



product specification

P

8 inch Coaxial Loudspeaker

prophile[™]
SERIES



Overview

The Prophile™ P is an ultra-compact, high efficiency coaxial loudspeaker that packs the output of a traditional 8 inch, horn-loaded HF loudspeaker into a much more compact enclosure. Its horizontal orientation, small vertical dimension, and trapezoidal shape allow it to be positioned extremely close to ceilings and under balconies. The P's low profile also makes it very useful as a front fill system when placed on the edge of or installed into a stage apron.

Fulcrum Acoustic's **TQ™** processing is an integral part of the P design. Sound, innovative acoustical design combined with state of the art digital 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 P is an excellent option any time extremely limited space is available. Its high efficiency results in impressive levels, and its 100° x 100° coverage and coaxial design make it especially effective in close quarters. Low frequency extension to below 100 Hz enables it to integrate well with subwoofers and at 16 ohms, the P is an ideal choice for low impedance distributed systems where a high loudspeaker-to-amplifier ratio is desirable.

Technologies

The Prophile P includes a neodymium-based coaxial transducer which allows the compression driver diaphragm to be positioned very close to the woofer voice coil. This allows the system to maintain coherent summation and consistent off axis response through a passive crossover, allowing it to be powered with a single amplifier channel.

Performance Specifications¹

Operating Mode

Single-amplified w/ DSP

Operating Range²

90 Hz to 20 kHz

Nominal Beamwidth

100° x 100°

Transducers

HF/LF: Coaxial 1.7" titanium diaphragm compression driver; 8.0" woofer, 2.0" voice coil; single neodymium magnet

Power Handling @ Nominal Impedance³

63 V / 250 W @ 16 Ω

Nominal Sensitivity @ Input Voltage⁴ (whole space)

101 dB @ 4.00 V

Nominal Maximum SPL (peak / continuous)

131 dB / 125 dB

Equalized Sensitivity @ Input Voltage⁵

95 dB @ 4.00 V

Equalized Maximum SPL⁶ (peak / continuous)

125 dB / 119 dB

Recommended Power Amplifier

250 W to 500 W @ 16 Ω

Physical Specifications

Connections

(2) Neutrik NL4 Speakon
Pin 1+/-: Full Range
Pin 2+/-: NC

Mounting / Suspension Points

(2) M6 x 1.0 yoke points

Dimensions / Weight

See pages 5 & 6

Finish

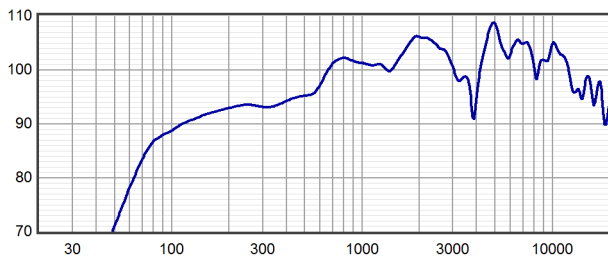
Black painted enclosure w/ matte black grille, or
White painted enclosure w/ matte white grille

Options

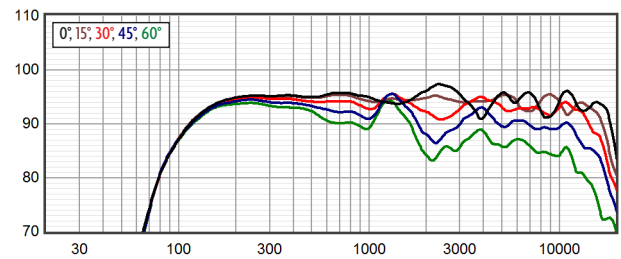
YK-P yoke bracket, Terminal strip input, Custom color finish,
Weather-resistant (WR) enclosure & hardware



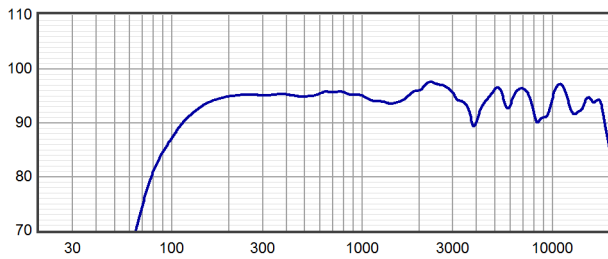
Axial Sensitivity (dB SPL, 4.0 V @ 1 m)^{7,8}



