Fohhn®

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Linea-Series
Directional Speakers.

Description

Ultra-compact, 50 W two-way loudspeaker designed for mobile applications. 4"/0.75" drivers, coaxial speaker construction. Passive crossover with electronic Intelligent Protection Circuit (IPC). Outstanding reproduction of both speech and music. Feedback protection. Weatherproofed aluminium housing. 2x Speakon connectors.

From distance to nearfield. High-quality sound is just as important for small rooms, short distance coverage and nearfield applications. Here we introduce our new ultra-compact, professional two-way coaxial loudspeaker LX-11 for mobile applications. The loudspeaker is equipped with high-performance 4"/0.75" neodymium drivers and includes a passive crossover with electronic Intelligent Protection Circuit (IPC).

The Fohhn® Linea LX-11 is a ultra-compact two-way loudspeaker designed for demanding mobile applications.

The design of its weatherproofed aluminium housing relates to that of the larger Fohhn LX-100/150 line arrays. Developed in the same way as larger PA systems, the LX-11 produces perfectly balanced beam characteristics, a flat frequency response and outstanding reproduction of speech and music. Feedback protection means that a higher level of gain can be reached before feedback occurs.

Applications

Ideal for demanding nearfield applications such as front fill and stage monitor use, broadcast and TV monitoring, exhibition stands, boardrooms or for use under balconies and at small scale presentations.

Connectors

2x Speakon connectors.

Technical specifications

electro-acoustical features

acoustic design	compact near field speaker system, 2-way coaxial
components	4" / 0.75" Tweeter, with self-resetting IPC[*]-HF protection, fully neodym
power rating (nominal)[1]	50 W
power rating (program)[2]	100 W
power rating (peak)[3]	200 W
sensitivity[4]	86 dB
maximum SPL[3]	109 dB
frequency range[5]	90 Hz – 20 kHz
nominal dispersion (h x v)[6]	100° x 100°
nominal impedance	16 ohms

The manufacturer reserves the right to make technical modifications according to legal regulations stipulating the continual improvement of product features.

[1] according to IEC-60268-5 long term
[2] according to IEC-60268-5 short term
[3] Peak, 20 ms with bandpass filtered pink noise signal according to IEC 60268-2 at one octave above the lower limit of the frequency range
[4] 2,83 V at 8 ohms (2 V at 4 ohms, 4 V at 16 ohms) at a distance of 1 meter under anechoic fullspace conditions

features

enclosure	aluminium housing
protection grille	ball impact resistant metal, powder coating
suspension points	2x M6 thread
connectors	2x Neutrik NL4
standard colours	black or white powder coating
front design	metal grille in enclosure colour
dimensions (W x H x D)	130 x 130 x 120 mm
angle for monitor set-up	stepless with universal bracket VXL-11
weight[7]	1,4 kg
optional features	
integrated 100 V-transformer	10/5/2,5 W
optional colours	all RAL-colours
weather resistance	weatherproof
CAAD simulation data	EASE

[5] -10 dB under anechoic halfspace-conditions
[6] horizontal x vertical at -6 dB, averaged 1-4 kHz
[7] net weight without optional equipment
[*] Intelligent Protection Circuit. Voltage-controlled semiconductor circuit protecting the HF-driver against overload highly effective and with very short attack time.
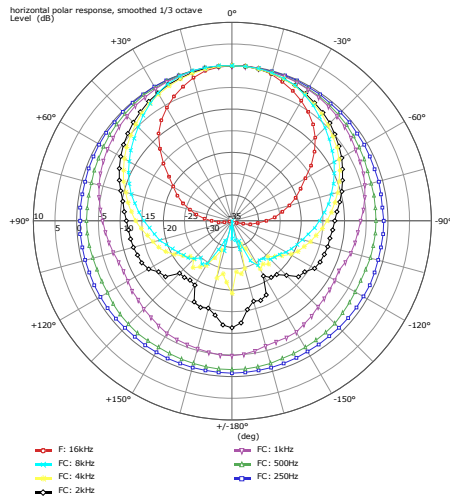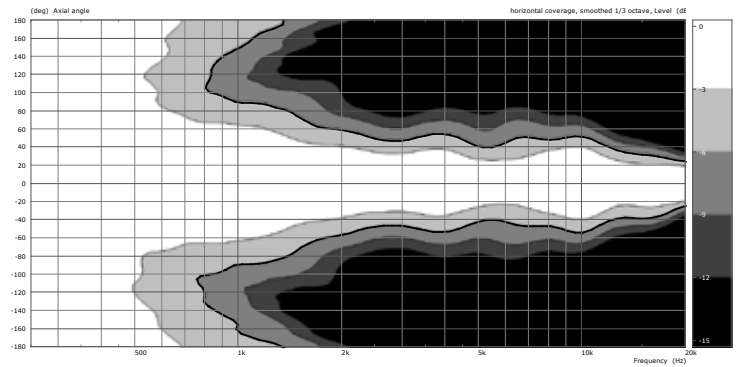
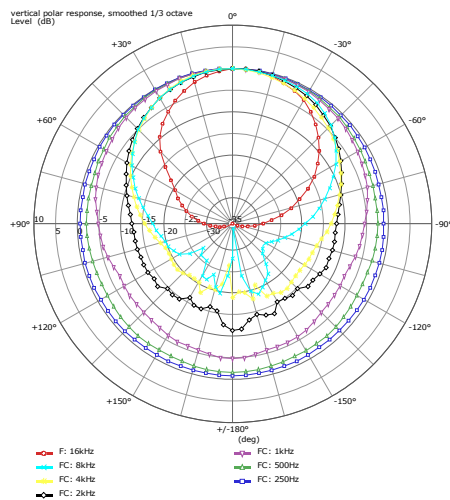Fig. 1: **Horizontal polar pattern**

