GRAS 50GI

CCP Intensity Probe

Freq range: Ref. IEC 61043 Class 1
Dyn range: 27 dB(A) to 146
Sensitivity: 12.5 mV/Pa

GRAS 50GI is a sound intensity probe for direct connection to signal analyzers or data acqusition devices with IEPE inputs. The probe includes a pair of phase-matched prepolarized precision microphones which meet the requirements in IEC standard 61043 for a class-1 intensity probe. The small rugged 1/4" CCP preamplifiers ensure minimum disturbances to the sound field for accurate measurements in the full frequency range.

GRAS Sound & Vibration
Skovlytoften 33, 2840 Holte, Denmark
www.grasacoustics.com

Typical applications and use

- Sound intensity measurements
- Sound source location
- Sound power measurements
- IEC 61043 standard measurements
- Sound source ranking
- Sound intensity mapping

Design

The probe set includes solid interchangeable spacers for microphone separations from 12 mm to 100 mm so that the probe can cover the frequency range from 50 Hz to 10 kHz.

All components are made specifically for sound intensity applications. Each small 1/4" diameter by 40 mm long microphone preamplifier is housed in a robust stainless steel casing, which enables novel probe designs for reducing disturbances to the soundfield otherwise brought about by the effects of shadows and diffraction, and a symmetry which enables reliable calibrations as described in the proposed standard (ISO/DIS 9614-2) for sound power measurements using sound intensity measurements.

The CCP Intensity Probe GRAS 50GI comprises 40GK sound Intensity Microphone Pair, two 26CB CCP Microphone Preamplifiers, four solid spacers of various lengths, windscreen, and probe handle.

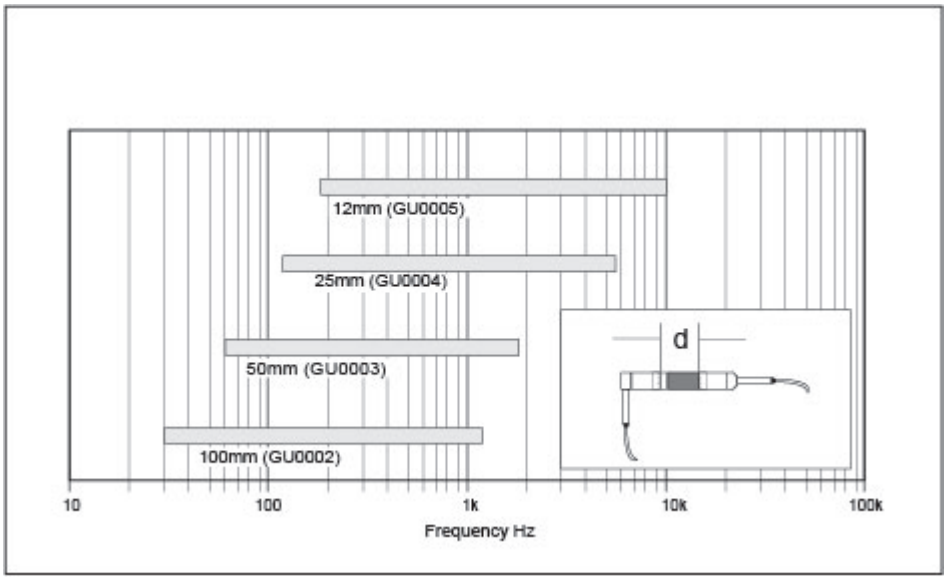
The Type 50GI is delivered in a carrying case as a ready-to-use kit, complete with all the above accessories.

The microphones are 1/2/ free-field prepolarized microphones with a uniquely-designed pressure equalisation system which ensures extremely well defined phase characteristics.

The microphones and preamplifiers are mounted on a swivel head on the telescopic arm of the handle. To cover the full frequency range from 50 Hz to 10 kHz, the 50GI probe is delivered with four solid spacers for spacing the microphones at 12 mm, 25 mm, 50 mm and 100 mm. These spacers can be easily interchanged without dismantling the probe.

Specifications

Polarization/Connection		0 V / CCP
Frequency range (±2 dB)	Hz	Ref. IEC 61043 Class 1
Dynamic range lower limit (microphone thermal noise)	dB(A)	27
Dynamic range upper limit	dB	146
Set sensitivity @ 250 Hz (±2 dB)	mV/Pa	12.5
Microphone venting		Rear
Temperature range, operation	°C / °F	5 to 40 / 41 to 104
Temperature coefficient @250 Hz	dB/°C / dB/°F	-0.01
Humidity range non condensing	% RH	0 - 100
Humidity coefficient @250 Hz	dB/% RH	-0.001
Influence of axial vibration @1 m/s²	dB re 20 µPa	66
Connector type		BNC
CE/RoHS compliant/WEEE registered		Yes/Yes/Yes
Weight	g / oz	300 / 10.582



Frequency ranges for different microphone spacers

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

Ordering info

Included items

GRAS 40GK	1/2" Prepolarized Intensity Microphone Kit
GRAS 26CB Set	1/4" CCP Standard Preamplifier with Microdot connector
GRAS AA0070	3 m Microdot - BNC cable
GRAS AI0044	Probe handle
GRAS AI0001	Windscreen for Intensity Probes

Optional accessories

GRAS 12AQ	2-Channel Universal Power Module with signal conditioning and PC interface
GRAS 42AP	Intelligent Pistonphone, Class 0
GRAS 51AB	Phase Calibrator according to IEC 61043

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

GRAS Worldwide

Subsidiaries and distributors in more than 40 countries

HEAD OFFICE, DENMARK
GRAS SOUND & VIBRATION
Skovlytoften 33
2840 Holte
Denmark
Tel: +45 4566 4046
www.GRASacoustics.com
gras@grasacoustics.com

USA
GRAS SOUND & VIBRATION
9290 SW Nimbus Avenue
Beaverton, OR 97008
Tel: 503-627-0832
Toll Free: 800-231-7350
www.GRASacoustics.com
sales-usa@grasacoustics.com

UK
GRAS SOUND & VIBRATION
Unit 115, Gibson House,
Ermine Business Park, Huntingdon,
Cambridgeshire, PE29 6XU
Tel: +44 (0)7762 584 202
www.GRASacoustics.com
sales-uk@grasacoustics.com

CHINA
GRAS SOUND & VIBRATION
Room 502, Building T1,
No.1398 Ali Center
Shenchang Road,
Minhang District,
Shanghai, China, 201107
Tel: +86 21 400-888-9826
www.GRASacoustics.cn
cnsales@grasacoustics.com

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 is represented through subsidiaries and distributors in more than 40 countries and is part of Axiometrix Solutions, a leading test solutions provider comprised of globally recognized measurement brands. Read more at www.GRASacoustics.com

www.GRASacoustics.com

GRAS

An Axiometrix Solutions Brand