

# EdgeMax EM90

proprietary directional loudspeaker

## Product Overview

Bose Professional's EdgeMax series combines high-fidelity sound with unique directionality to break free of the limitations of the in-ceiling loudspeaker category. Think of EdgeMax as your "secret weapon" for directing powerful, full-range audio into rooms demanding a different approach. It sounds like a surface-mount loudspeaker, looks like an in-ceiling loudspeaker, and directs sound asymmetrically into spaces where traditional loudspeakers can't go. The EdgeMax series delivers the coverage patterns, high SPL, and frequency response of larger surface-mount loudspeakers but with a clean visual aesthetic.

Patented PhaseGuide® technology directs sound asymmetrically into the room, creating coverage found in no other loudspeaker. Choose purpose-built horizontal coverage—90 degrees for corner placement or a wider 180 degrees—ideal for both near-field and wide coverage. The result: amazing performance, directionality, and voice intelligibility that puts the EdgeMax family in a class by itself.

EdgeMax loudspeakers can be installed at the room's perimeter while still projecting sound inward for room-filling coverage. This means fewer units required compared to typical loudspeakers. And when installed near a wall, boundary-loading delivers impressive bass impact.

The original EdgeMax models feature a deeper 9-inch (23-centimeter) backcan and 75-degree vertical coverage angle to deliver bold full-range sound and a higher SPL. The EdgeMax LP models feature a shallow 4-inch (10-centimeter) backcan and wider 80-degree vertical coverage angle for spaces with above-ceiling limitations and tighter clearances. Integrators can "mix and match" these models, particularly in challenging installations with varying dimensions and obstructions.

## Key Features

**Patented PhaseGuide technology** evenly distributes sound throughout the space to ensure all listeners enjoy the same experience—regardless of their location

