

LBC 34xx/12 Horn Loudspeakers

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BOSCH
Invented for life



- ▶ High efficiency drivers
- ▶ Up to 45 W (max. power)
- ▶ Wide opening angle
- ▶ Excellent speech reproduction
- ▶ Simple power setting

Bosch high-efficiency horn loudspeakers provide excellent speech reproduction and sound distribution for a wide scope of outdoor applications. They are ideal for sports grounds, parks, exhibitions, factories and swimming pools.

System Overview

The LBC 3481/12 is a circular horn loudspeaker, and the LBC 3491/12 is a rectangular model. Both are 10 W, and are made from ABS.

The LBC 3492/12 is a circular, 20 W horn loudspeaker with a large horn measuring 354 mm in diameter. It is made from a combination of aluminum with ABS for optimum strength and low weight. The edge of the horn is covered with a PVC profile for protection against impact damage.

The LBC 3493/12 is a circular, 30 W horn loudspeaker with a large horn measuring 400 mm in diameter. It is made from a combination of aluminum with ABS for optimum strength and low weight. The edge of the horn is covered with PVC for protection against impact damage.

Functions

All four models are for direct connection to a 100 V line output and are finished in light grey (RAL 7035). The horns are water and dust protected.

The horn loudspeakers include a 100 V transformer with taps on the primary winding to allow different power settings. Nominal full-power, half-power or quarter-power radiation (in 3 dB steps) can easily be selected by connecting the amplifier output to the appropriate tap. A 2 m four-core cable is fitted to the horns. Each core is a different color, and is connected to one of the primary taps on the transformer.

The horn loudspeakers are supplied complete with sturdy adjustable mounting brackets, allowing the sound beam to be accurately directed.

Certifications and Approvals

All Bosch loudspeakers are designed to withstand operating at their rated power for 100 hours in accordance with IEC 268-5 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 extra reliability under extreme conditions, leading to

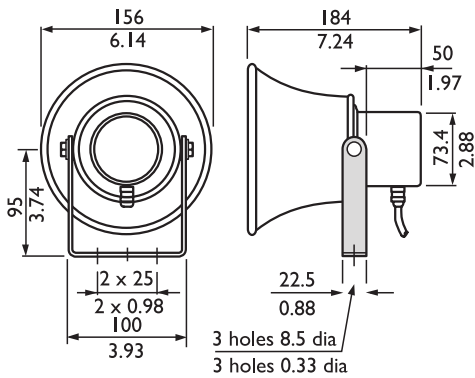
higher customer satisfaction, longer operating life, and much less chance of failure or performance deterioration.

| | |
|---------------------------|-----------------------|
| Safety | acc. to EN 60065 |
| Self-extinguishing | acc. to UL 94 V0 |
| Water and dust protection | acc. to EN 60529-IP65 |

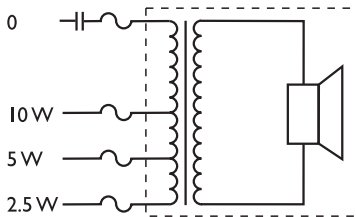
| Region | Certification | |
|--------|---------------|---------------------------|
| Europe | CE | Declaration of Conformity |

