

	F008_244_A04_EN Revision 03 2015-10-23
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Technical Report

Octave sound power levels

Nordex N117/3000 – Standard Mode

Document Number:
F008_244_A04_EN

Revision:
03

Created: _____
P. Pannwitt

Date:
2015-10-23

Responsible Department:
Engineering/TAP

Checked: _____
R. Haevernick

Confidentiality:
IP – Nordex internal

AST:
7589

Released: _____
H. Resing-Wörmer

Replaces:
F008_244_A04_EN_R02

Validity:
K HBG BGG P/T
K08 delta T

Document published in electronic form. Signed original at Engineering.

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Validity

Platform/Type Code	Type Name
K08T24; K08T25	N117/3000 (50Hz); N117/3000 (60Hz)

Revision Index

Rev.	Date	Author	Modification (Section)	AST
03	2015-10-23	Pannwitt	New noise levels	7589
02	2014-03-11	Pannwitt	Updated noise levels based on actual measurements	7589
01	2013-06-24	Pannwitt	Provision of 31.5 Hz octave, Renaming to Mode 0 / Max power point	7589
00	2012-09-07	Haevernick	New	7589

References

Document No., Revision/Edition	Description
	Nordex Documents
Nordex F008_244_A03_EN_R02	Nordex N117/3000 Noise Level, Power curves, Thrust curves, Standard Mode, Rev. 02, 2015-10-23
	Standards/Guidelines

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1 General

1.1 Subject of this Report

The expected octave sound power levels of the Nordex N117/3000 are to be determined on basis of aerodynamical calculations, measurements and expected sound power levels (see document F008_244_A03_EN_R02).

The expected octave sound power levels are only for information and will not be warranted.

1.2 Abbreviations, Definitions, Symbols

L_{WA}: A-weighted sound power level

v_s: wind speed converted to reference conditions (hub height 10 m, roughness length 0.05 m) using a logarithmic profile

2 Determination of the octave sound power levels

2.1 Hub height 91 m

The octave sound power levels of the Nordex N117/3000 are determined on basis of aerodynamical calculations, measurements and expected sound power levels according to Nordex Document F008_244_A03_EN_R02. These values are valid for the hub height 91 m.

Frequency	Octave sound power levels at standardized wind speeds v _s in dB(A)									
	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
31.5 Hz	61.1	64.1	68.6	72.4	73.9	73.7	73.7	73.7	73.7	73.7
63 Hz	71.6	74.6	79.1	81.8	83.5	83.5	83.5	83.5	83.5	83.5
125 Hz	82.9	85.9	90.4	88.9	90.2	90.5	90.5	90.5	90.5	90.5
250 Hz	83.1	86.1	90.6	93.2	95.1	95.3	95.3	95.3	95.3	95.3
500 Hz	84.9	87.9	92.4	95.1	96.6	96.9	96.9	96.9	96.9	96.9
1000 Hz	87.8	90.8	95.3	97.9	99.1	99.8	99.8	99.8	99.8	99.8
2000 Hz	88.3	91.3	95.8	97.6	98.0	98.7	98.7	98.7	98.7	98.7
4000 Hz	86.7	89.7	94.2	96.2	95.9	96.3	96.3	96.3	96.3	96.3
8000 Hz	75.5	78.5	83.0	84.7	86.1	86.2	86.2	86.2	86.2	86.2
Total sound power level	94.0	97.0	101.5	103.5	104.5	105.0	105.0	105.0	105.0	105.0

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2.2 Hub height 120 m

The octave sound power levels of the Nordex N117/3000 are determined on basis of aerodynamical calculations, measurements and expected sound power levels according to Nordex Document F008_244_A03_EN_R02. These values are valid for the hub height 120 m.

Octave sound power levels at standardized wind speeds v_s in dB(A)										
Frequency	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
31.5 Hz	61.2	64.4	69.4	72.5	74.0	73.7	73.7	73.7	73.7	73.7
63 Hz	71.7	74.9	79.9	81.9	83.6	83.5	83.5	83.5	83.5	83.5
125 Hz	83.0	86.2	91.2	89.0	90.3	90.5	90.5	90.5	90.5	90.5
250 Hz	83.2	86.4	91.4	93.3	95.2	95.3	95.3	95.3	95.3	95.3
500 Hz	85.0	88.2	93.2	95.2	96.7	96.9	96.9	96.9	96.9	96.9
1000 Hz	87.9	91.1	96.1	98.0	99.2	99.8	99.8	99.8	99.8	99.8
2000 Hz	88.4	91.6	96.6	97.7	98.1	98.7	98.7	98.7	98.7	98.7
4000 Hz	86.8	90.0	95.0	96.3	96.0	96.3	96.3	96.3	96.3	96.3
8000 Hz	75.6	78.8	83.8	84.8	86.2	86.2	86.2	86.2	86.2	86.2
Total sound power level	94.1	97.3	102.3	103.6	104.6	105.0	105.0	105.0	105.0	105.0

2.3 Hub height 141 m

The octave sound power levels of the Nordex N117/3000 are determined on basis of aerodynamical calculations, measurements and expected sound power levels according to Nordex Document F008_244_A03_EN_R02. These values are valid for the hub height 141 m.

Octave sound power levels at standardized wind speeds v_s in dB(A)										
Frequency	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
31.5 Hz	61.3	64.5	69.8	72.6	74.1	73.7	73.7	73.7	73.7	73.7
63 Hz	71.8	75.0	80.3	82.0	83.7	83.5	83.5	83.5	83.5	83.5
125 Hz	83.1	86.3	91.6	89.1	90.4	90.5	90.5	90.5	90.5	90.5
250 Hz	83.3	86.5	91.8	93.4	95.3	95.3	95.3	95.3	95.3	95.3
500 Hz	85.1	88.3	93.6	95.3	96.8	96.9	96.9	96.9	96.9	96.9
1000 Hz	88.0	91.2	96.5	98.1	99.3	99.8	99.8	99.8	99.8	99.8
2000 Hz	88.5	91.7	97.0	97.8	98.2	98.7	98.7	98.7	98.7	98.7
4000 Hz	86.9	90.1	95.4	96.4	96.1	96.3	96.3	96.3	96.3	96.3
8000 Hz	75.7	78.9	84.2	84.9	86.3	86.2	86.2	86.2	86.2	86.2
Total sound power level	94.2	97.4	102.7	103.7	104.7	105.0	105.0	105.0	105.0	105.0

3 Protection Notice ISO 16016

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