**High-frequency compression driver and high-excursion woofer** for exceptional audio quality and power

**In-ceiling installation for minimum visual impact**, with fewer units required to deliver uniform sound

**In-ceiling mounting near room edges and corners** (75° vertical coverage and 90° horizontal coverage)

**Wall-boundary loading** for greater bass response and performance

**2-way passive crossover** with bypassable 70/100V transformer

**Consistent voicing** across the EdgeMax family

**QuickHold** spring-loaded mounting system for easy installs

**Magnetically attached grille** for quick access to wiring and tap settings

**UL 1480A and UL 2043** safety standard compliance



## Applications

Bars & restaurants

Fitness clubs

Hospitality

Houses of worship

Performance spaces

Commercial spaces

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## Technical Specifications

### EdgeMax EM90

SINGLE-LOUDSPEAKER PERFORMANCE		
Frequency Response (-3 dB) <sup>1</sup>	50 – 18,000 Hz	
Frequency Range (-10 dB) <sup>1</sup>	45 – 20,000 Hz	
Coverage Pattern	90° horizontal × 75° vertical (asymmetrical, 0° – 75° referenced to wall)	
AUDIO PERFORMANCE	AES Transducer Test <sup>4</sup>	Bose Professional Extended-Lifecycle Test <sup>5</sup>
Power Handling, Long-term Continuous	150 W	125 W
Power Handling, Peak	600 W	500 W
Sensitivity (SPL / 1 W @ 1 m) <sup>2</sup>	96 dB	96 dB
Calculated Maximum SPL @ 1 m, Continuous <sup>3</sup>	118 dB	117 dB
Calculated Maximum SPL @ 1 m, Peak	124 dB	123 dB
Crossover	1 kHz (passive 2-way crossover with integrated 70/100V transformer)	
Loudspeaker EQ	Presets available for music optimization	
Recommended High-pass Protection	55 Hz with minimum 12-dB/octave filter	
Overload Protection	Resistor-network power reduction with automatic reset	
Transformer Taps	70V: 2.5 W, 5 W, 10 W, 20 W, 40 W, 80 W, bypass 100V: 5 W, 10 W, 20 W, 40 W, 80 W, bypass	
TRANSDUCERS		
Low Frequency	1 × 8-in (203 mm) woofer, 1.5-in (38 mm) voice coil	
High Frequency	1 × compression driver, 1.3-inch (33 mm) voice coil	
Nominal Impedance	8 Ω (transformer bypass)	
PHYSICAL		
Enclosure Material	Engineered-plastics front baffle with integrated steel formed enclosure	
Grille	Magnetically attached micro-perforated steel, powder-coated finish, white (similar to RAL 9003), paintable, includes safety tether	
Environmental	Indoors only	
Safety	UL 1480A listed, compliant with UL 2043 for plenum-space installation	
Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)	
Connectors	6-pin Euroblock connector with loop-through, front-baffle mounted	
Suspension / Mounting	(4) QuickHold spring-loaded mounting arms, (4) safety cable tabs	
Maximum Ceiling Thickness	80 mm (3.1 in)	
Ceiling Cutout & Clearance	345 mm × 345 mm (13.6 in × 13.6 in), 236 mm (9.3 in) mounting depth	
Product Dimensions (length × width × depth)	339 mm × 339 mm × 236 mm (13.4 in × 13.4 in × 9.3 in) enclosure 390 mm × 390 mm × 13 mm (15.4 in × 15.4 in × 0.5 in) grille flange, as mounted	
Net Weight, Single Loudspeaker	10.0 kg (22.0 lb) with grille	
Net Weight, Tile Bridge	1.4 kg (3.1 lb)	
Shipping Weight	12.5 kg (29.0 lb)	
Package Contents	(1) EdgeMax EM90, (1) adjustable tile bridge, (1) ceiling hole template, (1) paint shield, (1) installation guide	
Optional Accessories	Rough-in pan, ceiling tile, black grille	
PRODUCT CODES		
EdgeMax EM90	778844-0220 EDGEMAX EM90	

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## EdgeMax Rough-in Pan

PHYSICAL	
Net Weight	1.0 kg (2.2 lb)
Package Contents	(2) EdgeMax rough-in pans, (1) installation guide
PRODUCT CODES	
EdgeMax Rough-in Pan (1 pair)	790054-0010 EDGEMAX EM90/180 ROUGH-IN PAN PAIR

## EdgeMax EMCT Ceiling Tile

The EdgeMax Tile accessory is a ceiling tile replacement for use with the EdgeMax loudspeakers, eliminating the need to cut existing ceiling tiles and creating a flush appearance by recessing the loudspeaker grille into the tile.

	AMERICAS (24 in × 24 in)	EUROPE & ASIA PACIFIC (600 mm × 600 mm)
PHYSICAL		
Material	Powder-coated steel; white: similar to RAL 9003, paintable	
Product Dimensions (length × width × depth)	595 mm × 595 mm × 13 mm (23.4 in × 23.4 in × 0.5 in)	605 mm × 605 mm × 13 mm (23.8 in × 23.8 in × 0.5 in)
Net Weight	2.1 kg (4.6 lb)	2.0 kg (4.4 lb)
Package Contents	(1) EdgeMax EMCT ceiling tile, (1) installation guide	
PRODUCT CODES		
EdgeMax EMCT Ceiling Tile	843297-0210 EDGEMAX CEILING TILE 24X24 WHT	843298-0210 EDGEMAX CEILING TILE 600X600 WHT

## EdgeMax Black Grille

The EdgeMax black accessory grille allows EdgeMax loudspeakers to be used in room designs where black is the best aesthetic match for room décor.