Installation/Configuration Notes

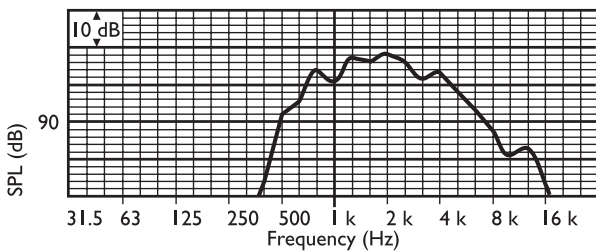
LBC 3481/12



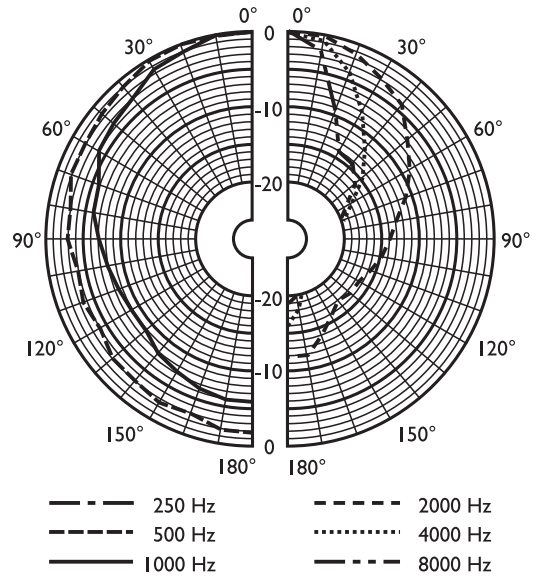
Dimensions in mm (in)



Circuit diagram



Frequency response

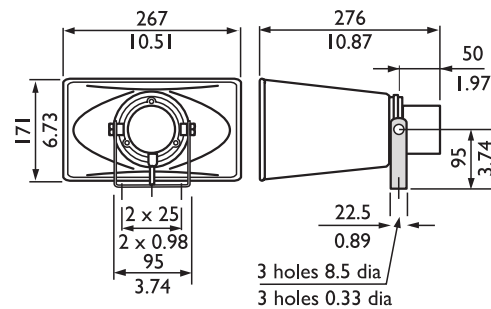


Polar diagram (measured with pink noise)

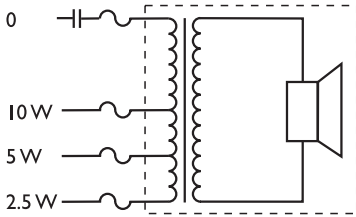
| | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz |
|------------|--------|--------|--------|----------|----------|----------|----------|
| SPL 1.1 | - | - | 94 | 10 3 | 10 5 | 98 | 86 |
| SPL max. | - | - | 104 | 11 3 | 11 5 | 10 8 | 96 |
| Q-factor | - | - | 1.7 | 3.5 | 7.8 | 25. 7 | 52. 5 |
| Efficiency | - | - | 1.82 | 7.0 8 | 5.1 3 | 0.3 1 | 0.0 1 |
| H. angle | - | - | 180 | 16 0 | 95 | 50 | 30 |
| V. angle | - | - | 180 | 16 0 | 95 | 50 | 30 |

Acoustical performance specified per octave

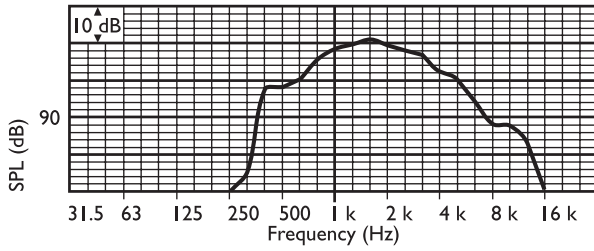
LBC 3491/12



Dimensions in mm (in)



