$	100.00 $\Omega$	100.009	0.009	± 0.025 %
	150.00 $\Omega$	150.011	0.011	± 0.025 %
	200.00 $\Omega$	200.016	0.016	± 0.025 %
	250.00 $\Omega$	250.021	0.021	± 0.025 %
	300.00 $\Omega$	300.023	0.023	± 0.025 %
	329.00 $\Omega$	329.028	0.028	± 0.025 %
1.09999 K $\Omega$	0.33000 K $\Omega$	0.330038	0.000038	± 0.025 %
	0.50000 K $\Omega$	0.500046	0.000046	± 0.025 %
	0.60000 K $\Omega$	0.600050	0.000050	± 0.025 %
	0.70000 K $\Omega$	0.700055	0.000055	± 0.025 %
	0.80000 K $\Omega$	0.800061	0.000061	± 0.025 %
	1.09000 K $\Omega$	1.090063	0.000063	± 0.025 %
3.29999 K $\Omega$	3.29000 K $\Omega$	3.28980	0.00020	± 0.025 %
10.9999 K $\Omega$	10.9000 K $\Omega$	10.9007	0.0007	± 0.025 %
32.9999 K $\Omega$	32.9000 K $\Omega$	32.9030	0.0030	± 0.025 %
109.999 K $\Omega$	109.000 K $\Omega$	109.0057	0.0057	± 0.025 %

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Details of Observation of Unit Under Calibration	Identification No.	: <b>NCQC/E-02</b>
	Serial No.	: <b>1694005</b>
	Make / Model No.	: <b>Fluke/5500E</b>
	Name of Instrument	: <b>Multi-product Calibrator</b>

### Calibration Result of Capacitance

Range	Set Points On UUC	Reading Observed by 6 ½ Digit Multimeter In nF/µF	Absolute Error In nF/µF	± Expanded Uncertainty (K=2)
1.0999 nF	1.0000	0.998	0.002	± 6.571 %
10.999 nF	10.000	9.98	0.02	± 1.770 %
109.999 nF	100.00	100.1	0.1	± 1.770 %
1.0999 µF	1.0000	1.004	0.004	± 1.973 %
10.999µF	10.000	10.01	0.01	± 1.849 %
109.99 µF	100.00	100.2	0.2	± 1.818 %
1100 µF	1000.0	1001	1	± 1.740 %

### Calibration Results of Frequency @ 1 V

Range	Set Points On UUC In Hz/kHz/MHz	Reading Observed by 6 ½ Digit Multimeter In Hz/kHz/MHz	Absolute Error In Hz/kHz/MHz	± Expanded Uncertainty (K=2)
119.99 Hz	10.00	10.00010	0.00010	± 0.116 %
	119.00	119.0003	0.0003	± 0.798 %
1199.9 Hz	120.0	120.0009	0.0009	± 0.793 %
11.999 kHz	1.200	1.20010	0.00010	± 0.094 %
119.99 kHz	12.00	11.9995	0.0005	± 0.051 %
1199.9 kHz	120.0	119.994	0.006	± 0.050 %
2000 kHz	1000 kHz	999.987	0.013	± 0.016 %

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<b>Calibration Results of 'Pt – 100' Type (–200 to 800 °C)</b>					
Range	Set Points On UUC In °C	Reading Observed by 6 ½ Digit Multimeter In Ω	Corresponding reading In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
–200 to 800 °C	–199.000	18.9228	–199.068	0.068	± 0.28 °C
	0.000	99.9945	–0.014	0.014	± 0.28 °C
	100.000	138.498	99.982	0.018	± 0.28 °C
	200.000	175.835	199.943	0.057	± 0.28 °C
	300.000	212.028	299.935	0.065	± 0.28 °C
	600.000	313.681	599.916	0.084	± 0.28 °C
<b>Calibration Results of 'K' Type (–200 to 1372 °C)</b>					
Range	Set Points On UUC In °C	Reading Observed by Multi Product Calibrator In °C	Absolute Error In °C	Expanded Uncertainty (K=2)	
–200 °C to 1372 °C	–199.00	–199.04	0.04	± 0.52 °C	
	200.00	200.03	0.03	± 0.52 °C	
	400.00	400.03	0.03	± 0.52 °C	
	500.00	500.06	0.06	± 0.52 °C	
	800.00	800.06	0.06	± 0.52 °C	
	1350.00	1350.05	0.05	± 0.52 °C	
<b>Calibration Results of 'J' Type (–210 to 1200 °C)</b>					
Range	Set Points On UUC In °C	Reading Observed by Multi Product Calibrator In °C	Absolute Error In °C	Expanded Uncertainty (K=2)	
–210 °C to 1200 °C	–199.00	–198.97	0.03	± 0.37 °C	
	0.00	0.01	0.01	± 0.37 °C	
	400.00	399.98	0.02	± 0.37 °C	
	500.00	499.96	0.04	± 0.37 °C	
	800.00	799.95	0.05	± 0.37 °C	
	1190.00	1189.93	0.07	± 0.37 °C	

