

47AX ½" CCP Flush-Mounted Microphone Set

Product Data

The G.R.A.S. 47AX ½" CCP Flush-Mounted Microphone Set is a low profile ½" precision pressure microphone with built-in CCP preamplifier.

With a height (to the diaphragm) of only 8 mm, 47AX is suitably designed for flush mounting in plates in ground array applications and other applications with size constraints.

- The microphone is a prepolarized pressure microphone with a dynamic range from 22 dB to 146 dB and a frequency range from 3.15 Hz to 20 kHz.
- The built-in preamplifier is a low noise constant current power (CCP) type, with a built-in TEDS circuit for automatic transducer identification.
- The set has an integrated 1.5 m cable with Microdot connector plus an adapter for BNC cable.

Flush-mounting is ideal where holes can be made in the structure, such as a clay model, to accommodate the front-vented 47AX. A back-vented version is also available, the 47AX-S1.

It is included with the 67AX Ground Array Set, which has a 400 mm diameter mounting plate. The 47AX-S1 is positioned asymmetrically in the mounting plate, providing a more uniform frequency response for measurements.

The 47AX is based on the IEC 61094 standard for measurement microphones.



Fig 1. The 47AX ½" CCP Flush-Mounted Microphone Set

Main Features

- Compact size adds flexibility to application designs
- Complete set consisting of microphone and pre-amplifier
- Built-in TEDS (supports IEEE 1451.4)

Typical Applications

- Flush mounting in confined spaces
- Flush mounting in clay models
- Ground array measurements
- General noise measurements

