Gibitre Instruments S.r.l.
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CER_FLT_001	Rev: 01	IN

Calibration Report n° FLTXXXXXX_23389

Issued 01/07/2025

Customer

Name	C**USTOMER**
Address	A**DDRESS**
	A**DDRESS**
Country	C**OUNTRY**

Order

Number	BRS61102285

Instrument

Type	FLEXON CHECK - THERMAL CHAMBER
Model	FLESSOMETRO DE MATTIA CON CAMERA TERMICA
Producer	GIBITRE INSTRUMENTS SRL
Serial Number	FLTX**XXXXX**

Calibration

Date of the measures	**01/07/2025**	
Technician	**Mario Lodato**	Habilitation for Calibration

Reference Standard

The calibration is made in accordance to the requirements of the following standards:

ISO 132: Rubber, vulcanized or thermoplastic — Determination of flex cracking and crack growth (De Mattia)

ISO 6943: Rubber, vulcanized — Determination of tension fatigue

ISO 18899: Rubber - Guide to the calibration of test equipment

The measurement uncertainties stated in this document have been determined according to the ISO/IEC Guide 98 and to EA-4/02. Usually they have been estimated as expanded uncertainty obtained multiplying the standard uncertainty by the coverage factor k corresponding to a confidence level of about 95%. Normally, this factor k is 2.

Calibration made by:

Mario Lodato

Calibration Report approved by:

Ivan Locatelli

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The measurement results reported in this Calibration Report were obtained following the procedures given in the following pages, where the reference standards or instruments are indicated which garantee the traceability chain of the laboratory, and the related calibration certificates in the course of validity are indicated as well. They relate only to the calibrated item and they are valid for the time and conditions of calibration, unless otherwise specified.

Reference Instruments	Producer	Serial N.	Gibitre Code	Certificate N.	Calibration Laboratory	Issue Date	Due Date	Uncertainty	Unit
PT100 Thermoresistance + Calibrator	Gibitre Instruments srl	C1-T-PTA	C1-GB3-CAL-1 + C1-T-PTA	LAT_128T_1417_22	ELLAB S.r.l.	25/09/22	25/09/2027	0,05	°C
PT100 Thermoresistance + Calibrator	Gibitre Instruments srl	C1-T-PTA	C1-GB3-CAL-1 + C1-T-PTA(T<0°C)	LAT_128T_1417_22	ELLAB S.r.l.	25/09/22	25/09/2027	0,05	°C
Digital Caliper	Mitutoyo	1019218	CLB02	LAT 051 CT-CC-0227-2022	TRESCAL	23/05/22	23/05/2027	0,01	mm
Chronometer	RS COMPONENTS	GBT.CN.01/13	CRO02 [0-60 s]	LAT 056 23-0199_2023	GAMMA MISURE	09/02/23	09/02/2028	0,10	s
Digital Calliper	Mitutoyo	A16222754	C9-CL-200	CAL109_19648	GIBITRE INSTRUMENTS	02/09/24	02/09/2025	0,02	mm
Chronometer + Calibrator	Gibitre Instruments srl	C9-CH-1	C9-GB3-CAL-1 + C9-CH-1	CAL109_19648	GIBITRE INSTRUMENTS	02/09/24	02/09/2025	0,16	s
PT100 Thermoresistance + Calibrator	Gibitre Instruments srl	C9-T-PTA	C9-GB3-CAL-1 + C9-T-PTA	CAL109_19648	GIBITRE INSTRUMENTS	02/09/24	02/09/2025	0,50	°C
PT100 Thermoresistance + Calibrator	Gibitre Instruments srl	C9-T-PTA	C9-GB3-CAL-1 + C9-T-PTA(T<0°C)	CAL109_19648	GIBITRE INSTRUMENTS	02/09/24	02/09/2025	0,05	°C

ENVIRONMENTAL CONDITIONS

Room Temperature	(23 ± 2) °C
Relative Humidity	(50 ± 10) %

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Calibration of: **Templates for the regulation of the grip travel**

Procedure: The dimension of each template is measured using the reference Calliper

Reference Standard: **ISO 132 par 3.1 / ISO 6943**

Reference Instruments:
C9-CL-200 Uncertanty: 0,0199 mm Deviation 0,02 mm

Template Code	Expected displacem.	Minimum Allowed	Maximum Allowed	Measure 1	Measure 2	Measure 3	Mean	Deviation	Uncertanty U_ext_95%	Outcome
	mm	mm	mm	mm	mm	mm	mm	mm	mm	
76 mm	76,00	75,90	76,00	**76,00**	**76,00**	**75,99**	76,00	0,00	0,02	ok
76 mm	76,00	75,90	76,00	**75,98**	**75,98**	**75,97**	75,98	-0,02	0,02	ok

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Calibration of: **Cycle Frequency**

Procedure: The rotation frequency is calibrated by measuring, with the reference Chronometer, the number of cycles performed in 1 minute

Reference Standard: **ISO 132 Par. 3,1**

Reference Instruments:

C9-GB3-CAL-1 + C9-CH-1 Uncertanty: 0,1618 s Deviation 0,00 s

Cycle Frequency	Cycles/min Expected	Minimum Allowed	Maximum Allowed	Counted Cycles 1	Counted Cycles 2	Counted Cycles 3	Mean	Accuracy	Uncertanty U_ext_95%	Outcome
Hz	num	num	num	num	num	num	num	num	num	
5,00	300	290	310	302	301	300	301,0	1,0	1,166	ok

Calibration of: **Temperature Measurement**

Sensor Type: **PT 100 Thermoresistance**
Resolution: 0,1 °C

Procedure: The test temerature is set on the instrument. After an adecuate conditioning time, the actual temperature is measured with the reference thermometer. The test is repeated 3 times for each temperature tested.

Reference Standard: **ISO 289-1 Par. 4.4**

Reference Instruments:

C9-GB3-CAL-1 + C9-T-PTA Uncertanty: 0,50 °C Deviation 0,65 °C
C9-GB3-CAL-1 + C9-T-PTA(T<0°C) Uncertanty: 0,05 °C Deviation 0,85 °C

Dies Temperature

Set Value	Minimum Allowed	Maximum Allowed	Calibrator Reading 1	Calibrator Reading 2	Calibrator Reading 3	Mean	Accuracy	Uncertanty U_ext_95%	Outcome
°C	°C	°C	°C	°C	°C	°C	°C	°C	
50	48	52	50,3	50,6	50,4	50,43	0,43	0,533	ok
100	98	102	100,5	100,6	100,5	100,53	0,53	0,508	ok
200	198	202	201,0	200,9	201,1	201,00	1,00	0,516	ok

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Verification of instrument safety devices

√	Verification that the instrument's safety devices are working properly

√	Final verification that the instrument is functioning properly with safety devices active