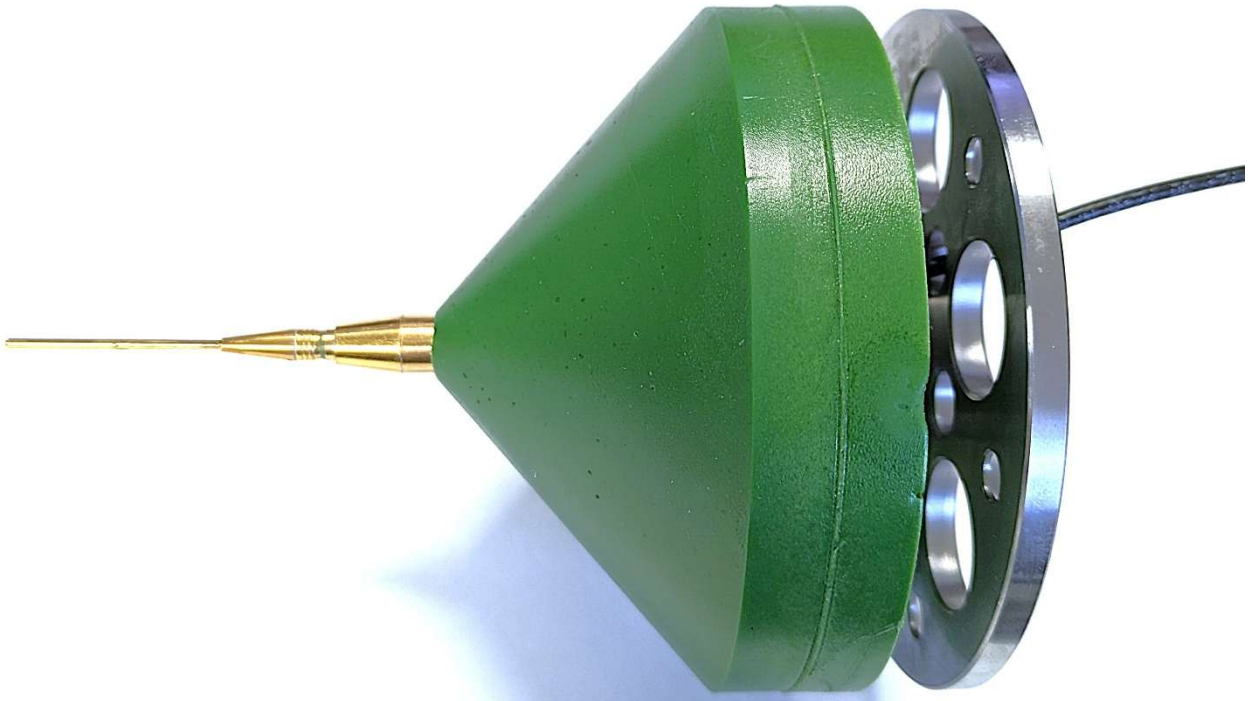
PRECISION ACOUSTICS
A Coda Octopus Company

TECHNICAL DATA SHEET

Absorbing conical needle hydrophone mount (ACM001)



Precision Acoustics is pleased to be able to offer a solution for mounting needle hydrophones which minimises the amplitude of the mount reflection. Comprising an angled conical section made from acoustic absorber mounted on a stainless steel plate and 12 mm diameter stainless steel rod, the mount provides users with greater protection from unwanted acoustic reflections compared with conventional hydrophone mounts.

Particularly useful for the study of long-duration signals where time-separation of the direct signal and the reflected signal is hard to achieve, use of the mount can help maintain the accuracy of measurement where acoustic parameters are ordinarily affected by reflections.

Suitable for use with all Precision Acoustics needle hydrophones using the HP gold-bodied preamplifier.

Precision Acoustics Ltd Hampton Farm Business Park, Higher Bockhampton, Dorchester, Dorset DT2 8QH, UK

t. +44 (0) 1305 264669 **e.** office@acoustics.co.uk **w.** acoustics.co.uk

CONTENTS

1 Product overview 1
1.1 Specification 1
1.2 Dimensions 1
2 Product properties 2

TABLE OF FIGURES

Figure 1 - Dimensioned drawing of absorbing conical mount. Dimensions in mm. 1
Figure 2. Echo reduction of the acoustic absorbing material measured at normal incidence. 2
Figure 3.Insertion loss for a 10 mm thick sample of the acoustic absorber measured at normal incidence. 2

Version	Date	Description
1.0	23/05/2025	Document created
1.1	4/11/2026	Photo and logo updated

1 PRODUCT OVERVIEW

The Precision Acoustics absorbing conical mount is designed for use with all Precision Acoustics needle hydrophones using the HP gold-bodied preamplifier. The conical acoustic absorber is securely held onto a high grade stainless steel chassis and can be disassembled through the use of six countersunk bolts for fitting the preamplifier. Once the preamplifier has been fitted into the mount, hydrophones can be interchangeably mounted without removing the preamplifier from the mount.

