DF443

Dual High-Frequency Horn

tq install™ SERIES

Overview

The DF443 is a high-output, dual high-frequency horn providing a precise 45° x 30° pattern for applications where spot-fill of high frequencies is required. Dual 4 inch diaphragm high frequency compression drivers provide substantial output suitable for mid to long throw applications.

Fulcrum Acoustic's **TQ**™ processing leads to exceptional clarity and precise transient response, even at very high sound pressure levels. The required digital signal processing can be provided by one of many supported platforms.

The DF443 is particularly effective in applications where supplemental HF coverage may be required due to occlusion from the primary loudspeakers by hockey dasher boards, building structural elements, or similar.

Performance Specifications[1]

Operating Mode
Single-amplified w/ DSP

Operating Range [2]
320 Hz to 20 kHz

Nominal Beamwidth
45° x 30°

Transducers
2x 4.0" titanium diaphragm, neodymium magnet compression driver

Power Handling @ Nominal Impedance [3]
40 V (400 W @ 4 Ω)

Nominal Sensitivity @ Input Voltage [4] (whole space)
117 dB @ 2.00 V

Nominal Maximum SPL (peak / continuous)
149 dB / 143 dB

Equalized Sensitivity @ Input Voltage [5]
114 dB @ 2.00 V

Equalized Maximum SPL (peak / continuous) [6]
146 dB / 140 dB

Recommended Power Amplifiers
400 W to 800 W @ 4 Ω

Physical Specifications

Connections
(2) Neutrik NL4 Speakon
Pin 1+/-: HF
Pin 2+/-: NC

Mounting / Suspension Points
(4) M10 x 1.5 eye bolt angle points, (2) M10 x 1.5 yoke points, (1) M10 x 1.5 pull back point

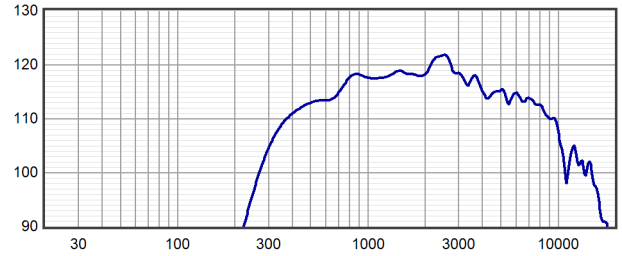
Dimensions / Weight
See page 5

Finish
Black or white painted enclosure

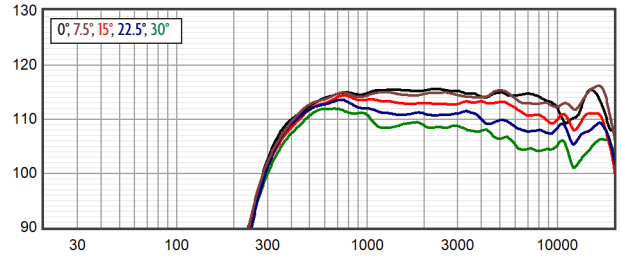
Options

YK-DF4 yoke bracket, Terminal strip input, Custom color finish

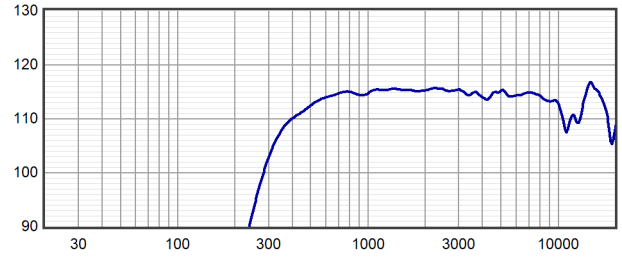
Axial Sensitivity (dB SPL, 2.00 V @ 1 m)[7, 8]



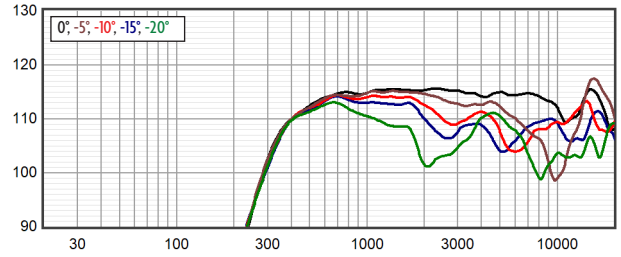
Horizontal Off Axis Response[7, 11]



