CERTIFICATE OF CALIBRATION

NUMBER 166740

FUNDACIÓN TEKNIKER
LABORATORIO DE METROLOGÍA
Calle Iñaki Goenaga, 5
20600 EIBAR (GIPUZKOA) SPAIN

IK4 TEKNIKER
Research Alliance

ITEM:	DIAL GAUGE
MARK:	TESA
MODEL:	DIGICO 2
IDENTIFICATION:	7E 007 02 (T029-1)
APLLICANT: *Applicant*	METTLER TOLEDO PAC RIM AG-TAIWAN BRANCH 11506 TAIPEI 114 R.O.C.
DATE/S OF CALIBRATION:	29/04/2019

Authorised Signatory/ies
Head of Laboratory

Date of issue

Eibar, April 29, 2019

IDENTIFICATION OF THE CALIBRATION ELEMENT

ITEM: DIAL GAUGE
MARK: TESA
MODEL: DIGICO 2
IDENTIFICATION: 7E 007 02 (T029-1)
LENGTH OF TRAVEL: 0÷60 mm
RESOLUTION: 0,001 mm
OBSERVATIONS:

CONDITIONS AND METHODS OF CALIBRATION:

MEASURING INSTRUMENT USED	ENVIRONMETAL CONDITIONS	STANDARDS
- TESTING MACHINES FOR COMPARATORS, ref.109001503 - 7308-2	(20 ± 1)°C	
- THERMOMETER, ref. D13340305 - 7039-7	**CALIBRATION PROCEDURE**	
	PC-MM.302	

OBSERVATIONS:

The results obtained in this report are referred to the moment and conditions in which the measuring are made.

The expanded uncertainty has been obtained multiplying the typical uncertainty of measurement by the cover factor k=2 that, for a normal distribution, corresponds approximately to a probability of cover of 95%. The typical uncertainty of measure has been determined according to document EA-4/02 M:2013.

The uncertainty of the correction has been considered from the following contributions: used standard, the repeatability of the measures, the equipment resolution and the magnitudes of influence (temperature when he comes).

The uncertainty of use has been considered from the following contributions: used standard, the repeatability of the measures, the equipment resolution, the instrument corrections and the magnitudes of influence (temperature when he comes).

One notices the user of the necessity to consider the magnitudes of influence significant, and to increase the global uncertainty consequently, when he uses the elements in conditions that differ from those of calibration.

The laboratory does not take responsibility of the inadequate use of the calibrated instruments.

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RESULTS

$U_0=$	0,7	µm

PUNTOS DE CALIBRACIÓN (mm)	CORRECCIONES CRECIENTES (µm)	Uc_C (µm)	CORRECCIONES DECRECIENTES (µm)	Uc_D (µm)
0	0	0,9	0	0,9
6	0	0,9	0	0,9
12	0	0,9	0	0,9
18	-1	0,9	0	0,9
24	0	0,9	0	0,9
30	0	0,9	1	0,9
36	0	0,9	0	0,9
42	0	0,9	0	0,9
48	0	0,9	0	0,9
54	0	0,9	0	0,9
60	1	0,9	1	0,9

PUNTO DE CALIBRACIÓN (mm)		CORRECCIONES (µm)										Sc (µm)	Sc_{TOTAL} (µm)
30	⇑	0	0	0	0	0	0	0	0	0	0	0	0
	⇓	0	0	0	0	0	0	0	0	0	0	0	

INCERTIDUMBRE DEL EQUIPO: U = ± 2 µm
FACTOR DE COBERTURA k = 2

NOTES:

Sc = Standard desviation

Sc_{TOTAL} = Total standard deviation in the point of the reiterations. (Considering the 20 measures)

U_0 = Uncertainty of the standard

Uc_C = Uncertainty of the ↑ correction

Uc_D = Uncertainty of the ↓ correction

U = Uncertainty of use of the equipment (including correction)

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