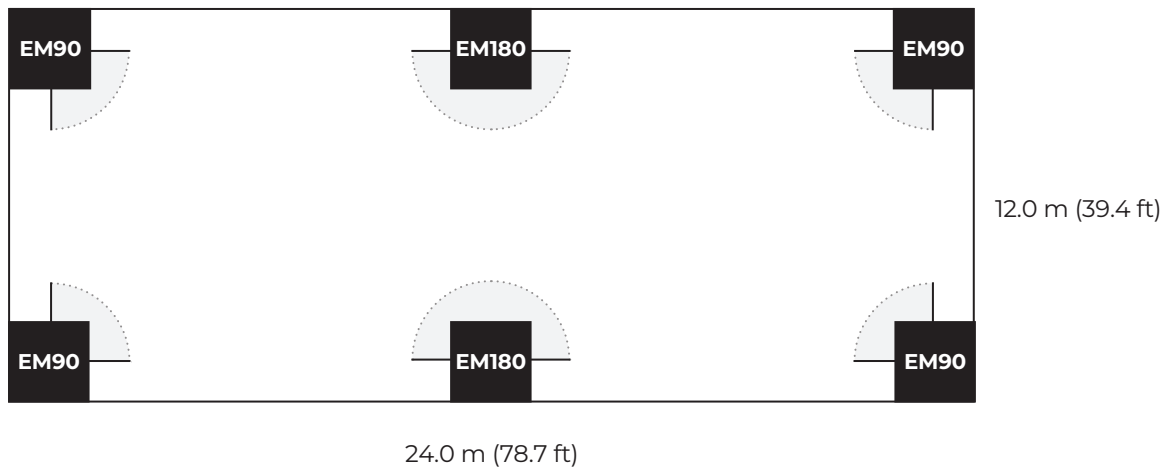
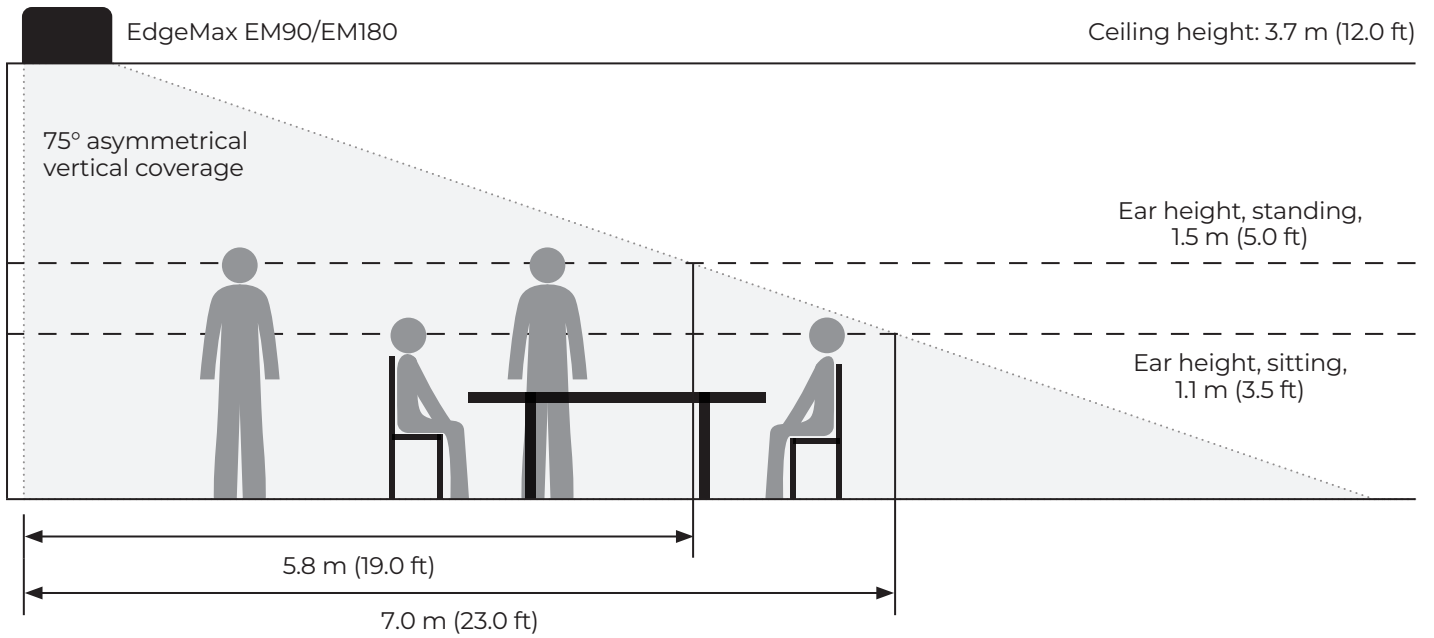
PHYSICAL	
Material & Finish	Micro-perforated steel, powder-coated finish, black, paintable
Product Dimensions (length × width × depth)	390 mm × 390 mm × 13 mm (13.8 in × 13.8 in × 0.5 in)
Net Weight	0.6 kg (1.3 lb)
Package Contents	(1) EdgeMax black grille, (1) installation guide
PRODUCT CODES	
EdgeMax Black Loudspeaker Grille	788330-0110 EDGEMAX EM90/180 BLACK GRILLE SNGL

