



G.R.A.S. 46BD 1/4" CCP Pressure Standard Microphone Set

Freq range: 4 Hz to 70 kHz
Dyn range: 44 dB(A) to 166 dB
Sensitivity: 1.45 mV/Pa

The 46BD is a 1/4" CCP microphone set for pressure measurements.

Technology

Introduction

The 46BD is a 1/4" CCP microphone set for pressure measurements. Its LEMO equivalent is [G.R.A.S. 46BP](#)

The set consists of the 1/4" pressure microphone 40BD and the 1/4" preamplifier 26CB with a Microdot coaxial connector.

This combination was chosen to save you time and give you the best possible properties and reliability in the microphone/preamplifier match. Your workflow is optimized and typical handling errors are minimized.

Not only have we made a set of the best possible combination of microphone and preamplifier, we have also included TEDS, the Transducer Electronic Data Sheet standard according to IEEE-1451.4. Multi-channel users appreciate having an intelligent transducer, like 46AF, that can supply properties, types, and calibration data directly to measurement platforms that support TEDS.

The signal wire in the CCP transducer is used for reading the TEDS information directly from the transducer.

46BD is individually factory-calibrated and delivered with a calibration chart stating its specific open-circuit sensitivity and pressure frequency response.

Typical applications and use

The 40BD is ideal for sound pressure measurements, as well as high frequency and high level pressure measurements. It is suitable for general purpose acoustic measurements in couplers and at boundaries.

Compatibility

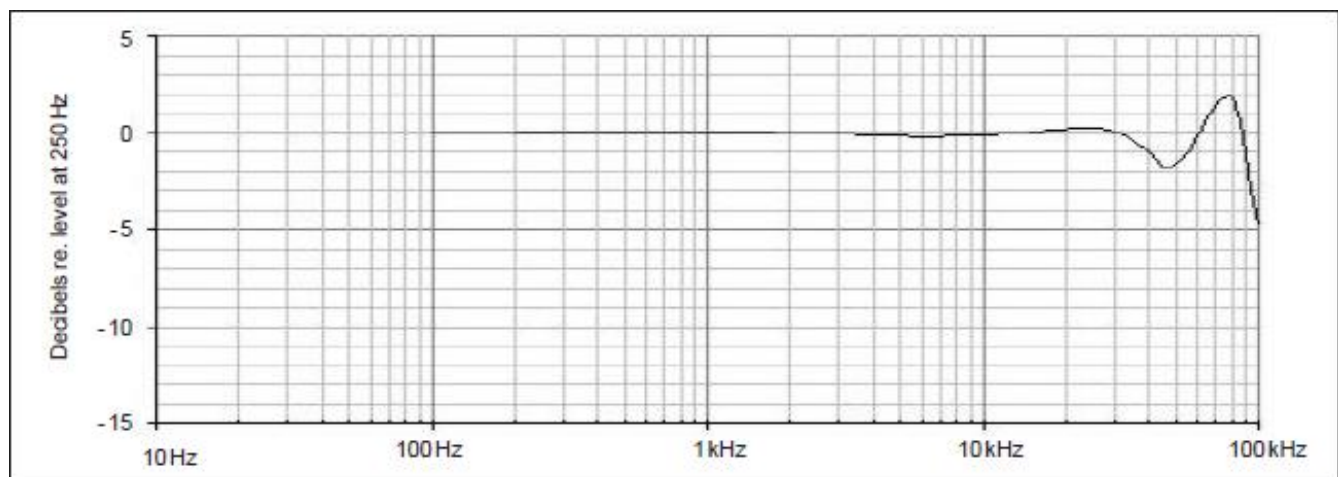
The 46BD uses the Microdot coaxial connector, which requires an input module that supports this technology.

For more information, see System Setup.

Specifications

TYPE (Microphone features)		P
Frequency range (± 1 dB)	Hz	10 to 25 k
Frequency range (± 2 dB)	Hz	4 to 70 k
Dynamic range lower limit with G.R.A.S. preamplifier	dB(A)	44
Dynamic range upper limit with G.R.A.S. CCP preamplifier	dB	166
Set sensitivity @ 250 Hz (± 3 dB)	mV/Pa	1.45
Set sensitivity @ 250 Hz (± 3 dB)	dB re 1V/Pa	-57
Output impedance	Ω	< 50
Output Voltage Swing, min. @ 24-28 V CCP voltage supply	Vp	8
Power supply min. to max.	mA	2 to 20
DC bias voltage, typ.	V	12
Microphone venting		Rear
IEC 61094-4 Compliance		WS3P
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
Temperature coefficient @250 Hz	dB/ $^{\circ}\text{C}$ / dB/ $^{\circ}\text{F}$	-0.01 / -0.006

Static pressure coefficient @250 Hz	dB/kPa	-0.008
Humidity range non condensing	% RH	0 to 95
Humidity coefficient @250 Hz	dB/% RH	-0.001
Influence of axial vibration @1 m/s ²	dB re 20 µPa	55
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	8 / 0.282



Typical frequency response (without protection grid)

Ordering info

Optional items

G.R.A.S. 42AA	Pistonphone, Class 1
G.R.A.S. 42AP	Intelligent Pistonphone, Class 0
G.R.A.S. 12AL	1-Channel CCP Power Module with A-weighting filter

G.R.A.S. 12AQ	2-Channel Universal Power Module with signal conditioning and PC interface
G.R.A.S. AA0070	3 m Microdot - BNC Cable
G.R.A.S. AA0073-CL	Customized length Microdot - BNC Cable



We make Microphones

Tradition

Since the establishment in 1994, G.R.A.S. have been 100% dedicated to developing and manufacturing high-quality measurement microphones and related acoustic equipment. Founded by the Danish acoustics pioneer Gunnar Rasmussen who for more than 60 years has contributed to the world of sound and vibration with his unique ideas and designs. From the first reproducible 1" condenser measurement microphone that enabled quality measurements and instrumentation for acoustic calibration, Mr. Rasmussen's ingenuity and foresight led to the world's most popular acoustic sensor: The 1/2" measurement microphone. Then the 1/4" and 1/8" microphones followed with outstanding dynamic and high-frequency capability that brought higher definition and transparency into impulse noise diagnostics. Many variants have been made available over the years; all based on Gunnar Rasmussen's original 1" pressure microphone design.

Innovation

At G.R.A.S., we and our customers benefit daily from Mr. Rasmussen's exceptional understanding of acoustics, physics, electronics and measurement needs. Not only in R&D but throughout the organisation, we are proud to develop, produce and offer the broadest range of high-quality measurement microphones and accessories in the industry. And as a family company, now owned and managed by the two sons, Per Rasmussen and Peter Wulf-Andersen, we safeguard our heritage and knowledge to help create new opportunities with our customers. 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, metrology, education, consultancy, legislation and system integration.

Quality

All our microphones are solely produced in stainless steel and in a quality that allows for a 5 year warranty. Should you by mistake damage the diaphragm on a G.R.A.S. microphone, our special technique enables repair at very reasonable price.

Partners

G.R.A.S. is represented worldwide in more than 40 countries by subsidiaries and distributors. Whether you are searching for a multi-channel solution or just a replacement microphone for your sound level meter G.R.A.S. will help solve your needs. Visit gras.dk for your local G.R.A.S. partner.