

Test & Calibration Certificate

UNIT DESCRIPTION: LABORATORY CENTRIFUGE MODEL NO.: NEYA-4 SR. NO.: 2KDN-16950

NAME OF CUSTOMER & ADDRESS:

ELECTRICAL SUPPLY: 230V, 50 Hz, Single Phase AC

CENTRIFUGE MOTOR:

MOTOR MAKE	REMI	SR. NO.	241310244411
INVERTER MODEL	STD VFD	SR. NO.	230442770

TEST RESULTS:

HOUSING SURFACE FINISH	OK	PAINT FINISH	OK	LID FITTING	OK
MACHINE STABILITY	OK	DOOR FINISH	OK	DOOR LOCK	OK
DOOR LED ILLUMINATION	OK	FUSE	5 A		
TIMER FUNCTION	OK	SOLENOID LOCK	OK	EARTH CONNECTION	OK
SPEED INDICATION	OK	IMBALANCED SWITCH	OK	NOISE	NO

LOAD TEST:

ROTOR HEADS			MOTOR			VIBRATION	REMARKS
ROTOR CAPACITY	MODEL	MAX. SPEED	VOLT	AMP	R.P.M.		
4X100ML	SN4100	4000	230	0.60	4010	NO	OK

CALIBRATION DATE: 14/06/2024 CALIBRATION VALIDITY: 13/06/2025

DETAILS OF EQUIPMENT USED FOR CALIBRATION:

Sr. No.	Description	Certified By	Instrument Id. No.	Certificate No.	Calibration Date	Validity
01	Digi. Strobe	Autocal	ISR-01	C23112500/P/2	10/11/2023	06/11/2024

OBSERVATIONS:

Sr. No.	Rotor Speed (RPM)		Difference	Remarks
	Displayed	Digital Strobe		
01	4000	4010	10	OK
02	2000	2008	08	
03	1000	1005	05	

- NOTE:**
1. Calibration Traceable to national standards.
 2. Overall deviation is within specified tolerance.
 3. Result is related only to the item calibrated.
 4. Maximum tolerance permissible RPM $\pm 2\%$ FSD.

REMARKS: ACCEPTED

Vijay Kadam


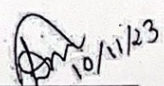


TESTED & CALIBRATED BY: VIJAY KADAM

APPROVED BY: MANAGER Q. A.



AUTOCAL SOLUTIONS PVT. LTD.
 Regd. Office & Laboratory: Unit No. 4, Ruby Industrial Estate PCS Ltd., Navghar
 Vasai Road (E), Dist. Palghar - 401 210, Maharashtra, India.
 CIN No. U72200MH2008PTC178116
 Email - Id - sales@autocal.net Web Address - www.autocal.net
 Phone No. : (0250) 2383460

CALIBRATION CERTIFICATE				FF/01-E-C			
MECHANICAL DISCIPLINE				Page 1 of 1			
Certificate No.	C23112500/P/2	Issue Date	10/11/2023				
Date of Calibration	07/11/2023	Next Calibration Date	08/11/2024				
Service Request Form No.	C23112500						
Calibrated for	Remi Elektrotechnik Ltd Bldg. B, Survey No. 65/1, Village Valiv, Vasai (East), Dist. Palghar Maharashtra 401208, India						
Date of Receipt of Instrument	04/11/2023						
Condition of Instrument on Receipt	Working	Calibrated at	Lab				
Environmental Conditions	Temperature	23.2 °C	Relative Humidity	56.5 %RH			
Details of Unit Under Calibration (UUC)							
Instrument	Strobemeter	Equipment	NA				
Make	Test Technics	Equipment Id.	NA				
Model	NA	Department	NA				
Sr. No.	1364	Section	NA				
Tag/ID No.	ISR-01	Location	NA				
Procedure No.	WI/ASPL/CAL/PR/07	Ref. Used	-				
Accuracy / Acceptance Criteria							
Range / Size	Resolution / Least Count	Accuracy / Acceptance Criteria					
150 to 20000 RPM	1 RPM	Not Specified					
Details of Standard(s) used for Calibration (Traceable to National & International Standards)							
Description	Make & Model	Serial No. & Id. No.	Traceability (Certificate No.)	Valid upto			
DIGITAL TACHOMETER	Monarch / PLT 200	1856742 / STD/P/PR/07	Hi-Tech, Chennai HT/CC/230701-06/001	04/07/2024			
Measurement Result							
Observation Table Discipline: Group :- Mechanical : Acceleration & Speed							
Sr. No.	Calibration Point	Reading On Standard	Reading On UUC	Error	(±) Expanded Uncertainty		
	RPM	RPM	RPM	RPM	RPM		
1	150	150.03	150	-0.03	± 1.740		
2	500	500.04	500	-0.04	± 1.847		
3	700	700.3	700	-0.3	± 1.848		
4	15000	14999	15000	1	± 15.370		
5	20000	19999	20000	1	± 15.370		
Remarks:							
1. The reported expanded uncertainty of measurement is stated as a standard uncertainty of measurement multiplied, by a coverage factor "k", such that the coverage probability corresponds to approximately 95% confidence level.							
2. The measured values mentioned are the average of 5 readings.							
Notes:							
1. This certificate refers only to the particular item Calibrated at site / laboratory.							
2. The calibration results reported are valid at the time of and under the stated conditions of measurement.							
3. Any correction in this certificate invalidates this certificate.							
4. This certificate shall not be reproduced except, in full without the written approval from the Laboratory.							
5. Calibration of UUC done by any accredited laboratory is meant for scientific and industrial purpose only however, if used for commercial trading additional recognition / approval shall be compiled as a required by department of legal metrology, regulatory bodies, etc.							
		Authorised Signatory	<div style="text-align: right;">  10/11/23 Authorised Signatory </div>				
		Calibrated By	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Jyotindra Mehta</td> </tr> <tr> <td>Calibration Engineer</td> </tr> <tr> <td>Nilesh Khade</td> </tr> <tr> <td>Calibration Engineer</td> </tr> </table>			Jyotindra Mehta	Calibration Engineer
Jyotindra Mehta							
Calibration Engineer							
Nilesh Khade							
Calibration Engineer							
***** End of Certificate *****							