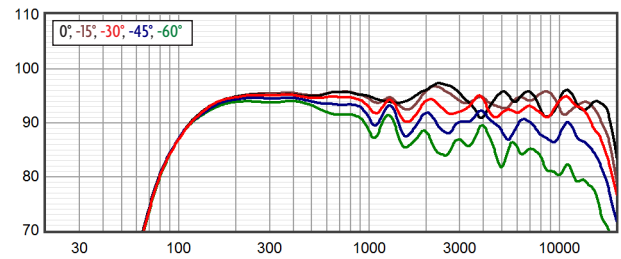
Horizontal Off Axis Response^{7,11}



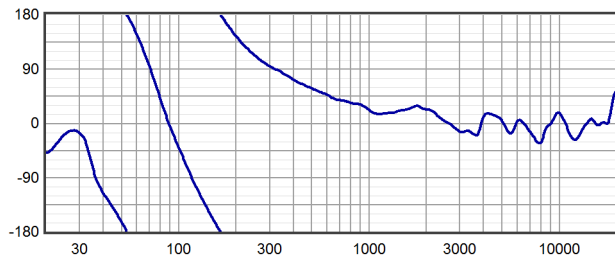
Axial Processed Response (dB)^{7,9}



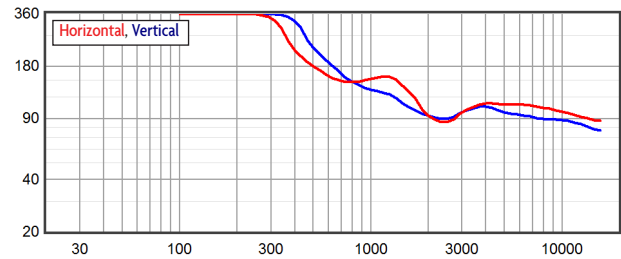
Vertical Off Axis Response^{7,11}



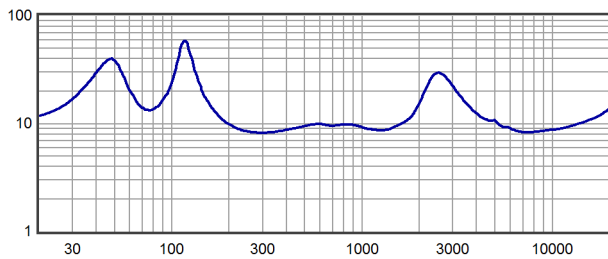
Axial Processed Phase Response (degrees)^{7,10}



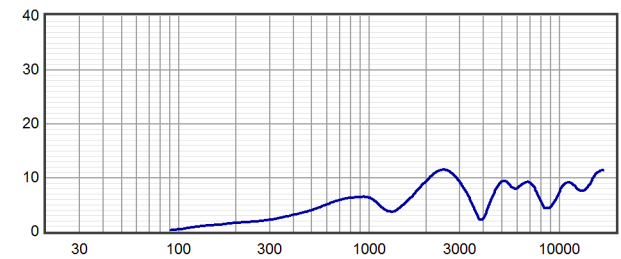
Beamwidth^{7,12}



Impedance (ohms)



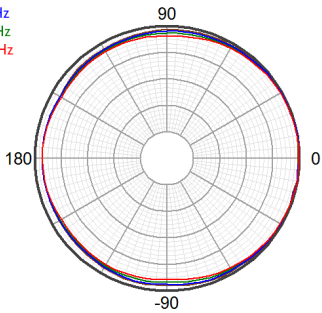
Directivity Index (dB)¹³



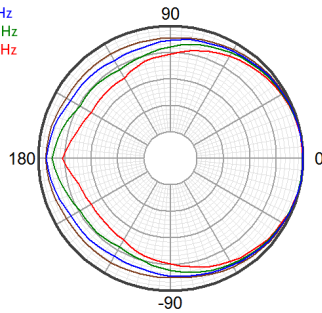


Horizontal Polar Response (30 dB Scale, 6 dB per Major Division)

