

Description

The AC470Y-B3s is an Australian made professional low frequency 18" bass loudspeaker with a useful upper limit of 2.8kHz. This model has been designed for peak linear travel of 7.5mm and capable of 21mm before damage, therefore capable of producing extreme levels.

High thermal rating is achieved with a 4" voice coil with through magnet cooling, under spider venting and use of high temperature materials. The die-cast aluminum chassis also acts as a heat-sink and conducts heat away from the magnet structure. This model features rigid die cast aluminum frame and precision CNC machined magnet components.

The ferrite magnet-assembly has been optimized for BL symmetry. An aluminum shorting ring reduces flux modulation, improves inductance linearity, lowers distortion, improves stability and acts as a heat-sink for the voice-coil.

Less wind noise is achieved with an undercut and flared vented pole piece. The machined components are finished in E-coat for superior corrosion resistance.

The stiff ribbed paper cone is a product of our OFP technology and is molded in-house from a blend of premium air dried wood pulp and Kevlar fibres resulting in smooth controlled mid response. Our own Aramid spider was chosen for its high rigidity and long term stability, the shape optimized for suspension symmetry. The accordion cloth surround also made in house delivers extreme excursion with minimal distortion.

Efficient driver parameters have been selected to produce a full rich punchy bass in vented, band-pass and horn loaded enclosures.

The AC470Y model employs CNC machined magnet components and hand crafted to the highest and strictest tolerances to meet the demanding requirements of professional sound reinforcement applications.



Options

Model	Impedance
AC470Y-B3s-4	4 ohm
AC470Y-B3s-8	8 ohm
AC470Y-B3s-16	16 ohm

This datasheet applies to our AC470Y-B3s-8 model.

Technical Data

Typical measured Thiele/Small parameters:

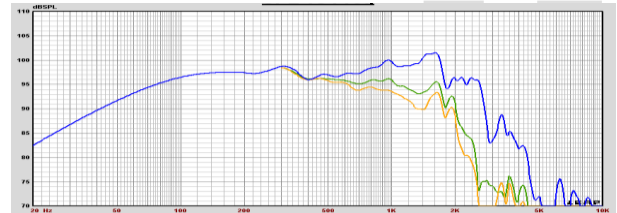
Maximum program power	=	1500 W
AES power rating	=	750 W
Rated nominal impedance	Z	= 8 ohms
Rated frequency range	=	30 – 2800 Hz
Reference sensitivity	=	98.0 dB SPL
Resonance frequency	=	40 Hz
Mechanical Q	Qm	= 4.8
Electrical Q	Qe	= 0.306
Total spk. Q	Qts	= 0.287
Diaphragm mass	Mmd	= 151 gms
Effective diaphragm diameter	D	= 39.3 cm
Effective diaphragm area	Sd	= 1225 sq.cm.
Vol. equiv to spk compliance	Vas	= 191 litres
Mechanical compliance	Cms	= 0.091mm/N
BL product	Bl	= 28.4 T.m.
Voicecoil diameter	d	= 100 mm
Voicecoil material	=	copper
Voicecoil DC resistance	Re	= 5.6 ohms
Voicecoil inductance @ 1Kz	Lvc	= 1.6 mH
Voicecoil height	=	24.0 mm
Height of air-gap	Hg	= 12 mm
Peak linear displacement	Xpk	= 7.5 mm
X Damage peak to peak	Xpk-pk	= 42 mm
Reference efficiency	=	3.88 %
Speaker total mass	=	12.8 kgm

Specifications subject to change without notice.

Notes

- (1) AES power is determined according to AES2-1984 standard in free-air 60Hz-600Hz.
- (2) Maximum recommended program power is twice AES power providing the safe excursion limits are not exceeded.
- (3) Reference sensitivity is SPL at 1W at 1m derived from Thiele/Small parameters.
- (4) Frequency range is the useful frequency range for this transducer when mounted in its recommended enclosure.
- (5) Thiele/Small parameters are derived after the speaker has been preconditioned and is a better representation of the long term parameters in use.
- (6) Peak linear displacement Xpk derived from Klippel XBL at 82%.

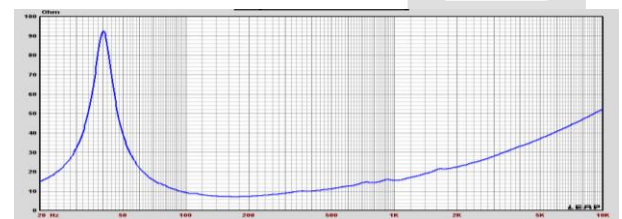
Frequency Response



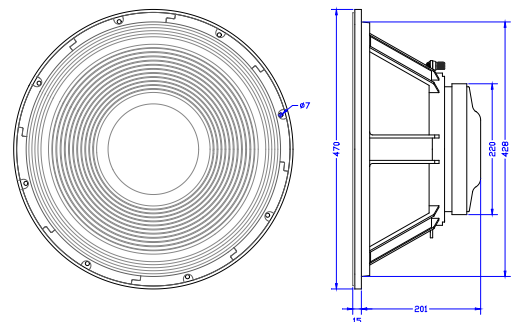
Infinite baffle sound pressure response recorded at 2.83V at one meter.

Blue curve is on axis spl response
Green curve SPL response 30° off axis.
Orange curve SPL response 40° off axis

Impedance plot



Free-air impedance magnitude plot.



Mounting Details

Baffle opening diameter	
front mounting	430 mm
rear mounting	430 mm
Mounting pattern:	
	Eight 7.0 mm holes equi-spaced on a 444mm PCD.
Flange thickness	15 mm.