

# GRAS 47BX

1/4" CCP Flush-mount  
Microphone Set



Freq range: 4 Hz to 70 kHz  
Dyn range: 44 dB(A) to 166 dB  
Sensitivity: 1.6 mV/Pa

The GRAS 47BX 1/4" CCP Flush-Mounted Microphone Set is a low profile 1/4" precision pressure microphone with built-in CCP preamplifier.

## Typical applications and use

- Flush mounting in confined spaces
- Flush mounting in clay models
- Flush mounting in scale models for wind tunnel tests
- Ground array measurements
- General noise measurements

## Design

With a height (to the diaphragm) of only 8 mm, 47BX 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 44 dB to 165 dB and a frequency range from 4 Hz to 70 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 (GRAS 47BX-CL with customized length optional) 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 47BX. A rear-vented version is also available, the 47BX-S1

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

## Calibration

When leaving the factory, all GRAS microphones have been calibrated in a controlled laboratory environment using traceable calibration equipment. Depending on the use, measurement environment and internal quality control programs we recommend that the microphone is recalibrated at least once a year.

We offer two kinds of calibration as an optional

after-sales service: GRAS Traceable Calibration and GRAS Accredited Calibration.

GRAS Traceable Calibration is a traceable calibration performed by trained personnel under controlled conditions according to established procedures and standards. This is identical to the rigorous calibration that all GRAS microphones are subjected to as an integral part of our quality assurance.

GRAS Accredited Calibration is performed by the GRAS Accredited Calibration Laboratory that has been accredited in accordance with ISO 17025 by DANAK, the Danish Accreditation Fund.

If you want a new microphone set delivered with an accredited calibration in stead of the default factory calibration, specify this when ordering.

Learn more at [gras/calib](https://www.gras.com/calib).

## Quality and warranty

GRAS microphone sets are made of components from our proven standard portfolio and are all manufactured of high-quality material and branded parts that were chosen and processed to ensure life-long stability and robustness.

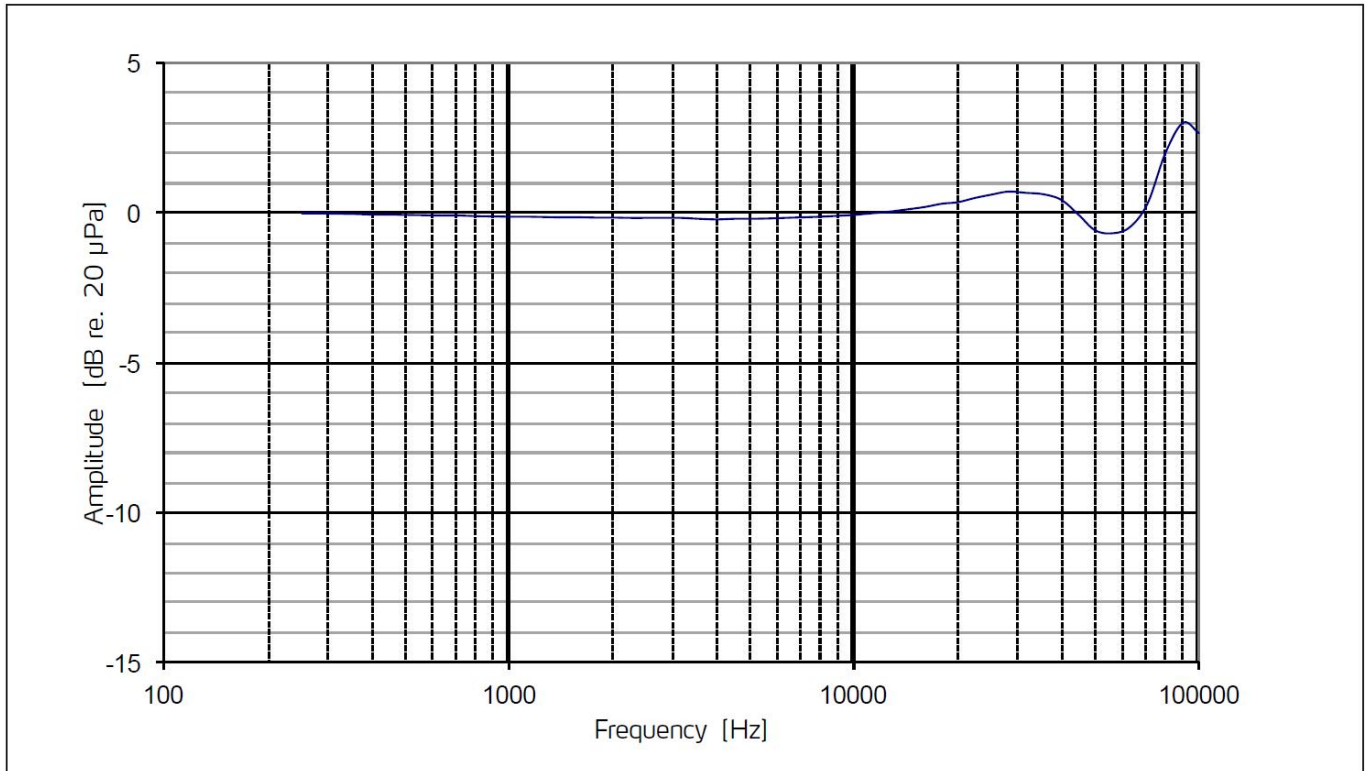
All parts are manufactured and assembled at the factory in Denmark by skilled and dedicated operators in a verified clean-room environment. The microphone diaphragm, body and unique protection grid are made of high-grade stainless steel and make the microphone set resistant to physical damage as well as corrosion caused by aggressive air or gasses.