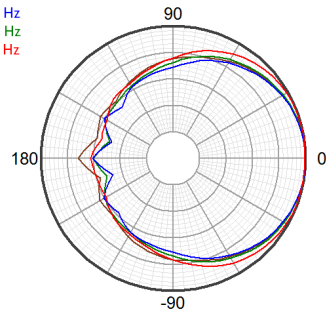
100 Hz
125 Hz
160 Hz
200 Hz



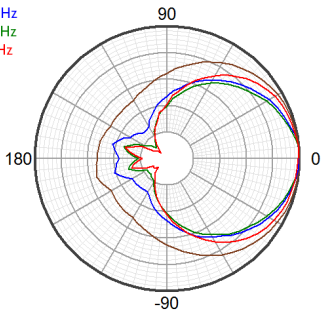
250 Hz
315 Hz
400 Hz
500 Hz



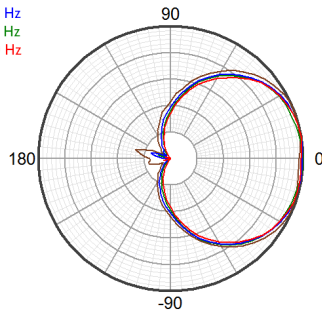
630 Hz
800 Hz
1000 Hz
1250 Hz



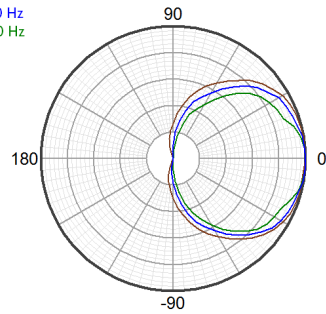
1600 Hz
2000 Hz
2500 Hz
3150 Hz



4000 Hz
5000 Hz
6300 Hz
8000 Hz

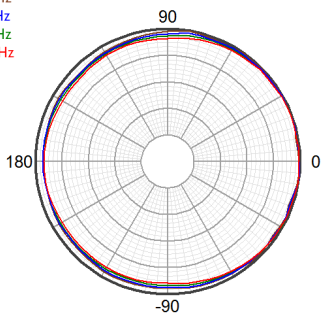


10000 Hz
12500 Hz
16000 Hz

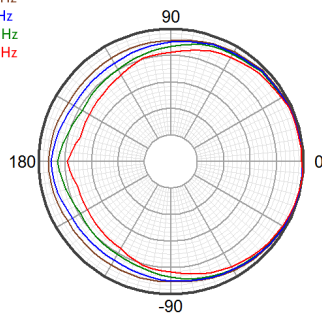


Vertical Polar Response (30 dB Scale, 6 dB per Major Division)

