



VX43C

Phased Array Spatial Audio Loudspeaker



Overview

The VX43C is a vertically-oriented phased array loudspeaker designed to augment Venueflex's active acoustics and spatial audio systems. The VX43C contains an array of high- and mid-frequency drivers designed to optimize coverage for spatial audio reproduction at longer distances than a simple point source loudspeaker. The required digital signal processing is provided exclusively by Venueflex signal processors.

Performance Specifications¹

Operating Mode

Single-amplified w/ DSP

Operating Range²

101 Hz to 20 kHz

Nominal Beamwidth

Vertically shaded articulated pattern for consistent long-distance coverage

Transducers

LF: 3x 4.0" woofer, 0.8" voice coil, neodymium magnet
HF: 6x 1.0" dome tweeter

Power Handling @ Nominal Impedance³

20 V / 100 W @ 4 Ω

Nominal Sensitivity @ Input Voltage⁴ (whole space)

92 dB @ 2.00 V

Nominal Maximum SPL (peak / continuous)

118 dB / 112 dB

Equalized Sensitivity @ Input Voltage⁵

89 dB @ 2.00 V

Equalized Maximum SPL⁶ (peak / continuous)

115 dB / 109 dB

Recommended Power Amplifier

100 W to 200 W @ 4 Ω

Physical Specifications

Connections

Phoenix terminal block, 1+/1-

Mounting / Suspension Points

(2) M6 x 1.0 yoke points

Dimensions / Weight

See page 3

Finish

Black painted enclosure w/ matte black grille

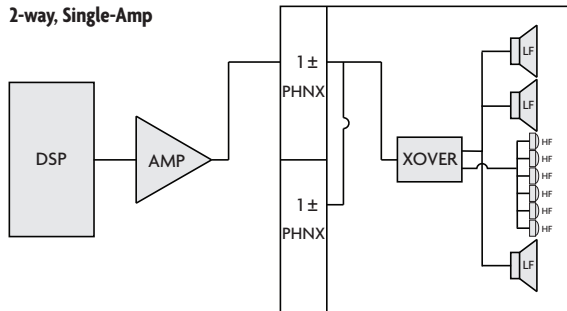
Included Accessory

YK-VX43C Yoke Bracket



Connection Diagram

2-way, Single-Amp

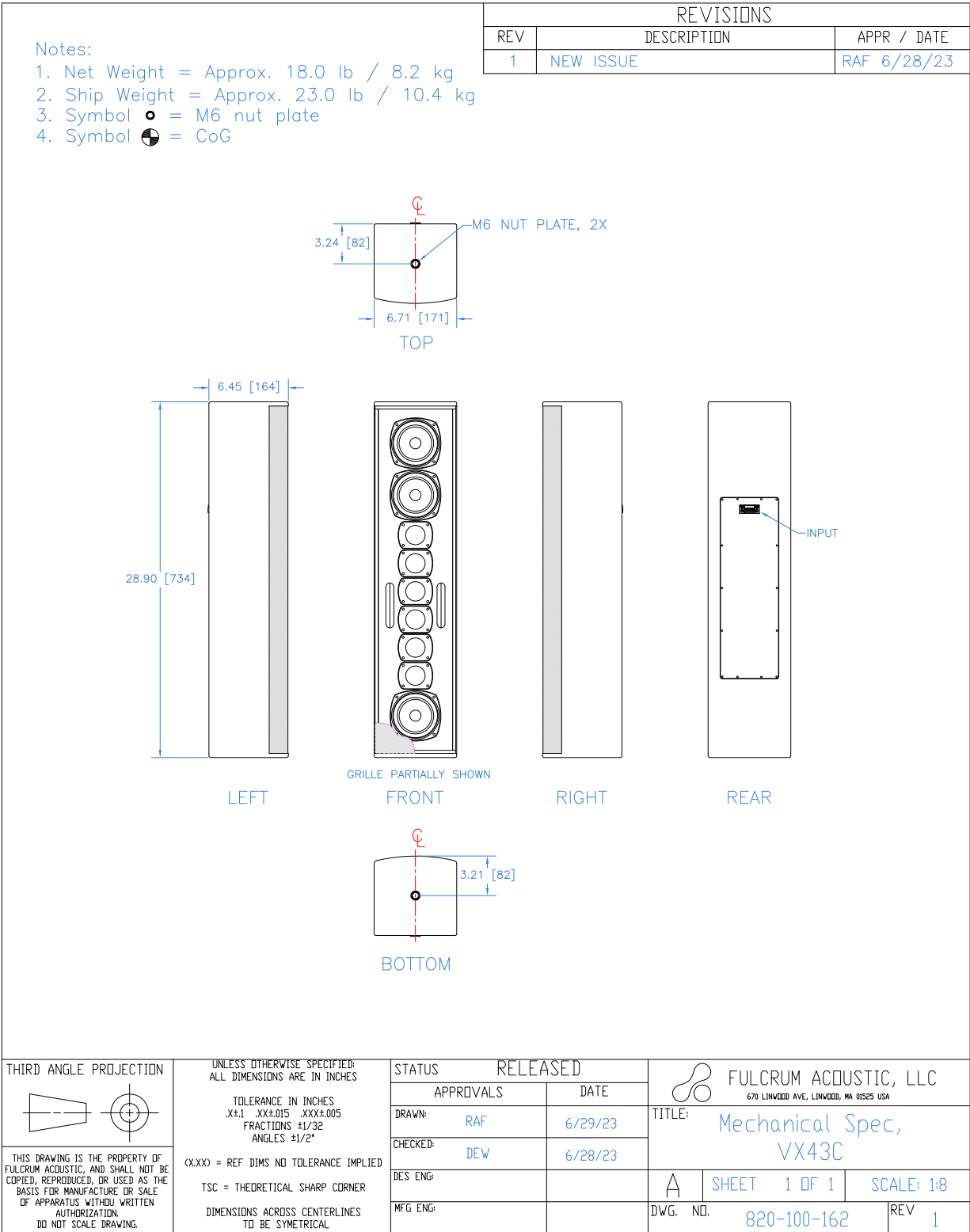


Mechanical Specification Drawings

2D and 3D DWG dimensional drawings are available for download at www.fulcrum-immersive.com.

Notes

- ¹ **Performance Specifications** All acoustic specifications rounded to nearest whole number. External DSP with Fulcrum Acoustic-provided settings is required to achieve the specified performance.
