

Test report sound power measurements according 2000/14/EC

1. Introduction

This report gives the results of sound power level measurements according to ISO-3744 and ISO-11094 as prescribed by the directive 2000/14/EC. This and the following page, and the annex are common for the reports of the machines mentioned in the next paragraph.

2. Tested equipment: OBM Barracuda 405 Kw

3. Measurement

Microphone positions are according to ISO-11094/1991 clause 7.1, which corresponds with the microphone positions of 2000/14/EC - page 26 using the reduced number of microphone positions. The identification of the positions is according to the EC directive, figure on page

27. The radius of the hemispherical measurement surface is 10,0 m. In case the largest dimension of the equipment is greater than 5 m, the main sources of the equipment can be contained in a reference box with the largest dimension of less than or equal to 5m.

The main sources of these type of machine are the motor inducing fan and exhaust, the assemble containing the rotating knives and, in case of the small wood chippers, the feed opening.

The figure in "Meetpunten ISO-11094" annex shows the microphone positions and the orientation of the equipment in the measurement grid.

Measuring time at each position is 15 seconds.

At each microphone positions two measurements are made.

4. Reproducibility

2000/14/EC prescribes a triple determination of the sound power level. Due to the constantan's of the machine when material is processe the is no need for more than one measurement. In this investigation the measurements are made twice. The difference between the two sound power levels thus established areas follows: Barracuda 0.7 dB

These differences over the measurements justify the reduction to two measurements for each piece of equipment of this type.

5. Measurement location and ambient conditions

The measurements are performed in open space above terrain which is partially covered with gravel (road surface) at the location of OBMtec at Buitenpost, the Netherlands. No obstacles of acoustical importance are present in a radius of 15m.

The ambient conditions are mentioned in the table containing the results of the measurement of each machine, see (8).

Wind speed during all measurements were typical <6 m/s at 2m height.

6. Uncertainty

Uncertainty of all measurements is 2,5 dB in conformance with ISO 3744.

This correspond to a 90% confidence level calculated by $1,645 \cdot R$, with $R = 1,5$ dB.

7. Instrumentation

Sound level meter: Cesva SC101 Integrating/averaging sound level meter Class 1,

- serial number: T232352; Certificate: 20115002 January 4-2011

Calibrator: Cesva CB-6 (type 1 / class 1)

-serial number: 0049377; Certificate: 20115001 January 4-2011

Data on ambient conditions gathered by Meteoconsult Wageningen.

8. Results

Individual results are given in the result page of each type of machine.