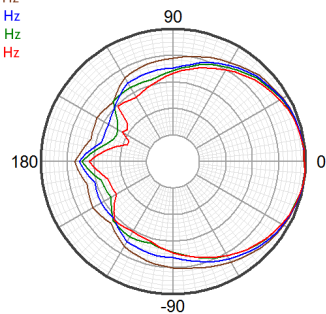
100 Hz
125 Hz
160 Hz
200 Hz



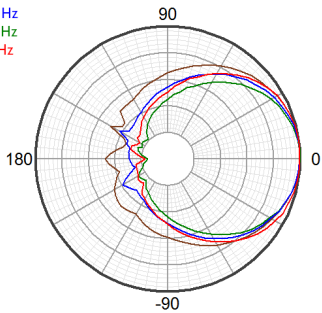
250 Hz
315 Hz
400 Hz
500 Hz



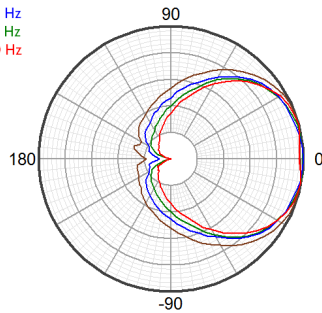
630 Hz
800 Hz
1000 Hz
1250 Hz



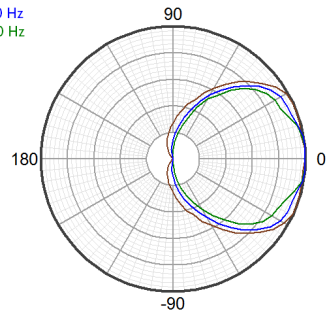
1600 Hz
2000 Hz
2500 Hz
3150 Hz



4000 Hz
5000 Hz
6300 Hz
8000 Hz



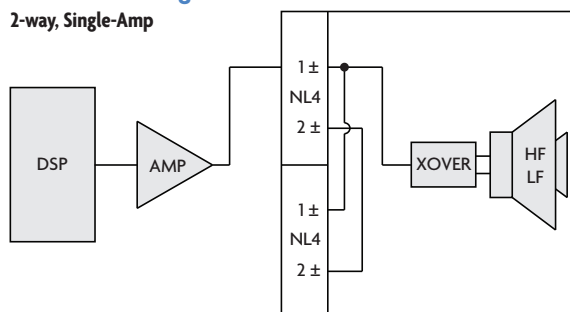
10000 Hz
12500 Hz
16000 Hz





Connection Diagram

2-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 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 $10^{Di/10}$.

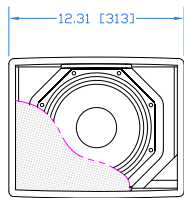
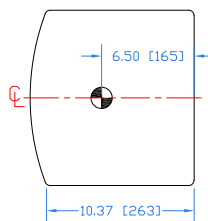


product specification

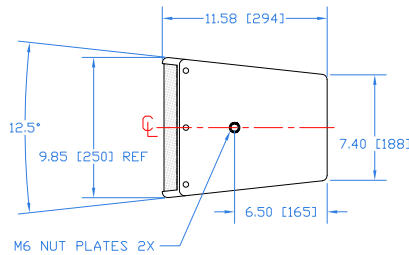
Notes:

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4. Symbol = CoG

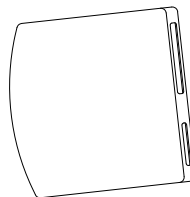
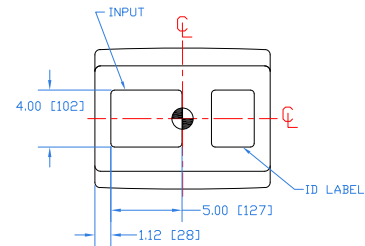
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REV	DESCRIPTION	APPR / DATE
2	MOVED SIDE NUT PLATES, REMOVED PI ANGLES, ADDED DMNIMOUNT 30 POINTS, ADDED COG, UPDATED WEIGHT	RAF 12/22/09
3	ADD SHIPPING WEIGHT	RAF 12/8/11
4	DMNIMOUNT TO "THIRD PARTY" IN NOTE 4	RAF 1/13/12
5	REMOVE PAN/TILT MOUNT POINTS	RAF 7/28/16
6	ADD MTG PT THREAD PITCH TO NOTES	RAF 7/27/20



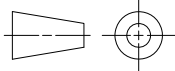
GRILLE PARTIALLY SHOWN



M6 NUT PLATES 2X



THIRD ANGLE PROJECTION



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ALL DIMENSIONS ARE IN INCHES

TOLERANCE IN INCHES
.XX1 .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 PRODUCTION

APPROVALS DATE

DRAWN: DWG 4/29/09

CHECKED: RAF 5/6/09

DES ENG:

MFG ENG:



FULCRUM ACOUSTIC, LLC
670 LINWOOD AVE., LINWOOD, MA 01525 USA

TITLE:
Mechanical Spec, P

B SHEET 1 OF 1 SCALE: 1:12

DWG. NO. 820-100-019 REV 6

Drawing is reduced. Do not scale.

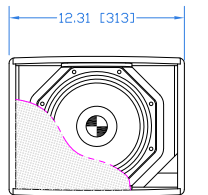
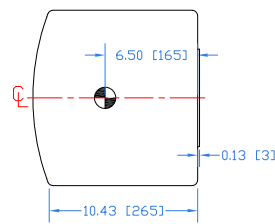


product specification, weather-resistant (WR) version

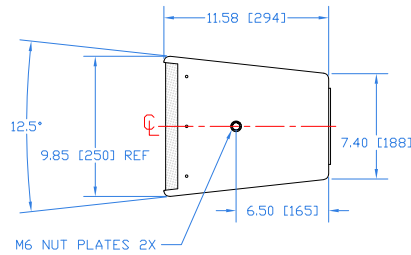
Notes:

