

CLASHINDARROCH II

WIND FARM

Candidate Wind Turbine Technical Data
Prepared for: Vattenfall Wind Power Ltd

Technical Appendix 14.2

Technical Appendix 14.1
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Octave sound power levels

Nordex N133/4.8

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Nordex N133/4.8 – operation modes and hub heights

operating mode	rated power [kW]	available hub heights [m]		
		78	83	110
Mode 0	4800	•	•	•
Mode 1	4700	•	•	•
Mode 2	4580	•	•	•
Mode 3	4480	•	•	•
Mode 4	4380	•	•	–
Mode 5	4290	•	•	–
Mode 6	4190	•	•	–
Mode 7	4090	•	•	–
Mode 8	3720	•	•	•
Mode 9	3640	•	•	•
Mode 10	3560	•	•	•
Mode 11	3460	•	•	•
Mode 12	3380	•	•	•
Mode 13	3300	•	•	•

- mode available
- mode not available

Abbreviations

- v_s ... wind speed converted to reference conditions
(hub height 10 m, roughness length 0.05 m) using a logarithmic profile
- STE ... Serrated Trailing Edge

Nordex N133/4.8 – Octave sound power levels without serrated trailing edge

Basis:

The expected octave sound power levels of the Nordex N133/4.8 are to be determined on basis of aerodynamical calculations and expected sound power levels. These values are valid for 78 m, 83 m and 110 m (see available hub heights on pg. 2).

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

Mode 0**hub height 78 m – 107.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.3	74.5	76.8	79.4	79.4	79.4	79.4	79.4
63 Hz	76.5	77.0	81.0	85.2	87.5	89.0	89.0	89.0	89.0	89.0
125 Hz	83.5	84.0	88.1	92.3	94.6	94.8	94.8	94.8	94.8	94.8
250 Hz	88.0	88.5	92.9	97.1	99.4	98.0	98.0	98.0	98.0	98.0
500 Hz	89.3	89.8	95.3	99.5	101.8	100.4	100.4	100.4	100.4	100.4
1000 Hz	89.1	89.6	95.9	100.1	102.4	102.3	102.3	102.3	102.3	102.3
2000 Hz	86.6	87.1	93.4	97.6	99.9	101.4	101.4	101.4	101.4	101.4
4000 Hz	80.9	81.4	85.9	90.1	92.4	96.0	96.0	96.0	96.0	96.0
8000 Hz	69.8	70.3	73.6	77.8	80.1	82.2	82.2	82.2	82.2	82.2
Total sound power level	95.0	95.5	101.0	105.2	107.5	107.5	107.5	107.5	107.5	107.5

hub height 83 m – 107.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.5	74.7	76.8	79.4	79.4	79.4	79.4	79.4
63 Hz	76.5	77.2	81.2	85.4	87.5	89.0	89.0	89.0	89.0	89.0
125 Hz	83.5	84.2	88.3	92.5	94.6	94.8	94.8	94.8	94.8	94.8
250 Hz	88.0	88.7	93.1	97.3	99.4	98.0	98.0	98.0	98.0	98.0
500 Hz	89.3	90.0	95.5	99.7	101.8	100.4	100.4	100.4	100.4	100.4
1000 Hz	89.1	89.8	96.1	100.3	102.4	102.3	102.3	102.3	102.3	102.3
2000 Hz	86.6	87.3	93.6	97.8	99.9	101.4	101.4	101.4	101.4	101.4
4000 Hz	80.9	81.6	86.1	90.3	92.4	96.0	96.0	96.0	96.0	96.0
8000 Hz	69.8	70.5	73.8	78.0	80.1	82.2	82.2	82.2	82.2	82.2
Total sound power level	95.0	95.7	101.2	105.4	107.5	107.5	107.5	107.5	107.5	107.5

hub height 110 m – 107.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.9	71.3	75.5	76.8	79.4	79.4	79.4	79.4	79.4
63 Hz	76.5	78.0	82.0	86.2	87.5	89.0	89.0	89.0	89.0	89.0
125 Hz	83.5	85.0	89.1	93.3	94.6	94.8	94.8	94.8	94.8	94.8
250 Hz	88.0	89.5	93.9	98.1	99.4	98.0	98.0	98.0	98.0	98.0
500 Hz	89.3	90.8	96.3	100.5	101.8	100.4	100.4	100.4	100.4	100.4
1000 Hz	89.1	90.6	96.9	101.1	102.4	102.3	102.3	102.3	102.3	102.3
2000 Hz	86.6	88.1	94.4	98.6	99.9	101.4	101.4	101.4	101.4	101.4
4000 Hz	80.9	82.4	86.9	91.1	92.4	96.0	96.0	96.0	96.0	96.0
8000 Hz	69.8	71.3	74.6	78.8	80.1	82.2	82.2	82.2	82.2	82.2
Total sound power level	95.0	96.5	102.0	106.2	107.5	107.5	107.5	107.5	107.5	107.5

Mode 1**hub height 78 m – 107.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.3	74.5	76.3	78.9	78.9	78.9	78.9	78.9
63 Hz	76.5	77.0	81.0	85.2	87.0	88.5	88.5	88.5	88.5	88.5
125 Hz	83.5	84.0	88.1	92.3	94.1	94.3	94.3	94.3	94.3	94.3
250 Hz	88.0	88.5	92.9	97.1	98.9	97.5	97.5	97.5	97.5	97.5
500 Hz	89.3	89.8	95.3	99.5	101.3	99.9	99.9	99.9	99.9	99.9
1000 Hz	89.1	89.6	95.9	100.1	101.9	101.8	101.8	101.8	101.8	101.8
2000 Hz	86.6	87.1	93.4	97.6	99.4	100.9	100.9	100.9	100.9	100.9
4000 Hz	80.9	81.4	85.9	90.1	91.9	95.5	95.5	95.5	95.5	95.5
8000 Hz	69.8	70.3	73.6	77.8	79.6	81.7	81.7	81.7	81.7	81.7
Total sound power level	95.0	95.5	101.0	105.2	107.0	107.0	107.0	107.0	107.0	107.0

hub height 83 m – 107.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.4	74.7	76.3	78.9	78.9	78.9	78.9	78.9
63 Hz	76.5	77.2	81.1	85.4	87.0	88.5	88.5	88.5	88.5	88.5
125 Hz	83.5	84.2	88.2	92.5	94.1	94.3	94.3	94.3	94.3	94.3
250 Hz	88.0	88.7	93.0	97.3	98.9	97.5	97.5	97.5	97.5	97.5
500 Hz	89.3	90.0	95.4	99.7	101.3	99.9	99.9	99.9	99.9	99.9
1000 Hz	89.1	89.8	96.0	100.3	101.9	101.8	101.8	101.8	101.8	101.8
2000 Hz	86.6	87.3	93.5	97.8	99.4	100.9	100.9	100.9	100.9	100.9
4000 Hz	80.9	81.6	86.0	90.3	91.9	95.5	95.5	95.5	95.5	95.5
8000 Hz	69.8	70.5	73.7	78.0	79.6	81.7	81.7	81.7	81.7	81.7
Total sound power level	95.0	95.7	101.1	105.4	107.0	107.0	107.0	107.0	107.0	107.0

hub height 110 m – 107.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.8	71.3	75.5	76.3	78.9	78.9	78.9	78.9	78.9
63 Hz	76.5	77.9	82.0	86.2	87.0	88.5	88.5	88.5	88.5	88.5
125 Hz	83.5	84.9	89.1	93.3	94.1	94.3	94.3	94.3	94.3	94.3
250 Hz	88.0	89.4	93.9	98.1	98.9	97.5	97.5	97.5	97.5	97.5
500 Hz	89.3	90.7	96.3	100.5	101.3	99.9	99.9	99.9	99.9	99.9
1000 Hz	89.1	90.5	96.9	101.1	101.9	101.8	101.8	101.8	101.8	101.8
2000 Hz	86.6	88.0	94.4	98.6	99.4	100.9	100.9	100.9	100.9	100.9
4000 Hz	80.9	82.3	86.9	91.1	91.9	95.5	95.5	95.5	95.5	95.5
8000 Hz	69.8	71.2	74.6	78.8	79.6	81.7	81.7	81.7	81.7	81.7
Total sound power level	95.0	96.4	102.0	106.2	107.0	107.0	107.0	107.0	107.0	107.0

Mode 2**hub height 78 m – 106.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.3	74.5	75.8	78.4	78.4	78.4	78.4	78.4
63 Hz	76.5	77.0	81.0	85.2	86.5	88.0	88.0	88.0	88.0	88.0
125 Hz	83.5	84.0	88.1	92.3	93.6	93.8	93.8	93.8	93.8	93.8
250 Hz	88.0	88.5	92.9	97.1	98.4	97.0	97.0	97.0	97.0	97.0
500 Hz	89.3	89.8	95.3	99.5	100.8	99.4	99.4	99.4	99.4	99.4
1000 Hz	89.1	89.6	95.9	100.1	101.4	101.3	101.3	101.3	101.3	101.3
2000 Hz	86.6	87.1	93.4	97.6	98.9	100.4	100.4	100.4	100.4	100.4
4000 Hz	80.9	81.4	85.9	90.1	91.4	95.0	95.0	95.0	95.0	95.0
8000 Hz	69.8	70.3	73.6	77.8	79.1	81.2	81.2	81.2	81.2	81.2
Total sound power level	95.0	95.5	101.0	105.2	106.5	106.5	106.5	106.5	106.5	106.5

hub height 83 m – 106.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.4	74.7	75.8	78.4	78.4	78.4	78.4	78.4
63 Hz	76.5	77.2	81.1	85.4	86.5	88.0	88.0	88.0	88.0	88.0
125 Hz	83.5	84.2	88.2	92.5	93.6	93.8	93.8	93.8	93.8	93.8
250 Hz	88.0	88.7	93.0	97.3	98.4	97.0	97.0	97.0	97.0	97.0
500 Hz	89.3	90.0	95.4	99.7	100.8	99.4	99.4	99.4	99.4	99.4
1000 Hz	89.1	89.8	96.0	100.3	101.4	101.3	101.3	101.3	101.3	101.3
2000 Hz	86.6	87.3	93.5	97.8	98.9	100.4	100.4	100.4	100.4	100.4
4000 Hz	80.9	81.6	86.0	90.3	91.4	95.0	95.0	95.0	95.0	95.0
8000 Hz	69.8	70.5	73.7	78.0	79.1	81.2	81.2	81.2	81.2	81.2
Total sound power level	95.0	95.7	101.1	105.4	106.5	106.5	106.5	106.5	106.5	106.5

hub height 110 m – 106.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.8	71.3	75.3	75.8	78.4	78.4	78.4	78.4	78.4
63 Hz	76.5	77.9	82.0	86.0	86.5	88.0	88.0	88.0	88.0	88.0
125 Hz	83.5	84.9	89.1	93.1	93.6	93.8	93.8	93.8	93.8	93.8
250 Hz	88.0	89.4	93.9	97.9	98.4	97.0	97.0	97.0	97.0	97.0
500 Hz	89.3	90.7	96.3	100.3	100.8	99.4	99.4	99.4	99.4	99.4
1000 Hz	89.1	90.5	96.9	100.9	101.4	101.3	101.3	101.3	101.3	101.3
2000 Hz	86.6	88.0	94.4	98.4	98.9	100.4	100.4	100.4	100.4	100.4
4000 Hz	80.9	82.3	86.9	90.9	91.4	95.0	95.0	95.0	95.0	95.0
8000 Hz	69.8	71.2	74.6	78.6	79.1	81.2	81.2	81.2	81.2	81.2
Total sound power level	95.0	96.4	102.0	106.0	106.5	106.5	106.5	106.5	106.5	106.5

