

1-inch Laboratory STD., Pressure Microphone Type 40EU

Product Data and Specifications

Typical applications

- *LS1P Reference microphone*
- *Precision reciprocity calibrations*
- *Laboratory reference for secondary calibration of working-standard microphones*

The G.R.A.S. Microphone Type 40EU (Fig. 1) is a 1-inch laboratory-standard pressure microphone for use in couplers. It fulfills the requirements as a replacement for WE 640 microphones.

As a pressure microphone, the Type 40EU has a flat pressure-frequency response over its entire working frequency range (see Fig. 2).

1-inch to ½-inch Adapters (RA0017, RA0073) are available for using Type 40EU with G.R.A.S. ½-inch preamplifiers (see separate data sheets for Types 26AG, 26AH, 26AJ, 26AK and 26AM).

All G.R.A.S. microphones comply with the specifications of IEC 61094: *Measurement Microphones, Part 2: Specifications for laboratory standard microphones.*



Fig. 1 1-inch Pressure Microphone Type 40EU

Non-corrosive, stainless materials are used in manufacturing these microphones to make them both robust and to withstand corrosive environments.

The Type 40EU is a linear reversible transducer as required for precision reciprocity calibrations. When carefully handled, it will retain its calibrated properties for centuries to come.

All G.R.A.S. microphones are guaranteed for 5 years and are individually checked and calibrated before leaving the factory. An individual calibration chart is supplied with each microphone. The Type 40EU is also supplied with a protective dust cap when not in use.

Specifications

Frequency response:		Polarization voltage:	200 V
2.6 Hz - 8 kHz	±2.0 dB	Dynamic range:	
4 Hz - 5 kHz	±1.0 dB	Upper limit (3% distortion):	146 dB re. 20 µ Pa
Nominal sensitivity (20°C):	50 mV/Pa	Microphone thermal noise:	9.6 dBA re. 20 µ Pa
	-26 dB re. 1 V/Pa	Nominal capacitance:	56 pF
Venting:	Rear vented	Temperature range:	-40 °C to +150 °C
			...continued overleaf

G.R.A.S.
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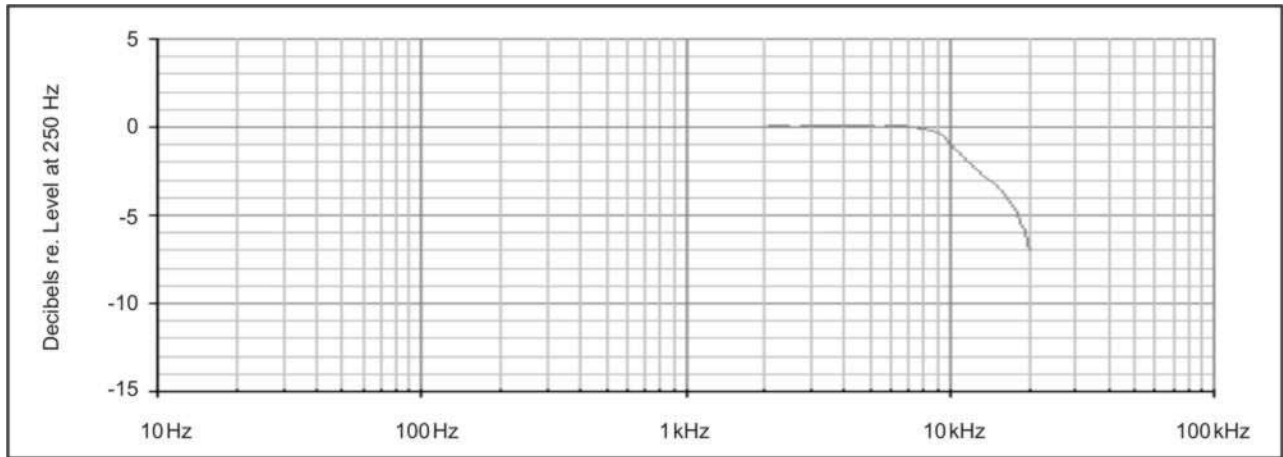


Fig. 2 Typical pressure frequency response for Type 40EU

Specifications (continued)

Temperature coefficient (250 Hz): -10°C to +50°C	0.003 dB/°C	Dimensions (with protection grid):	Length: 19.0 mm
Static-pressure coefficient (250 Hz, 25°C):	-0.016 dB/k Pa	Diameter: 23.77 mm	
Humidity range:	0 - 100% (non-condensing)	(without protection grid):	Length: 17.1 mm
Influence of humidity (250 Hz):	<0.1 dB (0 - 100% RH)	Diameter: 23.77 mm	
Influence of axial vibration, 1 m/s²:	67 dB re. 20 µ Pa	Diameter (diaphragm ring):	22.05 mm
IEC 61094-2 type designation:	LS1P	Threads:	Protection Grid: 23.11 mm - 60 UNS
		Preamplifier Mounting: 23.11 mm - 60 UNS	
		Weight:	32 g

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

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