

INTEGRATO-SERIES IG-100

CEILING SPEAKER



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1. Introduction and General Instructions

Congratulations on the purchase of your **INTEGRATO IG-100** ceiling loudspeaker. Specially developed as an unobtrusive system for installation in ceilings and walls, the speaker has been kept very compact in response to demand.

1.1 Important Safety Instructions

Please read the following safety instructions in their entirety before putting this device into operation. Keep these instructions near the device at all times. Reading the user manual does not replace the need for awareness of and compliance with currently applicable national safety regulations and standards, or the observance of safe on-site working methods.

All information and technical specifications published here are based on data that was available at the time of publication. We expressly reserve the right to make any changes.

1.1.1 Explanation of Terms

Danger

This signal word indicates a hazard with a high risk level, which, if not avoided, could result in death or serious injury.

Warning

This signal word indicates a hazard with a medium risk level, which, if not avoided, could result in death or serious injury.

Caution

This signal word indicates a hazard with a lower risk level which, if not avoided, could result in minor or moderate injury.

1.1.2 General Safety Instructions

Danger:

To avoid danger to life or limb, please ensure that all personnel involved in installing, operating or dismantling the system have read and understood the contents of this manual.

The information presented here, however, should be regarded as accompanying advice and this does **not** affect the ultimate responsibility of the user to ensure safe on-site operation of a **FOHNN** system.

Warning:

To prevent injury caused by a fallen system,

- this device must be securely installed in accordance with the assembly instructions and current safety guidelines. Only use the specially designed **FOHNN** mounting accessories or components, which are explicitly specified in the assembly instructions.
- this device must be regularly inspected for any signs of wear or loosening of the load-bearing connections.
- it is necessary to ensure that the mounting points on a building or structure have sufficient load-bearing capacity and are structurally viable.
- all components of a hung (i.e. "flown"), ceiling- or wall-mounted device must be visually inspected before installation. Any part showing signs of deformity, cracks, rust, fractured welds or other signs of wear must not be used under any circumstances.

- the load limit of any component that will be used for system suspension (including shackles, chains and hoists) must not be exceeded. In order to comply with local safety regulations, these load limits may, in certain circumstances due to underlying safety factors (operating ratios), need to be recalculated and, if necessary, reduced.

All components required for the mounting of a **FOHHN** system have been designed and constructed in accordance and compliance with the following regulations that are applicable in Germany: BGV-C1, BGI 810-3, DIN EN 1993-1-1, DIN EN 1999-1-1 und DIN 18032-2

The safety factor (operating ratio) is therefore equal to or better than 10:1. If the system is to be used in countries that have stricter requirements, the permissible load capacity must be reduced accordingly.

To avoid injuries, the device must be stored, installed and operated well away from children.

To avoid injuries, this device must be taken out of operation, marked appropriately and protected against accidental use if it

- shows visible signs of damage
- appears to contain loose parts
- no longer works correctly
- has been subjected to unfavourable conditions (e.g. moisture) for a prolonged period
- has been subjected to poor transportation conditions (e.g. with unsuitable packaging or damp / humidity).

If necessary, please contact your FOHHN dealer and the transportation company immediately.

1.1.3 Acoustic Safety Information

FOHHN systems are capable of generating very high sound pressure levels, which can cause irreparable damage to hearing.

Warning:

To avoid potential hearing impairment, never stand in close proximity (1 metre or less) to a device while it is in operation.

To prevent both hearing impairment and damage to the device, avoid the following while the device is in operation:

- acoustic feedback
- high powered, permanently distorted signals
- impulse noises, which can occur when a device is switched on or off, connected or disconnected from the system.

1.1.4 Connections and Cabling

Please note the following when wiring up your system:

- Check that your cable is working faultlessly and only use cables with a sufficient cross section.
- Only use cabling- and connector materials that meet professional standards.
- Lay and secure the cabling so that it cannot be damaged by tools, or through being trapped by the device or by a fixing bracket.
- Protect any laid cables from mechanical damage, or unnecessary traction.
- Avoid excessive tightening of the screws on connection terminals!

The wiring up of loudspeakers should only be carried out by suitably qualified personnel!

1.2 Operating Conditions

Please note the following when operating your system:

- The permitted ambient temperature of the device during operation ranges from 0 °C to +40 °C.
- The device is intended for use in a dry environment with normal levels of dust and humidity in the air.
- If condensation has built up on the device, or on its rear panel during transportation or storage, let the device acclimatise for ca. 2 hours before using it.
- Never expose the device to any aggressive chemical fluids or vapours.
- Never expose the device to strong vibration.

1.2.1 Information on Abnormal Operation

The device should be immediately inspected by a **FOHNN AUDIO AG** approved service partner if

- a foreign body or liquid has got into the interior of the device,
- the device has been exposed to rain,
- the device is not working normally i.e. it is showing marked differences in performance,
- the device is damaged (e.g. after a fall).

1.3 Storage and Transportation

Please note the following:

- The device should only be transported in its original packaging.
- Store the device in a dry environment with a constant ambient temperature in order to avoid condensation.
- The permitted ambient temperature range for storing the device is -10 °C to +70 °C.
- Due to fluctuations in temperature during transportation and storage, condensation may start to build up on the surface of the device. Before operating the device, examine its surface for any signs of moisture. If this is the case, allow the unpacked device to acclimatise for two hours in the environmental temperature before using it.

2. The Product

2.1 Product Description

The **INTEGRATO IG-100** is a compact ceiling speaker with 2-way coaxial design: The loudspeaker is equipped with a 4" woofer – with a 0.75" high frequency driver placed in front – and a crossover with high frequency driver protection. The system also offers exceptionally even beam dispersion (100° conical).

The **IG-100** has a flame-resistant metal enclosure, with a maximum mounting depth of 100 mm, and a flat protection grille – this grille is magnetically attached and can easily be removed. On the side of the enclosure is a safety eyelet.

The ceiling speaker is also fitted with an integrated 100-Volt transformer and a 5-stage selector switch. This enables low-ohm control (16 ohms) and three settings for 100 V operation (30/15/7.5 W) to be selected. During installation or calibration, the system can be completely switched off if necessary.

2.2 Delivery

Every product is examined in accordance with the highest quality and safety standards prior to despatch.

Please check your product carefully for any signs of transport damage and, in the event of any damage having occurred, inform your dealer and the transportation company immediately. Please also check that the packaging contains all the components belonging to the device.

Your **IG-100** system is delivered with the following:

- 1 x **IG-100** loudspeaker system
- 1 x cut-out template
- 1 x frame painting template
- 1 x quick start guide

If you have not received all of the above, please contact your FOHHN dealer.