Mode 3**hub height 78 m – 106.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.3	74.5	75.3	77.9	77.9	77.9	77.9	77.9
63 Hz	76.5	77.0	81.0	85.2	86.0	87.5	87.5	87.5	87.5	87.5
125 Hz	83.5	84.0	88.1	92.3	93.1	93.3	93.3	93.3	93.3	93.3
250 Hz	88.0	88.5	92.9	97.1	97.9	96.5	96.5	96.5	96.5	96.5
500 Hz	89.3	89.8	95.3	99.5	100.3	98.9	98.9	98.9	98.9	98.9
1000 Hz	89.1	89.6	95.9	100.1	100.9	100.8	100.8	100.8	100.8	100.8
2000 Hz	86.6	87.1	93.4	97.6	98.4	99.9	99.9	99.9	99.9	99.9
4000 Hz	80.9	81.4	85.9	90.1	90.9	94.5	94.5	94.5	94.5	94.5
8000 Hz	69.8	70.3	73.6	77.8	78.6	80.7	80.7	80.7	80.7	80.7
Total sound power level	95.0	95.5	101.0	105.2	106.0	106.0	106.0	106.0	106.0	106.0

hub height 83 m – 106.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.4	74.7	75.3	77.9	77.9	77.9	77.9	77.9
63 Hz	76.5	77.2	81.1	85.4	86.0	87.5	87.5	87.5	87.5	87.5
125 Hz	83.5	84.2	88.2	92.5	93.1	93.3	93.3	93.3	93.3	93.3
250 Hz	88.0	88.7	93.0	97.3	97.9	96.5	96.5	96.5	96.5	96.5
500 Hz	89.3	90.0	95.4	99.7	100.3	98.9	98.9	98.9	98.9	98.9
1000 Hz	89.1	89.8	96.0	100.3	100.9	100.8	100.8	100.8	100.8	100.8
2000 Hz	86.6	87.3	93.5	97.8	98.4	99.9	99.9	99.9	99.9	99.9
4000 Hz	80.9	81.6	86.0	90.3	90.9	94.5	94.5	94.5	94.5	94.5
8000 Hz	69.8	70.5	73.7	78.0	78.6	80.7	80.7	80.7	80.7	80.7
Total sound power level	95.0	95.7	101.1	105.4	106.0	106.0	106.0	106.0	106.0	106.0

hub height 110 m – 106.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.8	71.3	75.1	75.3	77.9	77.9	77.9	77.9	77.9
63 Hz	76.5	77.9	82.0	85.8	86.0	87.5	87.5	87.5	87.5	87.5
125 Hz	83.5	84.9	89.1	92.9	93.1	93.3	93.3	93.3	93.3	93.3
250 Hz	88.0	89.4	93.9	97.7	97.9	96.5	96.5	96.5	96.5	96.5
500 Hz	89.3	90.7	96.3	100.1	100.3	98.9	98.9	98.9	98.9	98.9
1000 Hz	89.1	90.5	96.9	100.7	100.9	100.8	100.8	100.8	100.8	100.8
2000 Hz	86.6	88.0	94.4	98.2	98.4	99.9	99.9	99.9	99.9	99.9
4000 Hz	80.9	82.3	86.9	90.7	90.9	94.5	94.5	94.5	94.5	94.5
8000 Hz	69.8	71.2	74.6	78.4	78.6	80.7	80.7	80.7	80.7	80.7
Total sound power level	95.0	96.4	102.0	105.8	106.0	106.0	106.0	106.0	106.0	106.0

Mode 4 (not available for 110 m)**hub height 78 m – 105.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.3	74.4	74.8	77.4	77.4	77.4	77.4	77.4
63 Hz	76.5	77.0	81.0	85.1	85.5	87.0	87.0	87.0	87.0	87.0
125 Hz	83.5	84.0	88.1	92.2	92.6	92.8	92.8	92.8	92.8	92.8
250 Hz	88.0	88.5	92.9	97.0	97.4	96.0	96.0	96.0	96.0	96.0
500 Hz	89.3	89.8	95.3	99.4	99.8	98.4	98.4	98.4	98.4	98.4
1000 Hz	89.1	89.6	95.9	100.0	100.4	100.3	100.3	100.3	100.3	100.3
2000 Hz	86.6	87.1	93.4	97.5	97.9	99.4	99.4	99.4	99.4	99.4
4000 Hz	80.9	81.4	85.9	90.0	90.4	94.0	94.0	94.0	94.0	94.0
8000 Hz	69.8	70.3	73.6	77.7	78.1	80.2	80.2	80.2	80.2	80.2
Total sound power level	95.0	95.5	101.0	105.1	105.5	105.5	105.5	105.5	105.5	105.5

hub height 83 m – 105.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.4	74.6	74.8	77.4	77.4	77.4	77.4	77.4
63 Hz	76.5	77.2	81.1	85.3	85.5	87.0	87.0	87.0	87.0	87.0
125 Hz	83.5	84.2	88.2	92.4	92.6	92.8	92.8	92.8	92.8	92.8
250 Hz	88.0	88.7	93.0	97.2	97.4	96.0	96.0	96.0	96.0	96.0
500 Hz	89.3	90.0	95.4	99.6	99.8	98.4	98.4	98.4	98.4	98.4
1000 Hz	89.1	89.8	96.0	100.2	100.4	100.3	100.3	100.3	100.3	100.3
2000 Hz	86.6	87.3	93.5	97.7	97.9	99.4	99.4	99.4	99.4	99.4
4000 Hz	80.9	81.6	86.0	90.2	90.4	94.0	94.0	94.0	94.0	94.0
8000 Hz	69.8	70.5	73.7	77.9	78.1	80.2	80.2	80.2	80.2	80.2
Total sound power level	95.0	95.7	101.1	105.3	105.5	105.5	105.5	105.5	105.5	105.5

Mode 5 (not available for 110 m)**hub height 78 m – 105.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.3	74.1	74.3	76.9	76.9	76.9	76.9	76.9
63 Hz	76.5	77.0	81.0	84.8	85.0	86.5	86.5	86.5	86.5	86.5
125 Hz	83.5	84.0	88.1	91.9	92.1	92.3	92.3	92.3	92.3	92.3
250 Hz	88.0	88.5	92.9	96.7	96.9	95.5	95.5	95.5	95.5	95.5
500 Hz	89.3	89.8	95.3	99.1	99.3	97.9	97.9	97.9	97.9	97.9
1000 Hz	89.1	89.6	95.9	99.7	99.9	99.8	99.8	99.8	99.8	99.8
2000 Hz	86.6	87.1	93.4	97.2	97.4	98.9	98.9	98.9	98.9	98.9
4000 Hz	80.9	81.4	85.9	89.7	89.9	93.5	93.5	93.5	93.5	93.5
8000 Hz	69.8	70.3	73.6	77.4	77.6	79.7	79.7	79.7	79.7	79.7
Total sound power level	95.0	95.5	101.0	104.8	105.0	105.0	105.0	105.0	105.0	105.0

hub height 83 m – 105.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.4	74.2	74.3	76.9	76.9	76.9	76.9	76.9
63 Hz	76.5	77.2	81.1	84.9	85.0	86.5	86.5	86.5	86.5	86.5
125 Hz	83.5	84.2	88.2	92.0	92.1	92.3	92.3	92.3	92.3	92.3
250 Hz	88.0	88.7	93.0	96.8	96.9	95.5	95.5	95.5	95.5	95.5
500 Hz	89.3	90.0	95.4	99.2	99.3	97.9	97.9	97.9	97.9	97.9
1000 Hz	89.1	89.8	96.0	99.8	99.9	99.8	99.8	99.8	99.8	99.8
2000 Hz	86.6	87.3	93.5	97.3	97.4	98.9	98.9	98.9	98.9	98.9
4000 Hz	80.9	81.6	86.0	89.8	89.9	93.5	93.5	93.5	93.5	93.5
8000 Hz	69.8	70.5	73.7	77.5	77.6	79.7	79.7	79.7	79.7	79.7
Total sound power level	95.0	95.7	101.1	104.9	105.0	105.0	105.0	105.0	105.0	105.0

Mode 6 (not available for 110 m)**hub height 78 m – 104.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.3	73.8	73.8	76.4	76.4	76.4	76.4	76.4
63 Hz	76.5	77.0	81.0	84.5	84.5	86.0	86.0	86.0	86.0	86.0
125 Hz	83.5	84.0	88.1	91.6	91.6	91.8	91.8	91.8	91.8	91.8
250 Hz	88.0	88.5	92.9	96.4	96.4	95.0	95.0	95.0	95.0	95.0
500 Hz	89.3	89.8	95.3	98.8	98.8	97.4	97.4	97.4	97.4	97.4
1000 Hz	89.1	89.6	95.9	99.4	99.4	99.3	99.3	99.3	99.3	99.3
2000 Hz	86.6	87.1	93.4	96.9	96.9	98.4	98.4	98.4	98.4	98.4
4000 Hz	80.9	81.4	85.9	89.4	89.4	93.0	93.0	93.0	93.0	93.0
8000 Hz	69.8	70.3	73.6	77.1	77.1	79.2	79.2	79.2	79.2	79.2
Total sound power level	95.0	95.5	101.0	104.5	104.5	104.5	104.5	104.5	104.5	104.5

hub height 83 m – 104.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.4	73.8	73.8	76.4	76.4	76.4	76.4	76.4
63 Hz	76.5	77.2	81.1	84.5	84.5	86.0	86.0	86.0	86.0	86.0
125 Hz	83.5	84.2	88.2	91.6	91.6	91.8	91.8	91.8	91.8	91.8
250 Hz	88.0	88.7	93.0	96.4	96.4	95.0	95.0	95.0	95.0	95.0
500 Hz	89.3	90.0	95.4	98.8	98.8	97.4	97.4	97.4	97.4	97.4
1000 Hz	89.1	89.8	96.0	99.4	99.4	99.3	99.3	99.3	99.3	99.3
2000 Hz	86.6	87.3	93.5	96.9	96.9	98.4	98.4	98.4	98.4	98.4
4000 Hz	80.9	81.6	86.0	89.4	89.4	93.0	93.0	93.0	93.0	93.0
8000 Hz	69.8	70.5	73.7	77.1	77.1	79.2	79.2	79.2	79.2	79.2
Total sound power level	95.0	95.7	101.1	104.5	104.5	104.5	104.5	104.5	104.5	104.5