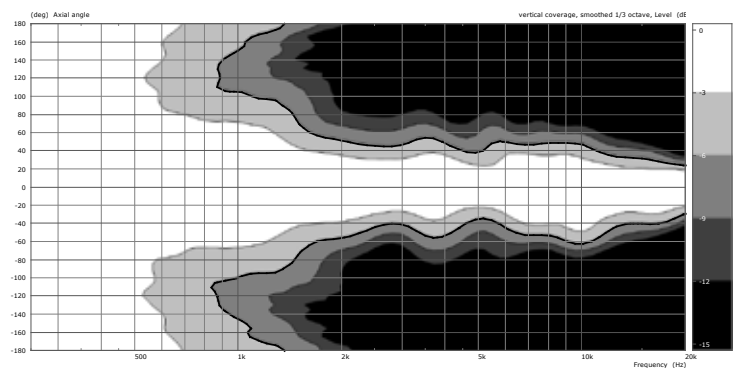Fig. 2: **Horizontal coverage**

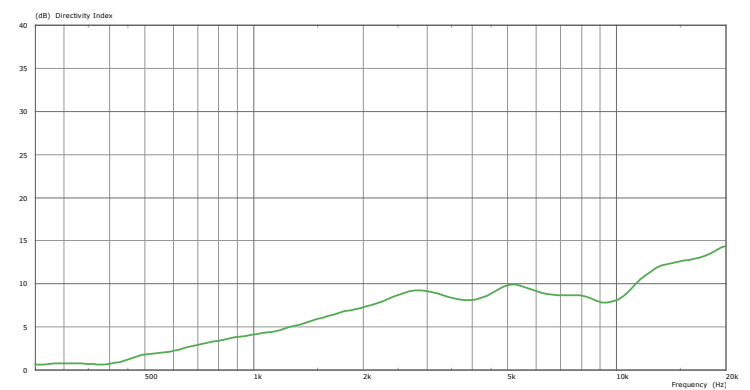Fig. 3: **Vertical polar pattern**

Fig 4: **Vertical coverage**

Fig. 5: **Directivity index**

Fig. 6: **Frequency response**
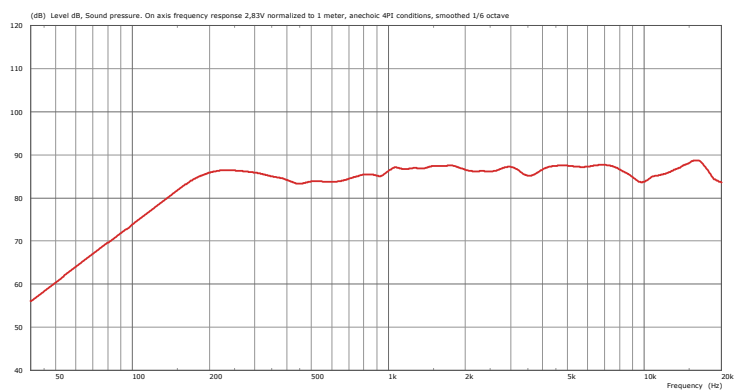

Fig. 7: **Impedance**

Fig. 8: **Spectral decay**

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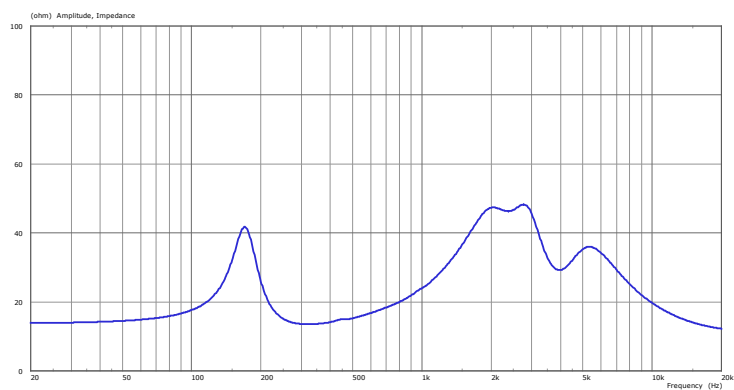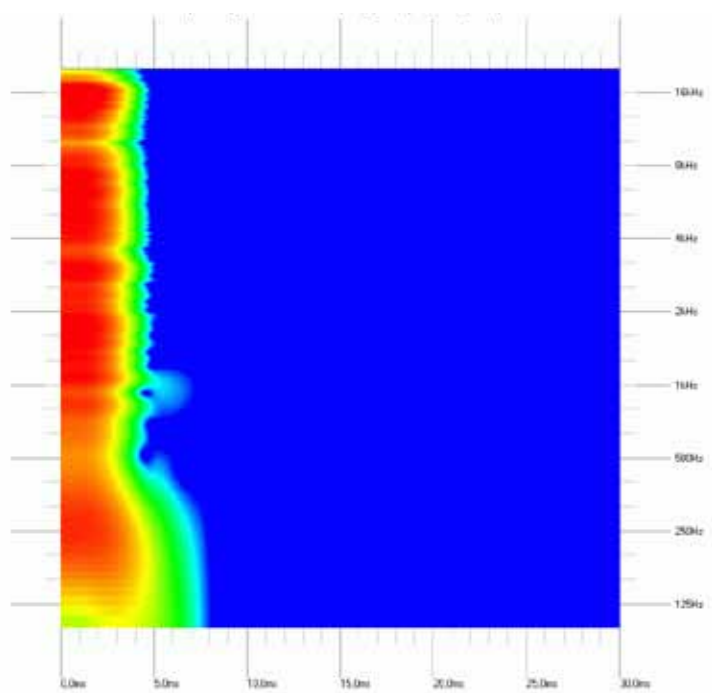
1. Fohhn system DSP amplifiers

