

GF 1 and WN 1*

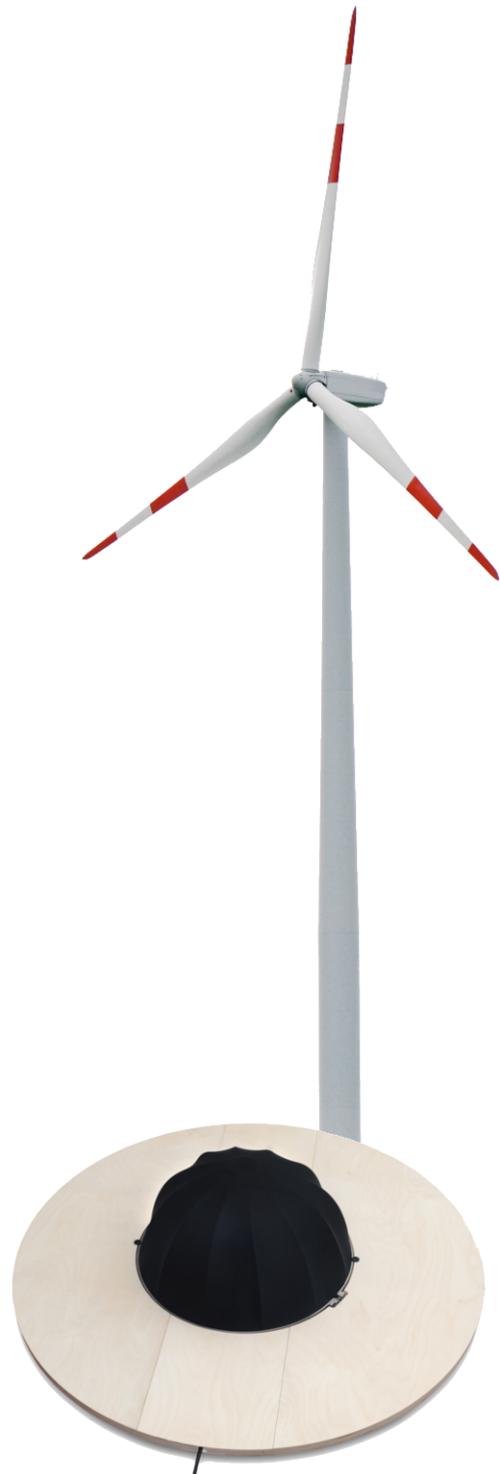
Boundary layer microphone

for measurements on wind power stations

- standardized noise emission measurements on wind power stations
- reduction of the wind noise at the microphone
- weatherproof

* Optional with weatherproof power supply WN 1

- measurement microphone powering with LEMO[®] or IEPE in weatherproof case
- line driver
- adjustable amplifier



GF 1 and WN 1

The boundary layer and the weatherproof power supply unit are specifically developed extensions in order to record the sound emission of wind power stations with measuring microphones pursuant to DIN EN 61400-11.

Due to the operation near the ground, unwanted influences of the measurement results by reflections of the ground are avoided. The low wind speed near the ground also has the effect of reducing the wind noise at the microphone.

Acoustical specifications

Together with the impregnated secondary windscreen, the primary windscreen of the GF 1 ensures a broadband reduction of the induced wind noise at the microphone by 40 dB. Due to the acoustic effect of the sound-reflecting boundary layer, the microphone sensitivity increases by 6 dB as inherent to its functional principle. Thus, an overall improvement of the signal-to-noise ratio of approx. 46 dB can be achieved.

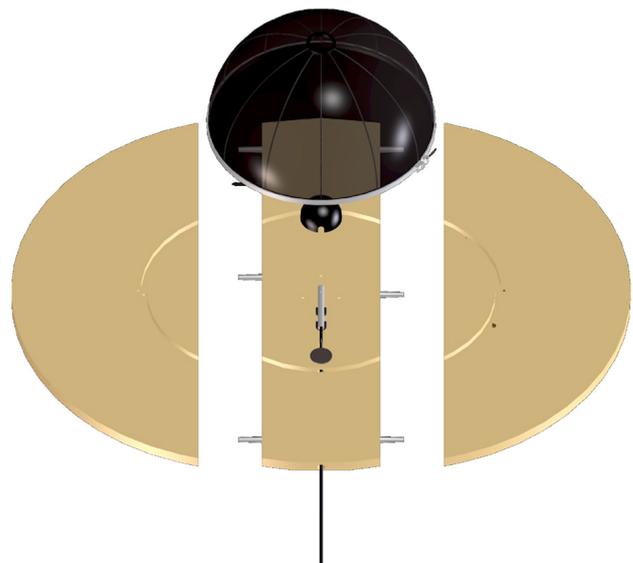
As measuring microphone element, class 1 measuring microphones are suitable, which consist of measuring microphone cartridges with a frequency range from 20 Hz to a minimum of 10 kHz, a dehumidifier adaptor and a measuring microphone preamplifier with 200 V or IEPE supply.

Electrical specifications

The WN 1 is a weatherproof power supply unit with the measuring microphone power supply unit MN 921. It provides an operating voltage for conventional measuring microphones (7-pin LEMO®) as well as for IEPE measuring microphones. It can be operated with accumulators, batteries or mains voltage. The amplification of the microphone signal can be set using a rotary switch. The integrated line driver allows a transmission of the microphone signals over a cable length sufficient for measurements on wind power stations.