Mode 7 (not available for 110 m)**hub height 78 m – 104.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.3	73.3	73.3	75.9	75.9	75.9	75.9	75.9
63 Hz	76.5	77.0	81.0	84.0	84.0	85.5	85.5	85.5	85.5	85.5
125 Hz	83.5	84.0	88.1	91.1	91.1	91.3	91.3	91.3	91.3	91.3
250 Hz	88.0	88.5	92.9	95.9	95.9	94.5	94.5	94.5	94.5	94.5
500 Hz	89.3	89.8	95.3	98.3	98.3	96.9	96.9	96.9	96.9	96.9
1000 Hz	89.1	89.6	95.9	98.9	98.9	98.8	98.8	98.8	98.8	98.8
2000 Hz	86.6	87.1	93.4	96.4	96.4	97.9	97.9	97.9	97.9	97.9
4000 Hz	80.9	81.4	85.9	88.9	88.9	92.5	92.5	92.5	92.5	92.5
8000 Hz	69.8	70.3	73.6	76.6	76.6	78.7	78.7	78.7	78.7	78.7
Total sound power level	95.0	95.5	101.0	104.0	104.0	104.0	104.0	104.0	104.0	104.0

hub height 83 m – 104.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.4	73.3	73.3	75.9	75.9	75.9	75.9	75.9
63 Hz	76.5	77.2	81.1	84.0	84.0	85.5	85.5	85.5	85.5	85.5
125 Hz	83.5	84.2	88.2	91.1	91.1	91.3	91.3	91.3	91.3	91.3
250 Hz	88.0	88.7	93.0	95.9	95.9	94.5	94.5	94.5	94.5	94.5
500 Hz	89.3	90.0	95.4	98.3	98.3	96.9	96.9	96.9	96.9	96.9
1000 Hz	89.1	89.8	96.0	98.9	98.9	98.8	98.8	98.8	98.8	98.8
2000 Hz	86.6	87.3	93.5	96.4	96.4	97.9	97.9	97.9	97.9	97.9
4000 Hz	80.9	81.6	86.0	88.9	88.9	92.5	92.5	92.5	92.5	92.5
8000 Hz	69.8	70.5	73.7	76.6	76.6	78.7	78.7	78.7	78.7	78.7
Total sound power level	95.0	95.7	101.1	104.0	104.0	104.0	104.0	104.0	104.0	104.0

Mode 8**hub height 78 m – 102.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.3	71.3	71.3	73.9	73.9	73.9	73.9	73.9
63 Hz	76.5	77.0	81.0	82.0	82.0	83.5	83.5	83.5	83.5	83.5
125 Hz	83.5	84.0	88.1	89.1	89.1	89.3	89.3	89.3	89.3	89.3
250 Hz	88.0	88.5	92.9	93.9	93.9	92.5	92.5	92.5	92.5	92.5
500 Hz	89.3	89.8	95.3	96.3	96.3	94.9	94.9	94.9	94.9	94.9
1000 Hz	89.1	89.6	95.9	96.9	96.9	96.8	96.8	96.8	96.8	96.8
2000 Hz	86.6	87.1	93.4	94.4	94.4	95.9	95.9	95.9	95.9	95.9
4000 Hz	80.9	81.4	85.9	86.9	86.9	90.5	90.5	90.5	90.5	90.5
8000 Hz	69.8	70.3	73.6	74.6	74.6	76.7	76.7	76.7	76.7	76.7
Total sound power level	95.0	95.5	101.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0

hub height 83 m – 102.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.4	71.3	71.3	73.9	73.9	73.9	73.9	73.9
63 Hz	76.5	77.2	81.1	82.0	82.0	83.5	83.5	83.5	83.5	83.5
125 Hz	83.5	84.2	88.2	89.1	89.1	89.3	89.3	89.3	89.3	89.3
250 Hz	88.0	88.7	93.0	93.9	93.9	92.5	92.5	92.5	92.5	92.5
500 Hz	89.3	90.0	95.4	96.3	96.3	94.9	94.9	94.9	94.9	94.9
1000 Hz	89.1	89.8	96.0	96.9	96.9	96.8	96.8	96.8	96.8	96.8
2000 Hz	86.6	87.3	93.5	94.4	94.4	95.9	95.9	95.9	95.9	95.9
4000 Hz	80.9	81.6	86.0	86.9	86.9	90.5	90.5	90.5	90.5	90.5
8000 Hz	69.8	70.5	73.7	74.6	74.6	76.7	76.7	76.7	76.7	76.7
Total sound power level	95.0	95.7	101.1	102.0	102.0	102.0	102.0	102.0	102.0	102.0

hub height 110 m – 102.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.8	70.7	71.3	71.3	73.9	73.9	73.9	73.9	73.9
63 Hz	76.5	77.9	81.4	82.0	82.0	83.5	83.5	83.5	83.5	83.5
125 Hz	83.5	84.9	88.5	89.1	89.1	89.3	89.3	89.3	89.3	89.3
250 Hz	88.0	89.4	93.3	93.9	93.9	92.5	92.5	92.5	92.5	92.5
500 Hz	89.3	90.7	95.7	96.3	96.3	94.9	94.9	94.9	94.9	94.9
1000 Hz	89.1	90.5	96.3	96.9	96.9	96.8	96.8	96.8	96.8	96.8
2000 Hz	86.6	88.0	93.8	94.4	94.4	95.9	95.9	95.9	95.9	95.9
4000 Hz	80.9	82.3	86.3	86.9	86.9	90.5	90.5	90.5	90.5	90.5
8000 Hz	69.8	71.2	74.0	74.6	74.6	76.7	76.7	76.7	76.7	76.7
Total sound power level	95.0	96.4	101.4	102.0	102.0	102.0	102.0	102.0	102.0	102.0

Mode 9**hub height 78 m – 101.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.3	70.8	70.8	73.4	73.4	73.4	73.4	73.4
63 Hz	76.5	77.0	81.0	81.5	81.5	83.0	83.0	83.0	83.0	83.0
125 Hz	83.5	84.0	88.1	88.6	88.6	88.8	88.8	88.8	88.8	88.8
250 Hz	88.0	88.5	92.9	93.4	93.4	92.0	92.0	92.0	92.0	92.0
500 Hz	89.3	89.8	95.3	95.8	95.8	94.4	94.4	94.4	94.4	94.4
1000 Hz	89.1	89.6	95.9	96.4	96.4	96.3	96.3	96.3	96.3	96.3
2000 Hz	86.6	87.1	93.4	93.9	93.9	95.4	95.4	95.4	95.4	95.4
4000 Hz	80.9	81.4	85.9	86.4	86.4	90.0	90.0	90.0	90.0	90.0
8000 Hz	69.8	70.3	73.6	74.1	74.1	76.2	76.2	76.2	76.2	76.2
Total sound power level	95.0	95.5	101.0	101.5	101.5	101.5	101.5	101.5	101.5	101.5

hub height 83 m – 101.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.4	70.8	70.8	73.4	73.4	73.4	73.4	73.4
63 Hz	76.5	77.2	81.1	81.5	81.5	83.0	83.0	83.0	83.0	83.0
125 Hz	83.5	84.2	88.2	88.6	88.6	88.8	88.8	88.8	88.8	88.8
250 Hz	88.0	88.7	93.0	93.4	93.4	92.0	92.0	92.0	92.0	92.0
500 Hz	89.3	90.0	95.4	95.8	95.8	94.4	94.4	94.4	94.4	94.4
1000 Hz	89.1	89.8	96.0	96.4	96.4	96.3	96.3	96.3	96.3	96.3
2000 Hz	86.6	87.3	93.5	93.9	93.9	95.4	95.4	95.4	95.4	95.4
4000 Hz	80.9	81.6	86.0	86.4	86.4	90.0	90.0	90.0	90.0	90.0
8000 Hz	69.8	70.5	73.7	74.1	74.1	76.2	76.2	76.2	76.2	76.2
Total sound power level	95.0	95.7	101.1	101.5	101.5	101.5	101.5	101.5	101.5	101.5

hub height 110 m – 101.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.8	70.5	70.8	70.8	73.4	73.4	73.4	73.4	73.4
63 Hz	76.5	77.9	81.2	81.5	81.5	83.0	83.0	83.0	83.0	83.0
125 Hz	83.5	84.9	88.3	88.6	88.6	88.8	88.8	88.8	88.8	88.8
250 Hz	88.0	89.4	93.1	93.4	93.4	92.0	92.0	92.0	92.0	92.0
500 Hz	89.3	90.7	95.5	95.8	95.8	94.4	94.4	94.4	94.4	94.4
1000 Hz	89.1	90.5	96.1	96.4	96.4	96.3	96.3	96.3	96.3	96.3
2000 Hz	86.6	88.0	93.6	93.9	93.9	95.4	95.4	95.4	95.4	95.4
4000 Hz	80.9	82.3	86.1	86.4	86.4	90.0	90.0	90.0	90.0	90.0
8000 Hz	69.8	71.2	73.8	74.1	74.1	76.2	76.2	76.2	76.2	76.2
Total sound power level	95.0	96.4	101.2	101.5	101.5	101.5	101.5	101.5	101.5	101.5