This, together with the enforced gold-plated microphone terminal guarantees a highly reliable connection. Thanks to the high quality, our warranty against defective materials and workmanship is 5 years.

## Service

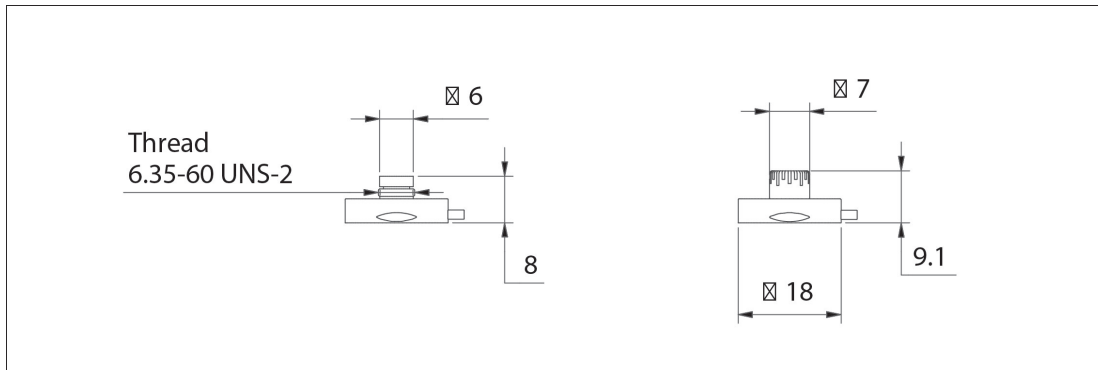
Should you by mistake damage the diaphragm on a GRAS microphone we will in most cases be able to exchange it at a very reasonable cost and short turn-around time. This not only protects your investment but also meets your quality assurance department since you do not have to worry about new serial numbers etc.

Frequency range ( $\pm 1$ dB)	Hz	10 to 25 k
Frequency range ( $\pm 2$ dB)	Hz	4 to 70 k
Dynamic range lower limit (microphone thermal noise)	dB(A)	44
Dynamic range upper limit with GRAS CCP preamplifier	dB	166
Set sensitivity @ 250 Hz ( $\pm 2$ dB)	mV/Pa	1.6
Power supply (Constant Current Power)	mA	2 to 10
Microphone venting		Front
Output impedance	$\Omega$	<50
Temperature range, operation	$^{\circ}\text{C}$ / $^{\circ}\text{F}$	-30 to 70 / -22 to 158
Temperature range, storage	$^{\circ}\text{C}$ / $^{\circ}\text{F}$	-40 to 85 / -40 to 185
Static pressure coefficient @250 Hz	dB/kPa	-0.008
Humidity range non condensing	% RH	0 to 100
Humidity coefficient @250 Hz	dB/% RH	<0.1
Influence of axial vibration @1 m/s <sup>2</sup>	dB re 20 $\mu\text{Pa}$	66
TEDS UTID (IEEE 1451.4)		27 v. 1.0
Connector type		Microdot 10/32
CE/RoHS compliant/WEEE registered		Yes/Yes/Yes
Weight	g / oz	7.5 / 0.265



*Typical frequency response*

GRAS Sound & Vibration reserves the right to change specifications and accessories without notice.



All dimensions in mm.

## Included items

<a href="#">GRAS AE0046</a>	Microdot - BNC male adapter
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## Optional items

<a href="#">GRAS 12AL</a>	1-Channel CCP Power Module with A-weighting filter
<a href="#">GRAS 42AP</a>	Intelligent pistonphone
<a href="#">GRAS RA0228</a>	Pistonphone Calibration Adapter for 1/4" Flush-mount Microphone Sets
<a href="#">GRAS RA0302</a>	Removal Tool for 1/2" & 1/4" Flush-mount Microphones
<a href="#">GRAS RA0502</a>	Mounting Adapter for 1/4" Flush-mount Microphone Set
<a href="#">GRAS AE0074</a>	BNC male to female adapter
<a href="#">GRAS AA0035</a>	3 m BNC - BNC Cable
<a href="#">GRAS AA0037</a>	10 m BNC - BNC Cable
<a href="#">GRAS AA0039-CL</a>	Customized length BNC - BNC Cable
GRAS CA0029	Traceable Calibration of Microphone Set
GRAS CA2301	Accredited Calibration of Microphone Set

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# | We Make Microphones

## Tradition

Since the establishment in 1994, GRAS has been 100% dedicated to developing and manufacturing high-quality measurement microphones and related acoustic equipment.

## Innovation

We work with everybody with an interest in sound or noise within the fields of aerospace, automotive, audiology, consumer electronics, noise monitoring, building acoustics and telecommunications.

## Quality

At GRAS we know that in order for you to trust your measurement results; signal quality, stability and robustness are essentials. We design and build them to perform under real life conditions – and beyond.

