

CUSTOMER

Name: AV-Consulting CalibrationLaboratory
Address: Benedenberg 100A
Zip code & City : 2861LH Bergambacht
Country: Nederland

CALIBRATION OF

Device: Free Field Microphone
Brand & type: Microphone BSWA-MPA231
Serial number: 28613
Customers Instrument tag: BREM-04

SPECIFICATIONS

Calibrated in accordance with: The guiding document for requirements relating to in-house calibration activities is ISO/IEC 17025 - General Requirements for the Competence of Calibration and Testing Laboratories.
Method used: Calibration by comparison method. IEC-61094-5: 2016
Traceability: The calibration assures the traceability to the international units system SI.

**CALIBRATION
CONDITIONS**

Preconditioning: 4 hours at 23 [°C] ± 3 [°C]
Environmental conditions: Pressure Unit Humidity Unit Temperature Unit
1011,30 [hPa] 41,0 [%] 20,7 [°C]

**UNCERTAINTY
OF
MEASUREMENT**

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k = 2$, which for a normal distribution provides a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from standards, calibration method, effects of environmental conditions and any short time contribution from the device under calibration.

RESULT

PASS

DATE

Date of calibration: Date of issue:
Calibration Engineer: Approved Signatory:
A.Vreeswijk 20-Sep-2017 20-Sep-2017

AV-Consulting Calibration
Laboratory
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Reproductie van het volledige certificaat is toegestaan. Gedeelten van het certificaat mogen slechts worden gereproduceerd na verkregen schriftelijke toestemming van het laboratorium van afgifte. Dit certificaat wordt verstrekt onder het voorbehoud dat AV-Consulting Calibration Laboratory generlei aansprakelijkheid aanvaardt.

VISUAL INSPECTION

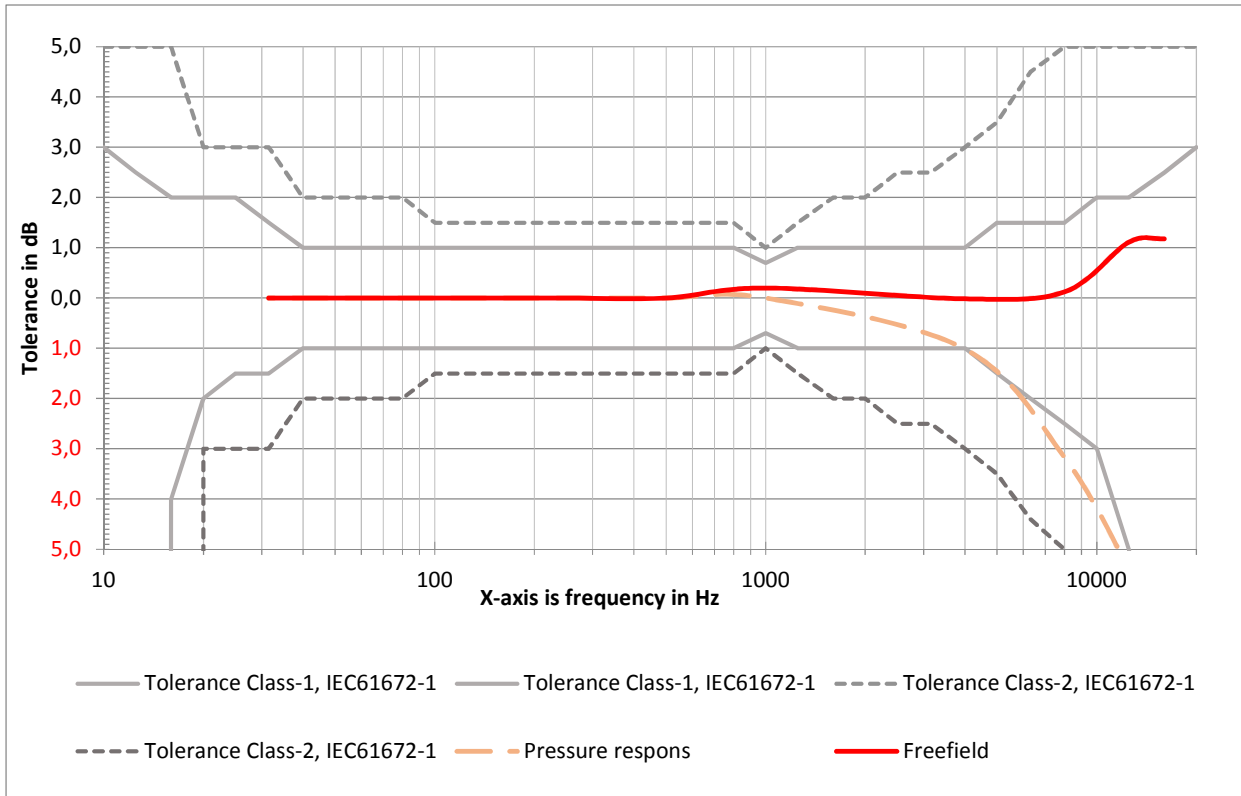
	Yes	No
The equipment / device is in serviceable condition.	x	
There is no visible damage.	x	
The appropriate documentation accompanied the equipment.	x	
Calibration tags / CE tags are present and correct.	x	
The equipment is suitable to use for official testing and/or calibration.	x	

COMMENTS

The sound level meter submitted for testing successfully completed the periodic tests for the environmental conditions under which the tests were performed.

CALIBRATION EQUIPMENT

Device	Type	Brand	Serial no.
Electrostatic Acuator	AS011	BSWA	550001
Ultra Low Distortion Generator	DS360	Stanford RS	33264
Digital Voltmeter 6½ digits	34465A	Keysight	MY54502281
Arbitrary Waveform Generator	4052	BK Precision	388114141
Conditioning Amplifier	2691	Bruel & Kjaer	2079137
Electroacoustical Calibrator	4231	Bruel & Kjaer	1000577
Multifrequency Calibrator	4226	Bruel & Kjaer	1854566
Pistonphone	4228	Bruel & Kjaer	1570765
Full Frequency Coupler	CA-916	BSWA	540002
Microphone replacement	K65-15	NTI	K65S
Audio analyzer	XL2	NTI	A2A-06359-E0
Puls FFT-Analyzing System	3560C	Bruel & Kjaer	23311790



MEASUREMENTS

Frequency	Pressure response 0°	Free field response 0°	Accept -Limit Free field	Accept +limit Free field	Deviation Pressure field	Deviation Free field	Uncertainty
Hz	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
16000	87,18	95,18	-16,00	2,50	-6,82	1,18	0,50
12500	88,61	95,11	-5,00	2,00	-5,39	1,11	0,50
8000	90,82	94,12	-2,50	1,50	-3,18	0,12	0,25
4000	92,98	93,98	-1,00	1,00	-1,02	-0,02	0,15
1000	94,00	94,20	-0,70	0,70	0,00	0,20	Ref.
500	94,00	94,00	-1,00	1,00	0,00	0,00	0,10
250	94,00	94,00	-1,00	1,00	0,00	0,00	0,10
125	94,00	94,00	-1,00	1,00	0,00	0,00	0,15
63	94,00	94,00	-1,00	1,00	0,00	0,00	0,15
31,5	94,00	94,00	-1,50	1,50	0,00	0,00	0,15