

LBC3090/01 Ceiling loudspeaker, 6W, ABS with clamps



The LBC3090/01 is an economic flush-mounting ceiling loudspeaker for general purpose applications. It is a full range loudspeaker for speech and music reproduction in shops, department stores, schools, offices, sports halls, hotels and restaurants.

Functions

The LBC3090/01 has a single-piece, 6 W dual cone loudspeaker. A 100 V matching transformer is mounted behind the front panel assembly. The molded plastic front panel is mounted onto the loudspeaker's metal frame, and a dust cover protects the rear. The appearance and color are unobtrusive in any interior.

Regulatory information

Quality assurance

All Bosch loudspeakers are designed to withstand operating at their rated power for 100 hours in accordance with IEC 60268-5 Power Handling Capacity (PHC) standards. Bosch has also developed the Simulated Acoustical Feedback Exposure (SAFE) test to demonstrate that they can withstand two times their rated power for short durations. This ensures improved reliability under extreme conditions, leading to higher customer satisfaction, longer operating life, and lessens the chance of failure or performance deterioration.

All plastic parts are manufactured from self-extinguishing high-impact ABS material (according to UL 94V0).

- ▶ Suitable for speech and music reproduction
- ▶ Increased sensitivity
- ▶ Flush-mounting in ceiling cavity
- ▶ Easy to install
- ▶ Protective dust cover
- ▶ Optional certified fire dome
- ▶ Simple power setting
- ▶ Matching surface mounting box
- ▶ Comply with international safety regulations

Safety	according to IEC/EN 62368-1
Certified B15*	according to DIN 4102

* Valid for LBC3080/01

Installation/configuration notes

Installation

Installation is both quick and easy, as the unit(s) have two built-in spring-loaded locking clamps that secure them into holes in the ceiling (for suspended ceilings and wall boards from 9 to 25 mm thick). Alternatively, they can be fixed with four screws (using pre-drilled holes) in ceiling or wall panels less than 9 mm thick. A circular template for marking a 182 mm (7.1 in) diameter hole is included with the loudspeaker.

Terminal Block

The unit has a two-way ABS terminal block with screw connections suitable for loop-through wiring. Three primary taps are provided on the matching transformer to allow selection of nominal full-power, half-power or quarter-power radiation (i.e. in 3 dB steps).

LBC3091/01 Surface Mounting Box

For mounting onto the surface of a wall or ceiling, the color-matched surface mounting box LBC3091/01 is available.

LBC3080/01 Fire Dome

During a fire, the ceiling cavity can allow fire or smoke to spread throughout a building. To inhibit fire entering the cavity via the ceiling loudspeaker, it can be fitted with an LBC3080/01 steel fire dome. This is mounted on the loudspeaker assembly using four self-tapping screws supplied with the fire dome. The fire dome has knock-out holes for two grommets (supplied) and two cable glands (PG 13).

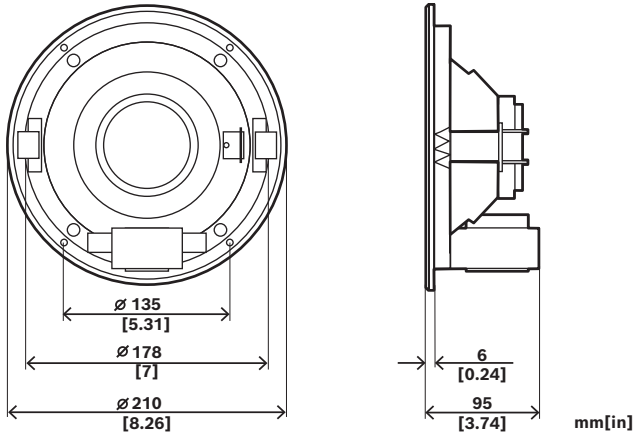


Fig. 1: Dimensions in mm (in)

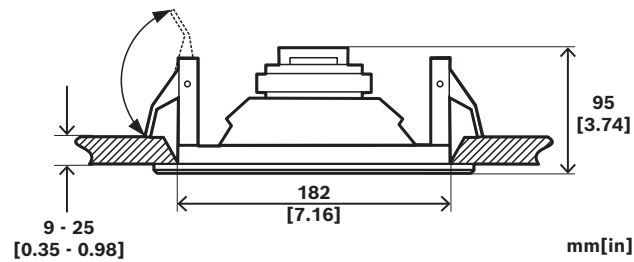


Fig. 2: Dimensions in mm (in)

