

Data sheet

LX-10



Linea-Series

Directional Speakers.





The Fohhn® Linea LX-10 is a ultra-compact two-way loudspeaker designed for demanding fixed installations.

Description

Nearfield speaker system 50 W, 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. 8-pole Phoenix 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 loudspeakers – the LX-10 (designed for fixed installation use) and the LX-11 (for mobile applications). The loudspeakers are equipped with high-performance 4"/0.75" neodymium drivers and include a passive crossover with electronic Intelligent Protection Circuit (IPC). The design of their weatherproofed aluminium

housing relates to that of the larger Fohhn LX-100/150 line arrays. Developed in the same way as larger PA systems, both the LX-10 and LX-11 produce 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, small conference rooms, restaurants, shops, surround sound and delay line applications, broadcast and TV monitoring, or for use under balconies and at small scale presentations.

Connectors

8-way Phoenix terminal strip, two adjacent pins are always connected in parallel to loop through another speaker system.

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.

features

enclosure	aluminium housing
protection grille	ball impact resistant metal, powder coating
suspension points	2x M6 thread
connectors	8-pin Phoenix terminal
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
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

^[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

^[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.

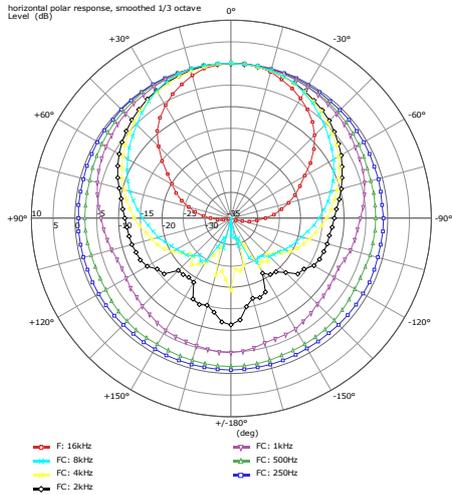


Fig. 1: Horizontal polar pattern

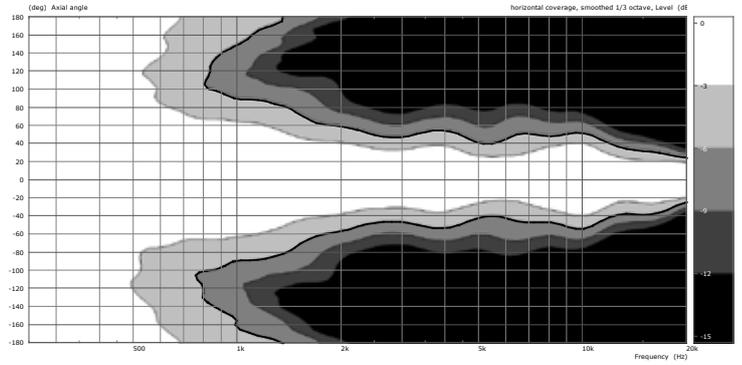


Fig. 2: Horizontal coverage

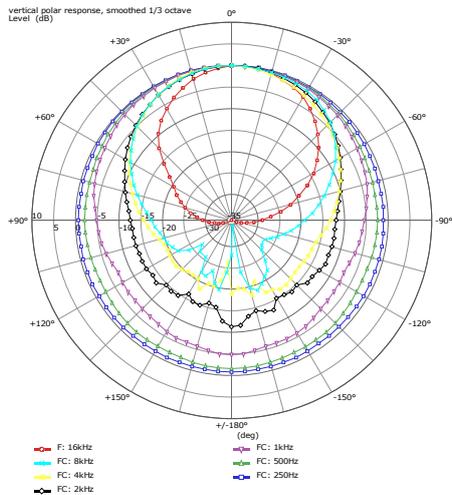


Fig. 3: Vertical polar pattern

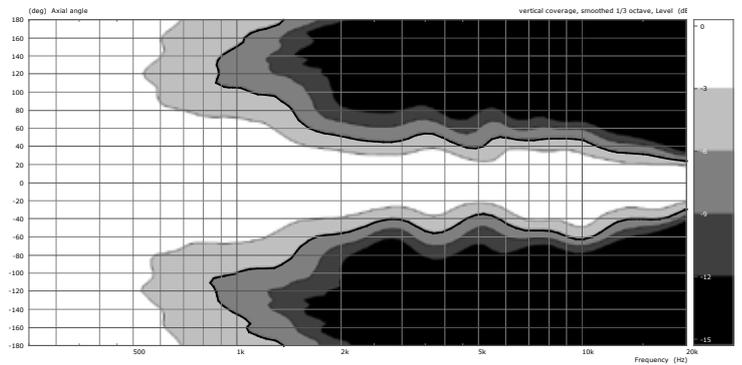


Fig. 4: Vertical coverage

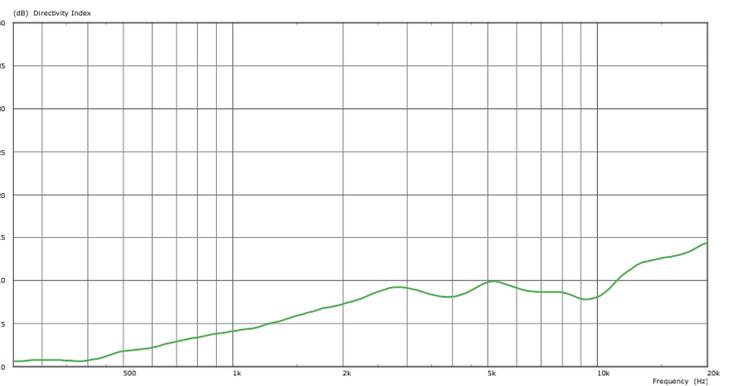


Fig. 5: Directivity index

Fig. 6: Frequency response

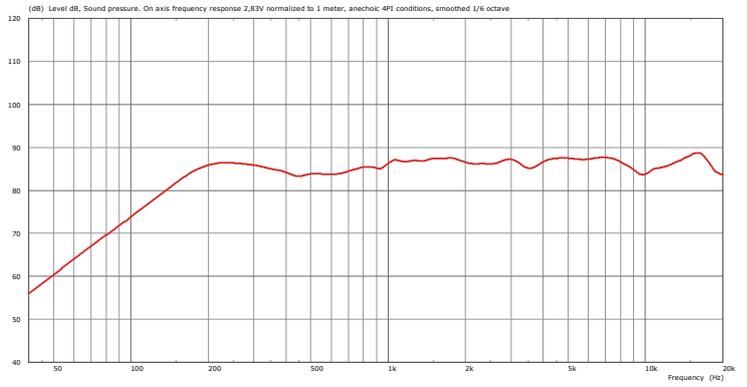


Fig. 7: Impedance

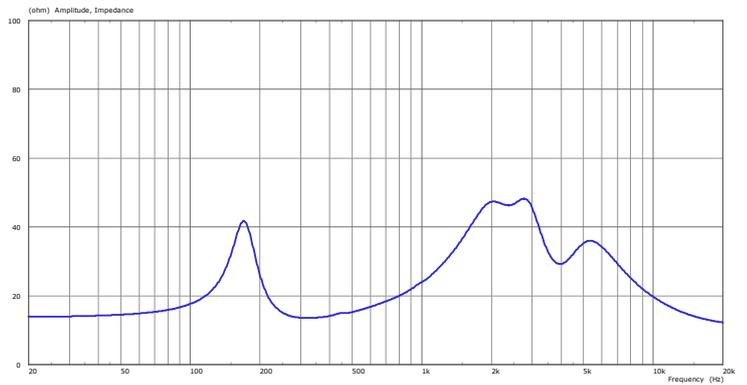
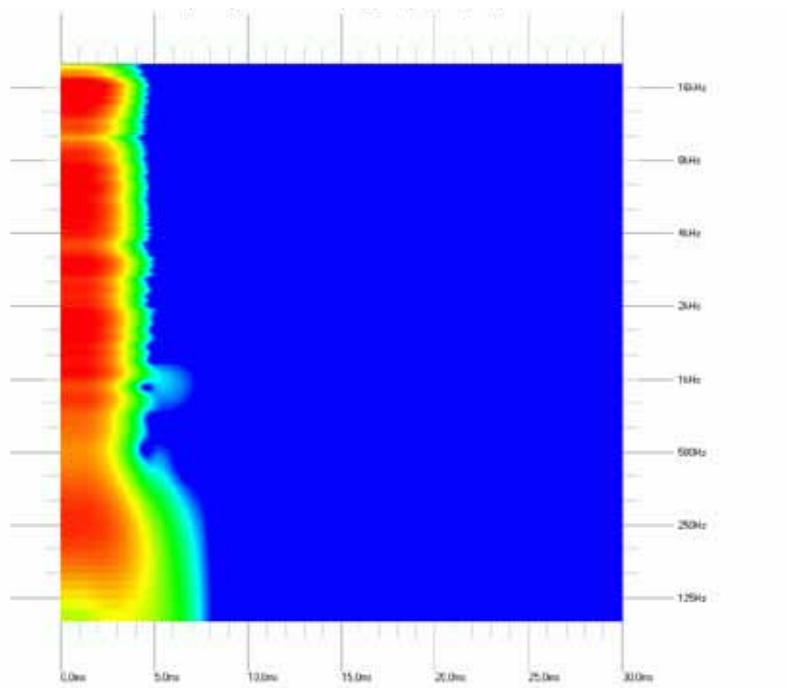


Fig. 8: Spectral decay



Controlling Linea-Series speakers

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

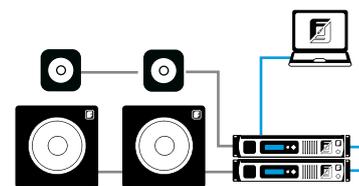
D-4.750

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-201	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						
D-4.750	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

Controlling Linea-Series speakers

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.