9. Date of the measurements: December 5th 2014, executed by Peter Hoekstra

10. Remarks:

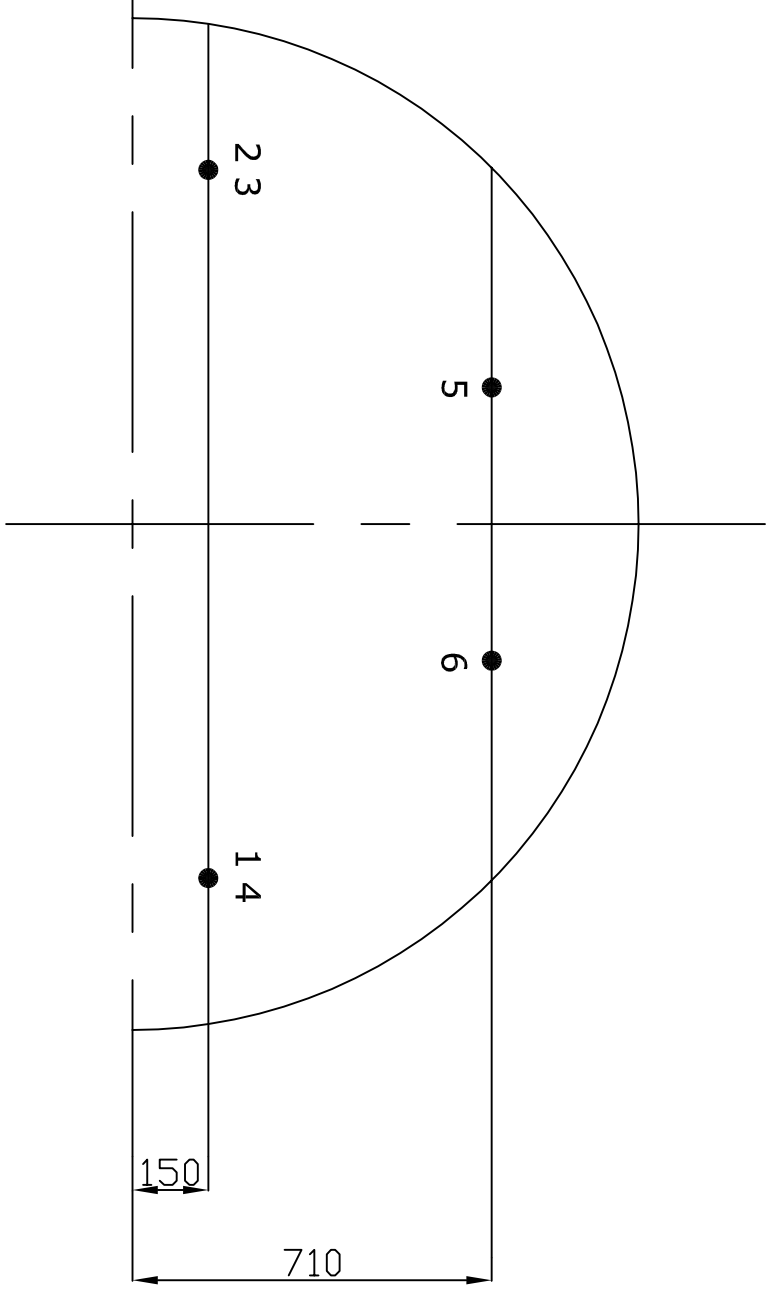
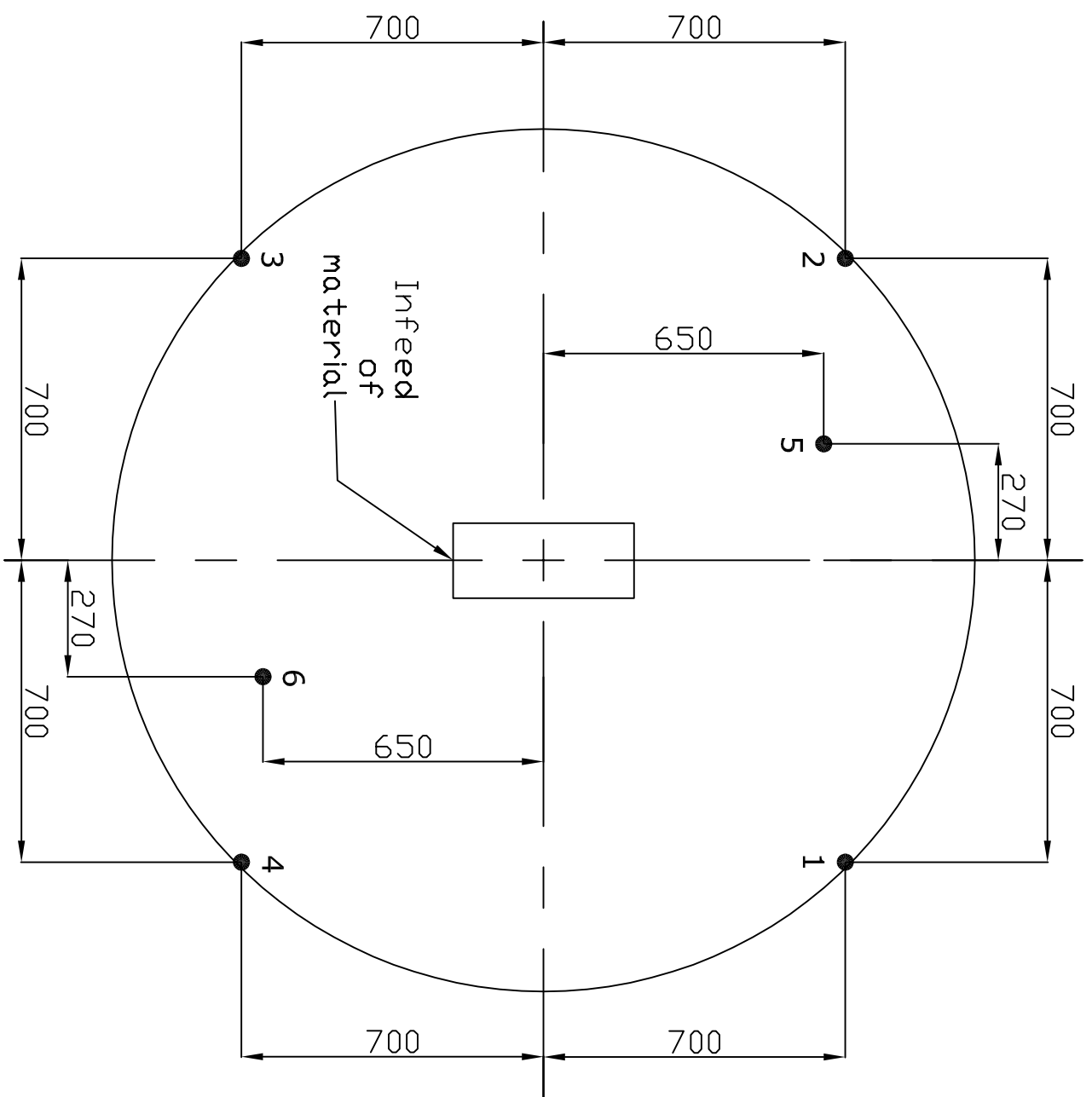
Certificate: written proof of calibration traceable to appropriate standards.

Buitenpost – December 5th 2014

Peter Hoekstra

1016G8001

RevNo	Revision note	Date	Signature	Checked
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Microphone positions according ISO 11094
As shown in figure 1 en table 2 on page 6 of the
standard.

Machine under test: Morbark 40/36

Itemref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference	
Designed by P.Hoekstra		Checked by PH	Approved by - date PH - 07/07/11	File name 2000/14/EC	Date 30/11/13	Scale NO
				Microphone pos by ISO 11094		

Test sound power measurements according 2000/14/EC

OBM Machines

Conditions and setup are described in doc nr:1016G8001,
Above and microphone positions drawn in doc nr:1016G8002,
Both documents are part of this report

Results:

Measurement	Loaded A	Loaded B	Unloaded
Pos 1	87,6	86,9	84,4
Pos 2	86,7	87	83
Pos 3	88	87,3	81,4
Pos 4	85	84,7	81,1
Pos 5	88	88,2	82,3
Pos 6	86,5	86,2	80,3
Lp Mean	87,1	86,8	82,3
LwA	115,1	114,8	110,3

Guaranteed sound power level L_{WA} equ: **117 dB**

RPM	<u>1900</u>	Serial nr: <u>1016-0005</u>
Type	<u>Barracuda</u>	Build year: <u>2014</u>
Ambient temp	<u>1,8</u>	°C
Windspeed	<u>1,7</u>	m/s
Humidity	<u>94</u>	%
Ambient press	<u>1015</u>	hPa

Doc nr:1016G8003