Mode 10**hub height 78 m – 101.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	70.2	70.3	70.3	72.9	72.9	72.9	72.9	72.9
63 Hz	76.5	77.0	80.9	81.0	81.0	82.5	82.5	82.5	82.5	82.5
125 Hz	83.5	84.0	88.0	88.1	88.1	88.3	88.3	88.3	88.3	88.3
250 Hz	88.0	88.5	92.8	92.9	92.9	91.5	91.5	91.5	91.5	91.5
500 Hz	89.3	89.8	95.2	95.3	95.3	93.9	93.9	93.9	93.9	93.9
1000 Hz	89.1	89.6	95.8	95.9	95.9	95.8	95.8	95.8	95.8	95.8
2000 Hz	86.6	87.1	93.3	93.4	93.4	94.9	94.9	94.9	94.9	94.9
4000 Hz	80.9	81.4	85.8	85.9	85.9	89.5	89.5	89.5	89.5	89.5
8000 Hz	69.8	70.3	73.5	73.6	73.6	75.7	75.7	75.7	75.7	75.7
Total sound power level	95.0	95.5	100.9	101.0	101.0	101.0	101.0	101.0	101.0	101.0

hub height 83 m – 101.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	70.3	70.3	70.3	72.9	72.9	72.9	72.9	72.9
63 Hz	76.5	77.2	81.0	81.0	81.0	82.5	82.5	82.5	82.5	82.5
125 Hz	83.5	84.2	88.1	88.1	88.1	88.3	88.3	88.3	88.3	88.3
250 Hz	88.0	88.7	92.9	92.9	92.9	91.5	91.5	91.5	91.5	91.5
500 Hz	89.3	90.0	95.3	95.3	95.3	93.9	93.9	93.9	93.9	93.9
1000 Hz	89.1	89.8	95.9	95.9	95.9	95.8	95.8	95.8	95.8	95.8
2000 Hz	86.6	87.3	93.4	93.4	93.4	94.9	94.9	94.9	94.9	94.9
4000 Hz	80.9	81.6	85.9	85.9	85.9	89.5	89.5	89.5	89.5	89.5
8000 Hz	69.8	70.5	73.6	73.6	73.6	75.7	75.7	75.7	75.7	75.7
Total sound power level	95.0	95.7	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0

hub height 110 m – 101.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.8	70.3	70.3	70.3	72.9	72.9	72.9	72.9	72.9
63 Hz	76.5	77.9	81.0	81.0	81.0	82.5	82.5	82.5	82.5	82.5
125 Hz	83.5	84.9	88.1	88.1	88.1	88.3	88.3	88.3	88.3	88.3
250 Hz	88.0	89.4	92.9	92.9	92.9	91.5	91.5	91.5	91.5	91.5
500 Hz	89.3	90.7	95.3	95.3	95.3	93.9	93.9	93.9	93.9	93.9
1000 Hz	89.1	90.5	95.9	95.9	95.9	95.8	95.8	95.8	95.8	95.8
2000 Hz	86.6	88.0	93.4	93.4	93.4	94.9	94.9	94.9	94.9	94.9
4000 Hz	80.9	82.3	85.9	85.9	85.9	89.5	89.5	89.5	89.5	89.5
8000 Hz	69.8	71.2	73.6	73.6	73.6	75.7	75.7	75.7	75.7	75.7
Total sound power level	95.0	96.4	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0

Mode 11**hub height 78 m – 100.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	69.7	69.8	69.8	72.4	72.4	72.4	72.4	72.4
63 Hz	76.5	77.0	80.4	80.5	80.5	82.0	82.0	82.0	82.0	82.0
125 Hz	83.5	84.0	87.5	87.6	87.6	87.8	87.8	87.8	87.8	87.8
250 Hz	88.0	88.5	92.3	92.4	92.4	91.0	91.0	91.0	91.0	91.0
500 Hz	89.3	89.8	94.7	94.8	94.8	93.4	93.4	93.4	93.4	93.4
1000 Hz	89.1	89.6	95.3	95.4	95.4	95.3	95.3	95.3	95.3	95.3
2000 Hz	86.6	87.1	92.8	92.9	92.9	94.4	94.4	94.4	94.4	94.4
4000 Hz	80.9	81.4	85.3	85.4	85.4	89.0	89.0	89.0	89.0	89.0
8000 Hz	69.8	70.3	73.0	73.1	73.1	75.2	75.2	75.2	75.2	75.2
Total sound power level	95.0	95.5	100.4	100.5	100.5	100.5	100.5	100.5	100.5	100.5

hub height 83 m – 100.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	69.8	69.8	69.8	72.4	72.4	72.4	72.4	72.4
63 Hz	76.5	77.2	80.5	80.5	80.5	82.0	82.0	82.0	82.0	82.0
125 Hz	83.5	84.2	87.6	87.6	87.6	87.8	87.8	87.8	87.8	87.8
250 Hz	88.0	88.7	92.4	92.4	92.4	91.0	91.0	91.0	91.0	91.0
500 Hz	89.3	90.0	94.8	94.8	94.8	93.4	93.4	93.4	93.4	93.4
1000 Hz	89.1	89.8	95.4	95.4	95.4	95.3	95.3	95.3	95.3	95.3
2000 Hz	86.6	87.3	92.9	92.9	92.9	94.4	94.4	94.4	94.4	94.4
4000 Hz	80.9	81.6	85.4	85.4	85.4	89.0	89.0	89.0	89.0	89.0
8000 Hz	69.8	70.5	73.1	73.1	73.1	75.2	75.2	75.2	75.2	75.2
Total sound power level	95.0	95.7	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5

hub height 110 m – 100.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.8	69.8	69.8	69.8	72.4	72.4	72.4	72.4	72.4
63 Hz	76.5	77.9	80.5	80.5	80.5	82.0	82.0	82.0	82.0	82.0
125 Hz	83.5	84.9	87.6	87.6	87.6	87.8	87.8	87.8	87.8	87.8
250 Hz	88.0	89.4	92.4	92.4	92.4	91.0	91.0	91.0	91.0	91.0
500 Hz	89.3	90.7	94.8	94.8	94.8	93.4	93.4	93.4	93.4	93.4
1000 Hz	89.1	90.5	95.4	95.4	95.4	95.3	95.3	95.3	95.3	95.3
2000 Hz	86.6	88.0	92.9	92.9	92.9	94.4	94.4	94.4	94.4	94.4
4000 Hz	80.9	82.3	85.4	85.4	85.4	89.0	89.0	89.0	89.0	89.0
8000 Hz	69.8	71.2	73.1	73.1	73.1	75.2	75.2	75.2	75.2	75.2
Total sound power level	95.0	96.4	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5

Mode 12**hub height 78 m – 100.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	69.3	69.3	69.3	71.9	71.9	71.9	71.9	71.9
63 Hz	76.5	77.0	80.0	80.0	80.0	81.5	81.5	81.5	81.5	81.5
125 Hz	83.5	84.0	87.1	87.1	87.1	87.3	87.3	87.3	87.3	87.3
250 Hz	88.0	88.5	91.9	91.9	91.9	90.5	90.5	90.5	90.5	90.5
500 Hz	89.3	89.8	94.3	94.3	94.3	92.9	92.9	92.9	92.9	92.9
1000 Hz	89.1	89.6	94.9	94.9	94.9	94.8	94.8	94.8	94.8	94.8
2000 Hz	86.6	87.1	92.4	92.4	92.4	93.9	93.9	93.9	93.9	93.9
4000 Hz	80.9	81.4	84.9	84.9	84.9	88.5	88.5	88.5	88.5	88.5
8000 Hz	69.8	70.3	72.6	72.6	72.6	74.7	74.7	74.7	74.7	74.7
Total sound power level	95.0	95.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

hub height 83 m – 100.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	69.3	69.3	69.3	71.9	71.9	71.9	71.9	71.9
63 Hz	76.5	77.2	80.0	80.0	80.0	81.5	81.5	81.5	81.5	81.5
125 Hz	83.5	84.2	87.1	87.1	87.1	87.3	87.3	87.3	87.3	87.3
250 Hz	88.0	88.7	91.9	91.9	91.9	90.5	90.5	90.5	90.5	90.5
500 Hz	89.3	90.0	94.3	94.3	94.3	92.9	92.9	92.9	92.9	92.9
1000 Hz	89.1	89.8	94.9	94.9	94.9	94.8	94.8	94.8	94.8	94.8
2000 Hz	86.6	87.3	92.4	92.4	92.4	93.9	93.9	93.9	93.9	93.9
4000 Hz	80.9	81.6	84.9	84.9	84.9	88.5	88.5	88.5	88.5	88.5
8000 Hz	69.8	70.5	72.6	72.6	72.6	74.7	74.7	74.7	74.7	74.7
Total sound power level	95.0	95.7	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

hub height 110 m – 100.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.8	69.3	69.3	69.3	71.9	71.9	71.9	71.9	71.9
63 Hz	76.5	77.9	80.0	80.0	80.0	81.5	81.5	81.5	81.5	81.5
125 Hz	83.5	84.9	87.1	87.1	87.1	87.3	87.3	87.3	87.3	87.3
250 Hz	88.0	89.4	91.9	91.9	91.9	90.5	90.5	90.5	90.5	90.5
500 Hz	89.3	90.7	94.3	94.3	94.3	92.9	92.9	92.9	92.9	92.9
1000 Hz	89.1	90.5	94.9	94.9	94.9	94.8	94.8	94.8	94.8	94.8
2000 Hz	86.6	88.0	92.4	92.4	92.4	93.9	93.9	93.9	93.9	93.9
4000 Hz	80.9	82.3	84.9	84.9	84.9	88.5	88.5	88.5	88.5	88.5
8000 Hz	69.8	71.2	72.6	72.6	72.6	74.7	74.7	74.7	74.7	74.7
Total sound power level	95.0	96.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Mode 13**hub height 78 m – 99.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	66.9	68.8	68.8	68.8	71.4	71.4	71.4	71.4	71.4
63 Hz	76.5	77.0	79.5	79.5	79.5	81.0	81.0	81.0	81.0	81.0
125 Hz	83.5	84.0	86.6	86.6	86.6	86.8	86.8	86.8	86.8	86.8
250 Hz	88.0	88.5	91.4	91.4	91.4	90.0	90.0	90.0	90.0	90.0
500 Hz	89.3	89.8	93.8	93.8	93.8	92.4	92.4	92.4	92.4	92.4
1000 Hz	89.1	89.6	94.4	94.4	94.4	94.3	94.3	94.3	94.3	94.3
2000 Hz	86.6	87.1	91.9	91.9	91.9	93.4	93.4	93.4	93.4	93.4
4000 Hz	80.9	81.4	84.4	84.4	84.4	88.0	88.0	88.0	88.0	88.0
8000 Hz	69.8	70.3	72.1	72.1	72.1	74.2	74.2	74.2	74.2	74.2
Total sound power level	95.0	95.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5

hub height 83 m – 99.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.1	68.8	68.8	68.8	71.4	71.4	71.4	71.4	71.4
63 Hz	76.5	77.2	79.5	79.5	79.5	81.0	81.0	81.0	81.0	81.0
125 Hz	83.5	84.2	86.6	86.6	86.6	86.8	86.8	86.8	86.8	86.8
250 Hz	88.0	88.7	91.4	91.4	91.4	90.0	90.0	90.0	90.0	90.0
500 Hz	89.3	90.0	93.8	93.8	93.8	92.4	92.4	92.4	92.4	92.4
1000 Hz	89.1	89.8	94.4	94.4	94.4	94.3	94.3	94.3	94.3	94.3
2000 Hz	86.6	87.3	91.9	91.9	91.9	93.4	93.4	93.4	93.4	93.4
4000 Hz	80.9	81.6	84.4	84.4	84.4	88.0	88.0	88.0	88.0	88.0
8000 Hz	69.8	70.5	72.1	72.1	72.1	74.2	74.2	74.2	74.2	74.2
Total sound power level	95.0	95.7	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5

hub height 110 m – 99.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	66.4	67.8	68.8	68.8	68.8	71.4	71.4	71.4	71.4	71.4
63 Hz	76.5	77.9	79.5	79.5	79.5	81.0	81.0	81.0	81.0	81.0
125 Hz	83.5	84.9	86.6	86.6	86.6	86.8	86.8	86.8	86.8	86.8
250 Hz	88.0	89.4	91.4	91.4	91.4	90.0	90.0	90.0	90.0	90.0
500 Hz	89.3	90.7	93.8	93.8	93.8	92.4	92.4	92.4	92.4	92.4
1000 Hz	89.1	90.5	94.4	94.4	94.4	94.3	94.3	94.3	94.3	94.3
2000 Hz	86.6	88.0	91.9	91.9	91.9	93.4	93.4	93.4	93.4	93.4
4000 Hz	80.9	82.3	84.4	84.4	84.4	88.0	88.0	88.0	88.0	88.0
8000 Hz	69.8	71.2	72.1	72.1	72.1	74.2	74.2	74.2	74.2	74.2
Total sound power level	95.0	96.4	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5

Nordex N133/4.8 – Octave sound power levels with serrated trailing edge

Basis:

The expected octave sound power levels of the Nordex N133/4.8 are to be determined on basis of aerodynamical calculations and expected sound power levels. These values are valid for 78 m, 83 m and 110 m (see available hub heights on pg. 2).