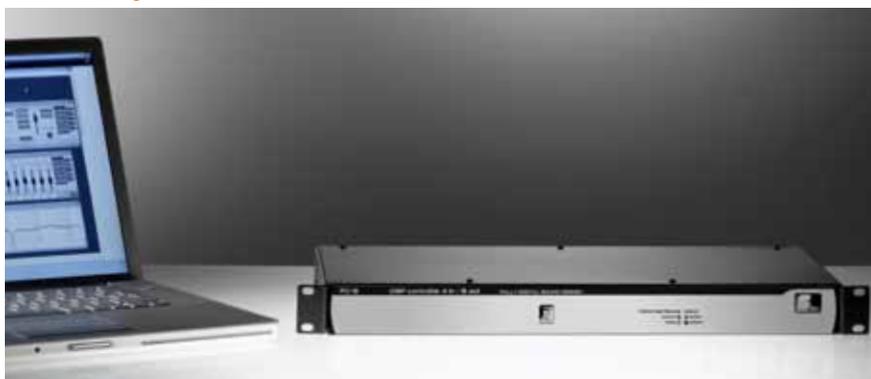
We recommend integrating the FC-9 Fohhn DSP system controller for applications involving standard multichannel amplifiers, 100V amplifiers or monitored amplifiers according to EN 60849.

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



BITTNER
AUDIO

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

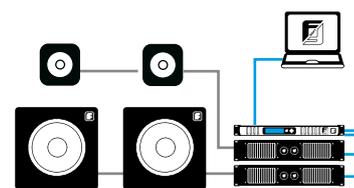
Remote control capability / network compatibility using a laptop, wall installation modules or media control systems.

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 sweptone 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

Remote control and network ability of Fohhn devices with integrated DSP

FR-10

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



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 (paralleled). 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.

FR-20

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



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.

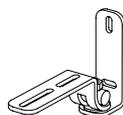
For simple, reliable remote operation of your audio system without having to install complex, expensive media control systems.



Accessories for LX-10

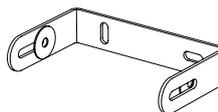
WAL-03

Wall bracket for AL-10/20 and LX-10



QLX-10

Horizontal bracket for LX-10



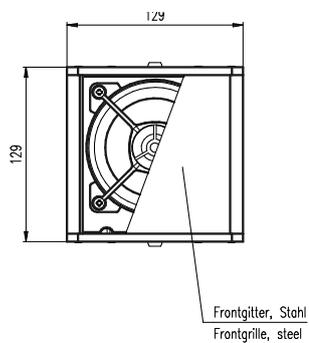
Free Stand I

Designer stand with heavy round steel base with rubber feet for maximum stability obscured cable guide in the stand and round base. Wt: 4.6 kg, H: 960 mm, base-diameter: 160 mm. Round base: black or white, stand tube: matt black. Appropriate for Linea AL-10, AL-20; LX-10