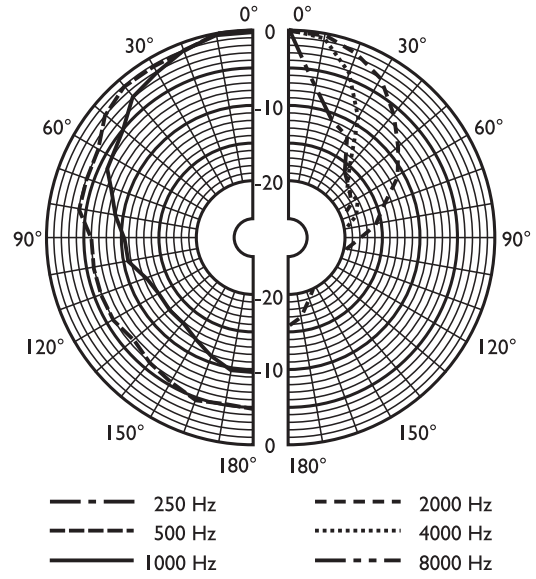
Circuit diagram



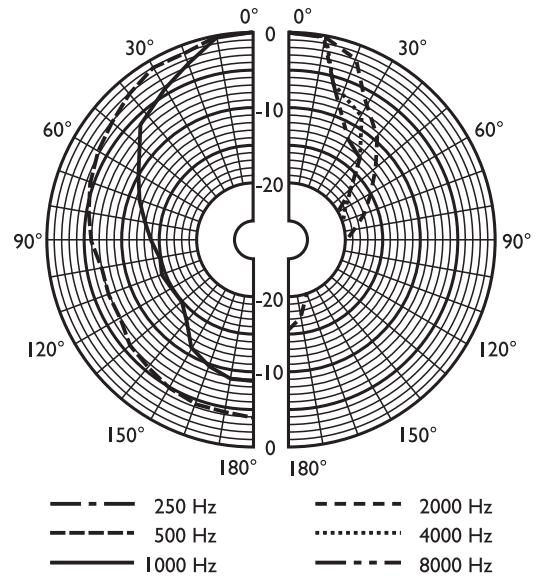
Frequency response

| | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz |
|------------|--------|--------|--------|----------|----------|----------|----------|
| SPL 1.1 | - | - | 99 | 10 8 | 11 1 | 10 6 | 97 |
| SPL max. | - | - | 109 | 11 8 | 12 1 | 11 6 | 10 7 |
| Q-factor | - | - | 2.7 | 6.5 | 15. 8 | 40. 7 | 75. 9 |
| Efficiency | - | - | 3.72 | 12. 3 | 10 | 1.2 3 | 0.0 8 |
| H. angle | - | - | 180 | 90 | 55 | 40 | 30 |
| V. angle | - | - | 180 | 13 0 | 80 | 45 | 15 |

Acoustical performance specified per octave

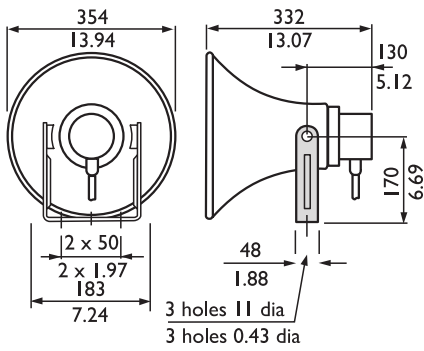


Polar diagram vertical (measured with pink noise)

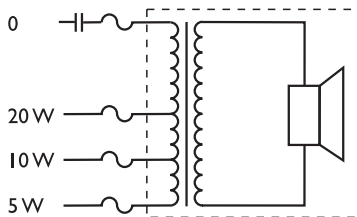


Polar diagram horizontal (measured with pink noise)

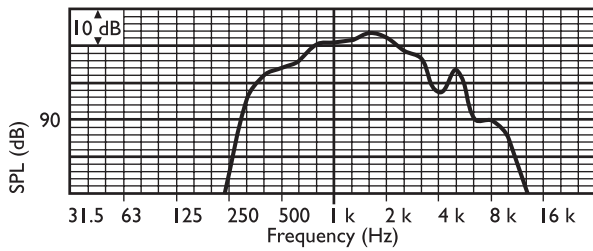
LBC 3492/12



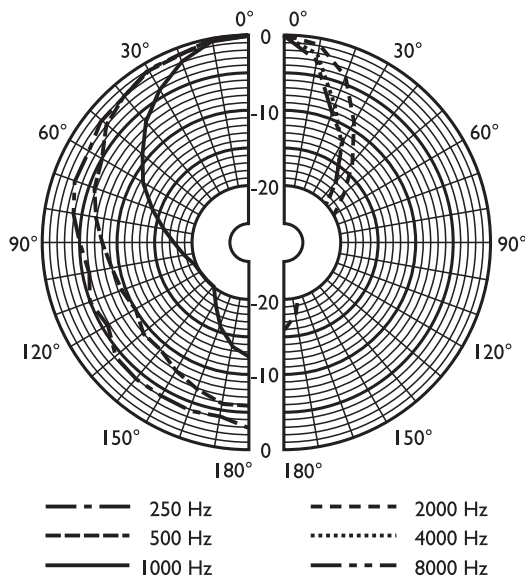
Dimensions in mm (in)