Footnotes:

1. Frequency response and range measured on-axis in one-eighth-space (corner-loaded) environment with recommended active EQ.
2. Sensitivity measured on-axis in one-eighth-space (corner-loaded) environment with recommended active EQ.
3. Maximum SPL calculated from sensitivity and power handling specifications, exclusive of power compression.
4. AES standard 2-hour duration with IEC system noise.
5. Bose Professional extended-lifecycle test using pink noise filtered to meet IEC268-5, 6-dB crest factor, 500-hour duration.

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### USABLE THROW DISTANCE, EM90 & EM180

		Loudspeaker mounting height											
		m	2.4	2.7	3.0	3.4	3.7	4.0	4.3	4.5	4.9	5.5	6.1
Listener ear height	Standing <sup>6</sup>	ft	8	9	10	11	12	13	14	15	16	18	20
		m	2.6	3.4	4.0	5.0	6.0	7.0	7.6	8.2	9.0	11.0	13.0
	Sitting <sup>7</sup>	m	4.0	4.6	5.4	6.0	7.0	8.0	8.8	9.4	10.0	12.0	14.0
		ft	12	15	18	20	23	26	29	31	34	40	45

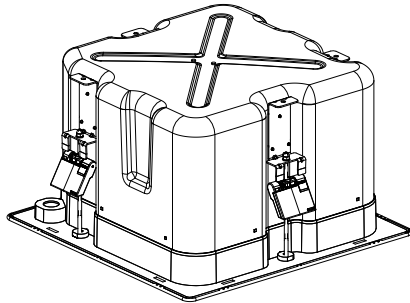
6. Standing position assumes 1.5 m (5.0 ft) ear height.  
 7. Sitting position assumes 1.1 m (3.5 ft) ear height.

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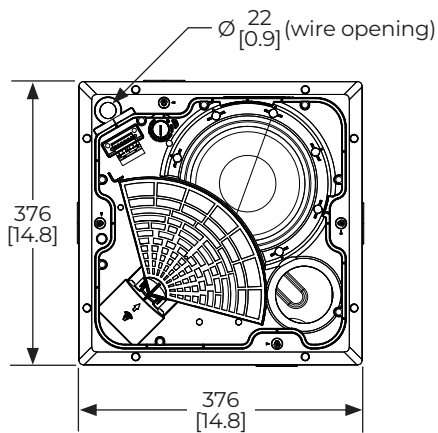
## Dimensions<sup>8</sup>

### EdgeMax EM90

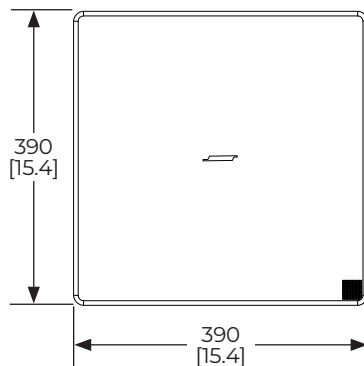


Bottom View

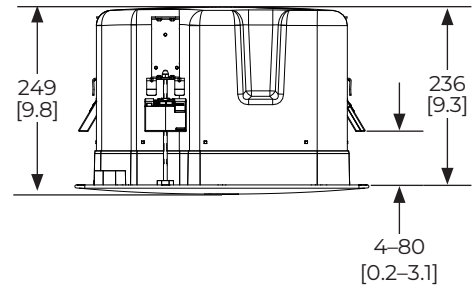
(without grille)