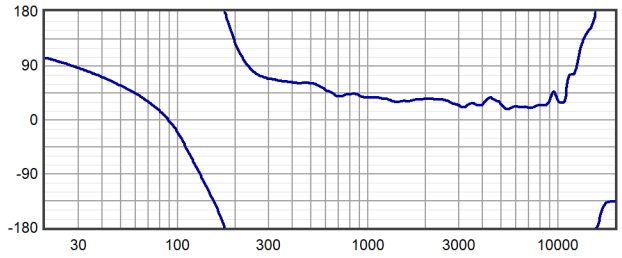
Axial Processed Response (dB)[7, 9]



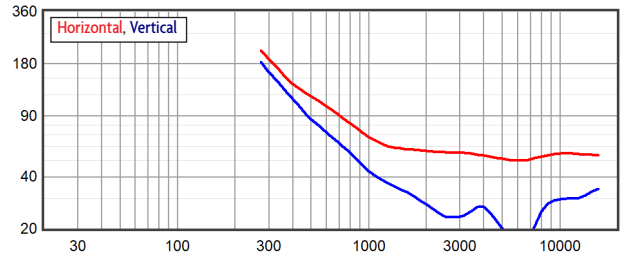
Vertical Off Axis Response[7, 11]



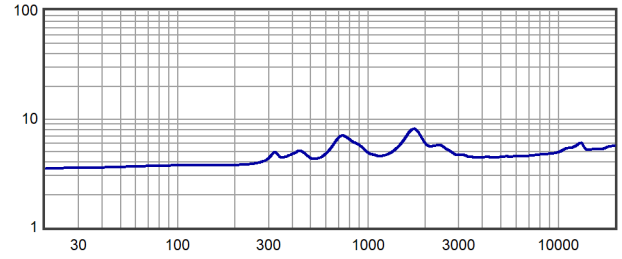
Axial Processed Phase Response (degrees)[7, 10]



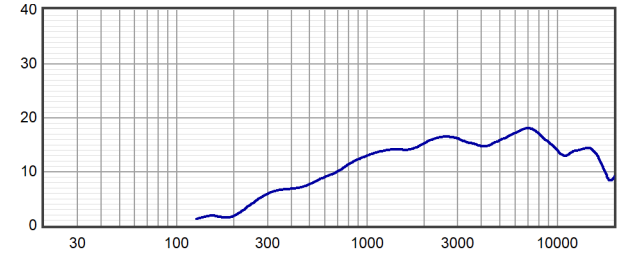
Beamwidth[7, 12]



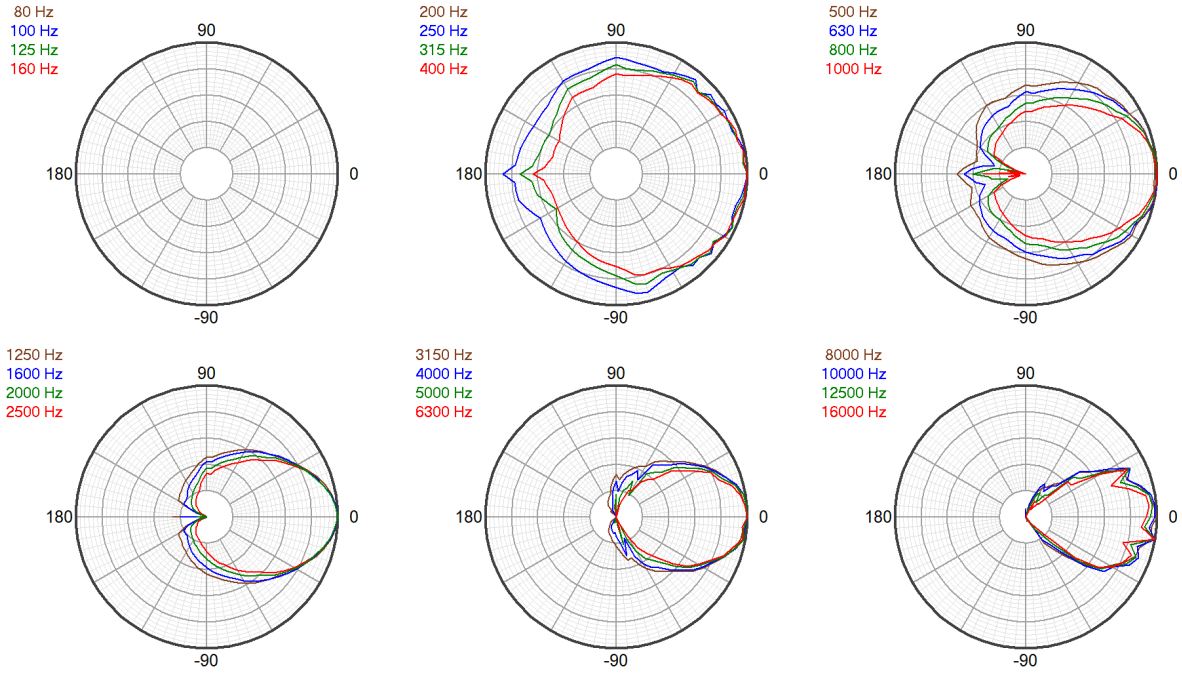
Impedance (ohms)