Circuit diagram



Frequency response

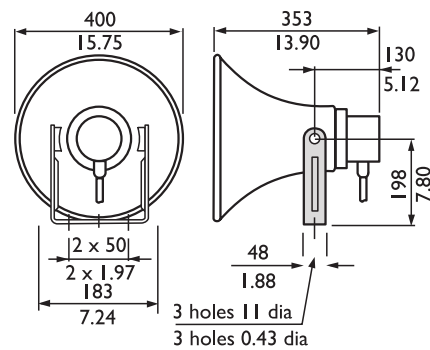


Polar diagram (measured with pink noise)

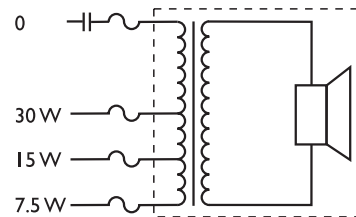
| | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz |
|------------|--------|--------|--------|-------|-------|-------|-------|
| SPL 1.1 | - | 93 | 105 | 110 | 112 | 104 | 90 |
| SPL max. | - | 106 | 118 | 123 | 125 | 117 | 103 |
| Q-factor | - | 2.2 | 3.5 | 10.7 | 30.9 | 57.5 | 75.9 |
| Efficiency | - | 1.15 | 11.22 | 11.75 | 6.46 | 0.55 | 0.02 |
| H. angle | - | 180 | 145 | 80 | 45 | 35 | 30 |
| V. angle | - | 180 | 145 | 80 | 45 | 35 | 30 |

Acoustical performance specified per octave

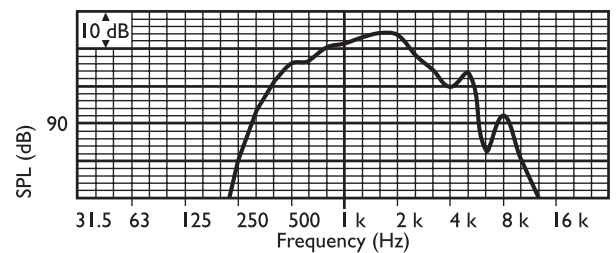
LBC 3493/12



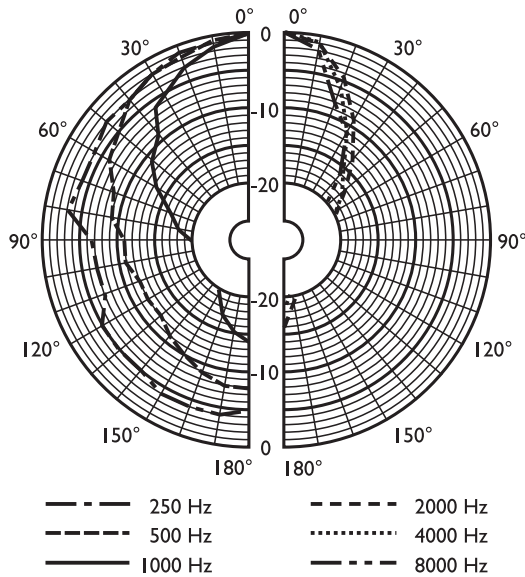
Dimensions in mm (in)



Circuit diagram



Frequency response



Polar diagram (measured with pink noise)

| | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz |
|------------|--------|--------|--------|-----------|----------|----------|----------|
| SPL 1.1 | - | 92 | 105 | 11 1 | 11 2 | 10 4 | 90 |
| SPL max. | - | 107 | 120 | 12 6 | 12 7 | 11 9 | 10 5 |
| Q-factor | - | 2.6 | 5.1 | 15. 1 | 37. 2 | 61. 7 | 74. 1 |
| Efficiency | - | 0.78 | 7.76 | 10. 47 | 5.3 7 | 0.4 1 | 0.0 2 |
| H. angle | - | 180 | 120 | 70 | 45 | 40 | 30 |
| V. angle | - | 180 | 120 | 70 | 45 | 40 | 30 |

Acoustical performance specified per octave

Ordering Information

LBC 3481/12 Horn Loudspeaker, Circular, 10 W
 10 W, circular
 Order number **LBC3481/12**