A stainless steel rod of 12 mm diameter and 300 mm length (provided) can be screwed into the chassis for mounting the assembly to fixturing.

The echo reduction of the acoustic absorber used for the conical section of the mount is given in Figure 2. In addition to this normal-incidence echo reduction of 15 dB or greater over the 1-30 MHz frequency range the conical shape of the mount directs reflections away from the needle tip further enhancing the echo reduction at the hydrophone tip.

1.1 SPECIFICATION

Model Number	ACM001
Weight	950 g
Materials	Stainless steel, 316, Acoustic absorber (Polyurethane based)
Operating frequency range	0.5-30 MHz

1.2 DIMENSIONS

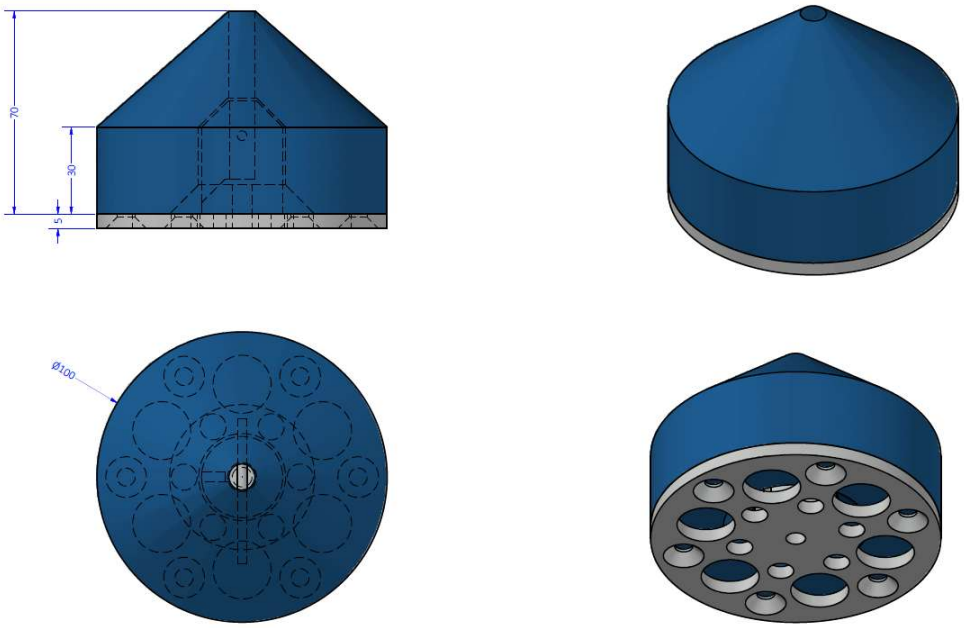


Figure 1 - Dimensioned drawing of absorbing conical mount. Dimensions in mm.

