



## G.R.A.S. 40PK CCP Free-field QC Microphone, Short

Freq range: 10 Hz to 20 kHz  
Dyn range: 26 dB(A) to 145 dB  
Sensitivity: 18 mV/Pa

The 40PK is a free-field microphone for Quality Control and measurements in confined spaces. It has a wide frequency range reaching up to 20 kHz and a large dynamic range from <26 dB (A) to 145 dB.

### Technology

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#### Typical applications and use

- Production-line testing of drivers, receivers, and microspeakers
- Measurements in confined spaces

#### Design

The G.R.A.S. 40PK CCP Free-field QC Microphone, short is a robust, cost-effective microphone designed for use in production-line testing of loudspeakers and acoustic transducers. It has a wide frequency range reaching up to 20 kHz and a large dynamic range from <25 dB(A) to 145 dB.

The cost-effectiveness of the 40PK is a key consideration when setting up multiple production lines. Close manufacturing tolerances provide the 40PK with a high degree of interchangeability – a major advantage when used in production-line test setups.

**G.R.A.S.**  
SOUND & VIBRATION

The 40PK is very short and can therefore be used in confined spaces where its bigger equivalent, the 40PP cannot be used. Close manufacturing tolerances provide the 40PK with a high degree of interchangeability – a major advantage when used in production-line test setups.

The standard SMB connector of the 40PK ensures an easy-to-handle setup and supports the use of standard RG174 cable all the way from the microphone to the input module.

## Compatibility

The integrated CCP (Constant Current Power) preamplifier requires a constant-current power supply, such as the [G.R.A.S. 12AL](#) 1-Channel CCP Power Module with A-Weighting filter, or any other CCP compatible power supply or input module. The built-in TEDS (Transducer Electronid Data Sheet, according to IEEE 1451.4) chip provides information about the microphone that can be used by systems designed for use with TEDS.

To fully benefit from its short length, the cable with an angled SMB connector should be chosen (see the tab Ordering info).

## System verification

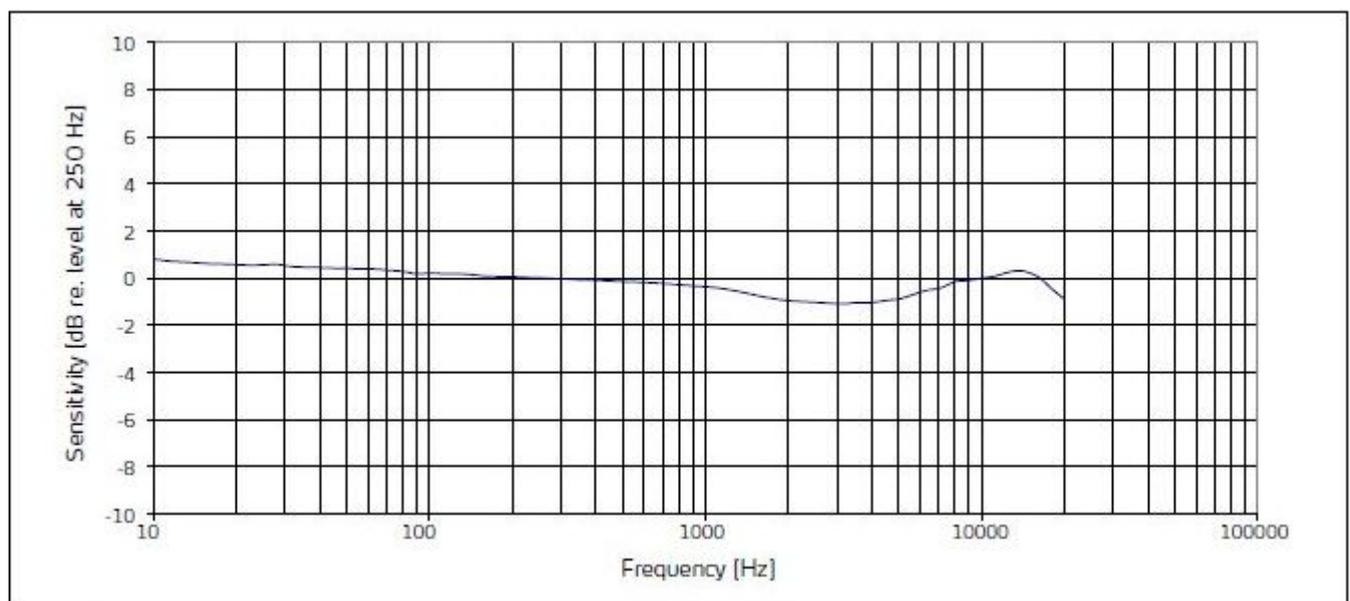
The functionality of TEDS is very useful for determining what microphone is connected to your respective input channels. However, it is not a check of whether the microphone is within specifications or not. For daily verification and check of your measurement setup we therefore recommend using a sound source like the G.R.A.S. 42AB Sound Level Calibrator.