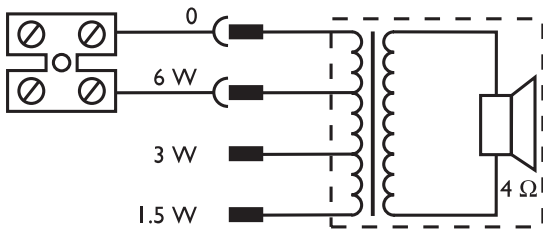


Fig. 3: Circuit diagram

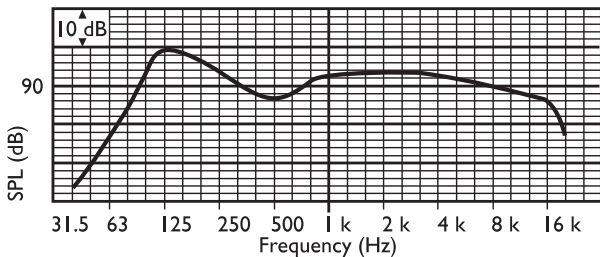


Fig. 4: Frequency response

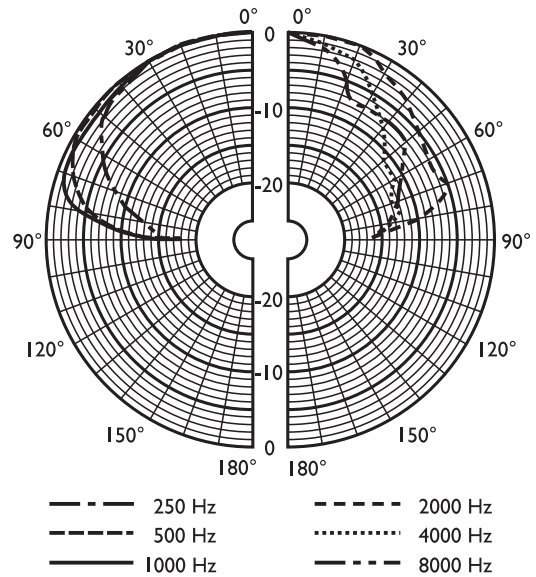


Fig. 5: Polar diagram (measured with pink noise)

	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
SPL 1.1	94	91	89	91	93	95	89
SPL max.	102	99	97	99	101	103	97
Q-factor	4.8	5	3	3.4	6.3	18	20
Efficiency	0.66	0.32	0.34	0.46	0.4	0.22	0.05
H. angle	150	140	180	160	140	55	45
V. angle	150	140	180	160	140	55	45

Acoustical performance specified per octave

LBC3091/01 Surface Mounting Box

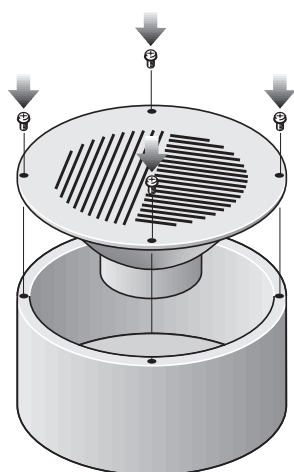


Fig. 6: LBC3090/01 and LBC3091/01 assembly

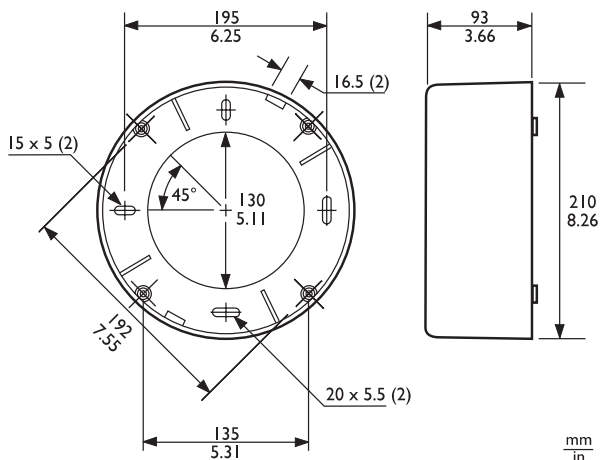


Fig. 7: Dimensions in mm (in)