2.3 Unpacking

When unpacking the system, we recommend the following procedure:

- Open the packaging and take out the product.
- Examine the product for any visible signs of transport damage. If the product has been damaged, inform the transportation company immediately. A claim for transport damage can only be made by the recipient (that is to say, you). Keep the packaging for examination by the transportation company.
- As a general rule, always retain the packaging. Despatch the product in appropriate outer packaging.

3. Installation

The **IG-100**'s exceptionally flat design makes it suitable for a range of installation situations:

- in suspended ceilings with at least 100 mm installation depth
- in concrete structures – in concrete ceilings with the aid of installation housing: To build the **IG-100** into a concrete ceiling, we recommend the HaloX® 250 System from Kaiser Elektro (www.kaiser-elektro.de) with the following components:
 - *Housing:* HaloX® 250 – Kaiser article no.: 1283-00



- *Front section:* HaloX® 250 Universal Front Part – Kaiser article no.: 1283-10



Extension rings are not required as the installation depth of the **IG-100** is less than the HaloX® system's required 110 mm.

3.1 Preparation

If your **IG-100** ceiling loudspeaker is no longer the colour you desire, you have the possibility to simply re-paint any visible parts yourself, such as the front grille and mounting ring. This is relatively straightforward.

- a) Remove the front grille (see **Chapter 3.3**) and paint this separately.
- b) Detach the supplied frame painting template from its cardboard surround and place it centrally on the baffle. This protects the drivers in your **IG-100** against any spray.
- c) Place at least three small magnetic elements (e.g. washers or nuts) on the template over the **IG-100**'s magnets. This will prevent the template from moving.
- d) Now you can paint the mounting ring.

Please take note of the relevant safety- and user instructions relating to the paint used!

3.2 Ceiling Cut-Out

Use the template supplied with the product to create the appropriate ceiling cut-out (176 mm in diameter). Proceed as follows:

- a) Detach the round disk from the cut-out template
- b) Either use the template's inner circle to create the installation cut-out – use a pen to mark up the intended position. Or, use the detached round disk for marking up the cut-out.
TIP: You can facilitate the positioning by applying double-sided sticky tape to the relevant template section. This will secure it in the required position.
- c) Cut the opening in the ceiling according to the template marking then remove the template.

Alternatively, you can make the ceiling cut-out using a circle cutter.

3.3 Removing the Front Grille

The **IG-100**'s front grille is magnetically attached to the loudspeaker enclosure. To remove the grille, proceed as follows:

- a) Between the front grille and loudspeaker enclosure is a paper strip whose ends can be seen at both sides.
- b) Pull on both ends of the paper strip to lever the grille away from its fixing (see following image).



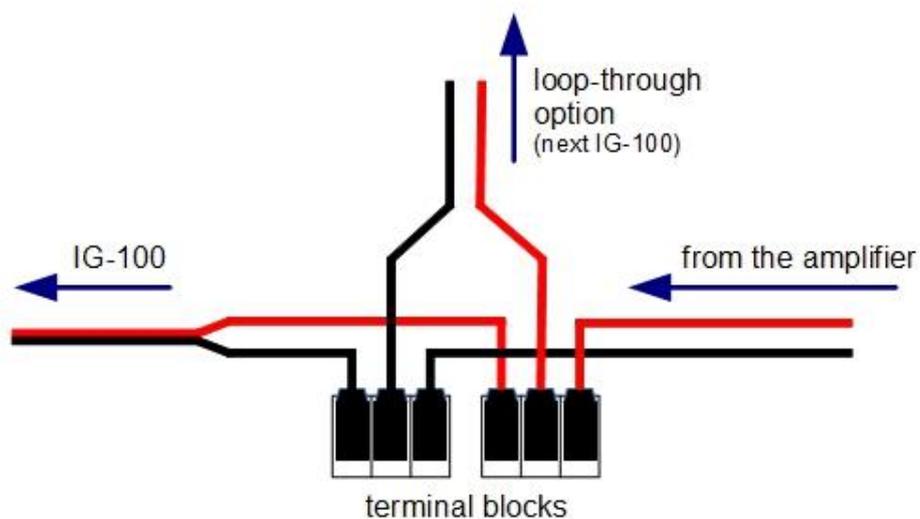
3.4 Safety Eyelet

On the side of the enclosure, to the right of the cable outlet, is an eyelet for securing the loudspeaker in the ceiling using a safety cable.

TIP: Before actually installing the speaker, we recommend fitting a safety cable and securing the loudspeaker via the eyelet. This way, the loudspeaker is already hanging in preparation for mounting and the secure connection of its cabling to the ceiling and therefore cannot accidentally fall to the floor.

3.5 Electronic Connection

For electronically connecting the **IG-100**, there is a cable outlet on the side of the enclosure with a 2-pin twin wire. The ends of the single strand wires are pre-fitted with a flexible 3-pin quick-mount WAGO terminal for connecting the product as follows:

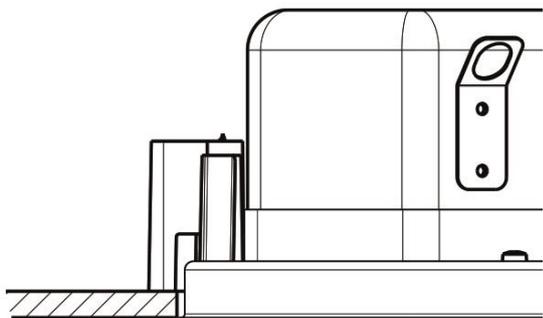


In the above diagram, the red cable represents the positive pole and the black the negative.

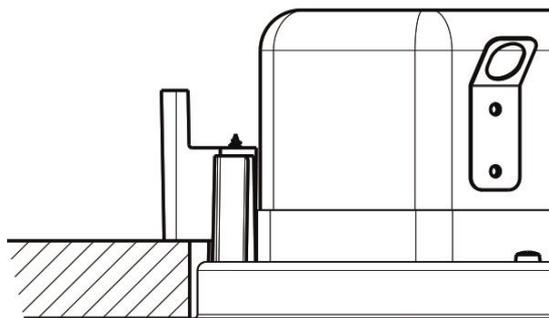
3.6 Mounting Clamps

Thanks to its three mounting clamps, the **IG-100** can be easily, quickly and safely installed. To ensure secure mounting, the ceiling thickness should **not exceed 37 mm!** Depending on the ceiling thickness, it is intended that the mounting clamps be used in one of two positions:

Mounting clamps in their factory positioning for ceiling thicknesses of 0 mm to 18.5 mm



Mounting clamps rotated for ceiling thicknesses of 18.5 to 37 mm



To rotate the mounting clamps for ceiling thicknesses of > 18.5 mm, proceed as follows:

- a) Undo the three fixing screws on the inside of the loudspeaker (see following image).



- b) Rotate the mounting clamps
- c) Screw the mounting clamps back on again.