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

Mode 0**hub height 78 m – 106.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.5	74.7	77.0	79.4	79.4	79.4	79.4	79.4
63 Hz	76.5	77.0	81.2	85.4	87.8	88.9	88.9	88.9	88.9	88.9
125 Hz	83.3	83.8	88.2	92.4	94.8	94.6	94.6	94.6	94.6	94.6
250 Hz	87.0	87.5	92.0	96.2	98.6	96.9	96.9	96.9	96.9	96.9
500 Hz	86.8	87.3	92.9	97.1	99.5	97.7	97.7	97.7	97.7	97.7
1000 Hz	86.3	86.8	93.4	97.6	99.9	99.5	99.5	99.5	99.5	99.5
2000 Hz	85.1	85.6	92.1	96.3	98.7	100.0	100.0	100.0	100.0	100.0
4000 Hz	83.0	83.5	87.8	92.0	94.4	97.7	97.7	97.7	97.7	97.7
8000 Hz	74.7	75.2	78.6	82.8	85.2	87.1	87.1	87.1	87.1	87.1
Total sound power level	93.5	94.0	99.5	103.7	106.0	106.0	106.0	106.0	106.0	106.0

hub height 83 m – 106.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.7	74.9	77.0	79.4	79.4	79.4	79.4	79.4
63 Hz	76.5	77.2	81.4	85.6	87.8	88.9	88.9	88.9	88.9	88.9
125 Hz	83.3	84.0	88.4	92.6	94.8	94.6	94.6	94.6	94.6	94.6
250 Hz	87.0	87.7	92.2	96.4	98.6	96.9	96.9	96.9	96.9	96.9
500 Hz	86.8	87.5	93.1	97.3	99.5	97.7	97.7	97.7	97.7	97.7
1000 Hz	86.3	87.0	93.6	97.8	99.9	99.5	99.5	99.5	99.5	99.5
2000 Hz	85.1	85.8	92.3	96.5	98.7	100.0	100.0	100.0	100.0	100.0
4000 Hz	83.0	83.7	88.0	92.2	94.4	97.7	97.7	97.7	97.7	97.7
8000 Hz	74.7	75.4	78.8	83.0	85.2	87.1	87.1	87.1	87.1	87.1
Total sound power level	93.5	94.2	99.7	103.9	106.0	106.0	106.0	106.0	106.0	106.0

hub height 110 m – 106.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.8	71.5	75.7	77.0	79.4	79.4	79.4	79.4	79.4
63 Hz	76.5	78.0	82.2	86.4	87.8	88.9	88.9	88.9	88.9	88.9
125 Hz	83.3	84.8	89.2	93.4	94.8	94.6	94.6	94.6	94.6	94.6
250 Hz	87.0	88.5	93.0	97.2	98.6	96.9	96.9	96.9	96.9	96.9
500 Hz	86.8	88.3	93.9	98.1	99.5	97.7	97.7	97.7	97.7	97.7
1000 Hz	86.3	87.8	94.4	98.6	99.9	99.5	99.5	99.5	99.5	99.5
2000 Hz	85.1	86.6	93.1	97.3	98.7	100.0	100.0	100.0	100.0	100.0
4000 Hz	83.0	84.5	88.8	93.0	94.4	97.7	97.7	97.7	97.7	97.7
8000 Hz	74.7	76.2	79.6	83.8	85.2	87.1	87.1	87.1	87.1	87.1
Total sound power level	93.5	95.0	100.5	104.7	106.0	106.0	106.0	106.0	106.0	106.0

Mode 1**hub height 78 m – 105.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.5	74.7	76.5	78.9	78.9	78.9	78.9	78.9
63 Hz	76.5	77.0	81.2	85.4	87.3	88.4	88.4	88.4	88.4	88.4
125 Hz	83.3	83.8	88.2	92.4	94.3	94.1	94.1	94.1	94.1	94.1
250 Hz	87.0	87.5	92.0	96.2	98.1	96.4	96.4	96.4	96.4	96.4
500 Hz	86.8	87.3	92.9	97.1	99.0	97.2	97.2	97.2	97.2	97.2
1000 Hz	86.3	86.8	93.4	97.6	99.4	99.0	99.0	99.0	99.0	99.0
2000 Hz	85.1	85.6	92.1	96.3	98.2	99.5	99.5	99.5	99.5	99.5
4000 Hz	83.0	83.5	87.8	92.0	93.9	97.2	97.2	97.2	97.2	97.2
8000 Hz	74.7	75.2	78.6	82.8	84.7	86.6	86.6	86.6	86.6	86.6
Total sound power level	93.5	94.0	99.5	103.7	105.5	105.5	105.5	105.5	105.5	105.5

hub height 83 m – 105.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.6	74.9	76.5	78.9	78.9	78.9	78.9	78.9
63 Hz	76.5	77.2	81.3	85.6	87.3	88.4	88.4	88.4	88.4	88.4
125 Hz	83.3	84.0	88.3	92.6	94.3	94.1	94.1	94.1	94.1	94.1
250 Hz	87.0	87.7	92.1	96.4	98.1	96.4	96.4	96.4	96.4	96.4
500 Hz	86.8	87.5	93.0	97.3	99.0	97.2	97.2	97.2	97.2	97.2
1000 Hz	86.3	87.0	93.5	97.8	99.4	99.0	99.0	99.0	99.0	99.0
2000 Hz	85.1	85.8	92.2	96.5	98.2	99.5	99.5	99.5	99.5	99.5
4000 Hz	83.0	83.7	87.9	92.2	93.9	97.2	97.2	97.2	97.2	97.2
8000 Hz	74.7	75.4	78.7	83.0	84.7	86.6	86.6	86.6	86.6	86.6
Total sound power level	93.5	94.2	99.6	103.9	105.5	105.5	105.5	105.5	105.5	105.5

hub height 110 m – 105.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.7	71.5	75.7	76.5	78.9	78.9	78.9	78.9	78.9
63 Hz	76.5	77.9	82.2	86.4	87.3	88.4	88.4	88.4	88.4	88.4
125 Hz	83.3	84.7	89.2	93.4	94.3	94.1	94.1	94.1	94.1	94.1
250 Hz	87.0	88.4	93.0	97.2	98.1	96.4	96.4	96.4	96.4	96.4
500 Hz	86.8	88.2	93.9	98.1	99.0	97.2	97.2	97.2	97.2	97.2
1000 Hz	86.3	87.7	94.4	98.6	99.4	99.0	99.0	99.0	99.0	99.0
2000 Hz	85.1	86.5	93.1	97.3	98.2	99.5	99.5	99.5	99.5	99.5
4000 Hz	83.0	84.4	88.8	93.0	93.9	97.2	97.2	97.2	97.2	97.2
8000 Hz	74.7	76.1	79.6	83.8	84.7	86.6	86.6	86.6	86.6	86.6
Total sound power level	93.5	94.9	100.5	104.7	105.5	105.5	105.5	105.5	105.5	105.5

Mode 2**hub height 78 m – 105.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.5	74.7	76.0	78.4	78.4	78.4	78.4	78.4
63 Hz	76.5	77.0	81.2	85.4	86.8	87.9	87.9	87.9	87.9	87.9
125 Hz	83.3	83.8	88.2	92.4	93.8	93.6	93.6	93.6	93.6	93.6
250 Hz	87.0	87.5	92.0	96.2	97.6	95.9	95.9	95.9	95.9	95.9
500 Hz	86.8	87.3	92.9	97.1	98.5	96.7	96.7	96.7	96.7	96.7
1000 Hz	86.3	86.8	93.4	97.6	98.9	98.5	98.5	98.5	98.5	98.5
2000 Hz	85.1	85.6	92.1	96.3	97.7	99.0	99.0	99.0	99.0	99.0
4000 Hz	83.0	83.5	87.8	92.0	93.4	96.7	96.7	96.7	96.7	96.7
8000 Hz	74.7	75.2	78.6	82.8	84.2	86.1	86.1	86.1	86.1	86.1
Total sound power level	93.5	94.0	99.5	103.7	105.0	105.0	105.0	105.0	105.0	105.0

hub height 83 m – 105.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.6	74.9	76.0	78.4	78.4	78.4	78.4	78.4
63 Hz	76.5	77.2	81.3	85.6	86.8	87.9	87.9	87.9	87.9	87.9
125 Hz	83.3	84.0	88.3	92.6	93.8	93.6	93.6	93.6	93.6	93.6
250 Hz	87.0	87.7	92.1	96.4	97.6	95.9	95.9	95.9	95.9	95.9
500 Hz	86.8	87.5	93.0	97.3	98.5	96.7	96.7	96.7	96.7	96.7
1000 Hz	86.3	87.0	93.5	97.8	98.9	98.5	98.5	98.5	98.5	98.5
2000 Hz	85.1	85.8	92.2	96.5	97.7	99.0	99.0	99.0	99.0	99.0
4000 Hz	83.0	83.7	87.9	92.2	93.4	96.7	96.7	96.7	96.7	96.7
8000 Hz	74.7	75.4	78.7	83.0	84.2	86.1	86.1	86.1	86.1	86.1
Total sound power level	93.5	94.2	99.6	103.9	105.0	105.0	105.0	105.0	105.0	105.0

hub height 110 m – 105.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.7	71.5	75.5	76.0	78.4	78.4	78.4	78.4	78.4
63 Hz	76.5	77.9	82.2	86.2	86.8	87.9	87.9	87.9	87.9	87.9
125 Hz	83.3	84.7	89.2	93.2	93.8	93.6	93.6	93.6	93.6	93.6
250 Hz	87.0	88.4	93.0	97.0	97.6	95.9	95.9	95.9	95.9	95.9
500 Hz	86.8	88.2	93.9	97.9	98.5	96.7	96.7	96.7	96.7	96.7
1000 Hz	86.3	87.7	94.4	98.4	98.9	98.5	98.5	98.5	98.5	98.5
2000 Hz	85.1	86.5	93.1	97.1	97.7	99.0	99.0	99.0	99.0	99.0
4000 Hz	83.0	84.4	88.8	92.8	93.4	96.7	96.7	96.7	96.7	96.7
8000 Hz	74.7	76.1	79.6	83.6	84.2	86.1	86.1	86.1	86.1	86.1
Total sound power level	93.5	94.9	100.5	104.5	105.0	105.0	105.0	105.0	105.0	105.0