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	Serial No.	: <b>1694005</b>
	Make / Model No.	: <b>Fluke/5500E</b>
	Name of Instrument	: <b>Multi-product Calibrator</b>

### Calibration Results of 'E' Type (-250 to 1000 °C)

Range	Set Points On UUC In °C	Reading Observed by Multi Product Calibrator In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-250 °C to 1000 °C	-199.00	-199.01	0.01	± 0.63 °C
	0.00	0.01	0.01	± 0.63 °C
	200.00	200.02	0.02	± 0.63 °C
	300.00	300.03	0.03	± 0.63 °C
	500.00	500.04	0.04	± 0.63 °C
	990.00	990.06	0.06	± 0.63 °C

### Calibration Results of 'T' Type (-250 to 400 °C)

Range	Set Points On UUC In °C	Reading Observed by Multi Product Calibrator In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-250 °C to 400 °C	-199.00	-199.02	0.02	± 0.75 °C
	0.00	0.00	0.00	± 0.75 °C
	100.00	100.01	0.01	± 0.75 °C
	200.00	200.02	0.02	± 0.75 °C
	300.00	300.03	0.03	± 0.75 °C
	400.00	400.03	0.03	± 0.75 °C

### Calibration Results of 'R' Type (0 to 1767 °C)

Range	Set Points On UUC In °C	Reading Observed by Multi Product Calibrator In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
0 °C to 1767 °C	200.00	200.03	0.03	± 0.67 °C
	600.00	599.96	0.04	± 0.65 °C
	800.00	799.94	0.06	± 0.65 °C
	1000.00	999.93	0.07	± 0.65 °C
	1400.00	1399.92	0.08	± 0.65 °C
	1750.00	1749.92	0.08	± 0.65 °C

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4, Abhishree Corporate Park, Nr. Swagat Bungalows BRTS, Iskcon-Ambli Road, Ambli, Ahmedabad-380 058  
 Ph. +91-79-29795322, 29795323 • Fax : +91-79-29795323, Cell No. +91-9327017517, +91-9328616370  
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**Precision Calibration with National / International Traceability for Temperature, Dimensional, Pressure, Vacuum, Time, Mass, Electrical, Noise, Airflow, Lux & all Special Purpose Instruments in all ranges.**

