

GRAS 40HH

1/2"



Freq range: 10 Hz to 16 kHz
Dyn range: 6.5 dB(A) to 113 dB
Sensitivity: 800 mV/Pa

GRAS 40HH 1/2"

20 Pa 6.5 dB 1/3 20 Hz 20 kHz

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



Typical applications and use

- Very Low Sound pressure measurements
- Low noise product measurements
- Sound power measurements at low sound pressure levels
- Measurements on hard-disk drives, computer products, quiet rooms etc.

The 40HH comprises:

- a special high-sensitive 1/2" GRAS 40AH Condenser Microphone
- a special 1/2" GRAS 26HH Lownoise Preamplifier

The preamplifier and microphone are an individually matched combination. To complete the system, a special single or 10-channel power module is required and is available, i.e. [GRAS 12HF](#) for single-channel measurements or [GRAS 12HM](#) for multi-channel measurements.

The chosen power module provides all necessary voltages for powering the preamplifier(s) as well as polarizing the microphone(s).

Preamplifier

The GRAS 26HH Preamplifier has a built-in overload indicator (which is repeated on the chosen power supply) and a frequency correction facility for both pressure-microphone operation as well as free field microphone operation.

Microphone

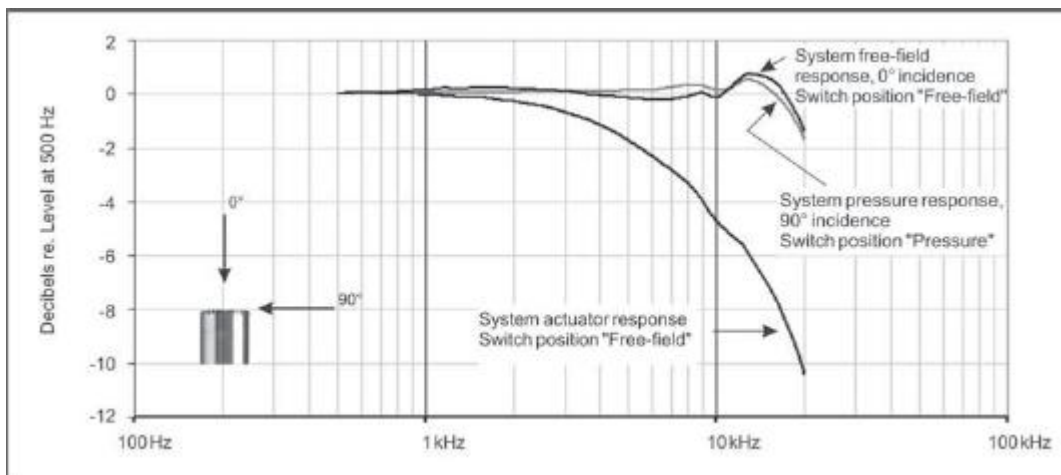
The GRAS 40AH Microphone is an externally polarized microphone with a specially reduced inherent noise floor in order to achieve a high dynamic range and wide frequency range. Its diaphragm is specially tuned to yield high sensitivity coupled with low internal-noise generation.