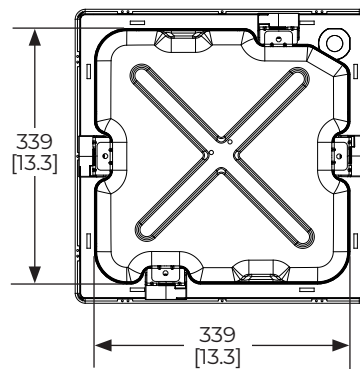
(with grille)



Side View<sup>9</sup>



Top View

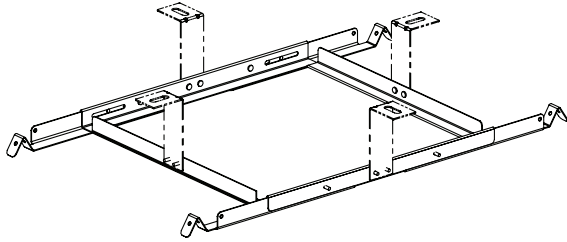


8. Dimensions are shown in millimeters over inches.  
9. Dimensions apply to both left and right sides.

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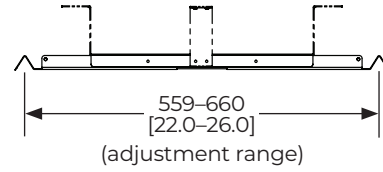
## EdgeMax Tile Bridge (Included)