## Calibration Certificate

Name of Customer → <b>National Centre For Quality Calibration</b> 4, Abhishree Corporate Park, Near Swagat Bungalows BRTS, Iskcon – Ambli Road, Ambli, Ahmedabad–380 058, Gujarat, India.		Certificate No. NCQC-E/140623/06	Date of Issue 15-06-2023	Date of Calibration 14-06-2023	Suggested Due Date 13-06-2024
Date Of Receipt / Ref. No. → 14-06-2023		F/CR/E/001/05/1, Issue No.02 Page 8 of 13			
Details of Observation of Unit Under Calibration		Identification No. : <b>NCQC/E-02</b>	Serial No. : <b>1694005</b>	Make / Model No. : <b>Fluke/5500E</b>	Name of Instrument : <b>Multi-product Calibrator</b>
<b>Calibration Results of 'B' Type (600 to 1820 °C)</b>					
Range	Set Points On UUC In ° C	Reading Observed by Multi Product Calibrator In ° C	Absolute Error In ° C	Expanded Uncertainty (K=2)	
600 °C to 1820 °C	600.00	600.02	0.02	± 0.54 °C	
	800.00	800.04	0.04	± 0.54 °C	
	1000.00	1000.05	0.05	± 0.54 °C	
	1200.00	1200.06	0.06	± 0.54 °C	
	1500.00	1500.06	0.06	± 0.54 °C	
	1750.00	1750.08	0.08	± 0.54 °C	
<b>Calibration Results of 'S' Type (0 to 1767 °C)</b>					
Range	Set Points On UUC In ° C	Reading Observed by Multi Product Calibrator In ° C	Absolute Error In ° C	Expanded Uncertainty (K=2)	
0 °C to 1767 °C	200.00	200.01	0.01	± 0.59 °C	
	400.00	400.01	0.01	± 0.59 °C	
	600.00	600.03	0.03	± 0.59 °C	
	1000.00	1000.05	0.05	± 0.59 °C	
	1400.00	1400.07	0.07	± 0.59 °C	
	1750.00	1750.08	0.08	± 0.59 °C	
<b>Calibration Results of 'N' Type (-200 to 1300 °C)</b>					
Range	Set Points On UUC In ° C	Reading Observed by Multi Product Calibrator In ° C	Absolute Error In ° C	Expanded Uncertainty (K=2)	
-200 °C to 1300 °C	-199.00	-199.04	0.04	± 0.53 °C	
	0.00	-0.02	0.02	± 0.53 °C	
	200.00	199.97	0.03	± 0.53 °C	
	500.00	499.96	0.04	± 0.53 °C	
	600.00	599.96	0.04	± 0.53 °C	
	1250.00	1249.94	0.06	± 0.53 °C	

Traceable To National / International Standards.

Calibrated By

*Trupen Parmar*

Reviewed and Approved By

*Hitesh Limbachiya*

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Details of Observation of Unit Under Calibration	Identification No.	: <b>NCQC/E-02</b>
	Serial No.	: <b>1694005</b>
	Make / Model No.	: <b>Fluke/5500E</b>
	Name of Instrument	: <b>Multi-product Calibrator</b>

### Calibration Results of 'L' Type (-200 to 900 °C)

Range	Set Points On UUC In °C	Reading Observed by Multi Product Calibrator In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-200 °C to 900 °C	-199.00	-199.03	0.03	± 0.47 °C
	0.00	-0.03	0.03	± 0.47 °C
	200.00	200.02	0.02	± 0.47 °C
	300.00	300.04	0.04	± 0.47 °C
	400.00	400.05	0.05	± 0.47 °C
	890.00	890.06	0.06	± 0.47 °C

### Calibration Results of 'U' Type (-200 to 600 °C)

Range	Set Points On UUC In °C	Reading Observed by Multi Product Calibrator In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-200 °C to 600 °C	-199.00	-198.97	0.03	± 0.68 °C
	0.00	-0.03	0.03	± 0.68 °C
	100.00	99.99	0.01	± 0.68 °C
	200.00	199.95	0.05	± 0.68 °C
	300.00	299.95	0.05	± 0.68 °C
	590.00	589.93	0.07	± 0.68 °C

### Calibration Results of Measure Mode

### Calibration Results of 'K' Type (-200 to 1372 °C)

Range	Input Given by Multi Product Calibrator In °C	Reading Observed by UUC In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-200 °C to 1372 °C	-199.00	-199.04	0.04	± 0.50 °C
	200.00	199.98	0.02	± 0.50 °C
	400.00	399.97	0.03	± 0.50 °C
	500.00	499.96	0.04	± 0.50 °C
	800.00	799.94	0.06	± 0.50 °C
	1300.00	1299.93	0.07	± 0.50 °C