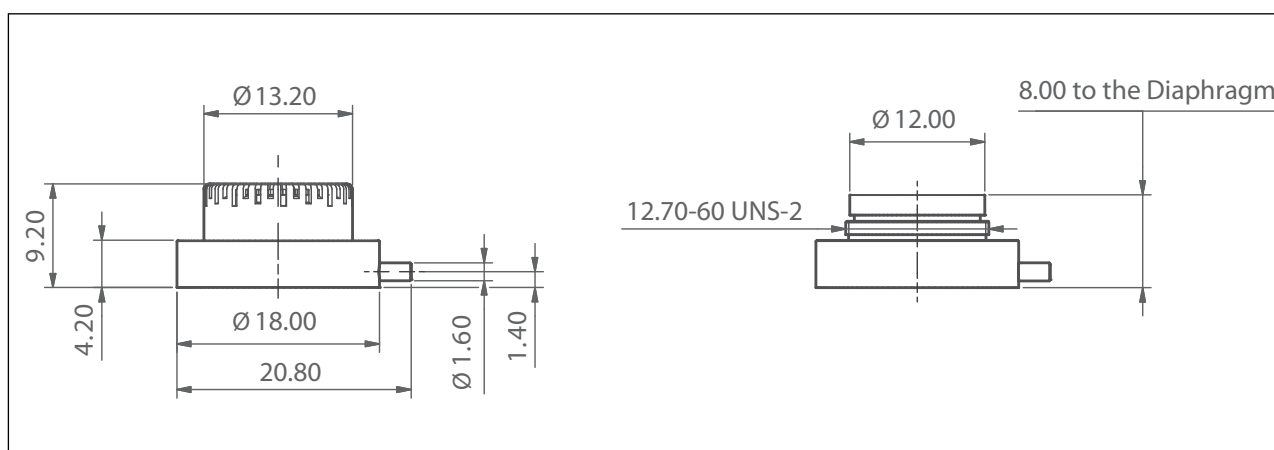


Fig 2. Diagram of the 47AX

47AX 1/2" CCP Flush-Mounted Microphone Set

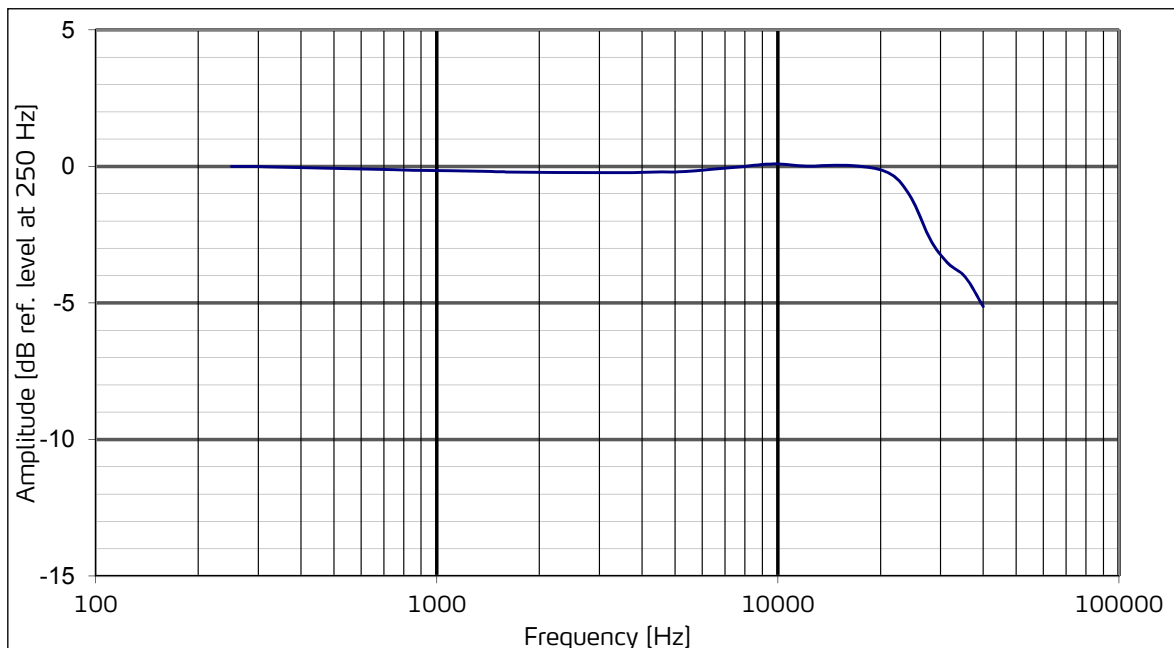


Fig 3. Typical frequency response for the 47AX

Specifications for 47AX

Frequency response

3.15 Hz – 20 kHz ±2.0 dB
 5 Hz – 12.5 kHz ±1.0 dB

Nominal sensitivity

at 250 Hz 12.5mV/Pa

Polarization voltage 0 V

Dynamic range

Upper limit (3% distortion) ..146 dB re. 20 µPa
 Thermal noise 22 dB(A) re. 20 µPa

Temperature

Operation -30 °C to +70 °C
 Storage -40 °C to +85 °C

Static-pressure coefficient

250 Hz/25 °C -0.008 dB / kPa

Humidity (non-condensing)

Range 0 – 100 % RH
 Influence (250 Hz) <0.1 dB (0 – 100 %RH)
 Influence of axial vibration equivalent to 1 m/s²
 66 dB re. 20 µPa

Venting

47AX Front-vented
 47AX-S1 Rear-vented

Dimensions

Microphone Ø13.20 mm
 Preamplifier Ø18.00 mm
 Microphone set height
 Without grid 8 mm
 With 9.20 mm
 Weight 15 g

Ordering Information

47AX 1/2" CCP Flush-Mounted Microphone Set with 1.5 m cable with Microdot connector and a BNC adapter (AE0046)

Accessories (order separately)

- RA0221 Pistonphone calibration adapter

Important: These adapters are designed for use with a 250 Hz pistonphone, such as the G.R.A.S. 42AP Pistonphone. Do not use them with any other calibrator or verification device. The 250 Hz pistonphone can be used for both calibration and daily verifications.

Microphone Set Calibration

Before leaving the factory, the microphone set has been tested and calibrated by G.R.A.S., and an individual test certificate is included. The calibration information is also stored in the built-in TEDS.

G.R.A.S. Sound & Vibration continually strives to improve the quality of our products for our customers; therefore, the specifications and accessories are subject to change.