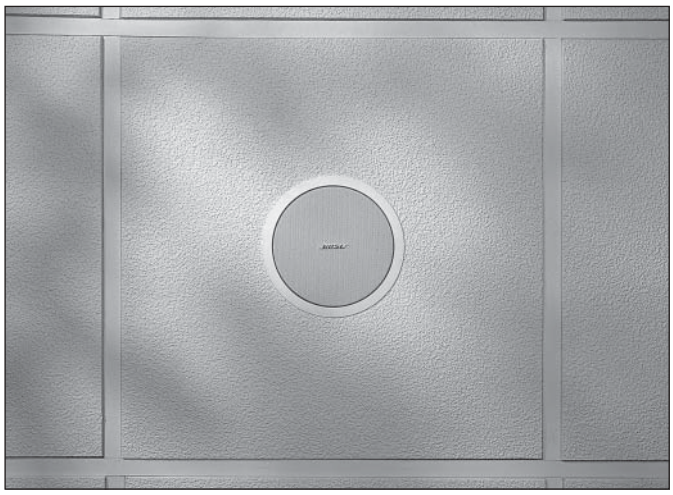


Technical information

Frequency range
80 Hz to 16 kHz (with active equalisation)

FreeSpace 32 versions
Active equalisation
> 100 V, 32 Watt
Passive equalisation
> 4 Ω, 32 Watt, no transformer

Sensitivity[1]
89 dB-SPL, 1 W, 1 m (speech)
87 dB-SPL, 1 W, 1 m (music)

Maximum acoustic output[2]
104 dB-SPl average (speech)
102 dB-SPL average (music)

Beamwidth (-6dB point)
132° conical (average, 1-4 kHz)

Long-term power handling[3]
32 W continuous

Dimensions
Flange diametre: 19.6 cm (7.72")
Hole diametre: 18.2 cm (7.19")
Depth: 20.3 cm (8")

Weight
1.68 kg (3.7 lb) speaker only
2.6 kg (5.7 lb) including mounting hard ware (100 V version)
1.3 kg (3.0 lb) speaker only
2.3 kg (5.1 lb) including mounting hard ware (4 Ω version)

Mounting hardware
Ceiling pan: 28 x 30 cm (11"x11.75") (W x D)
Pan rail: 2.93 x 60.3 cm (1.15"x 23.75") (W x D)
(hardware included with each loudspeaker)

General description

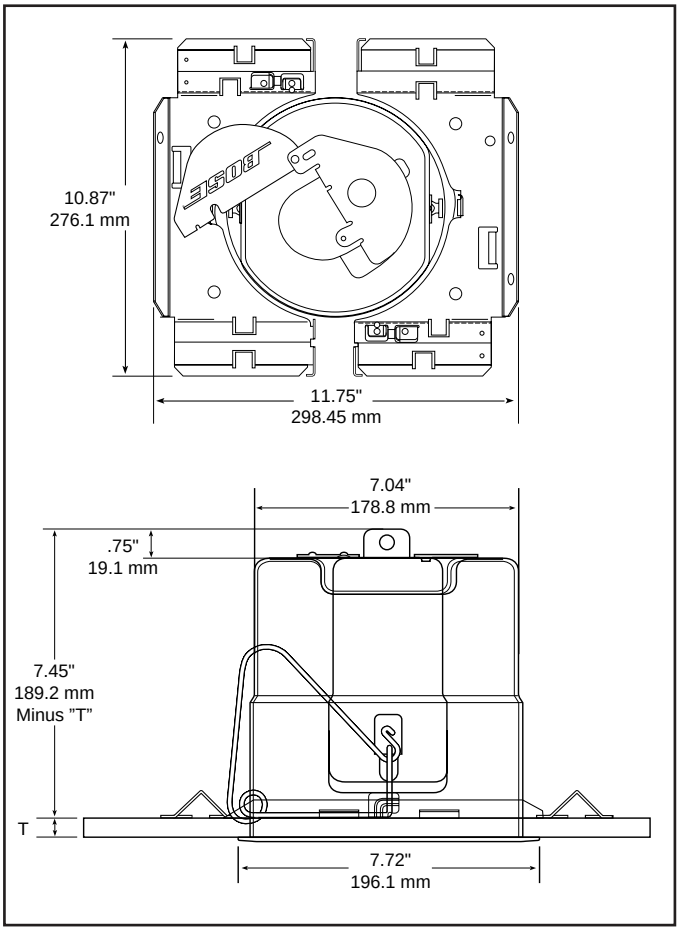
The BOSE® FreeSpace® 32 loudspeaker is a 32 Watt loudspeaker designed for flush-mount ceiling installations in commercial spaces with ceiling heights up to 9 m (30 ft.).