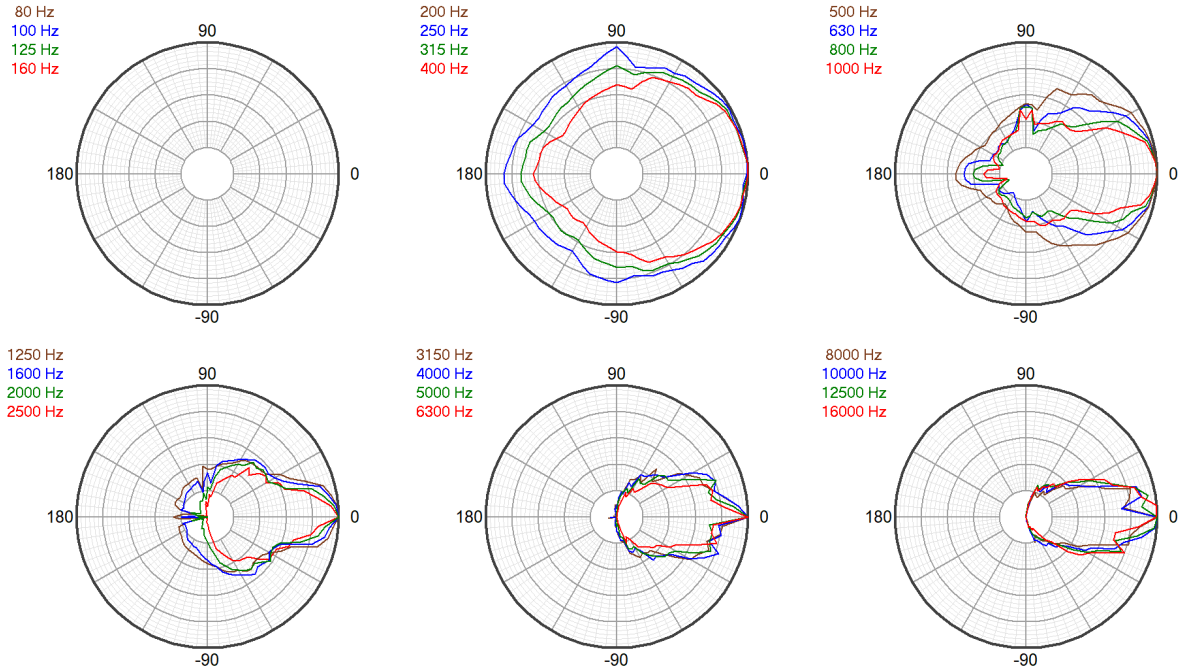
Directivity Index (dB)[13]



Horizontal Polar Response (30 dB Scale, 6 dB per Major Division)

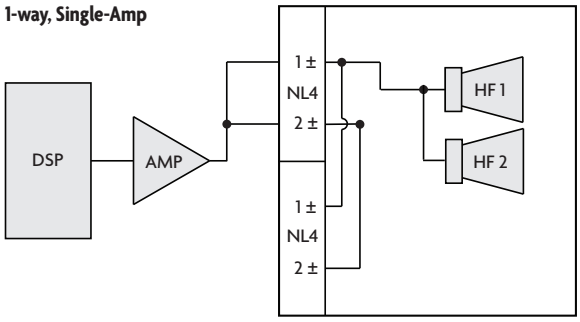


Vertical Polar Response (30 dB Scale, 6 dB per Major Division)



