GRAS 47DX

1/8” CCP Flush-mount Microphone Set

Frequency range: 10 Hz to 100 kHz
Dynamic range: 52 dB(A) to 173 dB
Sensitivity: 0.8 mV/Pa

The GRAS 47DX 1/8" CCP Flush-mount Microphone Set is a low profile 1/8" precision pressure microphone with built-in CCP preamplifier and TEDS.

GRAS Sound & Vibration A/S
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GRAS Sound & Vibration

Introduction

As the only 100% focused developer and manufacturer of measurement microphones, our goal is to provide you with the right sensor for the right application. Whether this is realized through a standard, special or customized sensor solution, our concern and priority is always to help you achieve the best possible measurement results – every time.

The 47DX 1/8" Flush-mount Microphone Set is the newest member of our range of low profile CCP microphone sets. With a height to the diaphragm of only 9 mm and a housing with a diameter of only 12 mm you can use the 47DX in applications with size constraints.

The 47DX has a prepolarized pressure microphone with a wide dynamic and frequency range. 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 (customized length optional) with Microdot connector and BNC adapter.

It is based on the IEC 61094 standard for measurement microphones.

Applications and use

The 47DX's low profile makes it ideal for flush mounting in confined spaces, for example in clay models and scale models for wind tunnel tests.

Its wide frequency range and low sensitivity makes it ideal for high-level impulsive noise measurements and for investigation of air flow and turbulence in scale models or in full scale testing.

System verification

For proper sensitivity calibration, we recommend using a pistonphone like GRAS 42AP Intelligent Pistonphone.

Quality and warranty

All GRAS microphone sets are made of high-quality materials that will ensure life-long stability and robustness. The microphone sets are all assembled in verified clean-room environments by skilled and dedicated operators with many years of expertise in this field. The microphone diaphragm, body, and improved protection grid are made of high-grade stainless steel, which makes the microphone resistant to physical damage, as well as corrosion caused by aggressive air or gasses. This, combined with the reinforced gold-plated microphone terminal which guarantees a highly reliable connection, enables GRAS to offer 5 years warranty against defective materials and workmanship.

Service

If you accidentally damage the diaphragm on a GRAS microphone, we can - in most cases - replace it at a very reasonable cost and with a short turn-around time. This not only protects your investment, but also pleases your quality assurance department because you don't have to worry about new serial numbers, etc.

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.

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

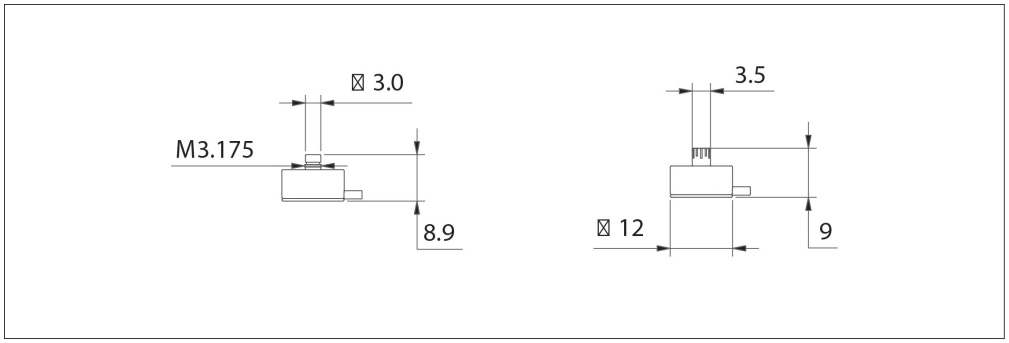
Should you by mistake damage the diaphragm on a GRAS microphone we will in most cases be able to exchange it at a very reasonable cost and short turn-around time. This not only protects your investment but also meets your quality assurance department since you do not have to worry about new serial numbers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

Specifications

Frequency range (±3 dB)	Hz	10 to 100 k
Dynamic range lower limit (microphone thermal noise)	dB(A)	52
Dynamic range upper limit with GRAS preamplifier @ +28 V / ±14 V power supply	dB	173
Set sensitivity @ 250 Hz (±3 dB)	mV/Pa	0.8
Microphone venting		Front
Output impedance	Ω	<50
Temperature range, operation	°C / °F	-30 to 70 / -22 to 158
Temperature range, storage	°C / °F	-40 to 85 / -40 to 185
Static pressure coefficient @250 Hz	dB/kPa	-0.014
Humidity range non condensing	% RH	0 to 100
Humidity coefficient @250 Hz	dB/% RH	<0.1
Influence of axial vibration @1 m/s²	dB re 20 µPa	59
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	10 / 0.353

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

Dimensions



All dimensions in mm.

Included items

GRAS AE0046	Microdot - BNC male adapter

Optional items

GRAS 12AL	1-Channel CCP Power Module with A-weighting filter
GRAS 42AP	Intelligent pistonphone
GRAS RA0278	Pistonphone Calibration Adapter for 1/8" Flush-mount Microphone Sets
GRAS RA0503	Mounting Adapter for 1/8" Flush-mount Microphone Set
GRAS AE0074	BNC male to female adapter
GRAS AA0035	3 m BNC - BNC Cable
GRAS AA0037	10 m BNC - BNC Cable
GRAS AA0039-CL	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.

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