1. Net Weight = Approx. 15.0 lb / 6.8 kg
2. Ship Weight = Approx. 20.0 lb / 9.1 kg
3. Symbol = M6x1.0 nut plate
4. Symbol = CoG

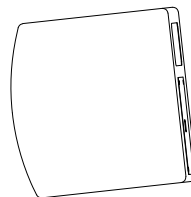
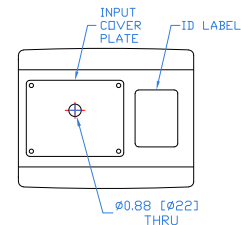
REVISIONS		
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2	REMOVE PAN/TILT MOUNT POINTS	RAF 7/28/16
3	UPDATE INPUT LOCATION & COVER PLATE	RAF 7/29/16



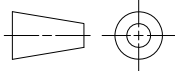
GRILLE PARTIALLY SHOWN



M6 NUT PLATES 2X



THIRD ANGLE PROJECTION



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TOLERANCE IN INCHES
.XX1 .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 SYMMETRICAL

STATUS PRODUCTION

APPROVALS DATE

DRAWN: RAF 1/14/16

CHECKED: DWG 1/14/16

DES ENG:

MFG ENG:



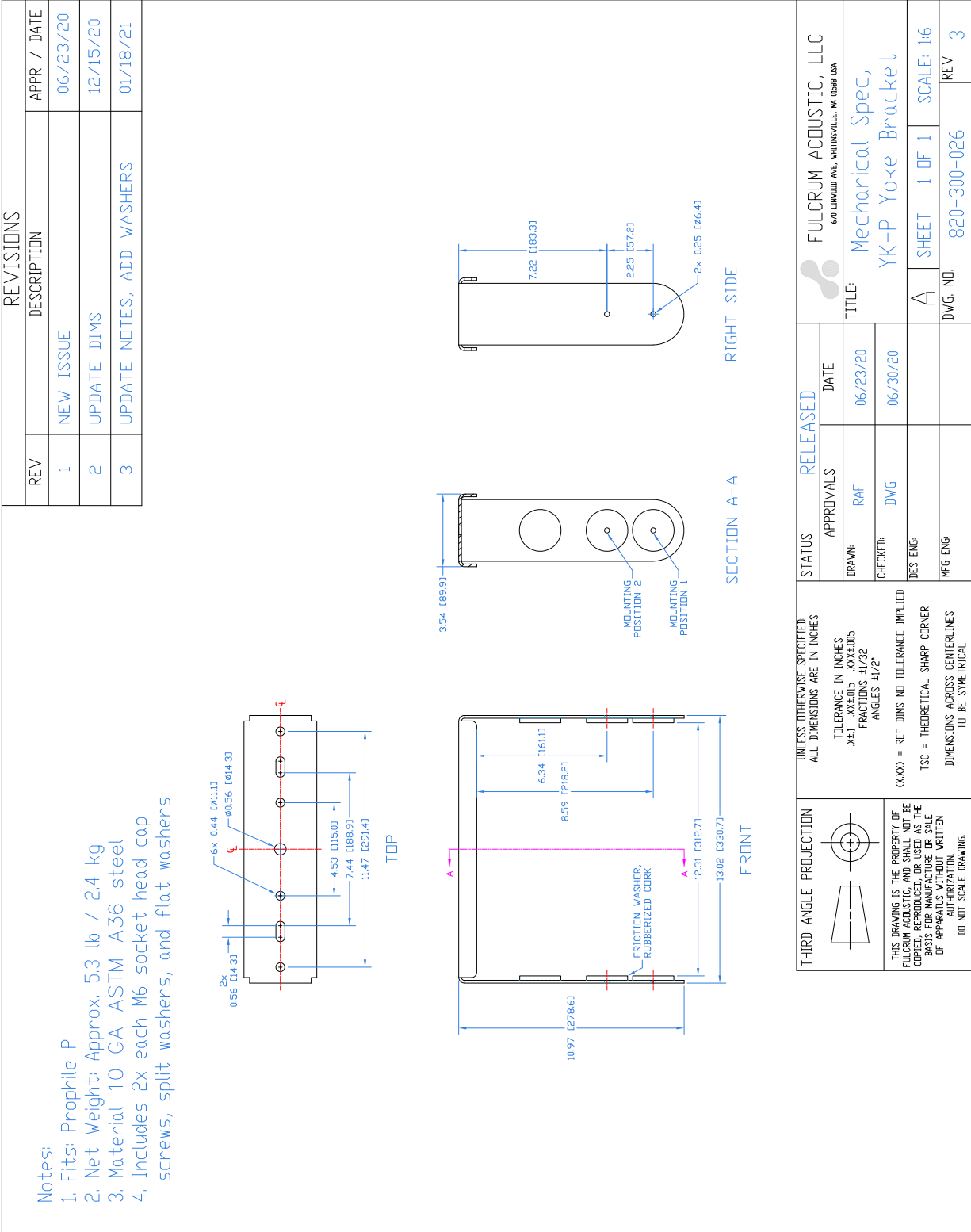
FULCRUM ACOUSTIC, LLC
670 LINWOOD AVE., LINWOOD, MA 01525 USA

TITLE:
Mechanical Spec, P-WR

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DWG. NO. 820-100-092 REV 3

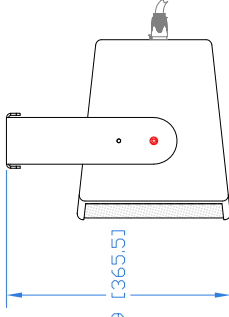
Drawing is reduced. Do not scale.



Drawing is reduced. Do not scale.

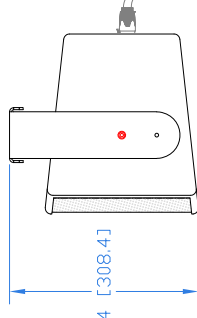
	DESCRIPTION	APPR / DATE
REV		
1	NEW ISSUE	RAF 06/23/20
2	UPDATE DIMS	RAF 12/15/20

Notes:
 The YK-P yoke bracket is designed to mount the Propophile P loudspeaker in a horizontal orientation. It is fitted with two mounting holes which allow the installer to vary the distance between the loudspeaker enclosure and the mounting surface.