Fohhn offers a range of specially adapted system DSP amplifiers for controlling Arc speaker systems, which guarantee maximum sound performance and operational reliability for your Fohhn products. As manufacturers of speaker, amplifier and DSP technology, we know our systems inside and out right down to the smallest detail and are therefore in a perfect position to provide our users with the best overall system.

Fohhn System DSP amplifier are offering following advantages:

Integrated high-performance DSP technology:
- quick set-up,
- minimal space requirements in electronics cabinet,
- minimal cable requirements,
- fewer cable faults,
- controller and amplifier can be controlled and monitored using the same software.

Dual DSP technology
The DSP amplifiers contain 2 separate DSP engines with enormous capacity and processing power for 5 digital audio devices (DSP-1) and Fohhn specific speaker databases (DSP-2).

Remote monitoring and control
Integrated temperature and operating time monitor, status indicator / protection, remote control capability / network compatibility using a laptop, wall installation modules or media control systems.

Fohhn® dual DSP technology

DSP-1: Integrated digital audio devices
Each amplifier channel has a:
- programmable 10 band parametric EQ,
- compressor/limiter/noise gate,
- delay,
- X-over function,
- top-quality pink noise and sweeptone generator

DSP-2: Speaker management
An integrated speaker database guarantees excellent sound quality and protection for all Fohhn speaker types. A sophisticated algorithm developed by Fohhn engineers and adapted to each speaker allows the individual monitoring and adjustment of bass, mid and high ranges.

1.1 Amplifier recommendations for the Linea-Series

D-2.750

2 channel operation, 2x 750 W / 4 ohms, 2x 390 W / 8 ohms
Fohhn Audio DSP, display, remote control

D-4.750

**4+2 channel operation,** 4x 750 W / 4 ohms, 4x 390 W / 8 ohms
2x DSP line out channels for controlling a conventional amplifier
Fohhn Audio DSP, display, remote control

	Arc-Tops													Linea	Arc-Subs							
	AT-05	AT-061	AT-07	AT-08	AT-09	AT-10	AT-20	AT-22w	AT-30/35	AT-40	AT-50	AT-66	AL-10-150	LX-10/11	AS-10	ASP-10	AS-20	ASP-20	AS-30	ASP-30	AS-40	ASP-40
D-2.750	x	x	x	x	x	x	x	x	x				x	x	x	x	x	x				
D-4.750	x	x	x	x	x	x	x	x	x				x	x	x	x	x	x				
D-2.1500									x	x	x	x							x	x	x	x
D-4.1200									x	x	x	x							x	x	x	x
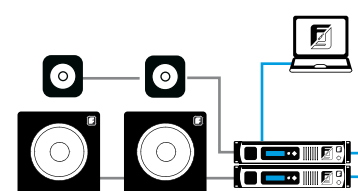
2x Sub *passive* / **2x Top** *passive*
2x DSP amplifier

2. Standard amplifiers combined with Fohhn controllers

Standard amplifiers / 100V amplifiers / multichannel amplifiers combined with Fohhn FC-9 DSP system controllers

All of the speaker systems in the Fohhn Linea-Series can be operated in combination with standard amplifiers (e.g. Bittner amplifiers). Each Fohhn speaker model has a linear design, neutral sound adaptation function and is fitted with an integrated crossover with electronic tweeter protection.

We recommend integrating the FC-9 Fohhn DSP system controller for applications involving standard multichannel amplifiers, 100V amplifiers or monitored amplifiers according to EN 60849.

The FC-9 guarantees maximum sound quality, operational reliability and performance features that no other standard controller can offer in combination with our Fohhn speakers.