HI TECH
CALIBRATION SERVICES



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CALIBRATION CERTIFICATE			
Certificate No.	HT/CC/230701-06/001	ULR No.	ULR - CC215123000024707F
CUSTOMER DETAILS -		DEVICE UNDER CALIBRATION DETAILS	
Name	M/s. Autocal Solutions Pvt. Ltd.,	Description	Digital Tachometer
Address	Unit - 4, Ruby Industrial Estate PCS Ltd., Navghar, Vasal East, Dist. Palghar - 401 210.	Make	Monarch Model PLT 200
		Mode	Non - Contact / Contact
Job No.	230701-06	Range	As Per Manual
Job Receipt Date	01-Jul-2023	Least Count	0.001/0.01/0.1/1 RPM
Issue Date	08-Jul-2023	Accuracy	± 0.01% Rdg (or) Least Count (Whichever is greater)
Received Condition of DUC	Satisfactory	Serial No.	1856742
ENVIRONMENTAL CONDITION		Identification	STD/P/PR/07
Temperature	25 °C ± 2 °C	Calibration On	05-Jul-2023
Humidity	30 % RH to 75 % RH	Due On	04-Jul-2024
Discipline & Group	Mechanical Calibration & Acceleration, Speed		
Calibration Procedure	HT/WI/M/AS (Section 01) & SANAS TR 45-02 by Comparison Method		
STANDARD DETAILS			
Description	Digital Tachometer		
Identification No.	M/AS/TACHO/08 & M/AS/TACHO/05		
Certificate No.	SALPR/0284/1/23 & HT/CC/230306-17/001		
Valid Till	03-Apr-2024 & 05-Mar-2024		

Refer Next Page for Result

CERTIFIED TRUE COPY
AUTOCAL SOLUTIONS PVT. LTD.

Authorized Signatory

Checked By
S. ANU PRIYA - ASSISTANT MANAGER
APPROVED G - J.M - P1



Approved By
R.R. HARIJAIIRAN - TECHNICAL MANAGER
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CALIBRATION CERTIFICATE			
Certificate No.	HT/CC/230701-06/001	ULR No.	ULR - CC215123000024707F

CALIBRATION RESULT

Mode : Non - Contact

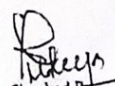
DUC Reading in RPM	Standard Reading in RPM	Error in RPM	Expanded Uncertainty in ± RPM
6.131	6.131	0.000	0.21
50.083	50.083	0.000	0.21
100.08	100.07	0.01	0.25
500.39	500.37	0.02	0.27
1000.0	1000.1	-0.1	0.42
10003	10003.2	-0.2	1.78
50004	50004.2	-0.2	3.06
99945	99946.7	-1.7	3.36

Mode : Contact

DUC Reading in RPM	Standard Reading in RPM	Error in RPM	Expanded Uncertainty in ± RPM
6.051	6.051	0.000	0.20
50.046	50.045	0.001	0.20
100.15	100.16	-0.01	0.25
1000.2	1000.1	0.1	0.41
5001.8	5001.5	0.3	0.44

Remarks:

- The Calibration is performed at Permanent Facility.
- The Calibration Certificate is valid for scientific & industrial purpose only.
- The Expanded uncertainty is expressed at 95.45 % confidence level with coverage factor k=2.


 Checked By
 S ANU PRIVA - ASSISTANT MANAGER
 Signature G-78-F1


 Approved By
 R.R. HARI JAIRAM - TECHNICAL MANAGER
 Page 2 of 2 | End of Certificate