 Note that the range of motion is restricted when the enclosure is mounted closer to the yoke. The maximum range of motion is achieved when the enclosure is mounted to the holes nearest the end of the bracket arms.



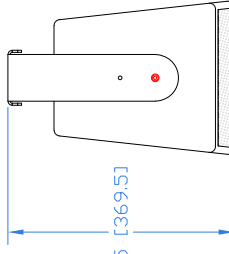
14.39 [365.5]

MOUNTING POSITION 1

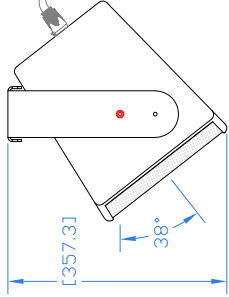


12.14 [308.4]

MOUNTING POSITION 2

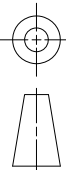


14.55 [369.5]



14.07 [357.3]

38°

	THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES	STATUS	RELEASED	
		TOLERANCE IN INCHES .X4:1 .XXE:0.05 .XXE:0.05 FRACTIONS ±1/32 ANGLES ±1/2° (X.XXX) = REF DIMS NO TOLERANCE IMPLIED TSC = THEORETICAL SHARP CORNER DIMENSIONS ACROSS CENTERLINES TO BE SYMMETRICAL	APPROVALS	DATE	FULCRUM ACOUSTIC, LLC 670 LINDOOD AVE. WHITINSVILLE, WI 53598 USA
	THIS DRAWING IS THE PROPERTY OF FULCRUM ACOUSTIC, AND SHALL NOT BE COPIED, REPRODUCED, OR USED AS THE BASIS FOR MANUFACTURE OF ANY PARTS OR APPARATUS WITHOUT WRITTEN AUTHORIZATION. DO NOT SCALE DRAWING.		DRAWN	06/23/20	TITLE: Mechanical Spec, YK-P + Propophile P Assembly
			CHECKED:	06/30/20	A SHEET 1 OF 1 SCALE: 1:8
			DES'G		DWG. NO. 820-300-027 REV 2
			MFG ENG		

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