LBC3080/01 Fire Dome

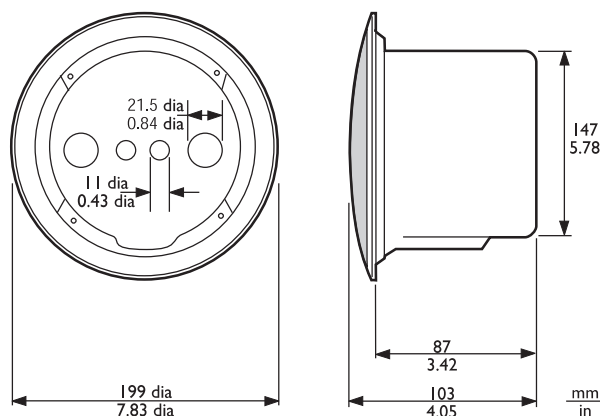


Fig. 8: LBC3090/01 + LBC3080/01 fire dome assembly dimensions in mm (in)

Parts included

Quantity	Component
1	LBC3090/01 Ceiling Loudspeaker
1	182 mm circular template

Technical specifications

Electrical*	
Maximum power	9 W
Rated power	6 / 3 / 1.5 W
Sound pressure level at 6 W / 1 W (1 kHz, 1 m)	99 dB / 91 dB (SPL)
Sound pressure level at 6 W / 1 W (4 kHz, 1 m)	103 dB / 95 dB (SPL)
Effective frequency range (-10 dB)	70 Hz to 18 kHz
Opening angle at 1 kHz/4 kHz (-6 dB)	160° / 55°
Rated voltage	100 V
Rated impedance	1667 ohm
Connector	2-pole screw terminal block

* Technical performance data acc. to IEC 60268-5

Mechanical

Diameter	210 mm (8.3 in)
Maximum depth	95 mm (3.74 in)
Mounting cut-out	182 + 5 mm (7.2 in)

Speaker diameter	152.4 mm (6 in)
Weight	1.1 kg (2.4 lb)
Color	White (RAL 9010)
Magnet weight	150 g (5.3 oz)

Environmental

Operating temperature	-25 °C to +55 °C (-13 °F to +131 °F)
Storage and transport temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Relative humidity	<95%

LBC3091/01

Diameter	210 mm (8.3 in)
Maximum depth	93 mm (3.6 in)
Weight	290 g (0.6 lb)
Color	White (RAL 9010)

LBC3080/01

Diameter	147 mm (5.8 in)
Maximum depth	87 mm (3.4 in)
Weight	360 g (0.8 lb)
Color	Flame red (RAL 3000)

Ordering information

LBC3090/01 Ceiling loudspeaker, 6W, ABS with clamps

Ceiling loudspeaker, 6 W, ABS grille, two spring-loaded clamps for ceiling mounting, protective dust cover, two-way screw terminal block, white RAL 9010.

Order number **LBC3090/01 | F.01U.505.989**

Accessories

LBC3091/01 Surface mount box, white

Surface mounting box for securing ceiling loudspeaker LBC3090/01 to walls or hard ceilings.

Order number **LBC3091/01 | F.01U.505.992**

LBC1256/00 Ceramic connection adapter

Emergency connection adapter, 3-pole screw ceramic connector with a pre-mounted thermal fuse, to be installed in series with the 100 V primary connection of a loudspeaker unit, set of 100 pieces.

Order number **LBC1256/00 | F.01U.505.935**

LBC3080/01 Metal fire dome

Metal fire dome for the LBC3087/41, LBC3090/01, LBC3090/31, LHM0606/00, LHM0606/10, and LHM0626/00 ceiling loudspeakers, EN54-24 certified, flame red RAL 3000.

Order number **LBC3080/01 | F.01U.007.651**

LBC3080/11 Metal fire dome, white

Metal fire dome for LBC3087/41, LBC3090/01, LBC3090/31, LHM0606/00, LHM0606/10 and LHM0626/00 ceiling loudspeakers, white RAL 9010.

Order number **LBC3080/11 | F.01U.165.177**



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