Mode 3**hub height 78 m – 104.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.5	74.7	75.5	77.9	77.9	77.9	77.9	77.9
63 Hz	76.5	77.0	81.2	85.4	86.3	87.4	87.4	87.4	87.4	87.4
125 Hz	83.3	83.8	88.2	92.4	93.3	93.1	93.1	93.1	93.1	93.1
250 Hz	87.0	87.5	92.0	96.2	97.1	95.4	95.4	95.4	95.4	95.4
500 Hz	86.8	87.3	92.9	97.1	98.0	96.2	96.2	96.2	96.2	96.2
1000 Hz	86.3	86.8	93.4	97.6	98.4	98.0	98.0	98.0	98.0	98.0
2000 Hz	85.1	85.6	92.1	96.3	97.2	98.5	98.5	98.5	98.5	98.5
4000 Hz	83.0	83.5	87.8	92.0	92.9	96.2	96.2	96.2	96.2	96.2
8000 Hz	74.7	75.2	78.6	82.8	83.7	85.6	85.6	85.6	85.6	85.6
Total sound power level	93.5	94.0	99.5	103.7	104.5	104.5	104.5	104.5	104.5	104.5

hub height 83 m – 104.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.6	74.9	75.5	77.9	77.9	77.9	77.9	77.9
63 Hz	76.5	77.2	81.3	85.6	86.3	87.4	87.4	87.4	87.4	87.4
125 Hz	83.3	84.0	88.3	92.6	93.3	93.1	93.1	93.1	93.1	93.1
250 Hz	87.0	87.7	92.1	96.4	97.1	95.4	95.4	95.4	95.4	95.4
500 Hz	86.8	87.5	93.0	97.3	98.0	96.2	96.2	96.2	96.2	96.2
1000 Hz	86.3	87.0	93.5	97.8	98.4	98.0	98.0	98.0	98.0	98.0
2000 Hz	85.1	85.8	92.2	96.5	97.2	98.5	98.5	98.5	98.5	98.5
4000 Hz	83.0	83.7	87.9	92.2	92.9	96.2	96.2	96.2	96.2	96.2
8000 Hz	74.7	75.4	78.7	83.0	83.7	85.6	85.6	85.6	85.6	85.6
Total sound power level	93.5	94.2	99.6	103.9	104.5	104.5	104.5	104.5	104.5	104.5

hub height 110 m – 104.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.7	71.5	75.3	75.5	77.9	77.9	77.9	77.9	77.9
63 Hz	76.5	77.9	82.2	86.0	86.3	87.4	87.4	87.4	87.4	87.4
125 Hz	83.3	84.7	89.2	93.0	93.3	93.1	93.1	93.1	93.1	93.1
250 Hz	87.0	88.4	93.0	96.8	97.1	95.4	95.4	95.4	95.4	95.4
500 Hz	86.8	88.2	93.9	97.7	98.0	96.2	96.2	96.2	96.2	96.2
1000 Hz	86.3	87.7	94.4	98.2	98.4	98.0	98.0	98.0	98.0	98.0
2000 Hz	85.1	86.5	93.1	96.9	97.2	98.5	98.5	98.5	98.5	98.5
4000 Hz	83.0	84.4	88.8	92.6	92.9	96.2	96.2	96.2	96.2	96.2
8000 Hz	74.7	76.1	79.6	83.4	83.7	85.6	85.6	85.6	85.6	85.6
Total sound power level	93.5	94.9	100.5	104.3	104.5	104.5	104.5	104.5	104.5	104.5

Mode 4 (not available for 110 m)**hub height 78 m – 104.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.5	74.6	75.0	77.4	77.4	77.4	77.4	77.4
63 Hz	76.5	77.0	81.2	85.3	85.8	86.9	86.9	86.9	86.9	86.9
125 Hz	83.3	83.8	88.2	92.3	92.8	92.6	92.6	92.6	92.6	92.6
250 Hz	87.0	87.5	92.0	96.1	96.6	94.9	94.9	94.9	94.9	94.9
500 Hz	86.8	87.3	92.9	97.0	97.5	95.7	95.7	95.7	95.7	95.7
1000 Hz	86.3	86.8	93.4	97.5	97.9	97.5	97.5	97.5	97.5	97.5
2000 Hz	85.1	85.6	92.1	96.2	96.7	98.0	98.0	98.0	98.0	98.0
4000 Hz	83.0	83.5	87.8	91.9	92.4	95.7	95.7	95.7	95.7	95.7
8000 Hz	74.7	75.2	78.6	82.7	83.2	85.1	85.1	85.1	85.1	85.1
Total sound power level	93.5	94.0	99.5	103.6	104.0	104.0	104.0	104.0	104.0	104.0

hub height 83 m – 104.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.6	74.8	75.0	77.4	77.4	77.4	77.4	77.4
63 Hz	76.5	77.2	81.3	85.5	85.8	86.9	86.9	86.9	86.9	86.9
125 Hz	83.3	84.0	88.3	92.5	92.8	92.6	92.6	92.6	92.6	92.6
250 Hz	87.0	87.7	92.1	96.3	96.6	94.9	94.9	94.9	94.9	94.9
500 Hz	86.8	87.5	93.0	97.2	97.5	95.7	95.7	95.7	95.7	95.7
1000 Hz	86.3	87.0	93.5	97.7	97.9	97.5	97.5	97.5	97.5	97.5
2000 Hz	85.1	85.8	92.2	96.4	96.7	98.0	98.0	98.0	98.0	98.0
4000 Hz	83.0	83.7	87.9	92.1	92.4	95.7	95.7	95.7	95.7	95.7
8000 Hz	74.7	75.4	78.7	82.9	83.2	85.1	85.1	85.1	85.1	85.1
Total sound power level	93.5	94.2	99.6	103.8	104.0	104.0	104.0	104.0	104.0	104.0

Mode 5 (not available for 110 m)**hub height 78 m – 103.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.5	74.3	74.5	76.9	76.9	76.9	76.9	76.9
63 Hz	76.5	77.0	81.2	85.0	85.3	86.4	86.4	86.4	86.4	86.4
125 Hz	83.3	83.8	88.2	92.0	92.3	92.1	92.1	92.1	92.1	92.1
250 Hz	87.0	87.5	92.0	95.8	96.1	94.4	94.4	94.4	94.4	94.4
500 Hz	86.8	87.3	92.9	96.7	97.0	95.2	95.2	95.2	95.2	95.2
1000 Hz	86.3	86.8	93.4	97.2	97.4	97.0	97.0	97.0	97.0	97.0
2000 Hz	85.1	85.6	92.1	95.9	96.2	97.5	97.5	97.5	97.5	97.5
4000 Hz	83.0	83.5	87.8	91.6	91.9	95.2	95.2	95.2	95.2	95.2
8000 Hz	74.7	75.2	78.6	82.4	82.7	84.6	84.6	84.6	84.6	84.6
Total sound power level	93.5	94.0	99.5	103.3	103.5	103.5	103.5	103.5	103.5	103.5

hub height 83 m – 103.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.6	74.4	74.5	76.9	76.9	76.9	76.9	76.9
63 Hz	76.5	77.2	81.3	85.1	85.3	86.4	86.4	86.4	86.4	86.4
125 Hz	83.3	84.0	88.3	92.1	92.3	92.1	92.1	92.1	92.1	92.1
250 Hz	87.0	87.7	92.1	95.9	96.1	94.4	94.4	94.4	94.4	94.4
500 Hz	86.8	87.5	93.0	96.8	97.0	95.2	95.2	95.2	95.2	95.2
1000 Hz	86.3	87.0	93.5	97.3	97.4	97.0	97.0	97.0	97.0	97.0
2000 Hz	85.1	85.8	92.2	96.0	96.2	97.5	97.5	97.5	97.5	97.5
4000 Hz	83.0	83.7	87.9	91.7	91.9	95.2	95.2	95.2	95.2	95.2
8000 Hz	74.7	75.4	78.7	82.5	82.7	84.6	84.6	84.6	84.6	84.6
Total sound power level	93.5	94.2	99.6	103.4	103.5	103.5	103.5	103.5	103.5	103.5

Mode 6 (not available for 110 m)**hub height 78 m – 103.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.5	74.0	74.0	76.4	76.4	76.4	76.4	76.4
63 Hz	76.5	77.0	81.2	84.7	84.8	85.9	85.9	85.9	85.9	85.9
125 Hz	83.3	83.8	88.2	91.7	91.8	91.6	91.6	91.6	91.6	91.6
250 Hz	87.0	87.5	92.0	95.5	95.6	93.9	93.9	93.9	93.9	93.9
500 Hz	86.8	87.3	92.9	96.4	96.5	94.7	94.7	94.7	94.7	94.7
1000 Hz	86.3	86.8	93.4	96.9	96.9	96.5	96.5	96.5	96.5	96.5
2000 Hz	85.1	85.6	92.1	95.6	95.7	97.0	97.0	97.0	97.0	97.0
4000 Hz	83.0	83.5	87.8	91.3	91.4	94.7	94.7	94.7	94.7	94.7
8000 Hz	74.7	75.2	78.6	82.1	82.2	84.1	84.1	84.1	84.1	84.1
Total sound power level	93.5	94.0	99.5	103.0	103.0	103.0	103.0	103.0	103.0	103.0

hub height 83 m – 103.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.6	74.0	74.0	76.4	76.4	76.4	76.4	76.4
63 Hz	76.5	77.2	81.3	84.7	84.8	85.9	85.9	85.9	85.9	85.9
125 Hz	83.3	84.0	88.3	91.7	91.8	91.6	91.6	91.6	91.6	91.6
250 Hz	87.0	87.7	92.1	95.5	95.6	93.9	93.9	93.9	93.9	93.9
500 Hz	86.8	87.5	93.0	96.4	96.5	94.7	94.7	94.7	94.7	94.7
1000 Hz	86.3	87.0	93.5	96.9	96.9	96.5	96.5	96.5	96.5	96.5
2000 Hz	85.1	85.8	92.2	95.6	95.7	97.0	97.0	97.0	97.0	97.0
4000 Hz	83.0	83.7	87.9	91.3	91.4	94.7	94.7	94.7	94.7	94.7
8000 Hz	74.7	75.4	78.7	82.1	82.2	84.1	84.1	84.1	84.1	84.1
Total sound power level	93.5	94.2	99.6	103.0	103.0	103.0	103.0	103.0	103.0	103.0

