

# GRAS 46BL-HT

1/4" CCP Pressure High  
Temperature Microphone Set,  
High Sensitivity



Freq range: 4 Hz to 20 kHz  
Dyn range: 25 dB(A) to 144 dB  
Sensitivity: 18 mV/Pa  
Special feature: For high temperatures

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The 46BL-HT is a high-sensitive, low-noise 1/4" CCP microphone set with rear-venting. It is optimized for high temperatures – up to 120 °C/248 °F

### Introduction

The 46BL-HT is a 1/4" CCP pressure microphone set, optimized for high sensitivity, low noise and high temperatures.

It complies with IEC 61094: Measurement Microphones, Part 4: Specifications for working standard microphones, except that the upper limit of the useful frequency range is 20 kHz.

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

### Design

The set consists of a modified 40BL 1/4" CCP Pressure Microphone, High Sensitivity and a modified 26CB 1/4" preamplifier with Microdot connector.

The diaphragm is slightly larger than usual for a 1/4" microphone, and the protective grid has been modified accordingly.

The rear-venting is through a hole close to the rear of the preamplifier, and the set has been optimized for high-temperatures up to 120 °C/248 °F.

### Typical Applications and Use

The 46BL-HT can be used for applications where a 1/2" microphone would be the natural choice, but the advantages of a smaller microphone are desired. Its small dimensions means that its presence in the sound field has minimal influence in the audible frequency range. It can be used to measure frequencies up to 20 kHz. Its high sensitivity and low noise make it ideally suited for all applications with low to moderate sound levels.

46BL-HT is ideally suited for production line testing of portable communication devices, such as cell

phones, laptop computers, tablets, GPS receivers and similar devices using microspeakers. It is also well suited for general acoustic measurements when high sensitivity and low noise are required.

46BL-HT is heat resistant up to 120 °C/248 °F, and can be used for measurements in hot environments, e.g. an engine compartment or similar. The TEDS chip can operate up to 85° Celsius.

### Compability

The 46BL-HT uses a Microdot connector, which requires an input module that supports this technology. Our 1/4" rain protection cap and nose cone do not fit.

#### *Calibration*

The 46BL has a diaphragm and protection grid that is slightly larger in diameter than is standard for 1/4" microphones. Therefore you need a RA0236 Adapter for calibration.

### System Verification

For daily verification and check of your measurement setup, we recommend using a calibrator like GRAS 42AG Sound Calibrator. For proper sensitivity calibration, we recommend using a pistonphone like GRAS 42AP Intelligent Pistonphone.

### Calibration

Before leaving the factory, all GRAS products are calibrated in a controlled laboratory environment using traceable calibration equipment. An individual test certificate stating the sensitivity and frequency response is included with each product.

### Performance and Warranty

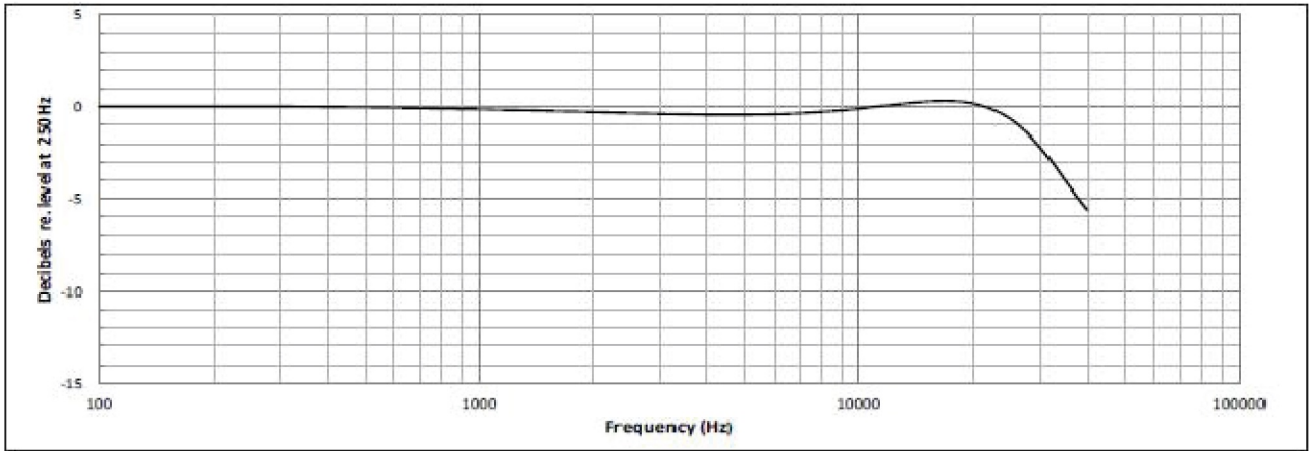
All GRAS microphone sets are made of high-quality materials that will ensure life-long stability and