LBC 3491/12 Horn Loudspeaker, Rectangular, 10 W
 10 W, rectangular
 Order number **LBC3491/12**





LBC 3492/12 Horn Loudspeaker, Circular, 20 W
 20 W, circular
 Order number **LBC3492/12**

LBC 3493/12 Horn Loudspeaker, Circular, 30 W
 30 W, circular
 Order number **LBC3493/12**

Accessories

LBC 1256/00 EVAC Connection Adapter
 3-pole screw connector, 100 pieces
 Order number **LBC1256/00**

Technical Specifications

| | LBC 3481/12 Horn Loudspeaker, Circular, 10 W | LBC 3491/12 Horn Loudspeaker, Rectangular, 10 W | LBC 3492/12 Horn Loudspeaker, Circular, 20 W | LBC 3493/12 Horn Loudspeaker, Circular, 30 W |
|--|---|---|---|---|
| |  |  |  |  |
| Electrical | | | | |
| Max power | 15 W | 15 W | 30 W | 45 W |
| Rated power (PHC) | 10 / 5 / 2.5 W | 10 / 5 / 2.5 W | 20 / 10 / 5 W | 30 / 15 / 7.5 W |
| Sound pressure level at rated power / 1 W (1 kHz, 1 m) | 113 dB / 103 dB (SPL) | 118 dB / 108 dB (SPL) | 123 dB / 110 dB (SPL) | 126 dB / 111 dB (SPL) |
| Sound pressure level at rated power / 1 W (2 kHz, 1 m) | 115 dB / 105 dB (SPL) | 121 dB / 111 dB (SPL) | 125 dB / 112 dB (SPL) | 127 dB / 112 dB (SPL) |
| Effective frequency range (-10 dB) | 500Hz to 7kHz | 480Hz to 5.5kHz | 380Hz to 5.5kHz | 380Hz to 5kHz |
| Opening angle horizontal vertical | 1 kHz / 4 kHz (-6 dB) 160° / 50° 160° / 50° | 1 kHz / 4 kHz (-6 dB) 90° / 40° 130° / 45° | 1 kHz / 4 kHz (-6 dB) 80° / 35° 80° / 35° | 1 kHz / 4 kHz (-6 dB) 70° / 40° 70° / 40° |
| Rated voltage | 100 V | 100 V | 100 V | 100 V |
| Rated impedance | 1000 ohm | 1000 ohm | 500 ohm | 333 ohm |
| Connection | 2 m, 4-wire cable | 2 m, 4-wire cable | 2 m, 4-wire cable | 2 m, 4-wire cable |
| Mechanical | | | | |
| Dimensions (L x W) | - | 267 x 171 mm 10.51 x 6.73 in | - | - |
| Aperture (L x W) | - | - | - | - |
| Aperture diameter | 156 mm (6.14 in) | 171 x 267 mm (6.73 x 10.51 in) | 354 mm (13.94 in) | 400 mm (15.75 in) |
| Overall length | 184 mm (7.24 in) | 276 mm (10.87 in) | 332 mm (13.07 in) | 353 mm (13.90 in) |
| Color | Light grey (RAL 7035) | Light grey (RAL 7035) | Light grey (RAL 7035) | Light grey (RAL 7035) |
| Weight | 1.25 kg (2.75 lb) | 1.4 kg (3.08 lb) | 2.65 kg (5.83 lb) | 3 kg (6.6 lb) |
| Environmental | | | | |
| Operating temperature | -25 °C to +55 °C (-13 °F to +131 °F) | -25 °C to +55 °C (-13 °F to +131 °F) | -25 °C to +55 °C (-13 °F to +131 °F) | -25 °C to +55 °C (-13 °F to +131 °F) |
| Storage temperature | -40 °C to +70 °C (-40 °F to +158 °F) | -40 °C to +70 °C (-40 °F to +158 °F) | -40 °C to +70 °C (-40 °F to +158 °F) | -40 °C to +70 °C (-40 °F to +158 °F) |
| Relative humidity | <95% | <95% | <95% | <95% |

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