Sound quality. Reliability. Intelligent control.
* Fohhn DSPs guarantee maximum sound performance
* 5 premium audio tools such as Parametric EQ are integrated
* Integral speaker and amplifier database for maximum operating reliability
* Remote monitoring/operation, network-compatible
* Automatic amplifier calibration function CAS
* 8 input switching contacts for easy system integration
* Perfect adaptation to all standard amplifiers

FC-9 DSP system controller
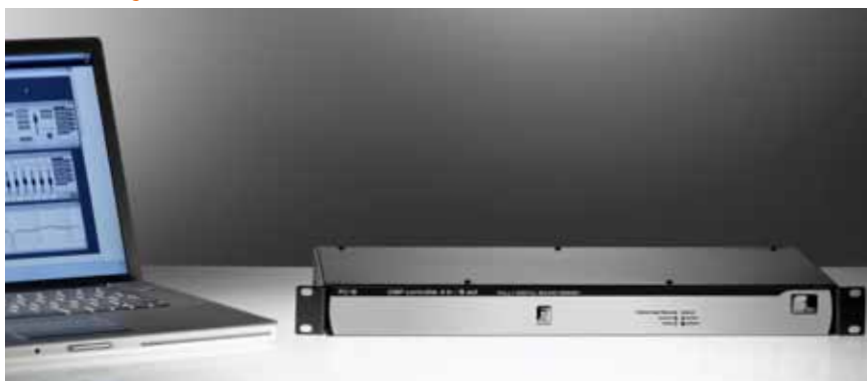
DIN **EN 60849** (VDE **0828**)

Bittner amplifiers

In addition to our special Fohhn® DSP amplifiers, we also offer the complete range of **amplifiers manufactured by Bittner Audio** for low-ohm or 100 volt applications. Bittner Audio offers solutions such as multichannel amplifiers with eight standard channels and **important features for integration in electroacoustic emergency warning systems according to DIN EN 60849 (VDE 0828)**. Contact us for more information!

Advantages of the FC-9 controller:

Perfect adaptation to all standard amplifiers
Automatic amplifier calibration function and integrated amplifier database for perfect adaptation.

Dual DSP technology
The FC-9 contains 2 separate DSP engines with enormous capacity and processing power for Fohhn specific speaker databases and 5 digital audio devices.

Integrated speaker database
Guarantees excellent sound quality and protection for all Fohhn speaker types.
A sophisticated algorithm developed by Fohhn engineers and adapted to each speaker allows the individual monitoring and adjustment of bass, mid and high ranges.

Remote monitoring and control
Remote control capability / network compatibility using a laptop, wall installation modules or media control systems.

8 input switching contacts
The FC-9 has 8 input contacts. The inputs can be utilized to switch between the different presets of the FC-9, as well as other Fohhn-Net devices. With two inputs and two pushbuttons (shutters) connected to them, a volume control can be realized as well.

4 inputs / 6 outputs (24 nodes)
A programmable 10-band parametric EQ, compressor/ limiter/noise gate, delay, X-over function, top-quality pink noise and sweeptone generator are available at each output, allowing you to conveniently adapt the Fohhn system to the room acoustics or your own personal requirements.
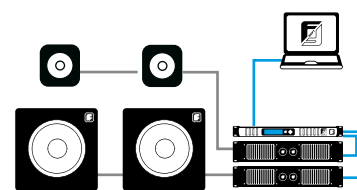
2x Sub *passive* **/ 2x Top** *passive*
2x standard amplifiers
1x DSP system controller FC-8

FR-10

remote control wall panel designed for the remote operation of Fohhn devices with integrated DSP.

FR-20

19" remote control unit can be controlled via conventional external buttons or switches.

customer-specific switches

GND — 1 2

AMX ⨁ CRESTRON

Compatible with media control systems.

Description

The FR-10 is a wall mount remote control module designed for the remote operation of Fohhn DSP amplifiers, DSP controllers and active Fohhn speakers systems. The FR-10 is extremely easy to operate because the controls are so well arranged. It is virtually impossible for the end customer to make operating errors because the only operating elements are the 8 labelled buttons.

Easy handling

Control up to 32 Fohhn devices individually with this stylish FR-10 wall panel. 8 programmable buttons can be configured to control the overall volume of a system, the volume in different zones or presets for different room effects, for example. The system also has a special function that confirms whether all commands have been executed successfully. The buttons indicate this by changing red or green shortly after they are pressed. For example, if a device is not switched on, the button changes red to indicate that a command could not be executed. This additional monitoring function ultimately contributes to the overall operating reliability of your system. The wall panel is easy to configure using a standard computer with intuitive Fohhn-Net Remote software installed.

Connections

Two terminal strips (paralelled). Alternative connection via standard 4-wire telephone cable.

Applications

The FR-10 is ideal for training rooms, hotels, churches, halls, restaurants or any venue where a simple, efficient system is required to control your audio equipment from a central location.
The FR-10 is also ideal for projects where complex media control systems are not viable or inappropriate, but the user wishes to control the speaker system centrally.

Description

The FR-20 can be controlled via conventional external buttons or switches (e.g. Jung, Vitra, etc.) or switching contacts (e.g. media control system). Buttons and switches may come in the form of a wall installation module or an individually manufactured control panel, for example.
Presets stored in the connected Fohhn DSP devices are activated simultaneously and settings for different scenarios such as speech, music, empty room, full room, etc are loaded when the buttons/switches are pressed. You can also adjust the volume quickly and easily in 1 dB increments using the FR-20. A maximum of 31 Fohhn devices connected to the network can be activated simultaneously at the press of a single button.

Integration in a media control system

The FR-20 allows the convenient integration of all DSP-controlled Fohhn devices into media control systems (e.g. AMX, Crestron) by means of 8 switching contacts or RS-485 interface.

Integration in a EIB bus technology

One building, one concept, one system.
Fohhn systems equipped with a FR-20 distribution switch comply with the „European installation bus technology" standard, including all operating comforts.

