SPECSHEET

Control® 19CS/CST

Professional Series – In-Ceiling Subwoofer

Key Features:

- Unique Nested Chamber™ design and Linear Dynamic Aperture™ port design delivers high output from a compact enclosure
- JBL's exclusive SonicGuard™ overload protection allows higher operational levels and improved system reliability (19CS only)
- Component: Long excursion 200 mm (8 in) driver
- Packaged with grille, backcan and tile rails for fast installation and easy stocking
- Simple installation and wire connection method



Description:

The Control 19CS uses advanced proprietary technologies to produce powerful bass from a low profile in-ceiling design. The Control 19CS is perfectly suited to augment the low frequency output of any of the Control Contractor loudspeakers. High power handling and low distortion make the Control 19CS an ideal addition for sound systems requiring a higher fidelity sound from ceiling loudspeakers.

The unique Nested Chamber design delivers high output from a compact enclosure, while the acoustic lowpass character of this design means it is easy to augment a full-range sound system without an external crossover or separate amp channel. The Linear Dynamics™ port design originally developed for JBL's concert speaker systems, produces extended deep bass output.

The Control 19CS is protected from overload damage by JBL's exclusive SonicGuard™ circuitry, a protection system that is inaudible to the listener, ensuring reliability while providing full-fidelity sound. The premium performance capability ensures excellent sound character, providing pleasant, enveloping sound throughout the listening area.

The 200 mm (8 in) transducer features a pure butyl rubber surround for extended life and long excursion capability. The pole piece is vented for low distortion.

The Control 19CS can be connected into a system in a number of configurations: In parallel with full-range speakers resulting in a bass-overlap configuration (which is often acceptable); with an electronic crossover and separate amplifier channel, or; In conjunction with an active or passive high-pass filter on the full-range speakers, thus taking advantage of the Control 19CS's natural acoustic low-pass character.

Specifications:

System	
Frequency Range (-10 dB)[1]	42 Hz – 200 Hz
Power Capacity[2]	200 Watts Continuous Program Power 100 Watts Continuous Pink Noise
Nominal Sensitivity[3]	95 dB SPL, 1W @ 1 m (3.3 ft) in ceiling near corner (pi/2) 89 dB SPL, 1W @ 1 m (3.3 ft) in center of ceiling (2)
Nominal Coverage Angle	180° conical coverage
Rated Maximum SPL[3]	115 dB @ 1 m (3.3 ft) in ceiling near corner (pi/2)
Nominal Impedance (19CS)	8 ohms
Transformer Taps (19CST)	070V: 75W, 30W, 15W and 7.5W taps 100V: 75W, 30W and 15W taps
Transducer	
Low Frequency	200 mm (8.0 in) Polypropelene cone 38 mm (1.5 in) coil on aluminum former
Physical	
Enclosure	Backcan: Formed steel Baffle/Rim: Medium impact polystyrene, fire rated UL94V-0
Overload Protection	Full-range power limiting to protect network and transducers (Control 19CS only).
Termination	Removable locking connector with screw-down terminals. 2 input terminals and 2 loop-thru output terminals. Max. wire size 12 AWG (2.5 mm^2)
Safety Agency Rating	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 and NFPA 70. S7232/UL listed, signaling speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
Outside Dimensions (H x Dia.)	345 x 345 mm (13.6 x 13.6 in) 318 mm (12.5 in) front of ceiling tile to back of backcan
Cutout Size	305 mm (12.0 in)
Net Weight (each)	Control 19CS: 5.5 kg (12 lb) Control 19CST: 6.3 kg (14 lb)
Shipping Weight (pair)	Control 19CS: 12.7 kg (28 lb) Control 19CST: 14.3 kg (32 lb)
Included Accessories	» C-shaped support backing plate » 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles) » Cutout template » Paint shield » Removable locking wiring connector

[1] Mounted in ceiling near corner (pi/2 loading).

[2] Continuous Pink Noise rating is shaped pink noise, 40 Hz to 400 Hz, with a 6 dB crest factor for 100 hours continuously. Continuous Program power is a conservative expression of the system's ability to handle normal speech and music program material and is defined as 3 dB above the Continuous Pink Noise Rating.

[3] Average 60 Hz to 100 Hz.

JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.