3.7 Installing the Ceiling Loudspeaker

Install the **IG-100** as follows:

- a) With the front grille removed, slide the loudspeaker - which is secured via its rear eyelet - into the specially created ceiling cut out.
- b) Tighten the three fixing screws with a cross-head screwdriver. The three mounting clamps will fold out and pull the **IG-100** into the ceiling.
- c) Using the selector switch, choose your desired setting. Use a slotted screwdriver for this.

The selector switch offers the following settings:

- **100 V – 100 % – 30 W**
 - **100 V – 50 % – 15 W**
 - **100 V – 25 % – 7.5 W**
 - **OFF** (switch off e.g. during installation or calibration)
 - **LOW IMPEDANCE** (for low-ohm control – 16 ohms)
- d) Replace the front grille.

IMPORTANT: To remove the front grille again – without the paper strips – you will just need a pointed item such as a screwdriver (see following image).



4. Technical Documentation

4.1 Technical Data

Electroacoustic features

| | |
|-------------------------------------|---|
| Acoustic design | ceiling loudspeaker, 2-way coaxial |
| Components | 1 x 4" weather resistant cone / 0.75" tweeter with self-resetting HF protection |
| Power rating (16 ohms, nominal) [1] | 50 W |
| Power rating (16 ohms, program) [2] | 100 W |
| Power rating (Peak) [3] | 200 W |
| Sensitivity [4] | 86 dB |
| Maximum SPL (16 ohms) [3] | 109 dB |
| Frequency range [5] | 85 Hz – 20 kHz |
| Nominal dispersion [6] | 100° conical |
| Nominal impedance | 6 Ohm, switchable to 100 V – 30/15/7.5 W |

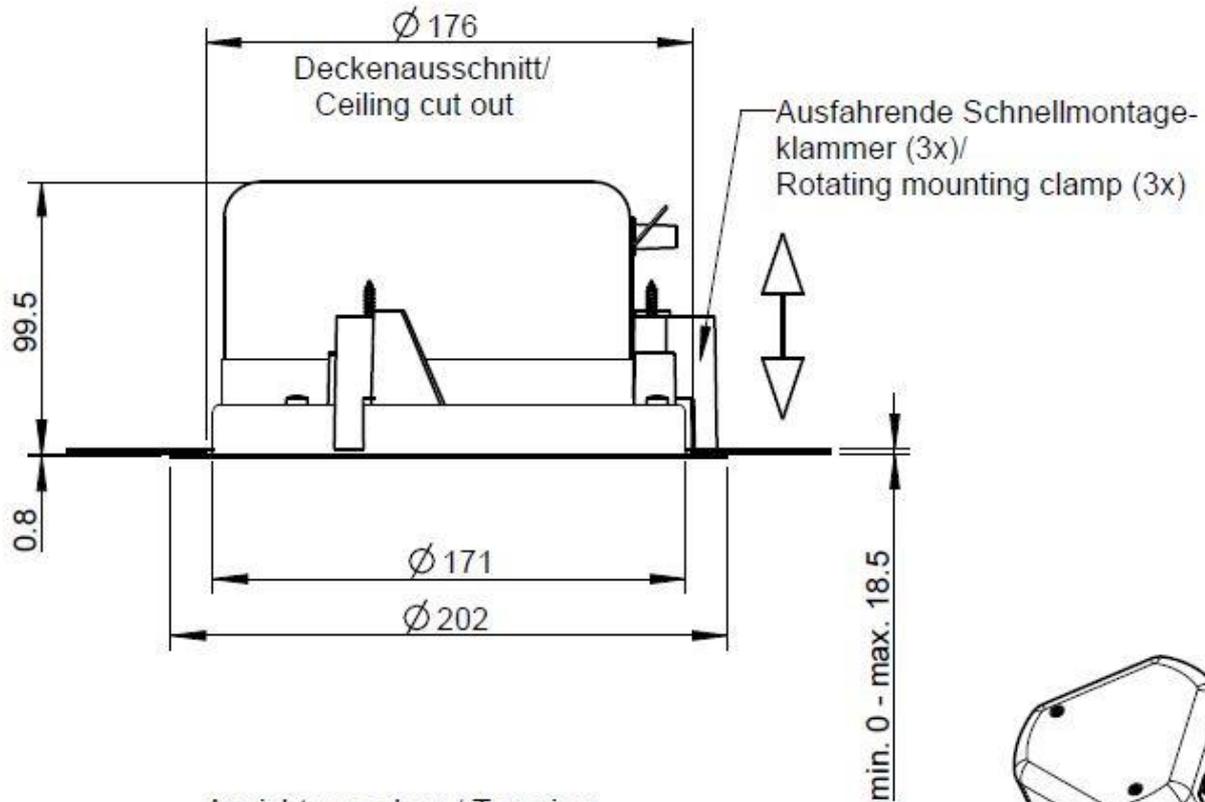
General Features

| | |
|------------------------------|---|
| Enclosure | steel fire dome, powder-coated |
| Protection grille | steel grille, powder-coated |
| Mounting points | 3 x rotating mounting clamp, 1 x steel safety latch |
| Connections | tool-free quick connectors with loop-through option |
| Integrated 100 V transformer | switchable 30/15/7.5 W – OFF – 16 ohms |
| Standard colours | white (RAL 9016) |
| Dimensions (D x H) | 202 Ø x 100 mm |
| Dimension of baffle | Ø 202 mm |
| Installation depth | 99 mm |