Applications

The FR-20 is ideal for training rooms, hotels, churches, halls, restaurants, clubs, bars and many other venues.
For simple, reliable remote operation of your audio system without having to install complex, expensive media control systems.

3. The Linea Live Systems

From more precise speech delivery to full-on live music, Fohhn® Linea Live guarantees the very best sound quality.
The ultra-compact Linea Live Mini PA system has been specially developed to provide high quality, elegant yet unobtrusive sound reinforcement for small events. Perfect for small-scale live performances, AV presentations, boardroom meetings, TV and broadcast applications, small DJ set-ups, or as a compact speaker system for use with home keyboards, pianos etc.

The Linea Live Mini system consists of:

Top LX-11:
Ultra-compact loudspeaker system with superior two-way, coaxial design, 4"/0.75" HF, 50W/200W peak. Neodymium drivers with integral crossover, plus self-resetting Intelligent Circuit protection (IPC) to prevent high frequency driver overload. Perfectly balanced dispersion characteristics, 100 x100°. Feedback resistant, even with Lavalier microphones. Outstanding speech intelligibility. Flat frequency response. Elegant aluminium housing. Weighs just 1.4 kg.

Aktiv-Sub XS-10:
Compact active subwoofer equipped with state-of-the-art digital amplifier technology: 2x 500W/1000W power and Fohhn DSPs. Special performance presets for LX-11. 2x 6.5" neodymium long excursion speakers. Weighs just 14 kg.

Linea Live Mini (basic system):
2-6x Linea **LX-11** + 1x X-Sub **XS-10**

Linea Live systems consist of a DSP-controlled active subwoofer that powers Linea Tops and an additional passive subwoofer. The systems are built using state-of-the-art DSP technology and can be operated remotely.

* xcellent musical sound and outstanding dynamics
Dynamic sound in all frequency ranges.

* Attractive in appearance, elegant design
Linea Live fits perfectly into any architectural environment.

* Plug & Play
Integrated amplifiers and DSPs with specially configured presets. An active sub can operate up to 6 Linea LX-11 systems.

* Enjoy sound without interference
Amazing feedback rejection. Complex microphone configurations pose no problem.
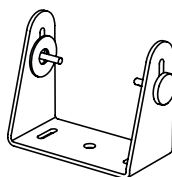
* Easy to transport and quick to set up
Extremely compact dimensions and low weight. All LX systems and active subs are equipped with state-of-the-art, lightweight neodymium speaker technology.
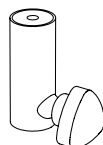

LINEA
LX-10 / LX-11
H=13 cm

USB

AMP
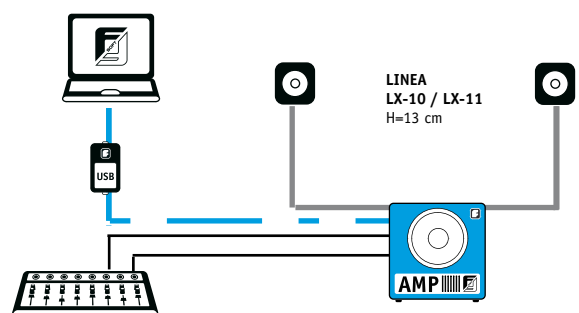
VLX-11

Universal bracket for Linea LX-11

SA-3

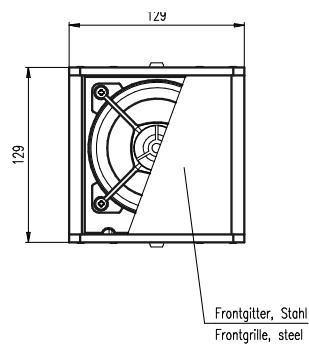Reducing flange, 36 mm dia. with **M10** female thread for universal bracket VLX-11

Clamp-1

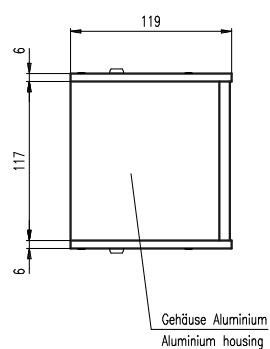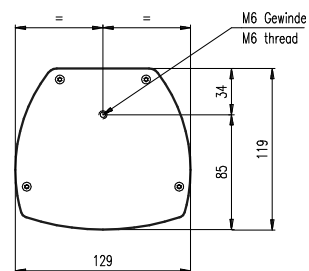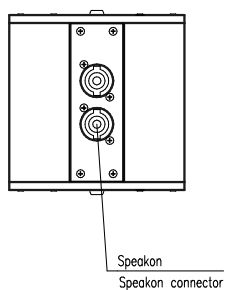Clamp mit Gewindezapfen M10 für Traversenmontage bis 15 kg