Mechanical specifications

The structural design of the GF 1 allows a simple calibration with a sound calibrator. With the divisible ground plate and the secondary windscreen reduced to an optimum for function and handling, transportation in a compact transport case is possible. With the impregnated secondary windscreen, the ground plate coated with varnish and the weatherproof power supply unit, GF 1 and WN 1 form a weatherproof system for the standard-conforming sound emission measurement of wind power stations.



Product overview



Delivery

The standard delivery of the **GF 1** includes:

Ground plate (demountable in three parts)		
Primary windscreen	W 2.1	
Secondary windscreen	W 450	
Suitcase 1100 x 510 x 405 mm		
		Order.-Nr. 315056

The standard delivery of the **WN 1** includes:

Power supply	MN 921	
Suitcase		
		Order.-Nr. 312355

Accessories

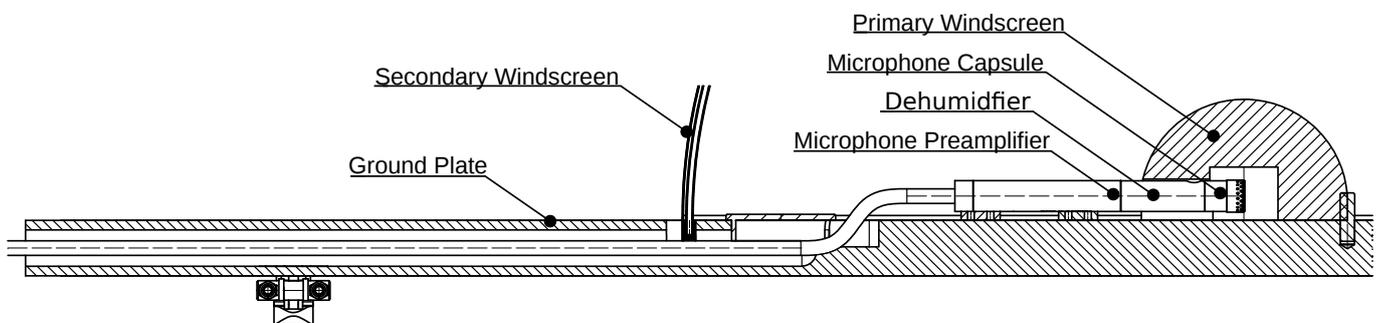
The optional accessories for the **GF 1**:

Dehumidifier	TA 202	Order.-Nr. 302314
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The optional accessories for the **WN 1**:

Sound calibrator	Typ 4000 Klasse 1	Order.-Nr. 610039
Connection cable 10 m	C 88.1	Order.-Nr. 302201
Connection cable 10 m	BNC.1	Order.-Nr. 202221
Connection cable drum 100 m	BNC.10 T	Order.-Nr. 302244

Construction GF 1





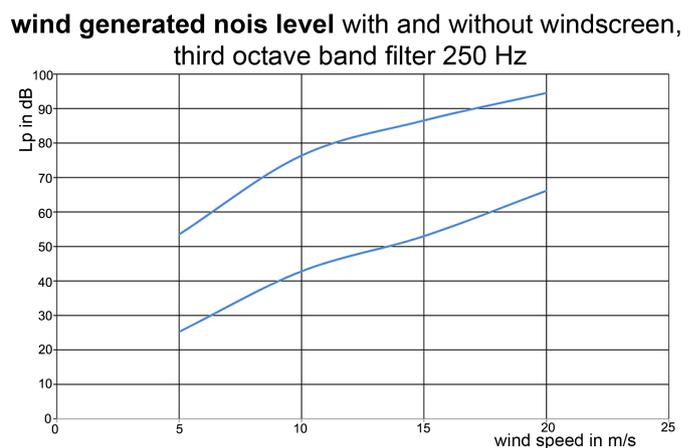
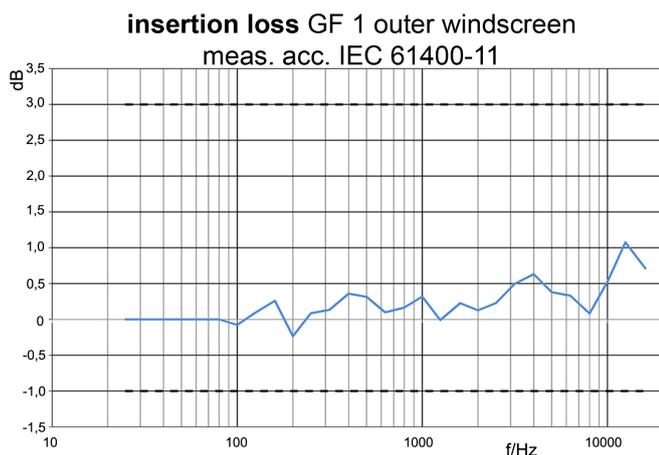
Boundary GF 1

Diameter ground plate	1000 mm
Height of the ground plate (with feet)	43 mm
Diameter primary windscreen	85 mm
Diameter secondary windscreen	450 mm
Height of the boundary with windscreen	252 mm
Weight without suitcase (without measurement microphone element)	15 kg
Weight with suitcase (without measurement microphone element)	29 kg

Weatherproof power supply WN 1

Length	235 mm
Width	225 mm
Height	95 mm
Weight (without battery and sound calibrator)	1,2 kg

Diagrams



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