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Input connection is conveniently provided on a removable locking connector (included), providing secure connection via screw-down terminals and allowing a system to be prewired before installing the speaker for fast snap-on convenience. Separate connector terminals are available for the input and for the loop-through wires, making it easy to jumper the speaker signal to additional speakers. The input terminal plate provides strain relief for either bare wire, plenum cable or 1/2-inch conduit (12 mm I.D.). The terminal box is securely enclosed to meet safety codes.

The speaker trim and grille are paintable to match any decor. A paint shield is provided for covering the drivers while painting the rim.

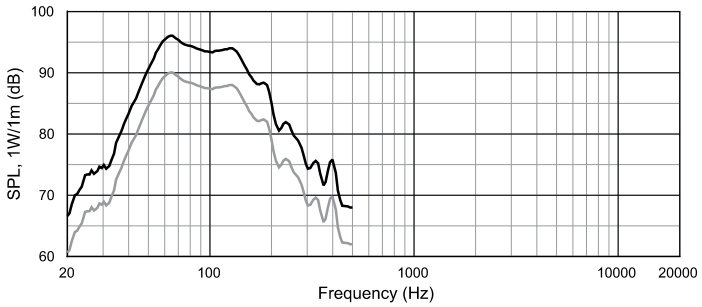
Installation of the Control 19CS is quick and easy. The loudspeaker is packaged complete with the backcan, grille, support backing bracket and tile rails.

The entire installation can be accomplished without requiring access above the ceiling. A template is provided for marking the cutout. An innovative C-shaped support backing plate can be installed from below through the cutout to reinforce the top of the ceiling material. Tile bridge rails are included which can be screwed onto the C-plate to extend support to the T-channel grid in suspended ceiling installations. After the speaker is fitted through the cutout, it is held securely in place via three mounting tabs which tighten onto the C-plate, if used, or directly onto the ceiling material.

The Control 19CS backcan is made of formed steel and the speaker is suitable for use in air handling spaces, per U.L.-2043. An attachment loop is provided on the backcan for cabling to the building structure as a secondary support in seismic areas or where required by code.

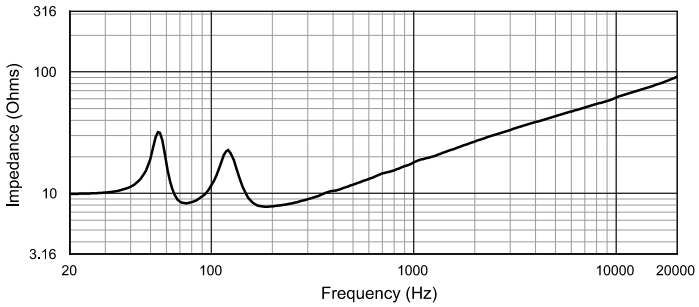
The optional Control 19CST version includes a high quality multitap transformer designed specifically for subwoofer use in either 70.7V or 100V distributed-line systems. Multiple transformer taps at 75W, 30W and 15W (plus 7.5W at 70.7V) allow the Control 19CST to fit a wide variety of listening situations. Taps are selected with a rotary switch conveniently located on the front panel, protected under the grille, so that the speaker does not have to be removed to adjust tap settings. The transformer effectively limits the power to the speaker, so SonicGuard is not included in the Control 19CST.

Frequency Response:



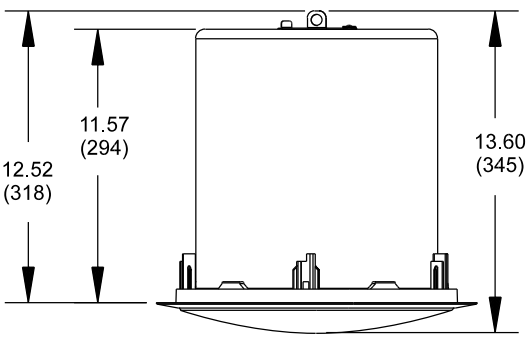
Frequency response (1W, 1 m) is measured on-axis with two boundary junction (pi loading, gray line) and with three-boundary junction (pi/2 loading, black line)

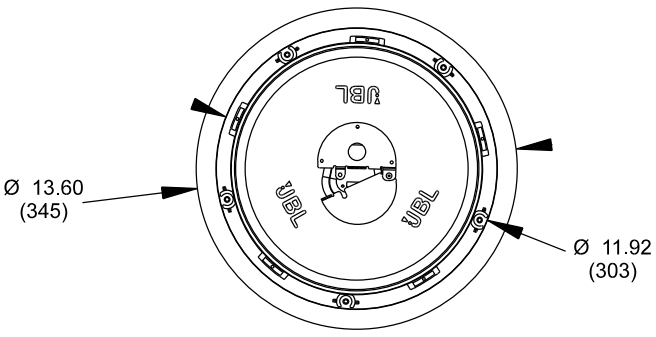
Impedance vs. Frequency:



Mounting Dimensions:

Dimensions in inches (mm)





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Architectural Specifications:

The subwoofer loudspeaker shall be of in-ceiling design, consisting of a 200 mm (8.0 in) low frequency transducer in a Nested Chamber™ ported enclosure. The low frequency voice coil shall be 38 mm (1½ in) in diameter and the coil former shall be of aluminum for maximum heat dissipation.

Performance specifications of a typical production unit shall be as follows: Measured sensitivity (SPL at 1m [3.3 ft] with 2.83V input, averaged from 60 Hz to 100 Hz) shall be at least 95 dB-SPL (pi/2 loading). Usable frequency response shall extend from 42 Hz to 200 Hz (10 dB below rated sensitivity) with no external equalization. Rated power shall be at least 100 watts continuous pink noise power, AES spectrum (shaped pink noise, 40 Hz to 400 Hz, with peak-to-average ratio of 6 dB) for a period of 100 continuous hours.

The system shall be protected against damage from occasional overpowering via full range series lamps that limit the power to the transducer (Control 19CS, not Control 19CST).

The backcan shall be constructed of formed steel and the baffle of UL94V-0 fire rated medium impact polystyrene. An enclosed terminal box shall be included proving strain relief for use with either plenum-rated wire, 1/2 in (13 mm inside diameter) conduit, or flexible conduit up to 22 mm (7/8 in) outside diameter. The external wiring shall be accomplished via a removable lockable wiring connector with screw-down terminals to provide both secure wire termination and prewiring capability before loudspeaker installation. An attachment loop shall be provided on the back panel for tying to building structure as a secondary support point.

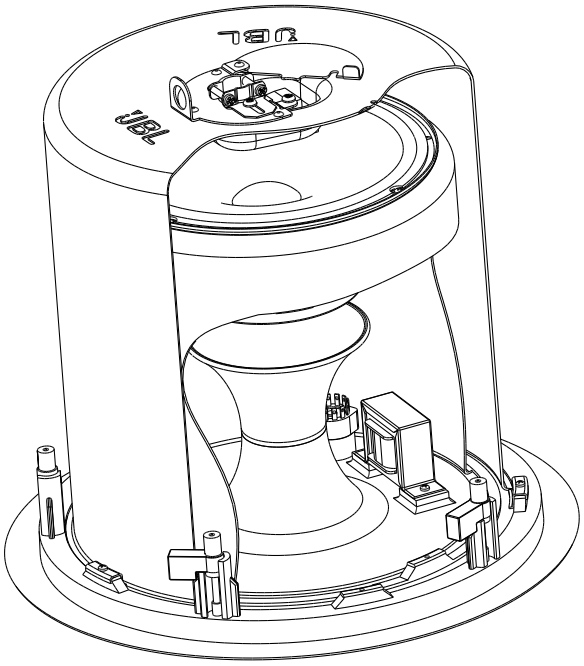
The system shall include a support backing plate to reinforce the ceiling material and tile support rails for use on either 2 x 4 ft or 600 x 1200 mm suspended ceiling tiles and which can all be installed from beneath the ceiling tile.

Overall front face diameter shall not exceed 345 mm (13.6 in), overall depth from the bottom of the ceiling shall not exceed 318 mm (12.5 in).

Control 19CS: The loudspeaker shall weigh no more than 5.5 kg (12 lb) and nominal impedance shall be 8 ohms.

Control 19CST: The loudspeaker shall weigh no more than 6.3 kg (14 lb) and shall be equipped with a special subwoofer-capable transformer for use in either 70.7 or 100V distributed-line speaker systems, with taps selectable by rotary switch located on the front panel so that the speaker does not have to be removed to adjust tap settings. Taps shall be nominally 75W @ 70V, 30W@ 70V (75W @ 100V), 15W @70V (30W @ 100V), and 7.5W @ 70V (15W @ 100V).

The loudspeaker shall be the JBL Model Control 19CS (Control 19CST).



Control19CS Nested Chamber™ Design