

# X-RUGGED MICROPHONE

## GRAS 147EB

### CCP X-Rugged Microphone Set



147EB is a rugged microphone set optimized for wheel-house brake-noise measurements. It comes with a three-layer protection system that enables it to withstand the conditions in the wheelhouse during prolonged testing on public roads in all types of climate and weather. It is well

protected against vibrations, humidity, dust, oil mists, and temperatures from -40 to 125°C.

*Easily replaceable windscreens provide added protection. See page 111. Visit [www.grasacoustics.com](http://www.grasacoustics.com) for further accessories.*

	Nominal Sensitivity	Frequency Response	Power Supply	Dynamic Range	Max. Output Peak Voltage	Temperature Range	Length	Diameter without Protection Grid	Diameter with Protection Grid	Weight
147EB	50	3.15 – 20 k*	2 – 20	18 dB(A) to 133 dB	8	-40 to +125	87.2	12.7	23.77	61.5
Units	mV/Pa	Hz	mA	re. 20 µPa	V	°C	mm	mm	mm	g

\* After correction for the influence of the 1" grid.

# PROBE MICROPHONES

## GRAS 40SA

### LEMO Probe Microphone



Small, compact unit for sound pressure measurements in small enclosures, harsh environments and very close to sound sources. The high acoustic input impedance of the probe tip has minimal influence on the acoustic field, and can withstand temperatures of up to 800°C.

It is constructed with a detachable stainless steel probe tip that guides the acoustic signal to a microphone inside the probe housing. For closed-coupler measurements, the probe microphone uses internal pressure equalization to balance out static pressure differences.

## GRAS 40SC

### CCP Probe Microphone



Similar to the 40SA in both size and performance but differs in the way it is powered. The GRAS 40SC is built around a prepolarized microphone and CCP preamplifier and requires a constant-current power supply. It has a BNC output socket for making a connection to a constant-current power supply or a data-acquisition system that can supply constant current between 2 and 20 mA.

Both probe types are delivered with a selection of probe tips of various lengths that can be customized with the supplied set of pliers.

	Sensitivity at 250 Hz	Dynamic Range	Frequency Range (±3 dB)	Electrical Output Impedance	Noise Floor (typical)	
					A-weighted	Lin (20 Hz – 20 kHz)
40SA	3	40 to > 166	2 – 8 k	55	6	2
40SC	3	40 to > 160	2 – 8 k	< 50	6	3
Units	mV/Pa (nom.)	dB re. 20 µPa	Hz	Ω	µV	µV



ES France - Département Tests & Mesures  
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 45  
Fax. 01 47 01 16 22



e-mail : [tem@es-france.com](mailto:tem@es-france.com)  
Site Web : [www.es-france.com](http://www.es-france.com)