Frequency Response and Noise Floor

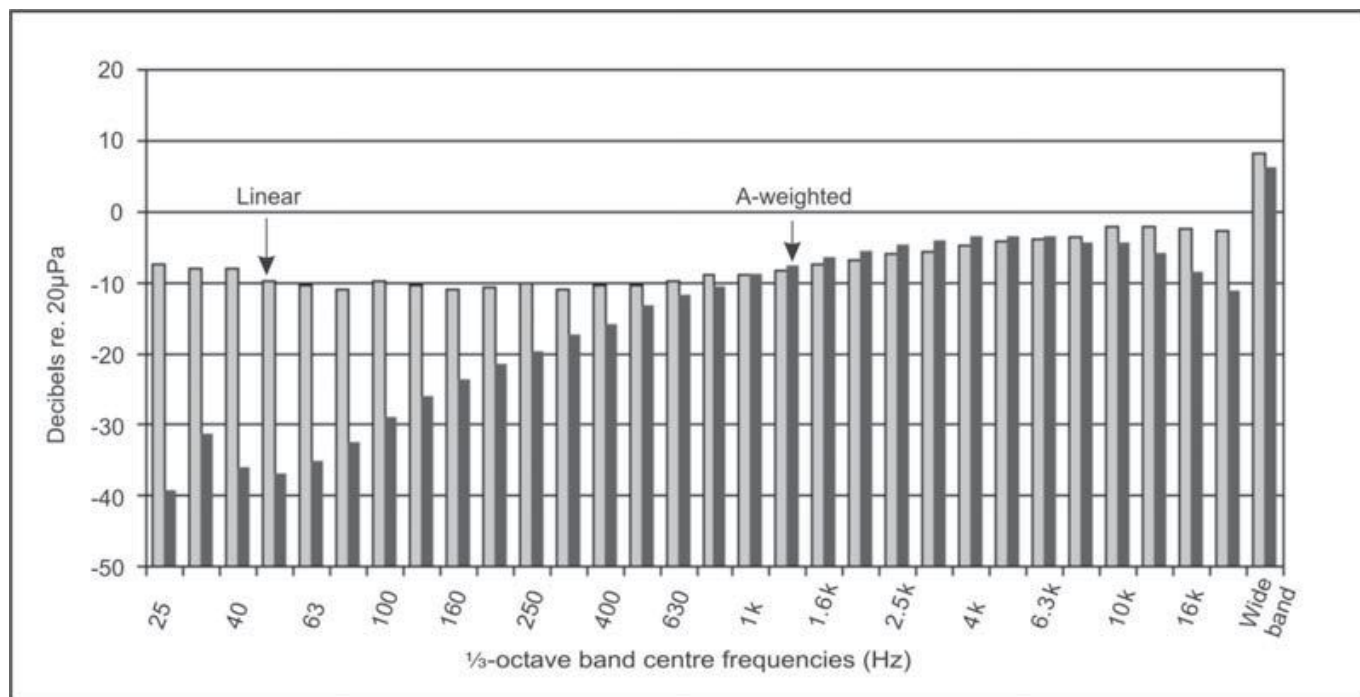
The chosen power supply has a two-position switch

for selecting which microphone operation to use, i.e. pressure or free-field. A typical free-field response for an angle of incidence of 0° is shown in the data sheet when GRAS 40HH is switched to free-field operation. Also shown is a complete low-noise measuring system, a typical noise floor in 1/3-octave bands for both the linear and A-weighted cases.

| | | |
|--|---|------------------------|
| Frequency range (± 1 dB) | Hz | 12.5 to 10k |
| Frequency range (± 2 dB) | Hz | 10 to 16k |
| Frequency range (± 3 dB) | Hz | 6 to 20k |
| Dynamic range lower limit (microphone thermal noise) | dB(A) | 6.5 |
| Dynamic range upper limit | dB | 113 |
| Set sensitivity @ 250 Hz (± 2 dB) | mV/Pa | 800 |
| Polarization voltage | V | 200 V / Traditional |
| Microphone venting | | Rear |
| Output impedance | Ω | 47 |
| Temperature range, operation | $^{\circ}\text{C}$ / $^{\circ}\text{F}$ | -20 to 60 / -4 to 140 |
| Temperature range, storage | $^{\circ}\text{C}$ / $^{\circ}\text{F}$ | -40 to 85 / -40 to 185 |
| CE/RoHS compliant/WEEE registered | | Yes/Yes/Yes |



Typical frequency response



Typical noise floor shown in 1/3-octave bands - linear and A-weighted cases

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

Included items

| | |
|-----------|--------------------------------|
| GRAS 40AH | High sensitive 1/2" microphone |
| GRAS 26HH | Lownoise 1/2" preamplifier |

Optional items

| | |
|-----------------------------|---|
| GRAS 12HF | 1-Channel Power Module for Lownoise Systems |
| GRAS 12HM | 10-Channel Power Module for Lownoise Systems |
| GRAS AM0363 | Windscreen for 1" Microphones |
| GRAS 42AA | Pistonphone, Class 1 |
| GRAS RA0090 | Pistonphone Coupler |
| GRAS AL0006 | Tripod |
| GRAS RA0093 | Adjustable, high quality, stainless steel tripod adapter |
| GRAS RA0095 | Dehumidifier for 1" microphones |
| GRAS AA0046 | 3 m LEMO 7-pin - LEMO 7-pin Cable for Low-noise measuring system |
| GRAS AA0047 | 10 m LEMO 7-pin - LEMO 7-pin Cable for Low-noise measuring system |

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 315, RuiBo Center(T1)
Lane683, Shenhong Rd,
Minhang District,
Shanghai, China, 201107
Tel: +86 21 64203370
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 and related equipment for industries where acoustic measuring accuracy and repeatability are of the utmost importance. This includes applications and solutions for customers within the fields of aerospace, automotive, audiology, consumer electronics and other highly demanding industries. GRAS microphones are designed to live up to the high quality, durability and accuracy that our customers have come to expect, trust and require.

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

grasacoustics.com

GRAS
An Axiometrix Solutions Brand