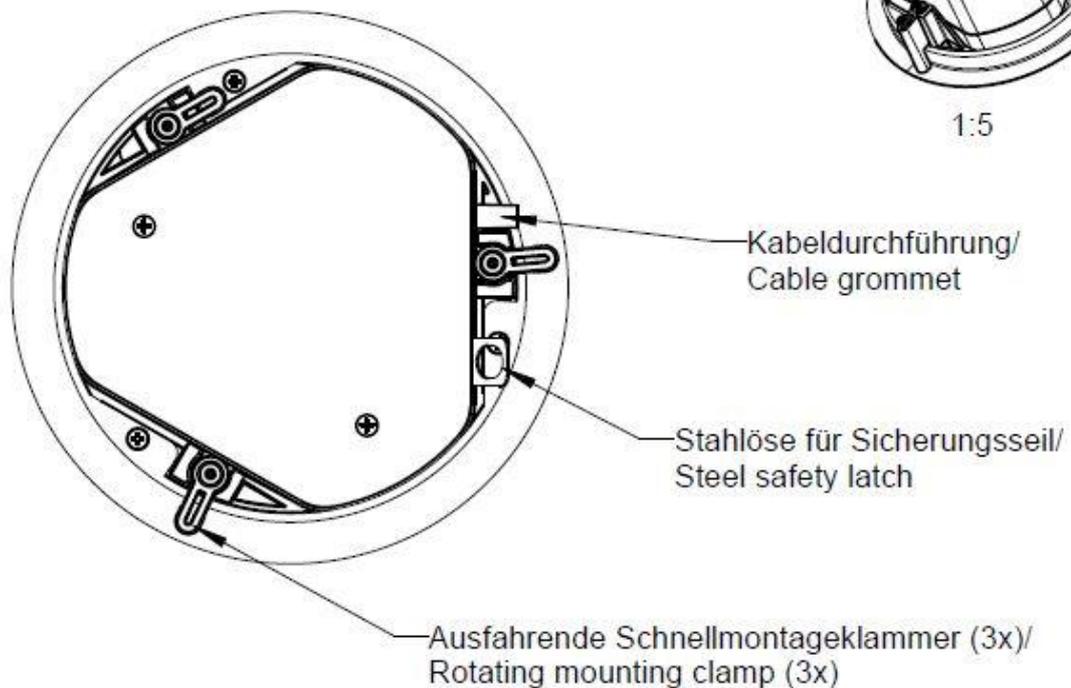
4.2 Technical Drawings

Deckenmontage bei 0 - 18.5 mm Deckenstärke /
Ceiling installation for 0 - 18.5 mm ceiling thickness

Seitenansicht / Side view

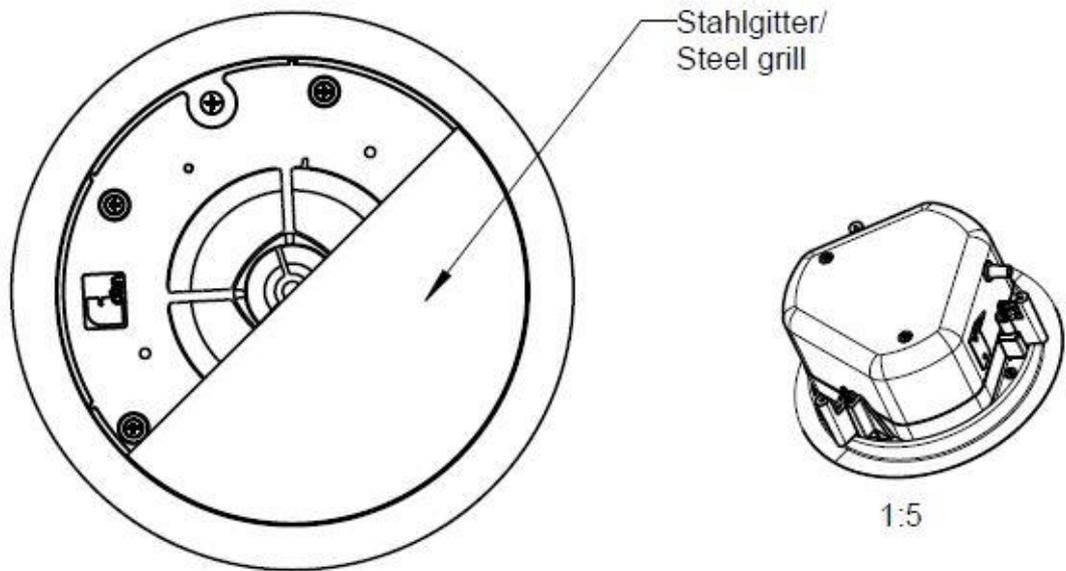


Ansicht von oben / Top view

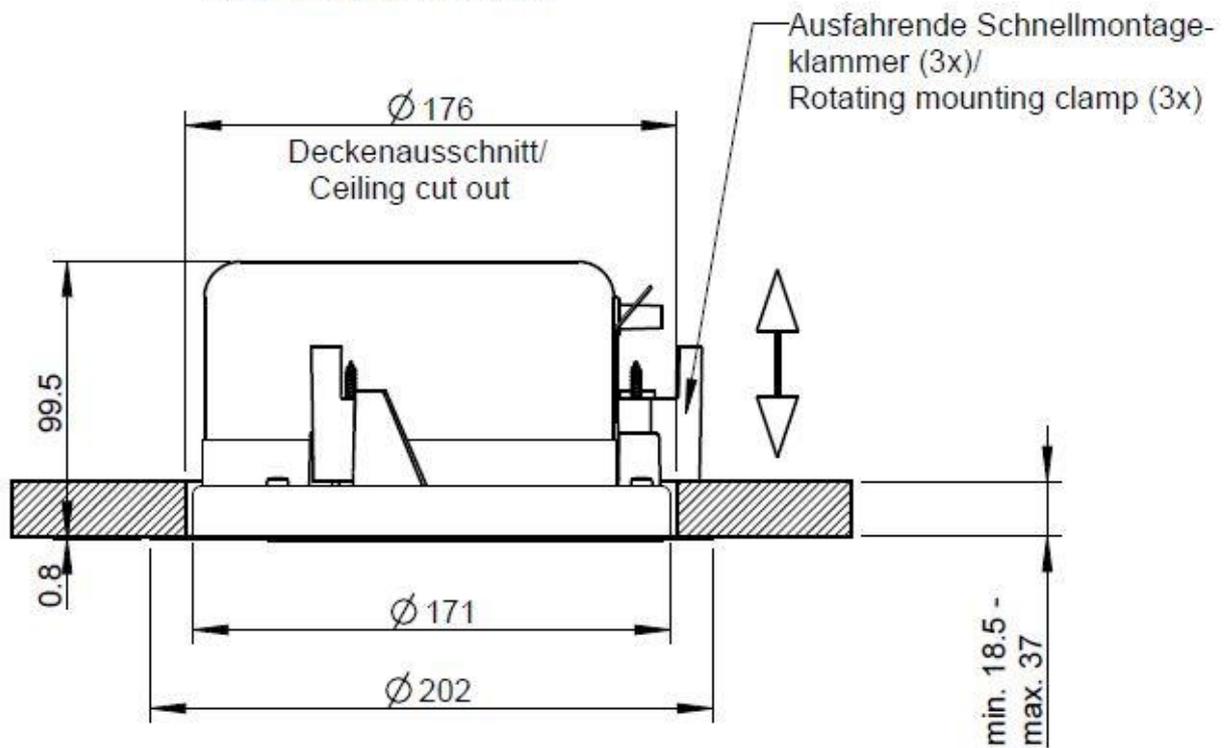


Deckenmontage bei 18.5 - 37 mm Deckenstärke /
Ceiling installation for 18.5 - 37 mm ceiling thickness