Front view

129

129

Frontgitter, Stahl
Frontgrille, steel

Side view

119

6

117

6

Gehäuse Aluminium
Aluminium housing

Top View = Bottom view

= =

M6 Gewinde
M6 thread

34

119

85
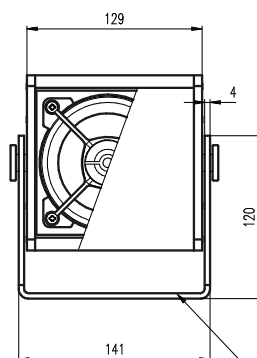
129

Rear view
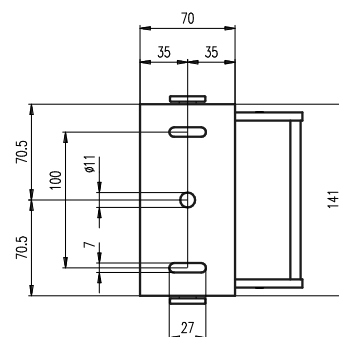
Speakon
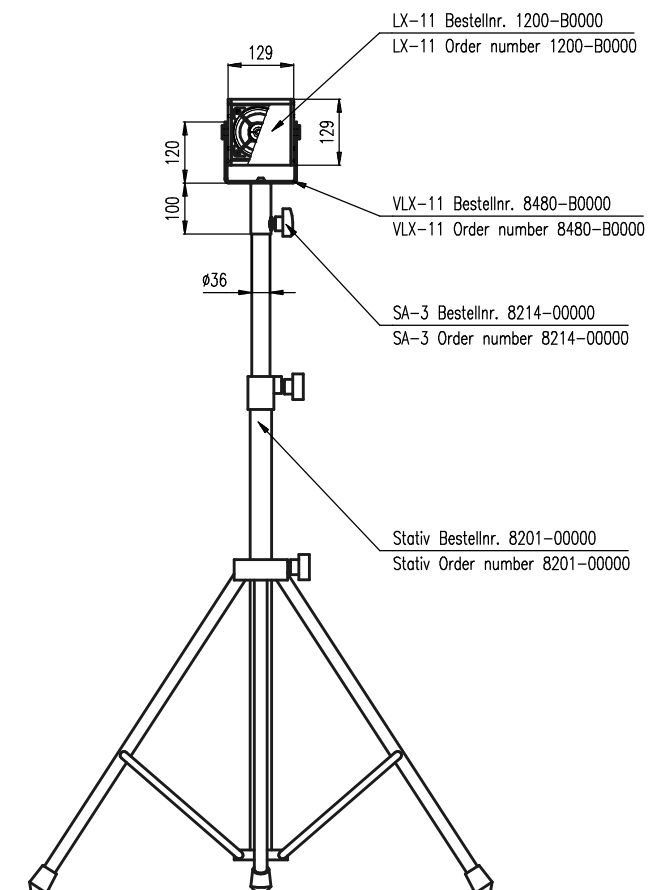Speakon connector
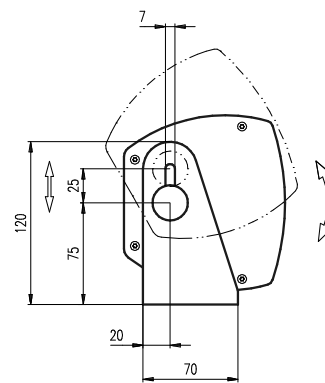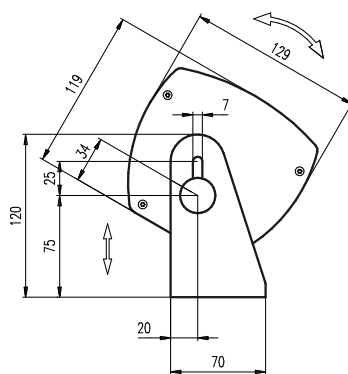
Side view

Front view

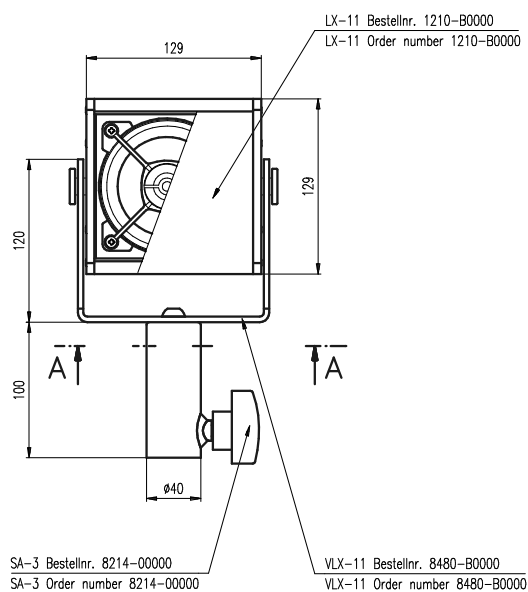VLX–11 Bestellnr. 8440–B0000
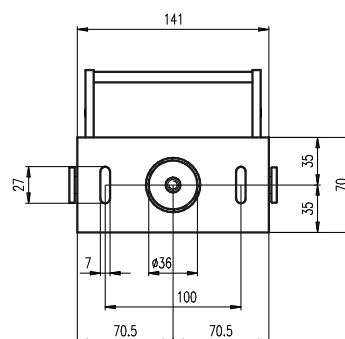VLX–11 Order number 8440–B0000

