



**WEIGH INDIA**  
MANUFACTURER • DEALER • EXPORTER PRECISION WEIGHTS



Certificate Number C-0323

PLOT NO. 137, FUNCTIONAL INDUSTRIAL ESTATE,  
PATPARGANJ, NEW DELHI 110 092 (INDIA)  
TEL: (91-11) 2216 6336, 43092885 FAX: 43092885  
weights@weighindia.net  
www.weighindia.net

**TRUE COPY**

**CALIBRATION CERTIFICATE**

Calibration Certificate for Mass Piece(s)		Certificate No. : WI/Mar/18/007
Date 15.03.2018	Recommended date for the next calibration 15.03.2021	Page No. :- One of Two

Calibrated for : M/s. National Centre for Quality Calibration  
4, Abhishree Corporate Park,  
Near Swagat Bungalow BRTS, Iskcon  
Ambli Road, Ambli, Ahmedabad - 380058  
Gujarat, India

(As per STANDARDS OF WEIGHTS AND MEASURES (ENF.) ACT, 1985 No. 74(b), These weights should be used for scientific Investigation for Research ONLY)

Party's Ref. No. : NIL

Date of receipt of item : 03.03.2018

Make / Serial no. : Weightronics / NCQC/M/W/E1/04

Identification No. /Box Id. : WI/03/2018/007-E<sub>1</sub> / NCQC/M-47

Description : Stainless Steel Laboratory weights.  
200g to 1g- Austenitic Stainless steel Knob type weights (11pcs)  
500mg to 1mg- Austenitic Stainless steel wire weights (12pcs)

Assumed Density : (8000 ± 50) kg/m<sup>3</sup> (k=2)

Environmental Condition : Temperature : (23 ± 3.0)°C  
Humidity : (50 ± 10) %  
[ Change in temperature and relative humidity during the calibration were less than ± 0.3 °C per hour and ± 5 % per 4 hours respectively]

Standard(s) used : Appropriate Standards of Mass Calibrated by 'Weigh India' vide Calibration Certificate no.: WI/Aug/17/001, Date : 01.08.2017

Traceability of standards used : The Standards used for Calibration are traceable to 'NPL UK' vide Calibration Certificate no.: 2014110029R, Date : 15<sup>th</sup> January to 24<sup>th</sup> February - 2015

Balance used for Calibration : Appropriate Standards balance calibrated by 'Weigh India' vide calibration certificate No. :- WI/Nov/17/B-001, Dated: 04.11.2017 & WI/Nov/16/B-001, Dated: 08.11.2016

Methodology of Calibration adopted : Method of comparison with standards using substitution weighing (ABBA) sequence. The reported mass values are the conventional mass values (M<sub>c</sub>), related to the true mass values (M<sub>T</sub>) by the formula :-  
$$M_c = M_T [1 - 1.2 (1/d - 1/8000)]$$
 (Where, 'd' is in kg/m<sup>3</sup>)

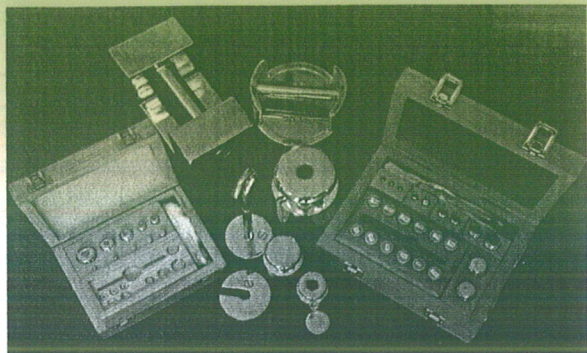
Calibrated by:  
  
(Varun Kumar)

NCQC  
Valid up to 15-03-2021  
Reviewed

Checked & Issued by:  
  
(S. Singhania)

MEMBERS:  
ENGINEERING EXPORT PROMOTION COUNCIL  
THE INDIAN SCIENCE CONGRESS ASSOCIATION  
DELHI CHAMBER OF COMMERCE  
METROLOGY SOCIETY OF INDIA

NCQC System Certificate No. 262



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<b>Calibration Certificate for Mass Piece(s)</b>		<b>Certificate No. : WI/Mar/18/007</b>
<b>Date</b> 15.03.2018	<b>Recommended date for the next calibration</b> 15.03.2021	<b>Page No. :- Two of Two</b>

**Results:**

Sl. No.	Denomination	Mass Value (g)	Tolerance ( $\pm$ g)	Uncertainty ( $\pm$ g)
1	200g	200.000 049 7	0.000 100	0.000 024 0
2	200g*	200.000 064 8	0.000 100	0.000 024 0
3	100g	100.000 022 1	0.000 050	0.000 012 0
4	50g	50.000 017 6	0.000 030	0.000 007 9
5	20g	20.000 013 3	0.000 025	0.000 006 9
6	20g*	19.999 994 4	0.000 025	0.000 006 9
7	10g	10.000 012 6	0.000 020	0.000 005 9
8	5g	4.999 992 5	0.000 016	0.000 004 9
9	2g	1.999 9964	0.000 012	0.000 003 9
10	2g*	2.000 0064	0.000 012	0.000 003 9
11	1g	1.000 004 9	0.000 010	0.000 002 9
12	500mg	0.499 996 5	0.000 008	0.000 001 5
13	200mg	0.199 999 5	0.000 006	0.000 001 1
14	200mg*	0.199 998 1	0.000 006	0.000 001 1
15	100mg	0.099 999 1	0.000 005	0.000 000 9
16	50mg	0.049 999 2	0.000 004	0.000 000 9
17	20mg	0.019 998 8	0.000 003	0.000 000 9
18	20mg*	0.020 001 7	0.000 003	0.000 000 9
19	10mg	0.009 999 3	0.000 003	0.000 000 9
20	5mg	0.004 999 7	0.000 003	0.000 000 9
21	2mg	0.001 999 2	0.000 003	0.000 000 9
22	2mg*	0.001 999 0	0.000 003	0.000 000 9
23	1mg	0.001 000 0	0.000 003	0.000 000 9

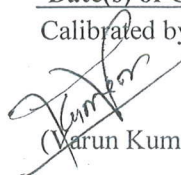
The reported uncertainties are at a coverage factor ( $k=2$ ) which is dependent on  $V_{eff}$  and corresponds to a coverage probability of approximately 95% for a normal distribution. The contribution of uncertainty, originating from the standards used, weighing process, drift in standard, and the air buoyancy correction are taken into account.

This calibration certificate shall not be reproduced except in full, without written approval of the laboratory.


**Remarks:** Mass value of all the weights are within the maximum errors permissible in  $E_1$  accuracy class of weights as per OIML Recommendation No-. R111-1 (2004)

**Date(s) of Calibration :- (06<sup>th</sup> & 15<sup>th</sup>) March - 2018**

Calibrated by:

  
(Marun Kumar)

Checked & Issued by:

  
(S. Singhania)

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