Ansicht von unten / Bottom view

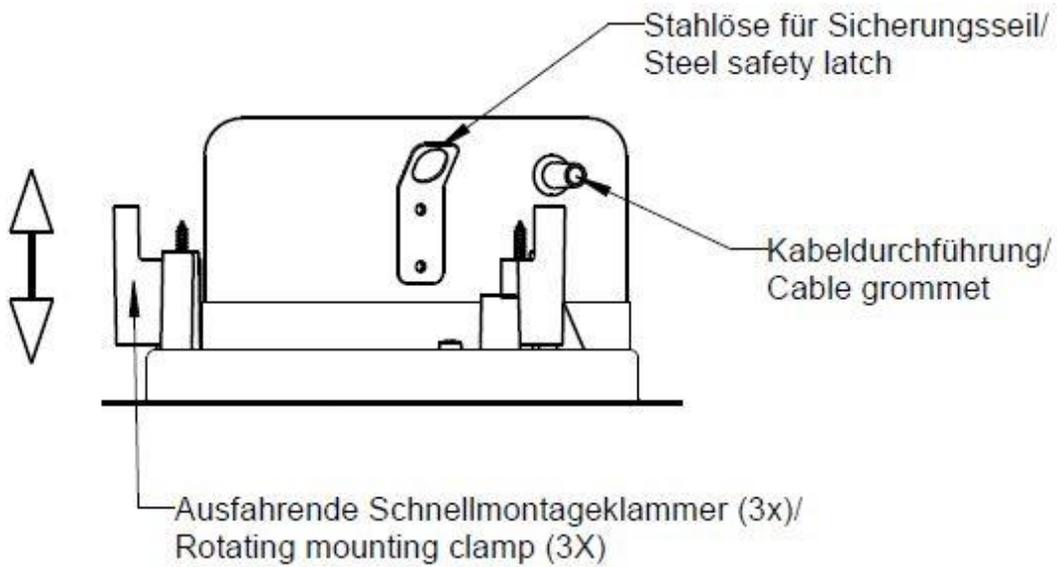


Seitenansicht / Side view

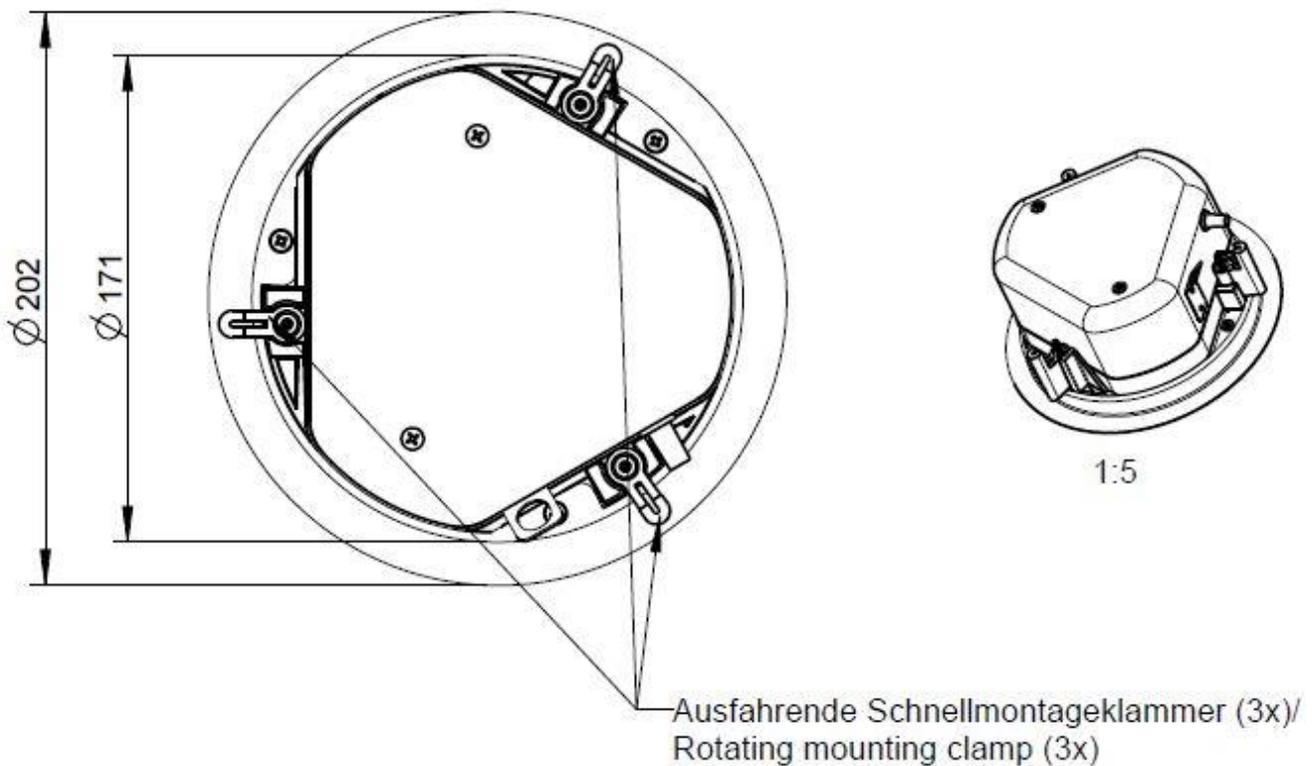


Deckenmontage bei 18.5 - 37 mm Deckenstärke /
Ceiling installation for 18.5 - 37 mm ceiling thickness