2 PRODUCT PROPERTIES

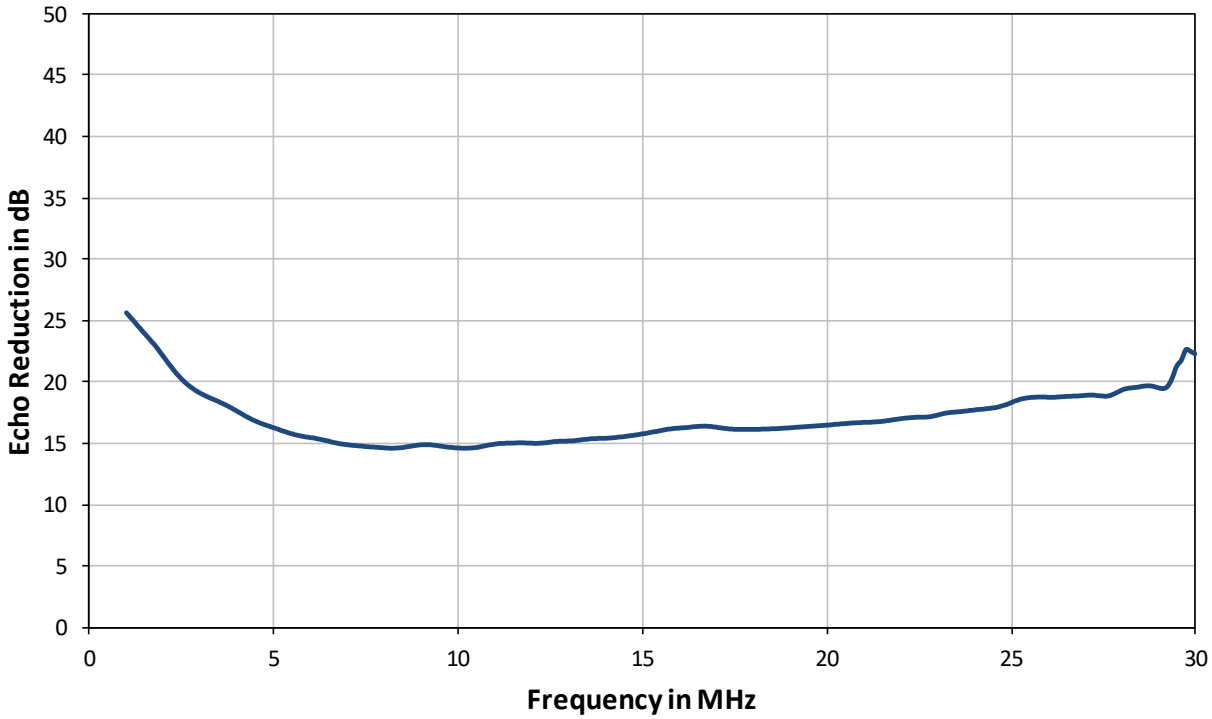


Figure 2. Echo reduction of the acoustic absorbing material measured at normal incidence.

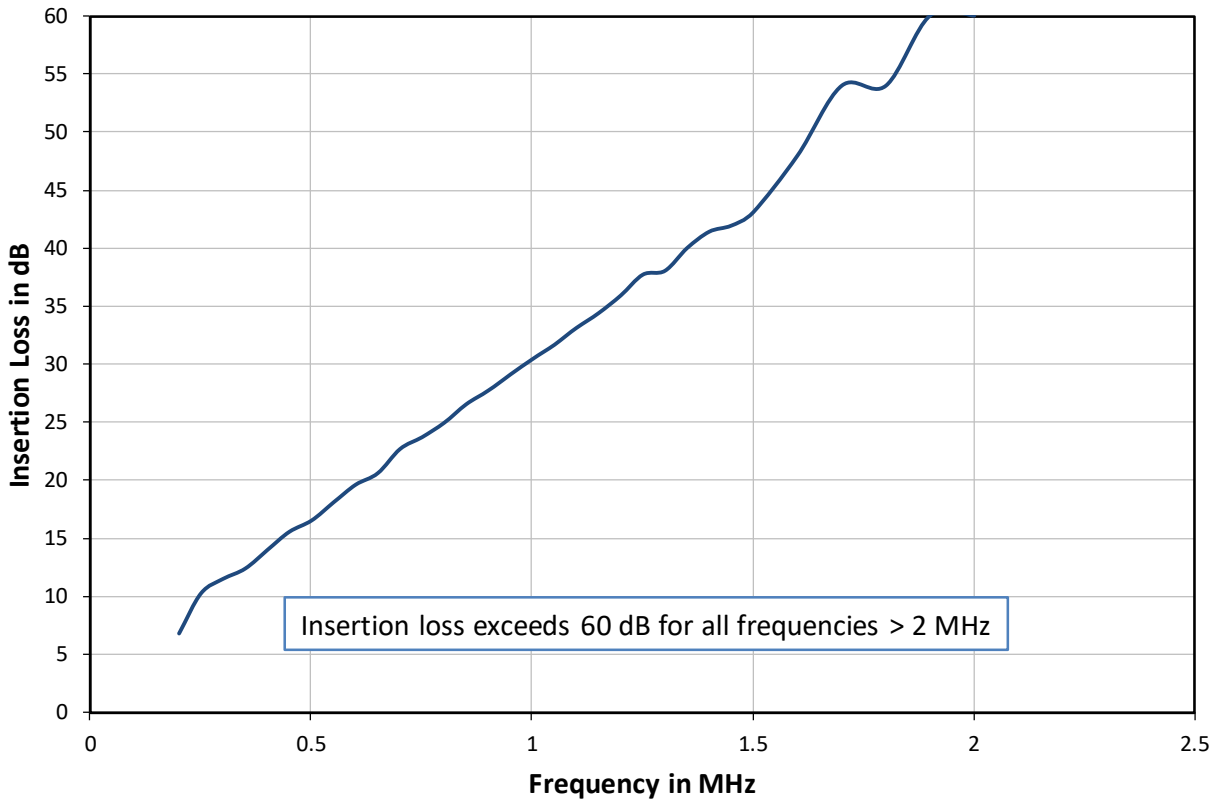


Figure 3.Insertion loss for a 10 mm thick sample of the acoustic absorber measured at normal incidence.

All information is based on results gained from experience and tests and is believed to be accurate but is given without acceptance of liability for loss or damage attributable to reliance thereon as conditions of use lie outside the control of Precision Acoustics Ltd.

The information in this publication was correct when it was published but specifications may change without notice. Photos are included for illustrative purposes only and actual items may differ in appearance. Precision Acoustics does not assume responsibility for typographical or photographical errors.