- ² **Operating Range** The frequency range within which the processed response is within 10 dB of the average.
- ³ **Power Handling** Based on the AES power handling of the transducers.
- ⁴ **Nominal Sensitivity** The 1-meter-referenced SPL produced by a 1 watt band limited pink noise signal, with no processing applied.
- ⁵ **Equalized Sensitivity** The 1-meter-referenced SPL produced when an EIA-426-B signal is applied to an equalized loudspeaker system, at a level which produces a total power of 1 watt, in sum, to the loudspeaker subsections.
- ⁶ **Equalized Maximum SPL** The 1-meter-referenced SPL produced when an EIA-426-B signal is applied to an equalized loudspeaker system, at a level which drives at least one subsection to its rated power.
- ⁷ **Resolution** All response graphs are subjected to 1/6 octave cepstral smoothing with a gaussian weighting function.
- ⁸ **Axial Sensitivity** The SPL plotted against frequency for a 1 watt swept sine wave, referenced to 1 m with no signal processing.
- ⁹ **Axial Processed Response** The axial magnitude response with recommended signal processing applied.
- ¹⁰ **Axial Processed Phase Response** The axial phase response with recommended signal processing applied, and latency removed.
- ¹¹ **Horizontal / Vertical Off Axis Responses** The magnitude response at various angles off axis, with recommended signal processing applied.
- ¹² **Beamwidth** The angle between the -6 dB points in a loudspeaker's polar response.
- ¹³ **Directivity Index (Di)** The ratio of the on-axis sound pressure squared to the spherical average of the sound pressure squared at a particular frequency expressed in dB. To convert the directivity index to directivity factor (Q) use the formula $10^{Di/10}$.