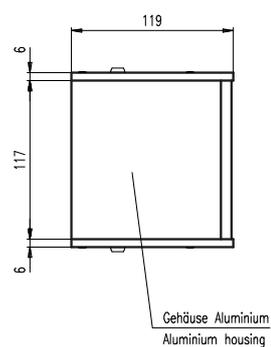


Views of LX-10

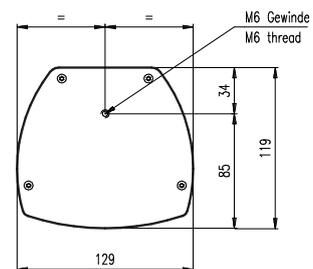
Front view



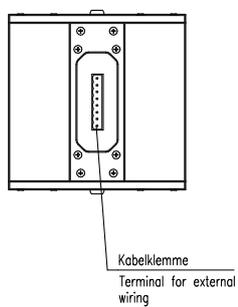
Side view



Top View = Bottom view



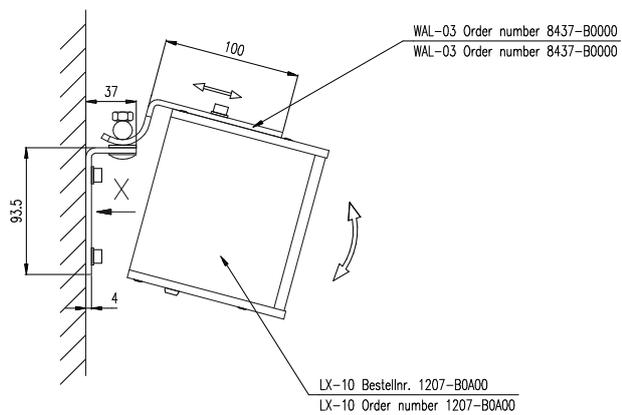
Rear view



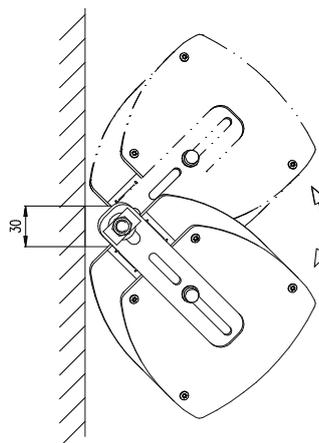
WAL-03

Mounting variation 1

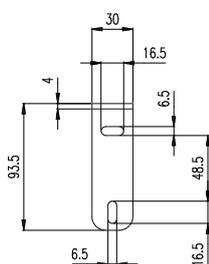
Side view



Top view



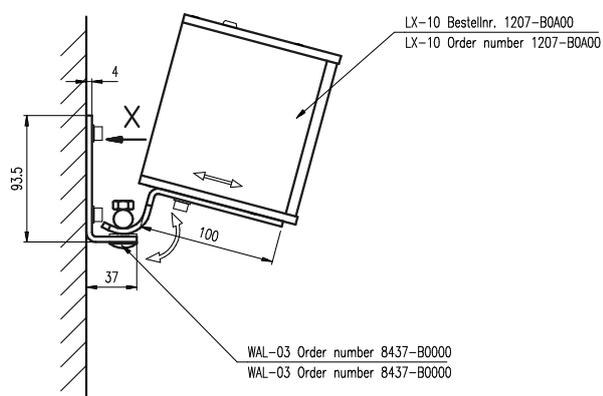
Rear view



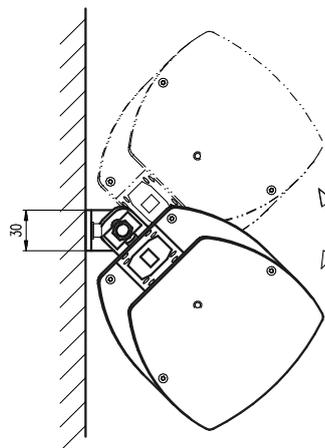
WAL-03

Mounting variation 2

Side view

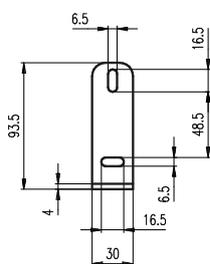


Top view

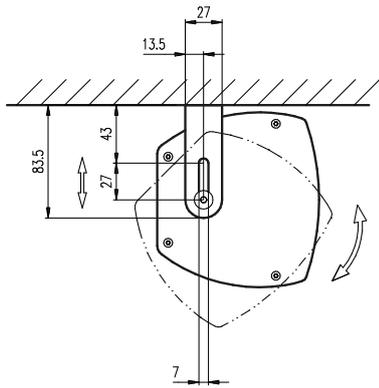


Rear view

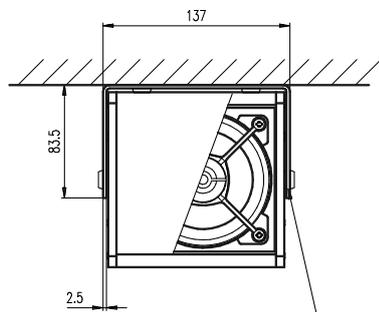
Ansicht X / view X
Wandmontage / wall mount



Side view

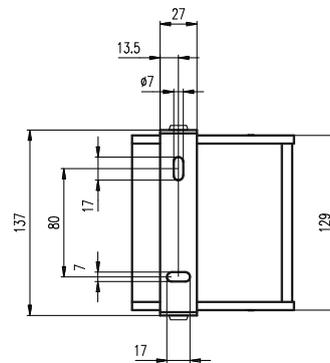


Front view



QLX-10 Bestellnr. 8439-B0000
QLX-10 Order number 8439-B0000

Top view



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: screw- and pluggable 8-pin Phoenix terminal, which is very easy to assemble. All contacts exist twice, to connect very easy and safe to the next speaker. Specific brackets to assemble the system on ceilings and walls 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	8-pin Phoenix terminal
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
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
type

Fohhn Audio AG
LX-10

SOUNDS PERFECT. IS PERFECT.

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



■ German quality
■ engineered and made
■ by Fohhn®

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