Mode 7 (not available for 110 m)**hub height 78 m – 102.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.5	73.5	73.5	75.9	75.9	75.9	75.9	75.9
63 Hz	76.5	77.0	81.2	84.2	84.3	85.4	85.4	85.4	85.4	85.4
125 Hz	83.3	83.8	88.2	91.2	91.3	91.1	91.1	91.1	91.1	91.1
250 Hz	87.0	87.5	92.0	95.0	95.1	93.4	93.4	93.4	93.4	93.4
500 Hz	86.8	87.3	92.9	95.9	96.0	94.2	94.2	94.2	94.2	94.2
1000 Hz	86.3	86.8	93.4	96.4	96.4	96.0	96.0	96.0	96.0	96.0
2000 Hz	85.1	85.6	92.1	95.1	95.2	96.5	96.5	96.5	96.5	96.5
4000 Hz	83.0	83.5	87.8	90.8	90.9	94.2	94.2	94.2	94.2	94.2
8000 Hz	74.7	75.2	78.6	81.6	81.7	83.6	83.6	83.6	83.6	83.6
Total sound power level	93.5	94.0	99.5	102.5	102.5	102.5	102.5	102.5	102.5	102.5

hub height 83 m – 102.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.6	73.5	73.5	75.9	75.9	75.9	75.9	75.9
63 Hz	76.5	77.2	81.3	84.2	84.3	85.4	85.4	85.4	85.4	85.4
125 Hz	83.3	84.0	88.3	91.2	91.3	91.1	91.1	91.1	91.1	91.1
250 Hz	87.0	87.7	92.1	95.0	95.1	93.4	93.4	93.4	93.4	93.4
500 Hz	86.8	87.5	93.0	95.9	96.0	94.2	94.2	94.2	94.2	94.2
1000 Hz	86.3	87.0	93.5	96.4	96.4	96.0	96.0	96.0	96.0	96.0
2000 Hz	85.1	85.8	92.2	95.1	95.2	96.5	96.5	96.5	96.5	96.5
4000 Hz	83.0	83.7	87.9	90.8	90.9	94.2	94.2	94.2	94.2	94.2
8000 Hz	74.7	75.4	78.7	81.6	81.7	83.6	83.6	83.6	83.6	83.6
Total sound power level	93.5	94.2	99.6	102.5	102.5	102.5	102.5	102.5	102.5	102.5

Mode 8**hub height 78 m – 100.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.5	71.5	71.5	73.9	73.9	73.9	73.9	73.9
63 Hz	76.5	77.0	81.2	82.2	82.3	83.4	83.4	83.4	83.4	83.4
125 Hz	83.3	83.8	88.2	89.2	89.3	89.1	89.1	89.1	89.1	89.1
250 Hz	87.0	87.5	92.0	93.0	93.1	91.4	91.4	91.4	91.4	91.4
500 Hz	86.8	87.3	92.9	93.9	94.0	92.2	92.2	92.2	92.2	92.2
1000 Hz	86.3	86.8	93.4	94.4	94.4	94.0	94.0	94.0	94.0	94.0
2000 Hz	85.1	85.6	92.1	93.1	93.2	94.5	94.5	94.5	94.5	94.5
4000 Hz	83.0	83.5	87.8	88.8	88.9	92.2	92.2	92.2	92.2	92.2
8000 Hz	74.7	75.2	78.6	79.6	79.7	81.6	81.6	81.6	81.6	81.6
Total sound power level	93.5	94.0	99.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5

hub height 83 m – 100.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.6	71.5	71.5	73.9	73.9	73.9	73.9	73.9
63 Hz	76.5	77.2	81.3	82.2	82.3	83.4	83.4	83.4	83.4	83.4
125 Hz	83.3	84.0	88.3	89.2	89.3	89.1	89.1	89.1	89.1	89.1
250 Hz	87.0	87.7	92.1	93.0	93.1	91.4	91.4	91.4	91.4	91.4
500 Hz	86.8	87.5	93.0	93.9	94.0	92.2	92.2	92.2	92.2	92.2
1000 Hz	86.3	87.0	93.5	94.4	94.4	94.0	94.0	94.0	94.0	94.0
2000 Hz	85.1	85.8	92.2	93.1	93.2	94.5	94.5	94.5	94.5	94.5
4000 Hz	83.0	83.7	87.9	88.8	88.9	92.2	92.2	92.2	92.2	92.2
8000 Hz	74.7	75.4	78.7	79.6	79.7	81.6	81.6	81.6	81.6	81.6
Total sound power level	93.5	94.2	99.6	100.5	100.5	100.5	100.5	100.5	100.5	100.5

hub height 110 m – 100.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.7	70.9	71.5	71.5	73.9	73.9	73.9	73.9	73.9
63 Hz	76.5	77.9	81.6	82.2	82.3	83.4	83.4	83.4	83.4	83.4
125 Hz	83.3	84.7	88.6	89.2	89.3	89.1	89.1	89.1	89.1	89.1
250 Hz	87.0	88.4	92.4	93.0	93.1	91.4	91.4	91.4	91.4	91.4
500 Hz	86.8	88.2	93.3	93.9	94.0	92.2	92.2	92.2	92.2	92.2
1000 Hz	86.3	87.7	93.8	94.4	94.4	94.0	94.0	94.0	94.0	94.0
2000 Hz	85.1	86.5	92.5	93.1	93.2	94.5	94.5	94.5	94.5	94.5
4000 Hz	83.0	84.4	88.2	88.8	88.9	92.2	92.2	92.2	92.2	92.2
8000 Hz	74.7	76.1	79.0	79.6	79.7	81.6	81.6	81.6	81.6	81.6
Total sound power level	93.5	94.9	99.9	100.5	100.5	100.5	100.5	100.5	100.5	100.5

Mode 9**hub height 78 m – 100.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.5	71.0	71.0	73.4	73.4	73.4	73.4	73.4
63 Hz	76.5	77.0	81.2	81.7	81.8	82.9	82.9	82.9	82.9	82.9
125 Hz	83.3	83.8	88.2	88.7	88.8	88.6	88.6	88.6	88.6	88.6
250 Hz	87.0	87.5	92.0	92.5	92.6	90.9	90.9	90.9	90.9	90.9
500 Hz	86.8	87.3	92.9	93.4	93.5	91.7	91.7	91.7	91.7	91.7
1000 Hz	86.3	86.8	93.4	93.9	93.9	93.5	93.5	93.5	93.5	93.5
2000 Hz	85.1	85.6	92.1	92.6	92.7	94.0	94.0	94.0	94.0	94.0
4000 Hz	83.0	83.5	87.8	88.3	88.4	91.7	91.7	91.7	91.7	91.7
8000 Hz	74.7	75.2	78.6	79.1	79.2	81.1	81.1	81.1	81.1	81.1
Total sound power level	93.5	94.0	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0

hub height 83 m – 100.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.6	71.0	71.0	73.4	73.4	73.4	73.4	73.4
63 Hz	76.5	77.2	81.3	81.7	81.8	82.9	82.9	82.9	82.9	82.9
125 Hz	83.3	84.0	88.3	88.7	88.8	88.6	88.6	88.6	88.6	88.6
250 Hz	87.0	87.7	92.1	92.5	92.6	90.9	90.9	90.9	90.9	90.9
500 Hz	86.8	87.5	93.0	93.4	93.5	91.7	91.7	91.7	91.7	91.7
1000 Hz	86.3	87.0	93.5	93.9	93.9	93.5	93.5	93.5	93.5	93.5
2000 Hz	85.1	85.8	92.2	92.6	92.7	94.0	94.0	94.0	94.0	94.0
4000 Hz	83.0	83.7	87.9	88.3	88.4	91.7	91.7	91.7	91.7	91.7
8000 Hz	74.7	75.4	78.7	79.1	79.2	81.1	81.1	81.1	81.1	81.1
Total sound power level	93.5	94.2	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0

hub height 110 m – 100.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.7	70.7	71.0	71.0	73.4	73.4	73.4	73.4	73.4
63 Hz	76.5	77.9	81.4	81.7	81.8	82.9	82.9	82.9	82.9	82.9
125 Hz	83.3	84.7	88.4	88.7	88.8	88.6	88.6	88.6	88.6	88.6
250 Hz	87.0	88.4	92.2	92.5	92.6	90.9	90.9	90.9	90.9	90.9
500 Hz	86.8	88.2	93.1	93.4	93.5	91.7	91.7	91.7	91.7	91.7
1000 Hz	86.3	87.7	93.6	93.9	93.9	93.5	93.5	93.5	93.5	93.5
2000 Hz	85.1	86.5	92.3	92.6	92.7	94.0	94.0	94.0	94.0	94.0
4000 Hz	83.0	84.4	88.0	88.3	88.4	91.7	91.7	91.7	91.7	91.7
8000 Hz	74.7	76.1	78.8	79.1	79.2	81.1	81.1	81.1	81.1	81.1
Total sound power level	93.5	94.9	99.7	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Mode 10**hub height 78 m – 99.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	70.4	70.5	70.5	72.9	72.9	72.9	72.9	72.9
63 Hz	76.5	77.0	81.1	81.2	81.3	82.4	82.4	82.4	82.4	82.4
125 Hz	83.3	83.8	88.1	88.2	88.3	88.1	88.1	88.1	88.1	88.1
250 Hz	87.0	87.5	91.9	92.0	92.1	90.4	90.4	90.4	90.4	90.4
500 Hz	86.8	87.3	92.8	92.9	93.0	91.2	91.2	91.2	91.2	91.2
1000 Hz	86.3	86.8	93.3	93.4	93.4	93.0	93.0	93.0	93.0	93.0
2000 Hz	85.1	85.6	92.0	92.1	92.2	93.5	93.5	93.5	93.5	93.5
4000 Hz	83.0	83.5	87.7	87.8	87.9	91.2	91.2	91.2	91.2	91.2
8000 Hz	74.7	75.2	78.5	78.6	78.7	80.6	80.6	80.6	80.6	80.6
Total sound power level	93.5	94.0	99.4	99.5	99.5	99.5	99.5	99.5	99.5	99.5

hub height 83 m – 99.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.5	70.5	70.5	72.9	72.9	72.9	72.9	72.9
63 Hz	76.5	77.2	81.2	81.2	81.3	82.4	82.4	82.4	82.4	82.4
125 Hz	83.3	84.0	88.2	88.2	88.3	88.1	88.1	88.1	88.1	88.1
250 Hz	87.0	87.7	92.0	92.0	92.1	90.4	90.4	90.4	90.4	90.4
500 Hz	86.8	87.5	92.9	92.9	93.0	91.2	91.2	91.2	91.2	91.2
1000 Hz	86.3	87.0	93.4	93.4	93.4	93.0	93.0	93.0	93.0	93.0
2000 Hz	85.1	85.8	92.1	92.1	92.2	93.5	93.5	93.5	93.5	93.5
4000 Hz	83.0	83.7	87.8	87.8	87.9	91.2	91.2	91.2	91.2	91.2
8000 Hz	74.7	75.4	78.6	78.6	78.7	80.6	80.6	80.6	80.6	80.6
Total sound power level	93.5	94.2	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5

hub height 110 m – 99.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.7	70.5	70.5	70.5	72.9	72.9	72.9	72.9	72.9
63 Hz	76.5	77.9	81.2	81.2	81.3	82.4	82.4	82.4	82.4	82.4
125 Hz	83.3	84.7	88.2	88.2	88.3	88.1	88.1	88.1	88.1	88.1
250 Hz	87.0	88.4	92.0	92.0	92.1	90.4	90.4	90.4	90.4	90.4
500 Hz	86.8	88.2	92.9	92.9	93.0	91.2	91.2	91.2	91.2	91.2
1000 Hz	86.3	87.7	93.4	93.4	93.4	93.0	93.0	93.0	93.0	93.0
2000 Hz	85.1	86.5	92.1	92.1	92.2	93.5	93.5	93.5	93.5	93.5
4000 Hz	83.0	84.4	87.8	87.8	87.9	91.2	91.2	91.2	91.2	91.2
8000 Hz	74.7	76.1	78.6	78.6	78.7	80.6	80.6	80.6	80.6	80.6
Total sound power level	93.5	94.9	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5