Bottom view

Side view

7
20
120
25
75
70
119

LX-11 Bestellnr. 1200-B0000
LX-11 Order number 1200-B0000

129
120
129
100
ø36

VLX-11 Bestellnr. 8480-B0000
VLX-11 Order number 8480-B0000

SA-3 Bestellnr. 8214-00000
SA-3 Order number 8214-00000

Stativ Bestellnr. 8201-00000
Stativ Order number 8201-00000

Front view

129
120
100
129
ø40

LX-11 Bestellnr. 1210-B0000
LX-11 Order number 1210-B0000

A   A

SA-3 Bestellnr. 8214-00000
SA-3 Order number 8214-00000

VLX-11 Bestellnr. 8480-B0000
VLX-11 Order number 8480-B0000

Bottom view

141
27
35
70
35
7
ø36
100
70.5
70.5

Front view

141

ø16

34

120

129

SuperClamp Bestellnr. 8312–0000
SuperClamp Order number 8312–0000

Zapfen f. SuperClamp 16mm
Stud for SuperClamp 16mm

VLX–11 Bestellnr. 8440–B0000
VLX–11 Order number 8440–B0000

LX–11 Bestellnr. 1210–B0000
LX–11 Order number 1210–B0000

Side view

min. 202

max. 257

119

129

Bottom view without Clamp-1

70.5   70.5

35

70

35

141

Front view

Side view

Clamp LC–50 Bestellnr. 8301–00000
Clamp LC–50 Order number 8301–00000
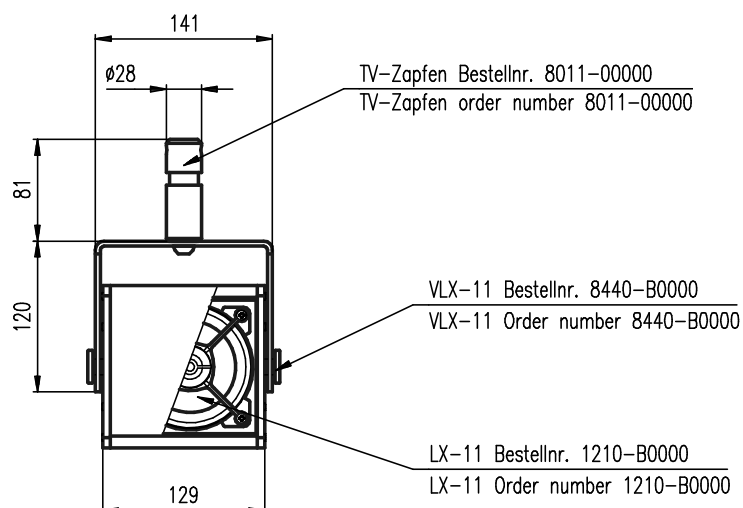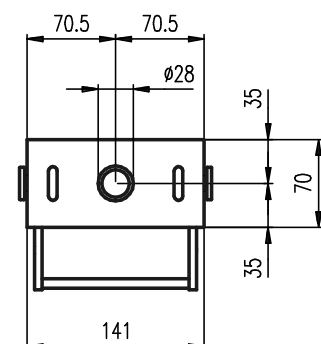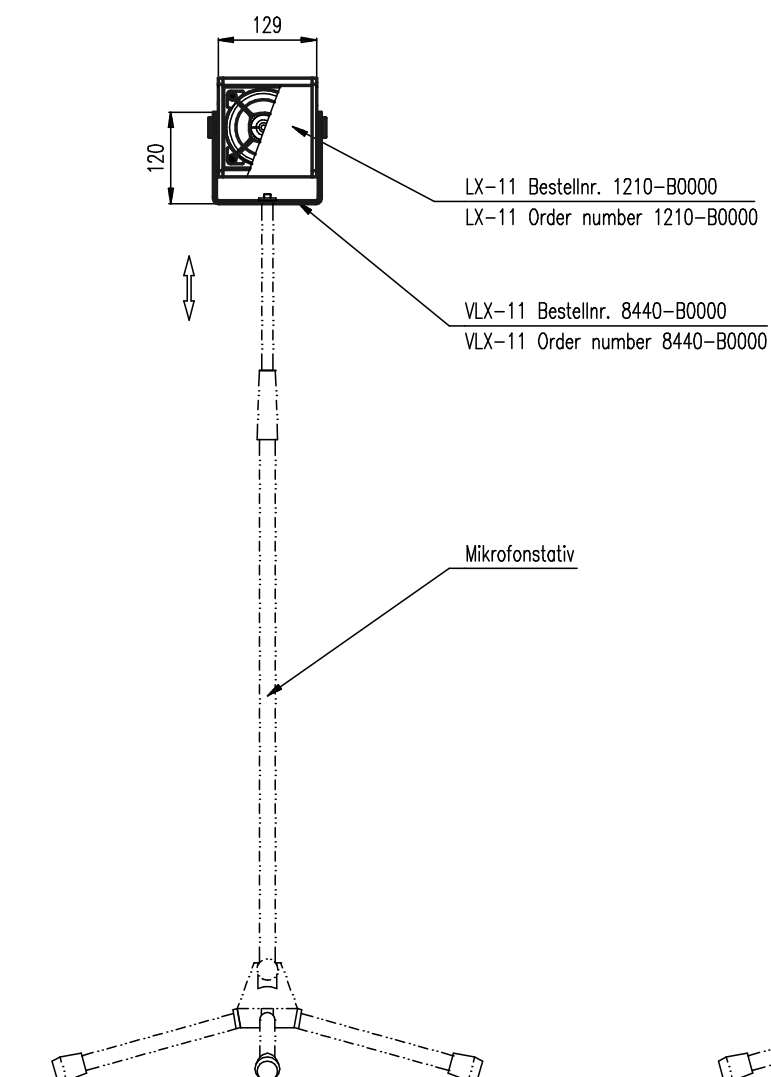
141