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 and Repairs

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. All repairs are made at GRAS International Support Center located in Denmark. Our Support Center is equipped with the newest test equipment and staffed with dedicated and highly skilled engineers. Upon request, we make cost estimates based on fixed repair categories. If a product covered by warranty is sent for service, it is repaired free of charge, unless the damage is the result of negligent use or other violations of the warranty. All repairs are delivered with a service report, as well as an updated calibration chart.

Polarization/Connection		0 V / CCP
Frequency range ( $\pm 1$ dB)	Hz	10 to 10 k
Frequency range ( $\pm 2$ dB)	Hz	4 to 20 k
Dynamic range lower limit (microphone thermal noise)	dB(A)	25
Dynamic range upper limit	dB	147
Set sensitivity @ 250 Hz ( $\pm 2$ dB)	mV/Pa	18
Set sensitivity @ 250 Hz ( $\pm 2$ dB)	dB re 1V/Pa	-35
Microphone venting		Rear
IEC 61094-4 Designation		WS3P
Temperature range, operation	$^{\circ}\text{C} / ^{\circ}\text{F}$	-30 to 120 / -22 to 248
Temperature range, storage	$^{\circ}\text{C} / ^{\circ}\text{F}$	-40 to 85 / -40 to 185
Temperature coefficient @250 Hz	dB/ $^{\circ}\text{C}$ / dB/ $^{\circ}\text{F}$	-0.015/71.973 @ (-10 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$ /14 to 122)
Static pressure coefficient @250 Hz	dB/kPa	-0.008
Humidity range non condensing	% RH	0 to 90
Influence of axial vibration @1 m/s <sup>2</sup>	dB re 20 $\mu\text{Pa}$	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

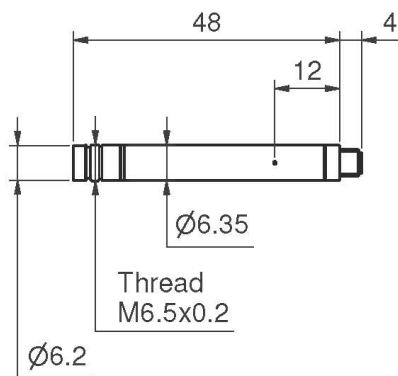
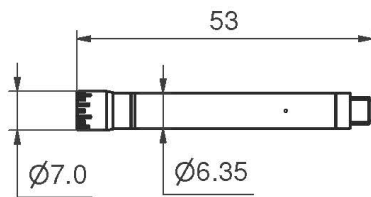


*Typical frequency response.*

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



Dimensions in mm



GS0654/Rev01  
46BL

## Optional items

<a href="#">GRAS AA0070</a>	3 m Microdot - BNC Cable
<a href="#">GRAS AA0073-CL</a>	Customized Length Microdot - BNC Cable
<a href="#">GRAS AA0087-CL</a>	Customized Length Microdot - Microdot Cable
<a href="#">GRAS AL0029</a>	1/4" Microphone Holder, POM
<a href="#">GRAS AL0013</a>	1/4" Microphone Holder, Stainless Steel
<a href="#">GRAS AL0005</a>	Swivel head
<a href="#">GRAS AL0006</a>	Tripod
<a href="#">GRAS AM0071</a>	Windscreen for 1/4" Microphones
<a href="#">GRAS 12AL</a>	1-Channel CCP Power Module with A-weighting filter
<a href="#">GRAS 12AQ</a>	2-Channel Universal Power Module with signal conditioning and PC interface
<a href="#">GRAS 42AG</a>	Multifunction Sound Calibrator, Class 1
<a href="#">GRAS 42AP</a>	Intelligent Pistonphone, Class 0
GRAS RA0236	Calibration Adapter for 46BL

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# GRAS Worldwide

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than 40 countries

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## ABOUT GRAS SOUND & VIBRATION

GRAS is a worldwide leader in the sound and vibration industry. We develop and manufacture state-of-the-art measurement microphones to industries where acoustic measuring accuracy and repeatability is of utmost importance in R&D, QA and production. This includes applications and solutions for customers within the fields of aerospace, automotive, audiology, and consumer electronics. GRAS microphones are designed to live up to the high quality, durability and accuracy that our customers have come to expect and trust.

**GRAS** Sound  
& Vibration