

# 1/8-inch Pressure Microphone Type 40DP

## Product Data and Specifications

### Typical applications

- *Sound-pressure measurements*
- *High-frequency measurements*
- *Very high level pressure measurements*
- *Impulse-noise measurements*



Fig. 1 1/8-inch Pressure Microphone Type 40DP (inset shows true size)

The G.R.A.S. Microphone Type 40DP (Fig. 1) is a 1/8-inch pressure microphone with a wide frequency response (see Fig. 2) and a large dynamic range.

Its tiny physical size (see Fig. 1) reduces to a minimum the effects of diffractions and reflections created by its presence in the sound field. This allows it to be used for measuring very-high frequency sounds without disturbing the sound field.

Its low sensitivity makes it ideal for high-level measurements. This, combined with its wide frequency response, make it also well suited for impulse-noise measurements.

The Type 40DP must be used with an adapter (RA0063 or RA0082 - both available from G.R.A.S.) for mounting 1/8-inch microphones onto 1/4-inch

preamplifiers.

G.R.A.S. 1/4-inch preamplifiers Types 26AA, 26AB, 26AC and 26AL (see separate data sheet) are available for use with the Type 40DP when fitted with an adapter RA0063 or RA0082. The mounting thread (5.7 mm - 60 UNS-2) is compatible with other available makes of similar microphone preamplifiers.

Non-corrosive, stainless materials are used in manufacturing these microphones to enable them to withstand rough handling and corrosive environments.

All G.R.A.S. microphones are guaranteed for 5 years and are individually checked and calibrated before leaving the factory. An individual calibration

## Specifications

<b>Nominal open-circuit sensitivity:</b> at 250Hz. .... 1 mV/Pa	<b>Upper limit of dynamic range:</b> 3% distortion ..... 174 dB re. 20 µ Pa
<b>Frequency response:</b> ±1.0 dB ..... 10 Hz - 30 kHz ±2.0 dB ..... 6.5 Hz - 140 kHz	<b>Lower limit of dynamic range:</b> Thermal noise ..... 40 dBA re. 20 µ Pa
<b>Polarization voltage:</b> 200 V	<b>Nominal cartridge capacitance:</b> Polarized. .... 3.5 pF
	<b>Resonant frequency:</b> 90° phase shift ..... 160 kHz ...continued overleaf

**G.R.A.S.**  
**Sound & Vibration**

Skovlytoften 33  
2840 Holte, Denmark  
Tel +45 45 66 40 46 Fax +45 45 66 40 47  
e-mail: gras@gras.dk www.gras.dk

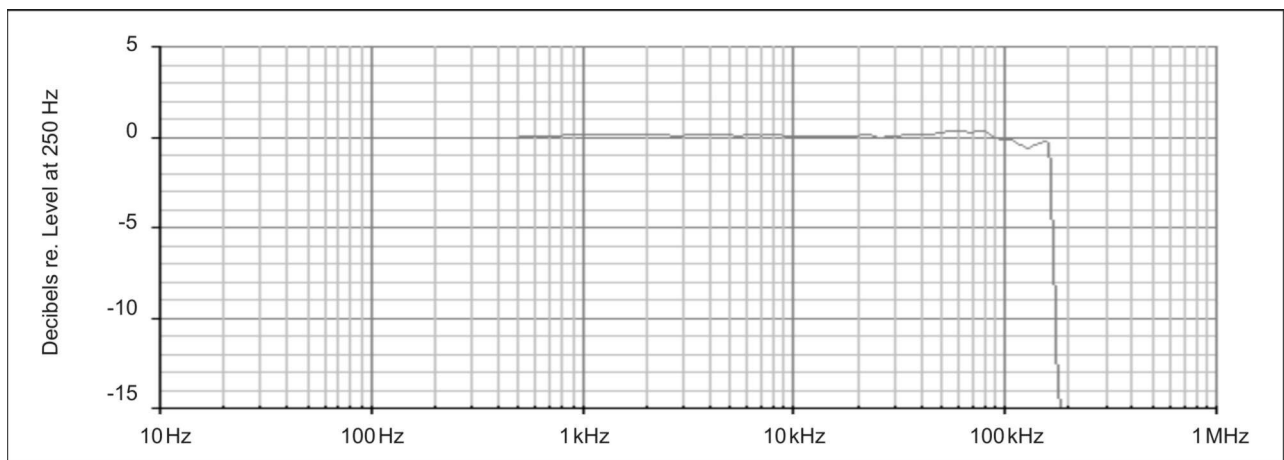


Fig. 2 Typical frequency response for Type 40DP (without protection grid)

### Specifications (continued)

<b>Effective front volume:</b>		<b>Dimensions (with protection grid):</b>	
Nominal at 250 Hz	0.1 mm <sup>3</sup>	Length:	6.7 mm
<b>Static-pressure coefficient:</b>		Diameter:	3.5 mm
250 Hz at 25 °C	-0.01 dB/k Pa	<b>(without protection grid):</b>	
<b>Influence of axial vibration:</b>		Length:	6.1 mm
for 1 m/s <sup>2</sup>	59 dB re. 20 μ Pa	Diameter:	3.2 mm
<b>Temperature range:</b>		<b>Diameter (diaphragm ring):</b>	
	-40 °C to +150 °C		3.0 mm
<b>Mean temperature coefficient:</b>		<b>Threads:</b>	
-10 °C to +50 °C	0.01 dB/°C	Protection Grid:	M 3.175 x 0.2
<b>Venting:</b>		Preamplifier Mounting:	M 3 x 0.25
	Rear vented	<b>Weight:</b>	
			1.5 g

G.R.A.S. Sound & Vibration reserves the right to change specifications and accessories without notice

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Skovlytoften 33  
 2840 Holte, Denmark  
 Tel +45 45 66 40 46 Fax +45 45 66 40 47  
 e-mail: gras@gras.dk www.gras.dk