For proper sensitivity calibration we recommend using a reference sound source like the G.R.A.S. 42AP Intelligent Pistonphone.

## Specifications

Frequency range ( $\pm 2$ dB)	Hz	10 to 10 k
Frequency range ( $\pm 3$ dB)	Hz	10 to 20 k
Dynamic range lower limit with G.R.A.S. preamplifier	dB(A)	< 26
Dynamic range upper limit	dB	145
Set sensitivity @ 250 Hz ( $\pm 2$ dB)	mV/Pa	18
Polarization voltage	V	0
Power supply (Constant Current Power)	mA	2 to 20
Microphone venting		Front
Output impedance	$\Omega$	< 50

Temperature range, operation	°C / °F	-10 to 50 / 14 to 122
Temperature range, storage	°C / °F	-40 to 85 / -40 to 185
Influence of axial vibration @1 m/s <sup>2</sup>	dB re 20 µPa	50
TEDS UTID (IEEE 1451.4)		27 v. 1.0
Connector type		SMB
CE/RoHS compliant/WEEE registered		Yes/Yes/Yes
Weight	g / oz	3.5 / 0.12346



Typical frequency response

## Dimensions

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Length (incl. connector): 34 mm  
Diam.: 7 mm

## Ordering info

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### Optional items

<a href="#">G.R.A.S. AA0027</a>	3 m SMB - BNC Cable
<a href="#">G.R.A.S. AA0082-CL</a>	Customized Length SMB - BNC Cable
<a href="#">G.R.A.S. AA0078</a>	3 m SMB angled - BNC Cable
<a href="#">G.R.A.S. AA0081-CL</a>	Customized Length SMB angled - BNC Cable
<a href="#">G.R.A.S. AL0028</a>	7 mm Microphone Holder, POM
<a href="#">G.R.A.S. AL0005</a>	Swivel head
<a href="#">G.R.A.S. AL0006</a>	Tripod
<a href="#">G.R.A.S. 12AL</a>	1-Channel CCP Power Module with A-weighting filter
<a href="#">G.R.A.S. 12AQ</a>	2-Channel Universal Power Module with signal conditioning and PC interface
<a href="#">G.R.A.S. 42AB</a>	Sound Calibrator, Class 1
<a href="#">G.R.A.S. 42AP</a>	Intelligent Pistonphone, Class 0



## **We make Microphones**

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### **Tradition**

Since the establishment in 1994, G.R.A.S. has been 100% dedicated to developing and manufacturing high-quality measurement microphones and related acoustic equipment. G.R.A.S. was 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**

At G.R.A.S. we know that in order for you to trust your measurement results; signal quality, stability and robustness are essentials. And because we also know how you handle and use the microphones in your daily work, we design and build them to perform under real life conditions – and beyond.

When developing measurement microphones, our R&D team uses a series of highly accelerated life tests (HALT) to ensure that our microphones live up to the high quality and precision our customers have come to expect and trust. Thus to simulate the handling and use a microphone is exposed to when working outside the lab – in real life situations - we bake it, we humidify it, we shake it and we try to break it - all to make sure that you can trust your measurement results - every time.

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](http://gras.dk) for your local G.R.A.S. partner.