ø28

TV–Zapfen Bestellnr. 8011–00000
TV–Zapfen order number 8011–00000

81

120

VLX–11 Bestellnr. 8440–B0000
VLX–11 Order number 8440–B0000

129

LX–11 Bestellnr. 1210–B0000
LX–11 Order number 1210–B0000

129

Bottom view without Clamp LC-50

70.5   70.5

ø28

35

70

35

141

Front view

Side view

129

120

LX-11 Bestellnr. 1210-B0000
LX-11 Order number 1210-B0000

VLX-11 Bestellnr. 8440-B0000
VLX-11 Order number 8440-B0000

Mikrofonstativ

119

129

X
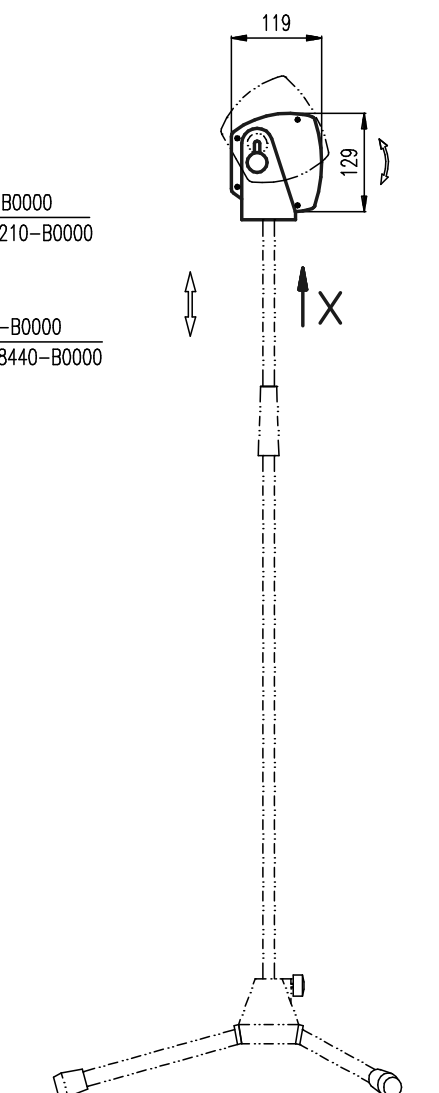
Ultra-compact passive 2-way coaxial near-field speaker in weatherproof aluminium-enclosure

Ultra-compact, passive 2-way coaxial near-field speaker in weatherproof aluminium-enclosure, fully neodymium, equipped with a premium 4" long-excursion chassis and a 0,75" coaxial arranged calotte tweeters. Perfectly suited for demanding near-field-, front fill-, stage monitor-, Under Balcony-, Delay line- and surround applications, broadcast- and TV-monitoring, gastronomy, shops and small speech applications. The speaker is temporary able to work under up to 200 W and generates a maximum acoustic pressure of 110 dB. In a frequency range of 90 Hz to 20 kHz, the speaker has a wide and very constant dispersion of 100° x 100° (h x v). The nominal impedance is 16 ohms. Weatherproof, lightweight aluminium enclosure with rounded sides with powder coating. Standard clours are black and white. Optional available in all RAL-colours. For the protection of the speaker chassis and the electronics, the enclosure is equipped with a ball impact resistant, extremely sound-permeable front grille, which is made of powder-coated steel and equipped with a moisture- and dust repellent acoustic foam. The premium and complex crossover with an integrated electronic tweeter protection guarantees highest quality and operational reliability. Two pieces M6 thread applications in ground and upper side are integrated to the admission of system brackets. The loudspeaker system is optionally available with an integrated 100V-transformer with a maximum output of 10 W. Connections: two parallel connected 4-pin Speakon connector. Specific brackets to assemble the system on ceiling-, wall-, traverse- and stand assembly are optionally available. Simulation data CAAD for EASE are available.

electro-acoustical features

acoustic design	compact, passive near-field speaker system, 2 way coaxial
components	4" / 0,75" Tweeter, with self-resetting IPC[*]-HF protection, fully neodym
power rating (nominal)	50 W
power rating (program)	100 W
power rating (peak)	2000 W
sensitivity	87 dB
maximum SPL	110 dB
frequency range	90 Hz – 20 kHz
nominal dispersion (h x v)	100° x 100°
nominal impedance	16 ohms

features

enclosure	weather resistance aluminium housing
protection grille	ball impact resistant metal, powder coating
suspension points	2x M6 thread
connectors	2x Neutrik NL4
standard colours	black or white powder coating
front design	metal grille in enclosure colour
dimensions (W x H x D)	130 x 130 x 120 mm
angle for monitor set-up	stepless with universal bracket VXL-11
weight	1,4 kg

optional features

integrated 100 V-transformer	10/5/2,5 W
optional colours	all RAL-colours
weather resistance	weatherproff

CAAD simulation data	**EASE**

make	**Fohhn Audio AG**
type	**LX-11**

SOUNDS PERFECT. IS PERFECT.

Fohhn audio systems. The ultimate all-round audio experience.

WWW.FOHHN.COM

German quality
engineered and made
by Fohhn®

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