AV CONSULTING B.V.
Calibration Laboratory

CERTIFICATE OF CALIBRATION AVC16098

CUSTOMER

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

CALIBRATION OF

Device:	Accelerometer
Brand & type:	Bruel & Kjaer 8305
Serial number:	1000577
Customers Instrument tag:	AV-039

SPECIFICATIONS

Calibrated in accordance:	ISO-16063-21
Method used:	Back to Back Calibration, direct comparison to reference standard accelerometer as specified in ISO-16063-21
Traceability:	DANAK CDK1602396

CALIBRATION CONDITIONS

Preconditioning: 4 hours at 23 [°C] ± 3 [°C]

Environmental conditions:

Pressure	Unit	Humidity	Unit	Temperature	Unit
1022,1	[hPa]	60,0	[%]	21,7	[°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 in evaluation has been carried out in accordance with EA-4/02 from elements originating from standards, calibration methods, effect 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	27-9-2017		27-9-2017

AV-Consulting Calibration Laboratory
Benedenberg 100A
2861 LH BERGAMBACHT
THE NETHERLANDS
Tel.: +31 182-352311

AV CONSULTING B.V.
Calibration Laboratory

CERTIFICATE OF CALIBRATION AVC16098

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 device under test submitted for testing has successfully completed the periodic tests for the environmental conditions under which the tests were performed.
Pass for frequency range and response as specified by manufacturer.

CALIBRATION EQUIPMENT

Device	Type	Brand	Serialno.
Digital Voltmeter 6½ digits	34465A	Keysight	MY54502281
Ultra low distortion generator	DS360	Stanford RS	33264
Conditioning Amplifier	Nexus 2692	Bruel & Kjaer	2079137
Laboratory Standard Accelerometer	8305	Bruel & Kjaer	396989
Laboratory Standard Accelerometer	8076K	Kistler	C127545
Power Amplifier	2712	Bruel & Kjaer	2005145
Vibration Exiter	4808	Bruel & Kjaer	2014225

EXPANDED UNCERTAINTY OF MEASUREMENTS

Frequency f [Hz]	Expanded Uncertainty, U, Rounded to 2 Significant Digits. Charge Transmission Reference.
3 - 8 Hz	1,3%
10-2000 Hz	1,1%
2500 - 4000 Hz	1,9%
5000 - 8000 Hz	2,6%
10000 Hz	3,4%

Thermal effects have been incorporated in the uncertainties

AV CONSULTING B.V.
Calibration Laboratory

CERTIFICATE OF CALIBRATION AVC16098

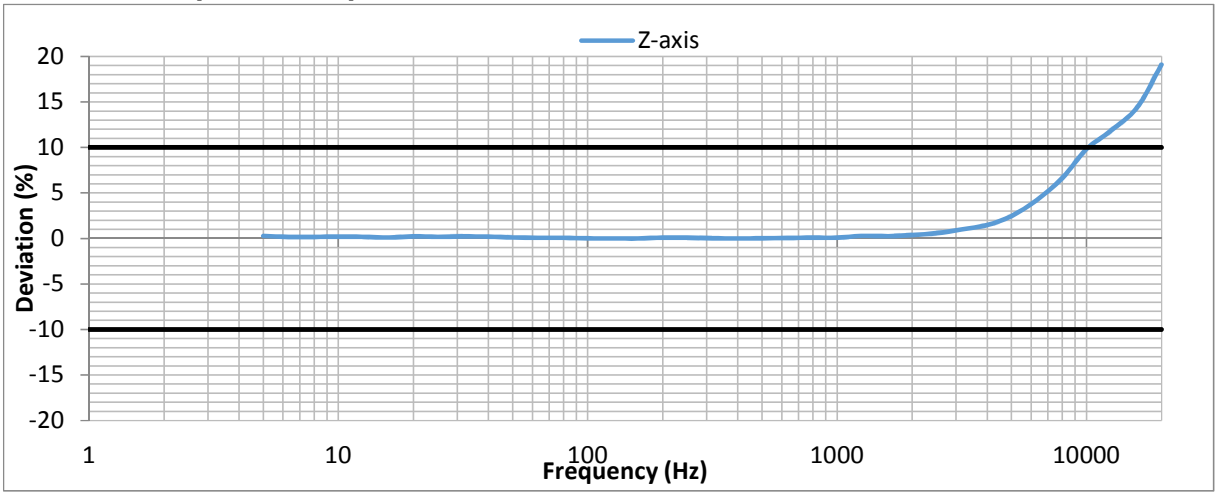
MEASUREMENTS

	Brand	Type	Serial no.	Sensitivity	Unit	Ref. frequenc	Fixture
Z-AXIS	Bruel & Kjaer	8305	1000577	0,1256	pC ms -2	159,16	Stud + Oil

MEASUREMENTS CONDITIONS

Gravitational Field NL	9,80665	ms-2
Exitation Angle	0	Degree
Exitation	Sinusoidal	
Connextion Cable	AO-0038	Customer cable

Frequentierespons



Sensitivity measured relative to reference axis measurement at 159,16 Hz

f [Hz]	Dev [%]	Dev [dB]
5	0,28	0,04
6,3	0,17	0,03
8	0,17	0,03
10	0,20	0,15
12,5	0,18	0,10
16	0,11	0,04
20	0,23	0,07
25	0,19	0,05
31,5	0,22	0,05
40	0,20	0,04
50	0,11	0,01
63	0,08	0,01
80	0,07	0,01
100	0,01	0,00
125	0,01	0,00
159,16	0,00	0,00
200	0,10	0,01
250	0,09	0,01
315	0,02	0,00

f [Hz]	Dev [%]	Dev [dB]
400	0,00	0,00
500	0,02	0,00
630	0,06	0,01
800	0,09	0,01
1000	0,09	0,01
1250	0,28	0,04
1600	0,26	0,04
2000	0,37	0,05
2500	0,58	0,08
3150	0,98	0,11
4000	1,48	0,14
5000	2,46	0,43
6300	4,19	2,05
8000	6,64	3,83
10000	9,81	3,09
12500	11,83	4,03
16000	14,43	3,84
20000	19,10	4,84