Seitenansicht / Side view

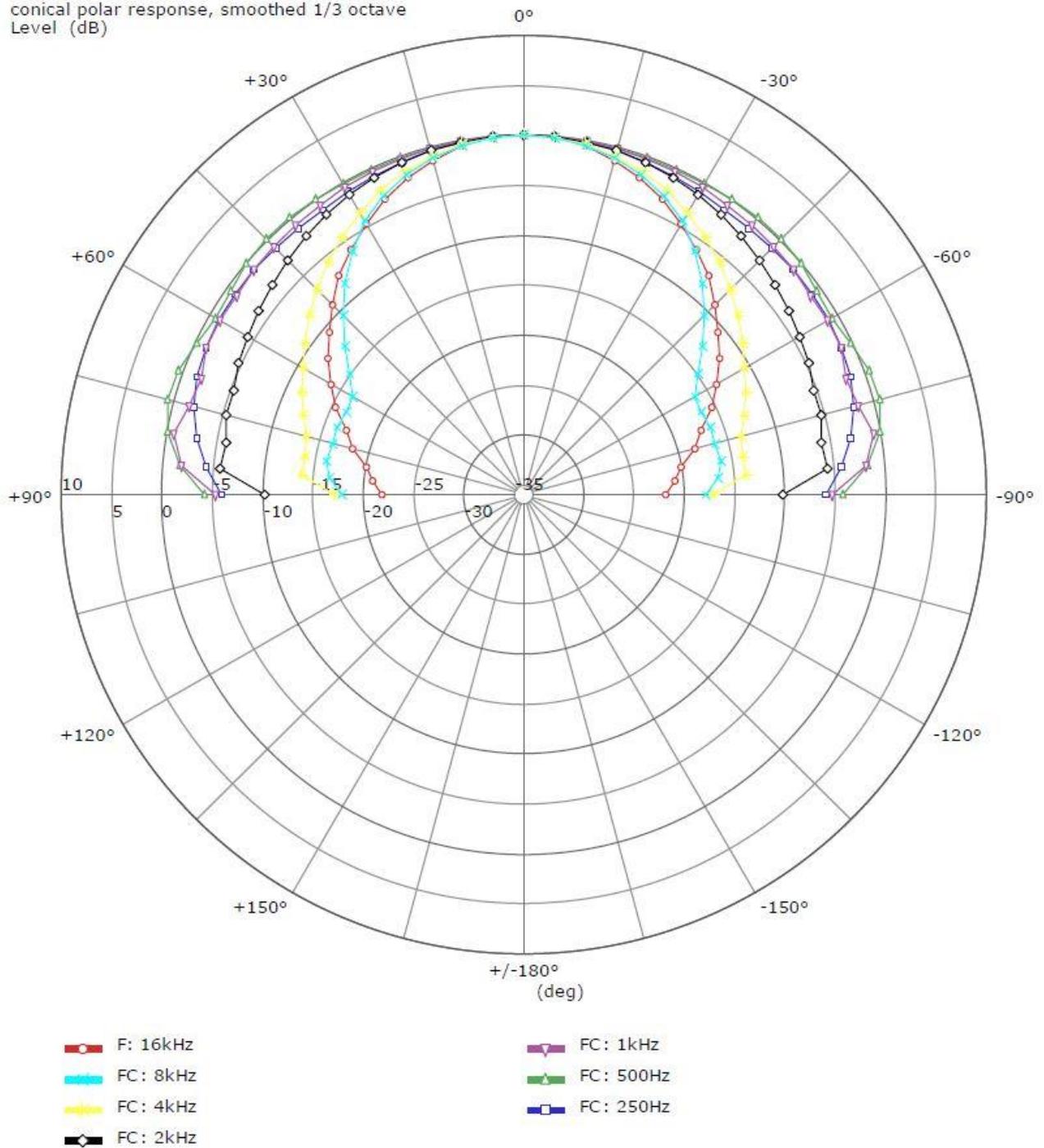


Ansicht von oben / Top view

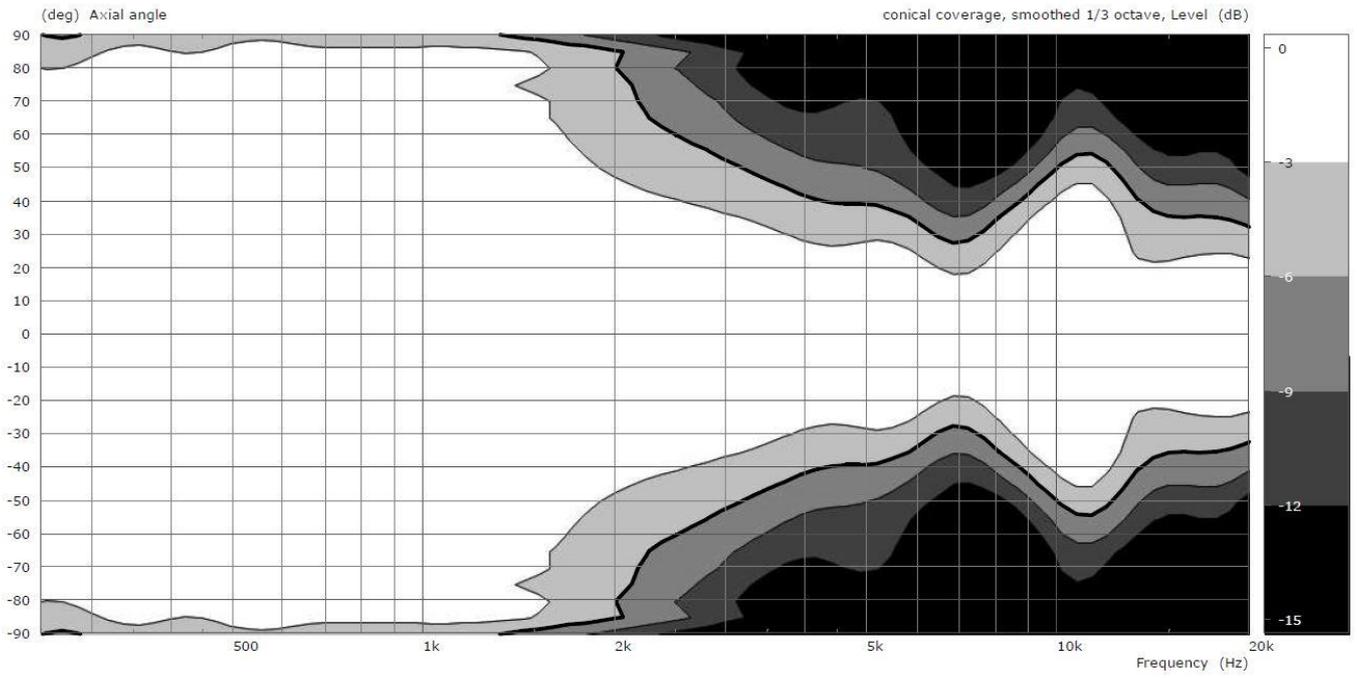


4.3 Measurement Diagrams

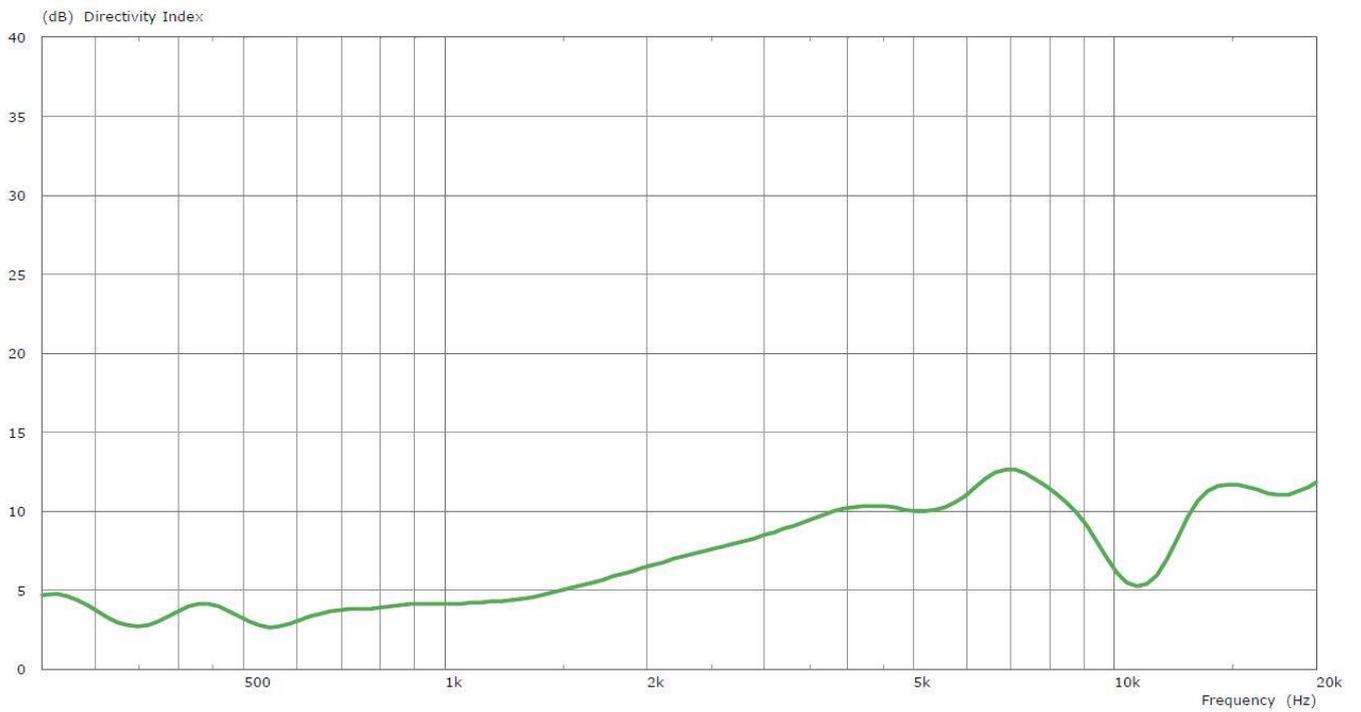
conical polar response, smoothed 1/3 octave
Level (dB)