Connection Diagram

1-way, Single-Amp



Mechanical Specification Drawings

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

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.*

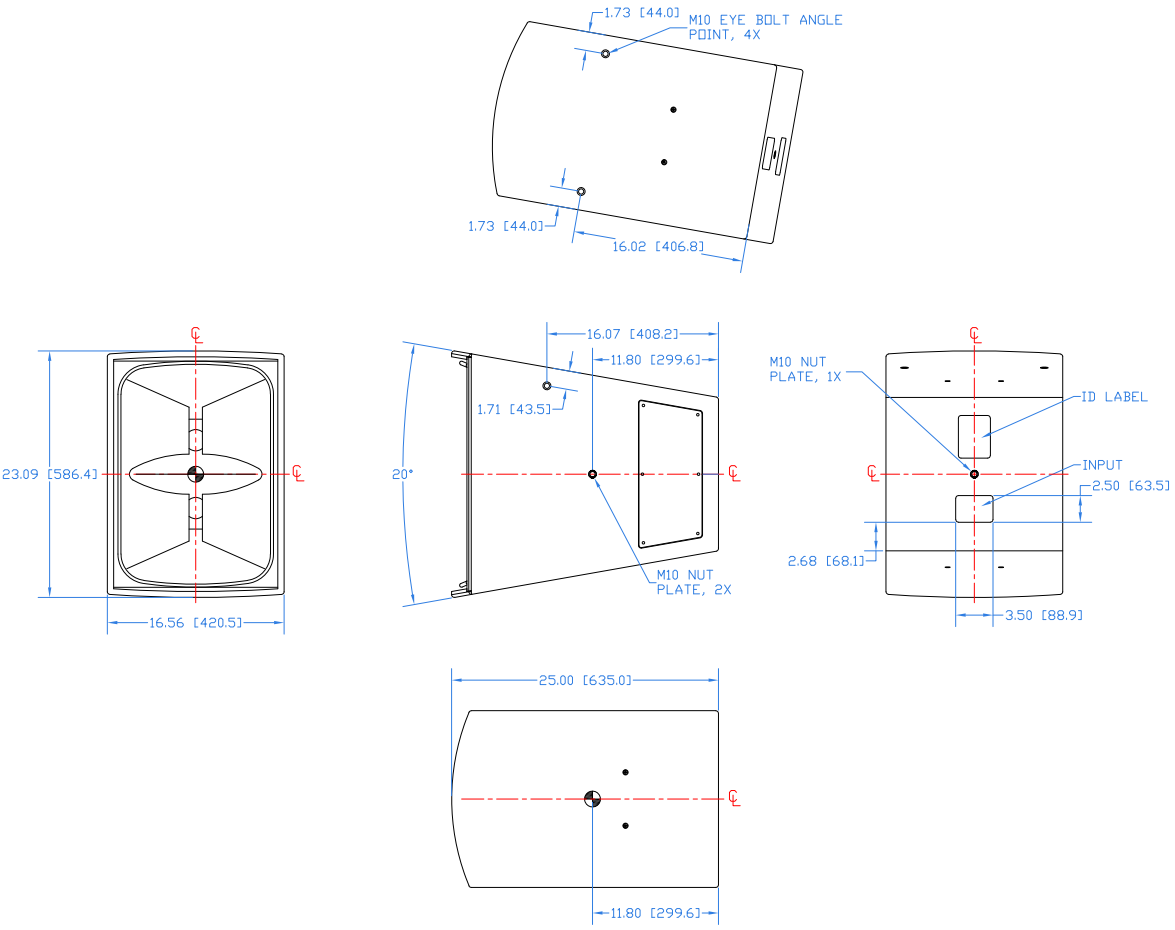
[11] **Horizontal / Vertical Off Axis Responses** *The magnitude response at various angles off axis, with recommended signal proceessing applied.*

[12] **Beamwidth** *The angle between the -6 dB points in a loudspeaker's polar response.*

[13] **Directivity Index (D_i)** *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* $10^{D_i/10}$.