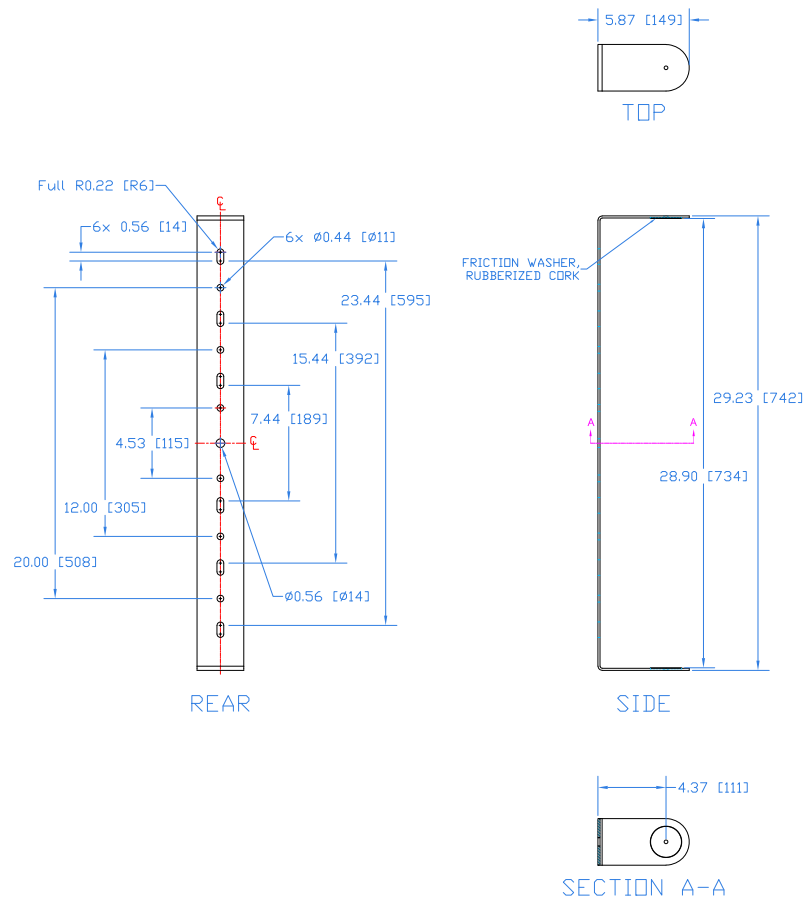
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Notes:

1. Fits VX43C
2. Net Weight = Approx. 1.0 lb / 0.5 kg
3. Material: 10 AWG CRS
4. Includes 2x each M6 socket head cap screws, split washers, and flat washers

REVISIONS		
REV	DESCRIPTION	APPR / DATE
1	NEW ISSUE	RAF 6/28/23



<p>THIRD ANGLE PROJECTION</p>	<p>UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES</p> <p>TOLERANCE IN INCHES .XX1 .XX±.015 .XXX±.005 FRACTIONS ±1/32 ANGLES ±1/2°</p> <p>(XXX) = REF DIMS NO TOLERANCE IMPLIED</p> <p>TSC = THEORETICAL SHARP CORNER</p> <p>DIMENSIONS ACROSS CENTERLINES TO BE SYMMETRICAL</p>	<p>STATUS RELEASED</p>		<p>FULCRUM ACOUSTIC, LLC 670 LINWOOD AVE, LINWOOD, MA 01525 USA</p>
		<p>APPROVALS</p> <p>DRAWN: RAF</p> <p>CHECKED: DEW</p> <p>DES ENG:</p> <p>MFG ENG:</p>	<p>DATE</p> <p>6/28/23</p> <p>6/28/23</p>	
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		<p>DWG. NO. 820-300-053</p>	<p>REV 1</p>	

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