It offers the following features:

> A 11.4 cm (4.5") Bose HVC (Helical Voice Coil) driver with active equalisation, providing reliable high quality sound in a compact enclosure
> A multi-tap line transformer that provides easy to change tap settings for 1 W, 2 W, 4 W, 8 W, 16 W, and 32 W
> Mounting hardware that permits fast and easy installation in any kind of ceiling
> Complies with U.L. 2043 for use in air handling spaces
> Simple contemporary design will blend with any decor and can be painted to match any interior

1 Fulll bandwidth pink noise is applied to the FreeSpace system controller and amplified to a level at the speaker terminals corresponding to 1 Watt as referenced to the nominal impedance. The average sound pressure level (dB-SPL) is measured at 1 metre from the speaker in an anechoic environment.
2 Full bandwidth pink noise is applied to the FreeSpace system controller and amplified to a level at the speaker terminals corresponding to the long-term rated power handling of the speaker. The average sound pressure level (dB-SPL) is measured at 1 metre from the speaker in an anechoic environment.
3 Full bandwidth noise, meeting the International Electrotechnical Commission Standard #268-5 is applied to the FreeSpace system controller and amplified to a level at the speaker terminals corresponding to the power handling of the speaker. The speaker must show no visible damage or measurable loss of performance after 100 hours of continuous testing.

FreeSpace® 32 DIMENSIONS



Installation

All hardware required to mount the FreeSpace® 32 loudspeaker is included with the loudspeaker. The "quick install" mounting hardware consists of two 13.9 cm x 27.9 cm (5.5" x 11") formed sheet metal plates which are assembled on two formed metal channels 60.3 cm (23.75") long. The channels transfer the weight of the pan and loudspeaker out to the tile support grid. The pan halves, when placed for loudspeaker installation on the channels and forms a central clearance hole equal to the recommended mounting hole for the loudspeaker. The mounting technique requires the use of a metal ceiling pan which can be used in all forms of drop tile ceiling construction up to 5 cm (2") thick, and can be installed behind existing ceilings through the installation hole. Each pan half provides for the attach - ment of a spring retention mechanism which actually lifts the loudspeaker into place and holds it firmly against the ceiling surface. A deliberate and separate action is required to remove the unit from the bracket after withdrawing it from the ceiling.

Assuming the mounting hole has been cut in a suspended ceiling panel, and a stripped signal wire is present, installation can be completed in less than three minutes with the use of one screwdriver. Pliers and additional time may be required for installation of North American-style strain relief bushings, connection to flexible conduit, and for installation of the pan in ceilings of plaster or of hidden spline tile construction.

Loudspeaker configuration

The 100 Volt version can be part of a distributed sound system when used in conjunction with AmPlus 100 or M2150 amplifiers fitted with a Model 32 EQ card or alternatively with a FreeSpace controller and a comparable amplifier. The 4 Ω model is intended to be a budget loudspeaker requiring neither tap capabi lity, line amplifier, nor equaliser. Any modest amplifier or receiver can be used to drive this loudspeaker. It utilises a mid-band RLC filter to equalise driver output. The FreeSpace 32 will be individually packaged.

Engineers' and architects' specifications

The loudspeaker shall be a 32 Watt ported loudspeaker system utilising one 11,4 cm (4,5") full-range driver for installation in a manner where the grille surface is nominally flush with the ceiling surface and the enclosed volume protrudes within the ceiling space.

The 100 V version shall be designed for use with a proprietary active equalisation device. Versions intended for use with line amplifiers shall also contain multiple tap impedance matching transformers.

The design shall minimise the use of organic materials in the product and the mounting mechanism such that the product shall meet the requirements of U.L. 2043. All exposed cosmetic surfaces shall be paintable and the acoustically transparent grille component shall be formed of expanded metal mesh. A dust and paint shield shall be supplied with every unit to protect the transducer prior to grille installation.

The loudspeaker's maximum acoustic output shall be 104 dB-SPL from 80 Hz - 16 kHz, with measurements referenced to a fullbandwidth pink noise input at 1 metre at the loudspeaker's rated power. The input connection shall consist of a barrier strip screw-type terminal. Its power handling capability shall be 1 W, 2 W, 4 W, 8 W, 16 W, or 32 W conti - nuous power when referenced to IEC noise for 100 hours. The nominal coverage angle shall be 132° conical. The loudspeaker shall be the BOSE® FreeSpace 32 flush-mount loudspeaker.

U.L. Certification

All versions of the FreeSpace 32 loudspeaker comply with U.L. requirements for the following uses:

- Vandal resistant (with grille in place)
- Suitable for general purpose use (U.L. category UEAY); the U.L. control number is 3N89, the U.L. file number is S5591
- All models comply with the requirements of NFPA 70, national electric code, 1993, article 300-22 (C), and U.L. 2043 for use in air handling spaces, and NFPA 90A-1993, installation of air conditioning and ventilation systems, section 2-3.10.1(a), exception 2.

Warranty information

Both versions of the BOSE® FreeSpace® 32 loudspeaker are covered by a 5-year, trans ferable limited warranty.