Notes:
1. Net Weight = Approx. 56.0 lb / 25.4 kg
2. Ship Weight = Approx. 66.0 lb / 29.9 kg
3. Symbol ⊙ = M10x1.5 eye bolt angle point
4. Symbol ⊙ = M10x1.5 nut plate
5. Symbol ◔ = CoG
6. Drawing representative of:
   DF443, DF463

REVISIONS		
REV	DESCRIPTION	APPR / DATE
1	NEW ISSUE	RAF 11/4/20
2	RENAME DOC, UPDATE NOTES	RAF 1/28/21



THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES TOLERANCE IN INCHES .X±.1 .XX±.015 .XXX±.005 FRACTIONS ±1/32 ANGLES ±1/2° (X.XX) = REF DIMS NO TOLERANCE IMPLIED TSC = THEORETICAL SHARP CORNER DIMENSIONS ACROSS CENTERLINES TO BE SYMETRICAL	STATUS RELEASED	FULCRUM ACOUSTIC, LLC 670 LINWOOD AVE, LINWOOD, MA 01525 USA
		APPROVALS / DATE	
		DRAWN: RAF 11/4/20	TITLE: Mechanical Spec. DF4 Series
		CHECKED: DEW 11/4/20	
		DES ENG:	B SHEET 1 OF 1 SCALE: 1:16
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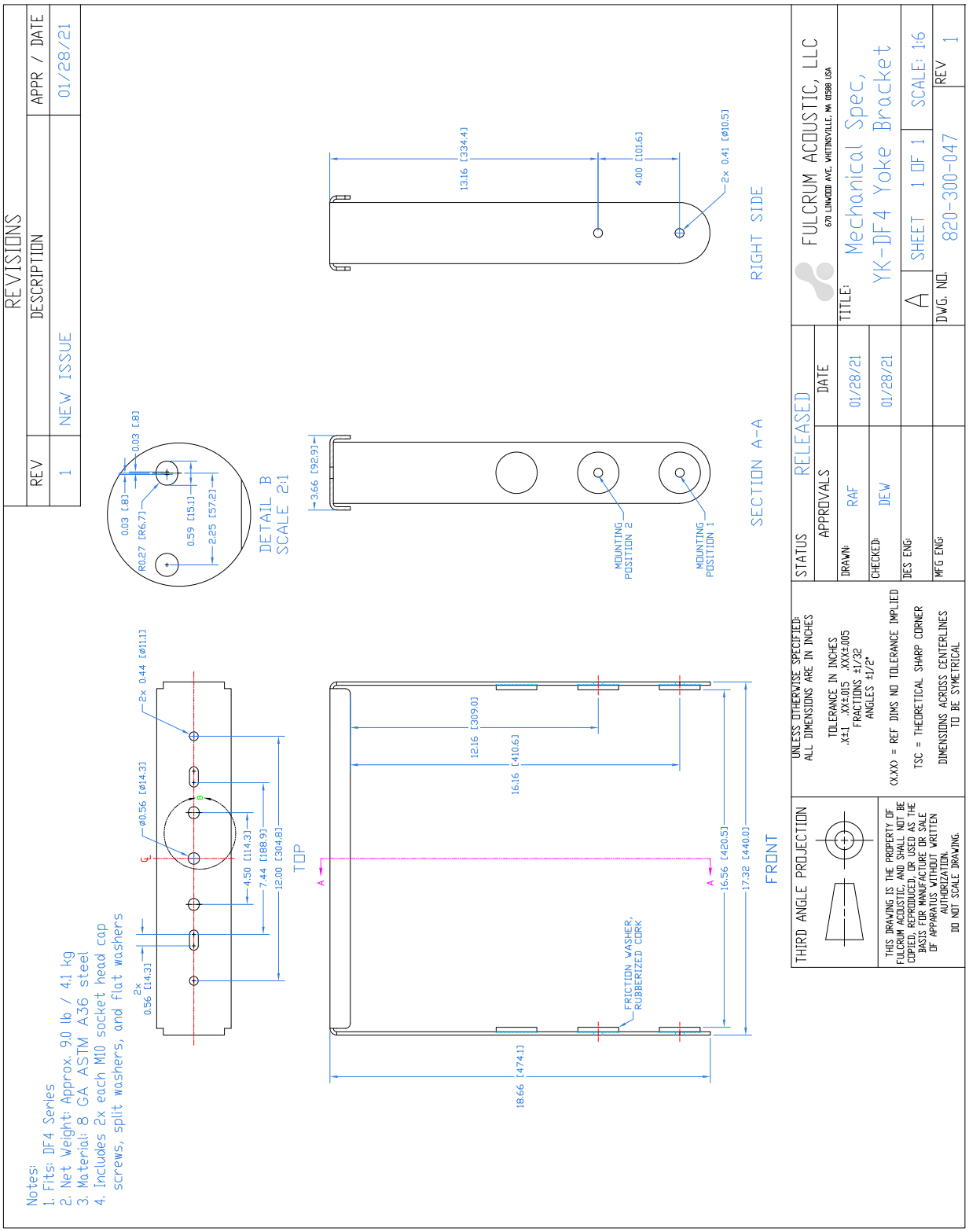