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Date Of Receipt / Ref. No. → 14-06-2023		F/CR/E/001/05/1, Issue No.02 Page 10 of 13		
Details of Observation of Unit Under Calibration		Identification No. Serial No. Make / Model No. Name of Instrument	: <b>NCQC/E-02</b> : <b>1694005</b> : <b>Fluke/5500E</b> : <b>Multi-product Calibrator</b>	
<b>Calibration Results of 'J' Type (-210 to 1200 °C)</b>				
Range	Input Given by Multi Product Calibrator In °C	Reading Observed by UUC In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-210 °C to 1200 °C	-199.00	-198.99	0.01	± 0.37 °C
	0.00	-0.01	0.01	± 0.33 °C
	400.00	400.03	0.03	± 0.33 °C
	500.00	500.05	0.05	± 0.33 °C
	800.00	800.06	0.06	± 0.36 °C
	1190.00	1190.06	0.06	± 0.36 °C
<b>Calibration Results of 'E' Type (-250 to 1000 °C)</b>				
Range	Input Given by Multi Product Calibrator In °C	Reading Observed by UUC In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-250 °C to 1000 °C	-199.00	-198.95	0.05	± 0.61 °C
	0.00	0.02	0.02	± 0.60 °C
	200.00	200.02	0.02	± 0.60 °C
	400.00	400.03	0.03	± 0.60 °C
	500.00	500.05	0.05	± 0.60 °C
	990.00	990.07	0.07	± 0.60 °C
<b>Calibration Results of 'T' Type (-250 to 400 °C)</b>				
Range	Input Given by Multi Product Calibrator In °C	Reading Observed by UUC In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-250 °C to 400 °C	-199.00	-198.99	0.01	± 0.76 °C
	0.00	0.00	0.00	± 0.74 °C
	100.00	100.01	0.01	± 0.74 °C
	200.00	200.02	0.02	± 0.74 °C
	300.00	300.02	0.02	± 0.74 °C
	390.00	400.03	0.03	± 0.74 °C

Traceable To National / International Standards.

Calibrated By

Trupen Parmar

Reviewed and Approved By

Hitesh Limbachiya

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Details of Observation of Unit Under Calibration	Identification No.	: <b>NCQC/E-02</b>		
	Serial No.	: <b>1694005</b>		
	Make / Model No.	: <b>Fluke/5500E</b>		
	Name of Instrument	: <b>Multi-product Calibrator</b>		
<b>Calibration Results of 'R' Type (0 to 1767 °C)</b>				
Range	Input Given by Multi Product Calibrator In °C	Reading Observed by UUC In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
0 °C to 1767 °C	200.00	199.96	0.04	± 0.70 °C
	600.00	600.03	0.03	± 0.70 °C
	800.00	800.05	0.05	± 0.70 °C
	1000.00	1000.07	0.07	± 0.70 °C
	1400.00	1399.95	0.05	± 0.70 °C
	1750.00	1749.94	0.06	± 0.70 °C
<b>Calibration Results of 'B' Type (600 to 1820 °C)</b>				
Range	Input Given by Multi Product Calibrator In °C	Reading Observed by UUC In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
600 °C to 1820 °C	600.00	599.97	0.03	± 0.56 °C
	800.00	799.96	0.04	± 0.56 °C
	1000.00	999.94	0.06	± 0.53 °C
	1200.00	1199.92	0.08	± 0.53 °C
	1500.00	1499.90	0.10	± 0.53 °C
	1750.00	1749.89	0.11	± 0.53 °C
<b>Calibration Results of 'S' Type (0 to 1767 °C)</b>				
Range	Input Given by Multi Product Calibrator In °C	Reading Observed by UUC In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
0 °C to 1767 °C	200.00	200.01	0.01	± 0.57 °C
	600.00	600.03	0.03	± 0.57 °C
	800.00	800.05	0.05	± 0.57 °C
	1000.00	1000.06	0.06	± 0.57 °C
	1400.00	1400.09	0.09	± 0.57 °C
	1750.00	1750.10	0.10	± 0.62 °C