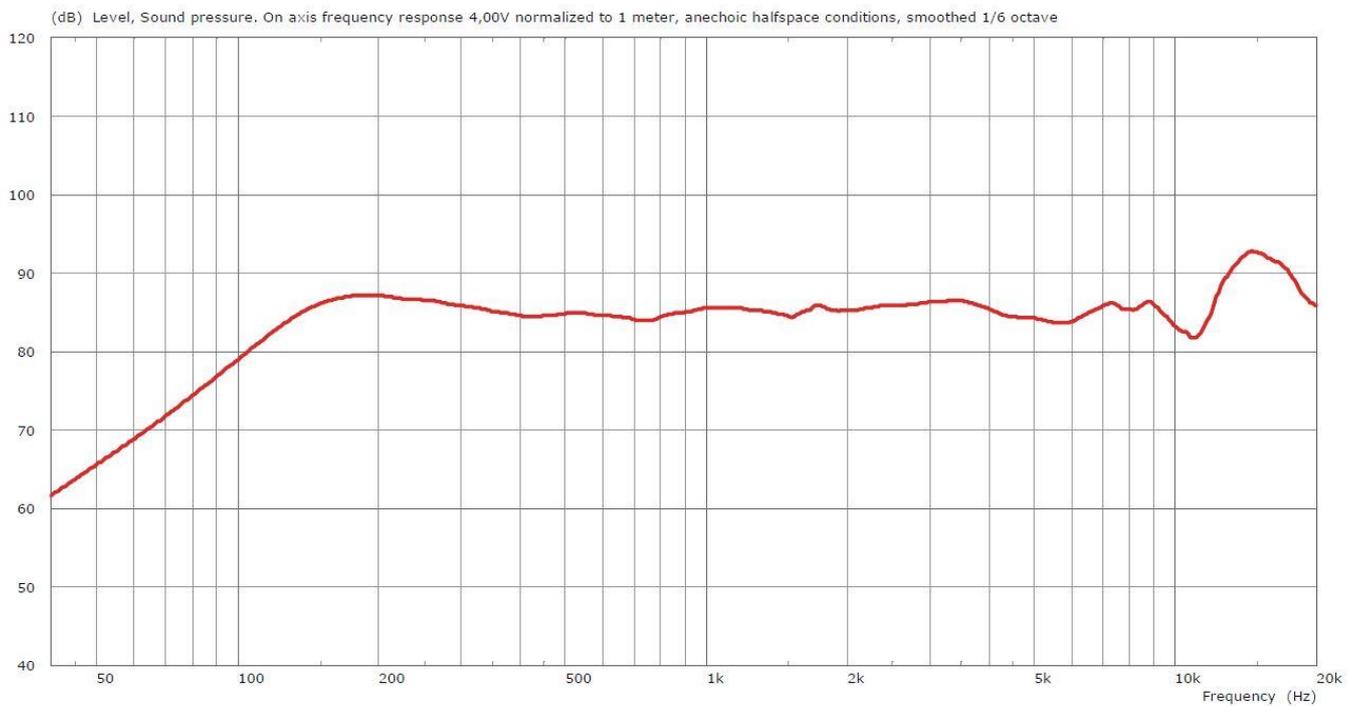
Polar response, horizontal



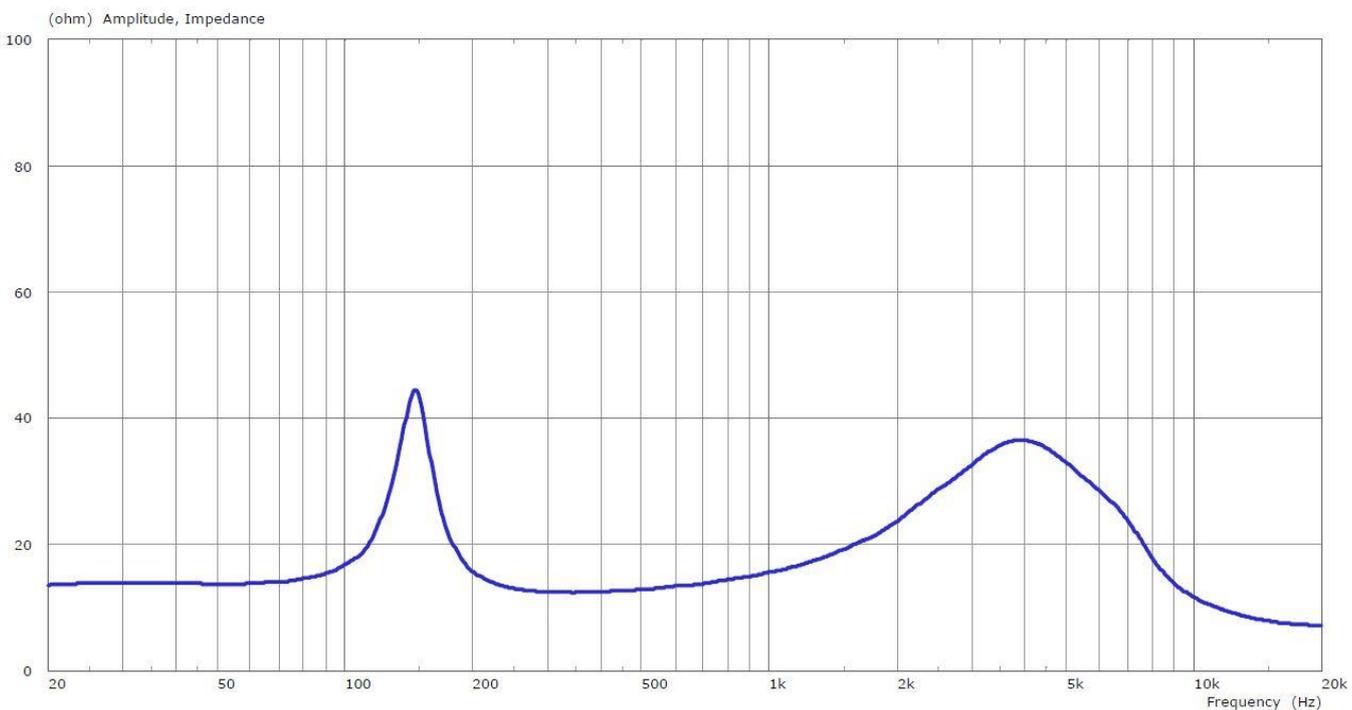
Conical coverage, horizontal



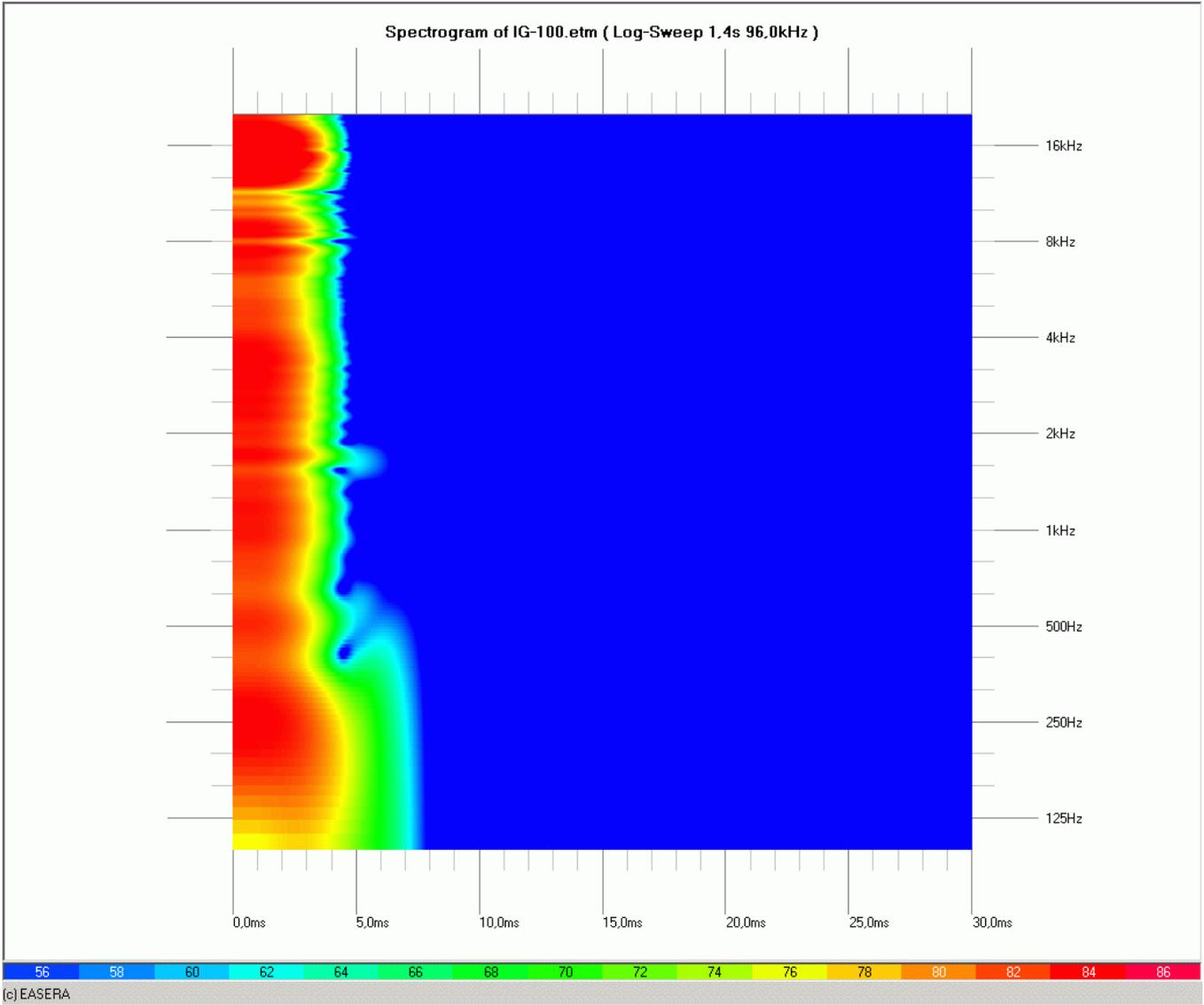
Directivity



Frequency response



Impedance



Spectrogram

5. Service and Repair

Servicing and/or repairs should only be undertaken by suitably qualified, **FOHNN**-trained personnel.

Do not carry out any servicing or any repairs to the device beyond what is listed in the “**Maintenance Measures**” section below.

For details of a **FOHNN** Service provider in your area, please contact us at the address on the final page.

Keep the packaging for your device so that, in the event of any problem occurring, it can be returned in its original packaging. This will minimize the risk of any potential damage during transportation.

5.1 Maintenance Measures

- To clean your loudspeaker system, only use a dry, or slightly damp well wrung out cloth.
- Do not use any aggressive cleaning agents, waxes or solvents (such as cleansing alcohol or paint thinner), as these could spoil the appearance of the device and/or affect the paintwork on the enclosure.
- There are no user-serviceable parts within the device.
- The device must only be repaired by suitably qualified personnel.

6. Appendix

6.1 Environmental Information

Please note that this product must not be disposed of in general household waste. It must be taken to a disposal centre for electrical/electronic waste. Please also note any applicable national or local regulations. Further information on these and on appropriate waste disposal facilities can be obtained from your city/town council as well as from your local distribution partner.

6.2 CE Marking and Declaration of Conformity

This device complies with the currently applicable conditions of EMC law and, as such, carries the CE marking.

The relevant Declarations of Conformity are available on request from



Fohhn Audio AG, 72622 Nürtingen

6.3 Trademarks

All trademarks, trade names or company names appearing here are, or may be, trademarks or registered trademarks of their respective owners. All rights are reserved, with the exception of those specifically granted. In the absence of an explicitly labelled registered trademark in this manual, it cannot be necessarily concluded that a name is free of third-party rights.

6.4 Disclaimer and Copyright

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