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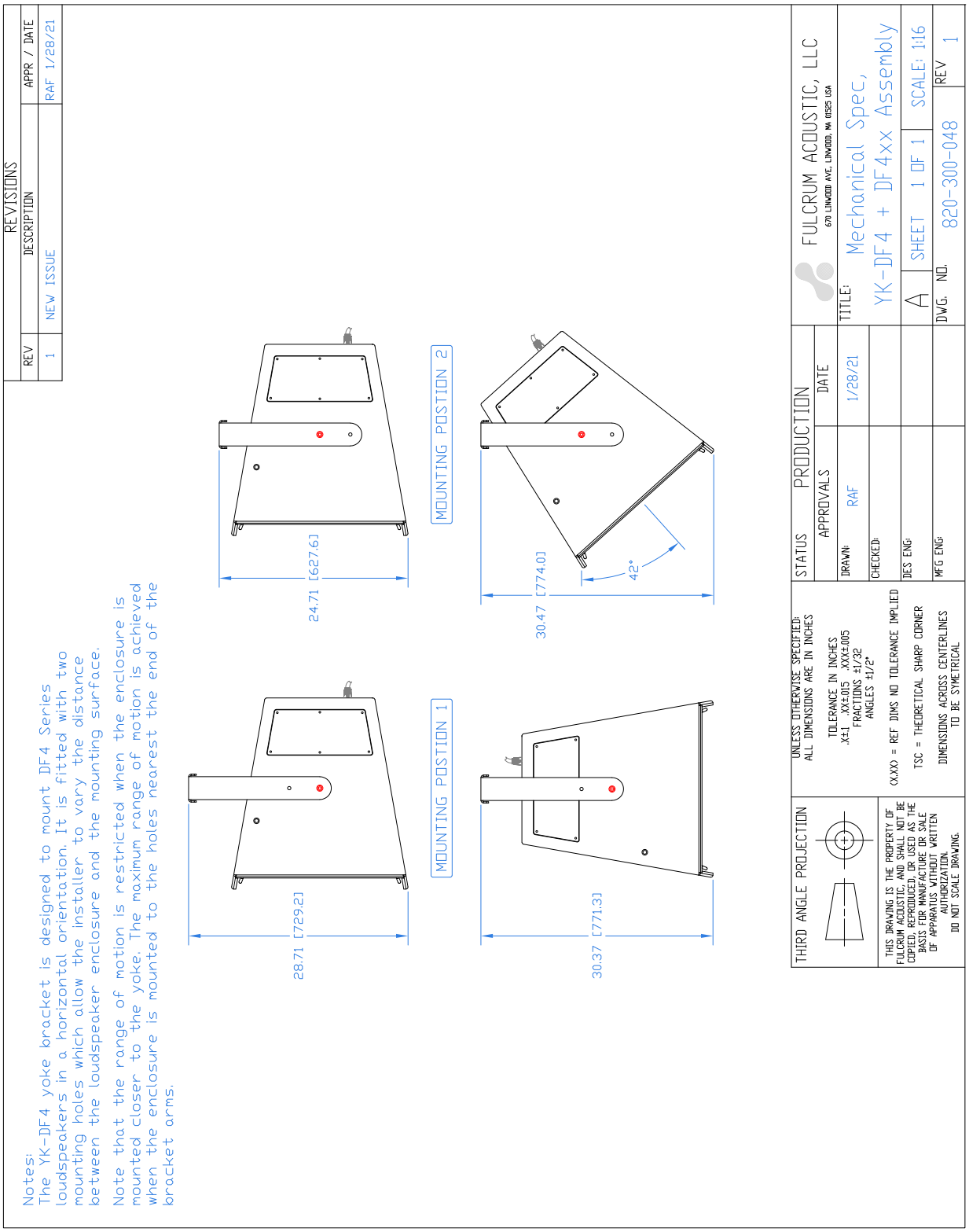

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