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Date Of Receipt / Ref. No. → 14-06-2023		F/CR/E/001/05/1, Issue No.02 Page 12 of 13		
Details of Observation of Unit Under Calibration	Identification No.	: <b>NCQC/E-02</b>		
	Serial No.	: <b>1694005</b>		
	Make / Model No.	: <b>Fluke/5500E</b>		
	Name of Instrument	: <b>Multi-product Calibrator</b>		
<b>Calibration Results of 'N' Type (-200 to 1300 °C)</b>				
Range	Input Given by Multi Product Calibrator In °C	Reading Observed by UUC In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-200 °C to 1300 °C	-199.00	-198.96	0.04	± 0.50 °C
	0.00	-0.02	0.02	± 0.50 °C
	200.00	200.03	0.03	± 0.50 °C
	500.00	500.03	0.03	± 0.50 °C
	600.00	599.99	0.01	± 0.50 °C
	1250.00	1249.96	0.04	± 0.50 °C
<b>Calibration Results of 'L' Type (-200 to 900 °C)</b>				
Range	Input Given by Multi Product Calibrator In °C	Reading Observed by UUC In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-200 °C to 900 °C	-199.00	-199.03	0.03	± 0.47 °C
	0.00	0.01	0.01	± 0.44 °C
	100.00	100.01	0.01	± 0.44 °C
	200.00	200.02	0.02	± 0.44 °C
	400.00	399.96	0.04	± 0.44 °C
	890.00	889.94	0.06	± 0.44 °C
<b>Calibration Results of 'U' Type (-200 to 600 °C)</b>				
Range	Input Given by Multi Product Calibrator In °C	Reading Observed by UUC In °C	Absolute Error In °C	Expanded Uncertainty (K=2)
-200 °C to 600 °C	-199.00	-198.98	0.02	± 0.68 °C
	0.00	-0.01	0.01	± 0.68 °C
	100.00	99.99	0.01	± 0.66 °C
	300.00	299.97	0.03	± 0.66 °C
	400.00	399.96	0.04	± 0.66 °C
	590.00	589.95	0.05	± 0.66 °C

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Date Of Receipt / Ref. No. → 14-06-2023		F/CR/E/001/05/1, Issue No.02 Page 13 of 13	
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	Serial No.	: <b>1694005</b>	
	Make / Model No.	: <b>Fluke/5500E</b>	
	Name of Instrument	: <b>Multi-product Calibrator</b>	
<b>Remarks:</b>			
<ul style="list-style-type: none"> <li>↳ <b>Acceptance Criteria:</b> ±0.1 °F or ±0.05 °C or ±0.015% of Temperature Reading, Whichever is Greater.</li> <li>↳ Instrument Calibration Pass/Fail : Pass</li> <li>↳ No adjustments are made.</li> <li>↳ As found and as left data are same.</li> <li>↳ Correction and modification offset not used.</li> <li>↳ No Limitation/Restriction of Calibration.</li> <li>↳ Averages of minimum five readings are reported.</li> <li>↳ These results are obtained at the time of calibration.</li> <li>↳ Condition of instrument found satisfactory during receipt.</li> <li>↳ The uncertainties are for a confidence probability of not less than 95% with coverage factor k=2.</li> <li>↳ Any hand written corrections (except @) or photocopies of the report invalidates this certificate.</li> <li>↳ Environment condition during calibration: 25 ± 4 °C, 30 to 75% Rh.</li> <li>↳ Average temperature → 25.7 °C and average humidity 44 % Rh during calibration of instruments.</li> <li>↳ No external provider was used for calibration and hence it is not applicable.</li> <li>↳ Result relates to the item calibrated only.</li> <li>↳ Calibration certificate shall not be reproduced except in full without written approval of Director, NCQC.</li> <li>↳ Location of Performance of Calibration → At Lab</li> <li>↳ Reference calibration method no.: NCQC/CM/E/009, 014, 015, 016, 017 &amp; 019.</li> <li>↳ Reference standard no.: euramet cg_11 &amp; 15.</li> <li>↳ Our masters are directly calibrated through NABL accredited calibration lab having direct Traceability with national / international standard.</li> </ul>			
<b>Details of Master Instrument Used for Calibration</b>			
<b>Nomenclature</b>	<b>Make / Model</b>	<b>Id. No. / Sr. No.</b>	<b>Calibration Due Date</b>
Multi-Product calibrator	Fluke / 5522 A	NCQC/E-01 / 3043901	03/03/2024
6 ½ Digital Multimeter	Fluke / 8846 A	NCQC/E-04 / 1086005	26/12/2023
NCQC System Certificate No.	Certificate No. & Traceability of Master with National Standards		
260	↳ Our master Fluke Multi – Product calibrator is calibrated and traceable to National Standard through NABL Accredited Laboratory Godrej Calibration Services, and Certificate No. M-230228-3-1, Date – 28-02 to 03-03-2023.		
43	↳ Our master Digital Multimeter is calibrated and traceable to National Standard through NABL accredited Lab Godrej Calibration Services. Certificate no. M-221223-15-1/A Date - 26-12-2022		

Traceable To National / International Standards.

Calibrated By	 Trupen Parmar	Reviewed and Approved By	 Hitesh Limbachiya
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