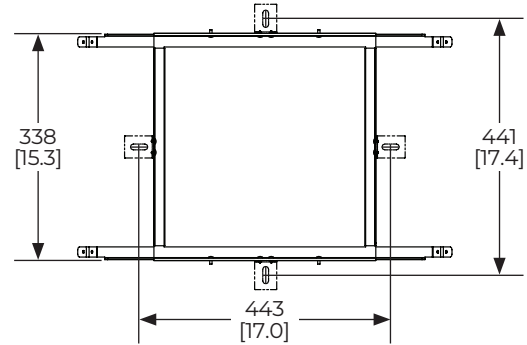
Front View



Side View<sup>9</sup>

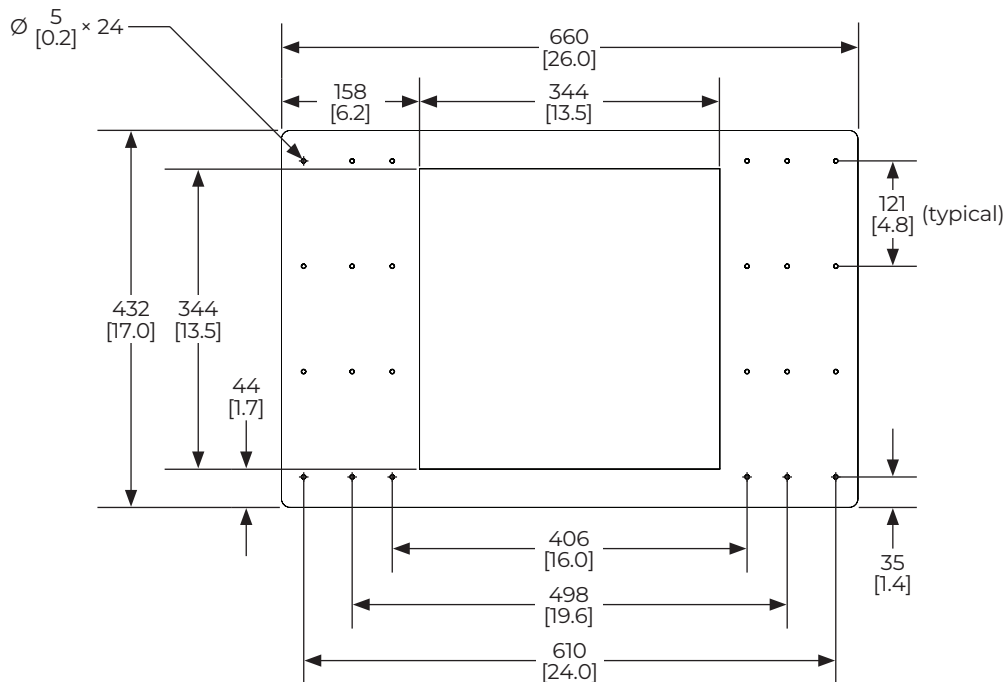


Top View



## EdgeMax Rough-in Pan

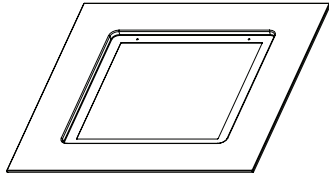
Top View



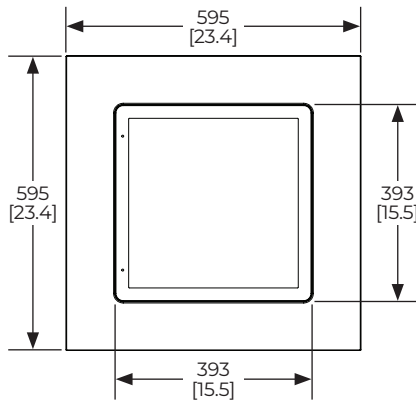
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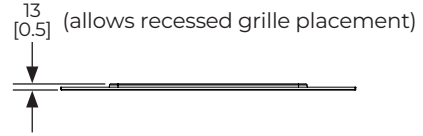
## EdgeMax EMCT Ceiling Tile (Americas, 24 × 24 in)



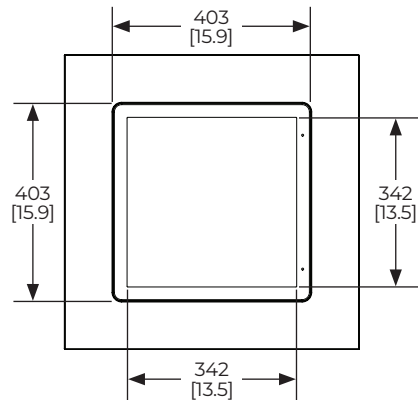
Top View



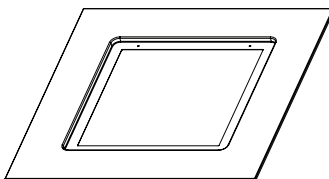
Side View<sup>9</sup>



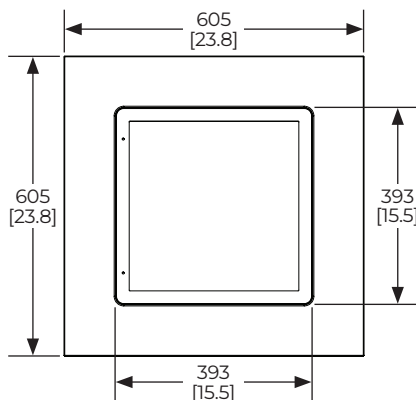
Bottom View



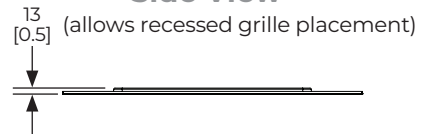
## EdgeMax EMCT Ceiling Tile (Europe & Asia Pacific, 600 × 600 mm)



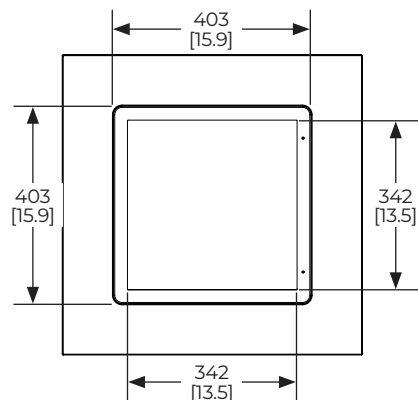
Top View



Side View<sup>9</sup>



Bottom View



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