Mode 11**hub height 78 m – 99.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	69.9	70.0	70.0	72.4	72.4	72.4	72.4	72.4
63 Hz	76.5	77.0	80.6	80.7	80.8	81.9	81.9	81.9	81.9	81.9
125 Hz	83.3	83.8	87.6	87.7	87.8	87.6	87.6	87.6	87.6	87.6
250 Hz	87.0	87.5	91.4	91.5	91.6	89.9	89.9	89.9	89.9	89.9
500 Hz	86.8	87.3	92.3	92.4	92.5	90.7	90.7	90.7	90.7	90.7
1000 Hz	86.3	86.8	92.8	92.9	92.9	92.5	92.5	92.5	92.5	92.5
2000 Hz	85.1	85.6	91.5	91.6	91.7	93.0	93.0	93.0	93.0	93.0
4000 Hz	83.0	83.5	87.2	87.3	87.4	90.7	90.7	90.7	90.7	90.7
8000 Hz	74.7	75.2	78.0	78.1	78.2	80.1	80.1	80.1	80.1	80.1
Total sound power level	93.5	94.0	98.9	99.0	99.0	99.0	99.0	99.0	99.0	99.0

hub height 83 m – 99.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	70.0	70.0	70.0	72.4	72.4	72.4	72.4	72.4
63 Hz	76.5	77.2	80.7	80.7	80.8	81.9	81.9	81.9	81.9	81.9
125 Hz	83.3	84.0	87.7	87.7	87.8	87.6	87.6	87.6	87.6	87.6
250 Hz	87.0	87.7	91.5	91.5	91.6	89.9	89.9	89.9	89.9	89.9
500 Hz	86.8	87.5	92.4	92.4	92.5	90.7	90.7	90.7	90.7	90.7
1000 Hz	86.3	87.0	92.9	92.9	92.9	92.5	92.5	92.5	92.5	92.5
2000 Hz	85.1	85.8	91.6	91.6	91.7	93.0	93.0	93.0	93.0	93.0
4000 Hz	83.0	83.7	87.3	87.3	87.4	90.7	90.7	90.7	90.7	90.7
8000 Hz	74.7	75.4	78.1	78.1	78.2	80.1	80.1	80.1	80.1	80.1
Total sound power level	93.5	94.2	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0

hub height 110 m – 99.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.7	70.0	70.0	70.0	72.4	72.4	72.4	72.4	72.4
63 Hz	76.5	77.9	80.7	80.7	80.8	81.9	81.9	81.9	81.9	81.9
125 Hz	83.3	84.7	87.7	87.7	87.8	87.6	87.6	87.6	87.6	87.6
250 Hz	87.0	88.4	91.5	91.5	91.6	89.9	89.9	89.9	89.9	89.9
500 Hz	86.8	88.2	92.4	92.4	92.5	90.7	90.7	90.7	90.7	90.7
1000 Hz	86.3	87.7	92.9	92.9	92.9	92.5	92.5	92.5	92.5	92.5
2000 Hz	85.1	86.5	91.6	91.6	91.7	93.0	93.0	93.0	93.0	93.0
4000 Hz	83.0	84.4	87.3	87.3	87.4	90.7	90.7	90.7	90.7	90.7
8000 Hz	74.7	76.1	78.1	78.1	78.2	80.1	80.1	80.1	80.1	80.1
Total sound power level	93.5	94.9	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0

Mode 12**hub height 78 m – 98.5 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	69.5	69.5	69.5	71.9	71.9	71.9	71.9	71.9
63 Hz	76.5	77.0	80.2	80.2	80.3	81.4	81.4	81.4	81.4	81.4
125 Hz	83.3	83.8	87.2	87.2	87.3	87.1	87.1	87.1	87.1	87.1
250 Hz	87.0	87.5	91.0	91.0	91.1	89.4	89.4	89.4	89.4	89.4
500 Hz	86.8	87.3	91.9	91.9	92.0	90.2	90.2	90.2	90.2	90.2
1000 Hz	86.3	86.8	92.4	92.4	92.4	92.0	92.0	92.0	92.0	92.0
2000 Hz	85.1	85.6	91.1	91.1	91.2	92.5	92.5	92.5	92.5	92.5
4000 Hz	83.0	83.5	86.8	86.8	86.9	90.2	90.2	90.2	90.2	90.2
8000 Hz	74.7	75.2	77.6	77.6	77.7	79.6	79.6	79.6	79.6	79.6
Total sound power level	93.5	94.0	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5

hub height 83 m – 98.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	69.5	69.5	69.5	71.9	71.9	71.9	71.9	71.9
63 Hz	76.5	77.2	80.2	80.2	80.3	81.4	81.4	81.4	81.4	81.4
125 Hz	83.3	84.0	87.2	87.2	87.3	87.1	87.1	87.1	87.1	87.1
250 Hz	87.0	87.7	91.0	91.0	91.1	89.4	89.4	89.4	89.4	89.4
500 Hz	86.8	87.5	91.9	91.9	92.0	90.2	90.2	90.2	90.2	90.2
1000 Hz	86.3	87.0	92.4	92.4	92.4	92.0	92.0	92.0	92.0	92.0
2000 Hz	85.1	85.8	91.1	91.1	91.2	92.5	92.5	92.5	92.5	92.5
4000 Hz	83.0	83.7	86.8	86.8	86.9	90.2	90.2	90.2	90.2	90.2
8000 Hz	74.7	75.4	77.6	77.6	77.7	79.6	79.6	79.6	79.6	79.6
Total sound power level	93.5	94.2	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5

hub height 110 m – 98.5 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.7	69.5	69.5	69.5	71.9	71.9	71.9	71.9	71.9
63 Hz	76.5	77.9	80.2	80.2	80.3	81.4	81.4	81.4	81.4	81.4
125 Hz	83.3	84.7	87.2	87.2	87.3	87.1	87.1	87.1	87.1	87.1
250 Hz	87.0	88.4	91.0	91.0	91.1	89.4	89.4	89.4	89.4	89.4
500 Hz	86.8	88.2	91.9	91.9	92.0	90.2	90.2	90.2	90.2	90.2
1000 Hz	86.3	87.7	92.4	92.4	92.4	92.0	92.0	92.0	92.0	92.0
2000 Hz	85.1	86.5	91.1	91.1	91.2	92.5	92.5	92.5	92.5	92.5
4000 Hz	83.0	84.4	86.8	86.8	86.9	90.2	90.2	90.2	90.2	90.2
8000 Hz	74.7	76.1	77.6	77.6	77.7	79.6	79.6	79.6	79.6	79.6
Total sound power level	93.5	94.9	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5

Mode 13**hub height 78 m – 98.0 dB(A)**

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	67.8	69.0	69.0	69.0	71.4	71.4	71.4	71.4	71.4
63 Hz	76.5	77.0	79.7	79.7	79.8	80.9	80.9	80.9	80.9	80.9
125 Hz	83.3	83.8	86.7	86.7	86.8	86.6	86.6	86.6	86.6	86.6
250 Hz	87.0	87.5	90.5	90.5	90.6	88.9	88.9	88.9	88.9	88.9
500 Hz	86.8	87.3	91.4	91.4	91.5	89.7	89.7	89.7	89.7	89.7
1000 Hz	86.3	86.8	91.9	91.9	91.9	91.5	91.5	91.5	91.5	91.5
2000 Hz	85.1	85.6	90.6	90.6	90.7	92.0	92.0	92.0	92.0	92.0
4000 Hz	83.0	83.5	86.3	86.3	86.4	89.7	89.7	89.7	89.7	89.7
8000 Hz	74.7	75.2	77.1	77.1	77.2	79.1	79.1	79.1	79.1	79.1
Total sound power level	93.5	94.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0

hub height 83 m – 98.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.0	69.0	69.0	69.0	71.4	71.4	71.4	71.4	71.4
63 Hz	76.5	77.2	79.7	79.7	79.8	80.9	80.9	80.9	80.9	80.9
125 Hz	83.3	84.0	86.7	86.7	86.8	86.6	86.6	86.6	86.6	86.6
250 Hz	87.0	87.7	90.5	90.5	90.6	88.9	88.9	88.9	88.9	88.9
500 Hz	86.8	87.5	91.4	91.4	91.5	89.7	89.7	89.7	89.7	89.7
1000 Hz	86.3	87.0	91.9	91.9	91.9	91.5	91.5	91.5	91.5	91.5
2000 Hz	85.1	85.8	90.6	90.6	90.7	92.0	92.0	92.0	92.0	92.0
4000 Hz	83.0	83.7	86.3	86.3	86.4	89.7	89.7	89.7	89.7	89.7
8000 Hz	74.7	75.4	77.1	77.1	77.2	79.1	79.1	79.1	79.1	79.1
Total sound power level	93.5	94.2	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0

hub height 110 m – 98.0 dB(A)

octave sound power levels [dB(A)] at standardized wind speeds v_s										
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	67.3	68.7	69.0	69.0	69.0	71.4	71.4	71.4	71.4	71.4
63 Hz	76.5	77.9	79.7	79.7	79.8	80.9	80.9	80.9	80.9	80.9
125 Hz	83.3	84.7	86.7	86.7	86.8	86.6	86.6	86.6	86.6	86.6
250 Hz	87.0	88.4	90.5	90.5	90.6	88.9	88.9	88.9	88.9	88.9
500 Hz	86.8	88.2	91.4	91.4	91.5	89.7	89.7	89.7	89.7	89.7
1000 Hz	86.3	87.7	91.9	91.9	91.9	91.5	91.5	91.5	91.5	91.5
2000 Hz	85.1	86.5	90.6	90.6	90.7	92.0	92.0	92.0	92.0	92.0
4000 Hz	83.0	84.4	86.3	86.3	86.4	89.7	89.7	89.7	89.7	89.7
8000 Hz	74.7	76.1	77.1	77.1	77.2	79.1	79.1	79.1	79.1	79.1
Total sound power level	93.5	94.9	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0

