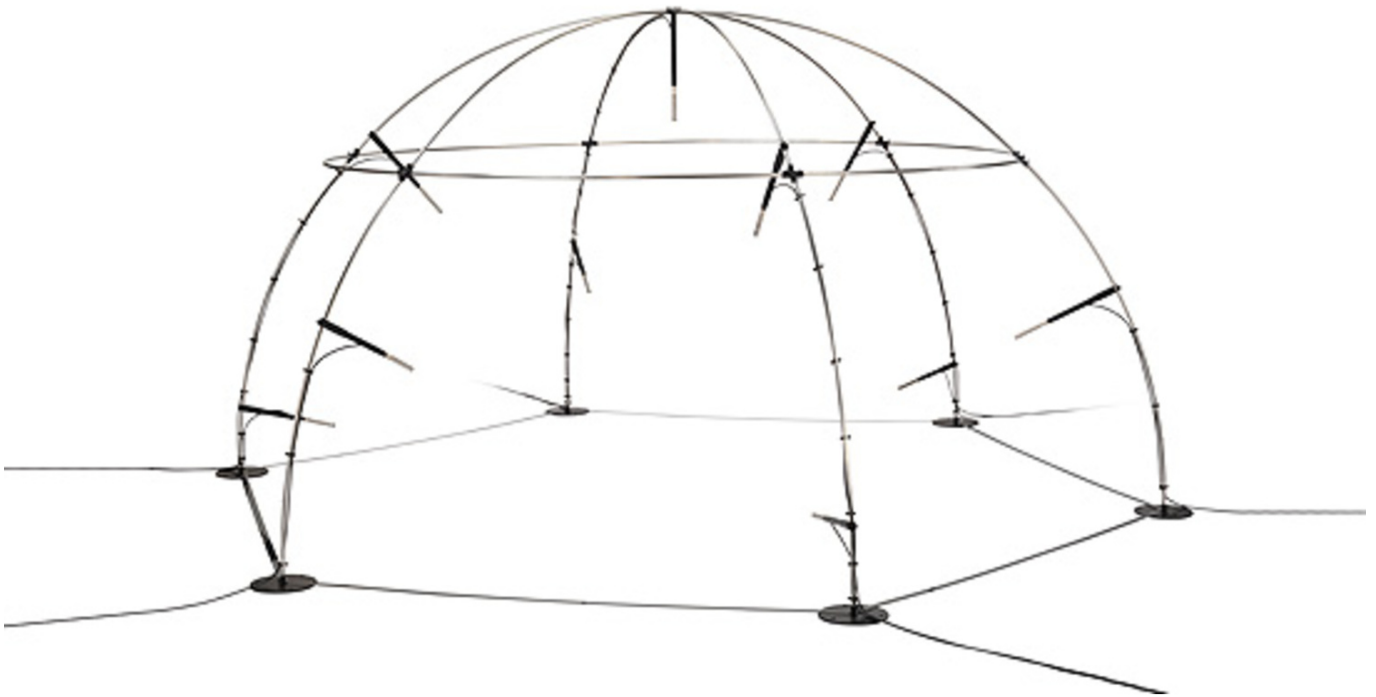


# 67HA-LEMO

1 m LEMO Hemisphere kit



Freq range: 3.15 Hz to 20 kHz  
Dyn range: 17 dBA to 149 dB  
Sensitivity: 50 mV/Pa  
Measures incl. feet: Diagonal 2716 mm Height  
1283 mm

The GRAS hemispheres will hold and position the measurement microphones according to the standards and have been designed with focus on your workflow; They are very easy to assemble and it is easy to position and access the DUT. Furthermore, in best GRAS tradition they are optimized acoustically for correct and repeatable measurement data.

### Introduction

The structure is made portable to achieve a high degree of freedom of location. This, combined with the easy, toolless assembly in minutes, enables you to save expensive anechoic chamber time and to offer on-site sound power diagnostics.

The microphone positions are clearly marked to ease the mounting and maintain measurement repeatability.

The GRAS 67HA-01 1 m LEMO Hemisphere kit, 4 channels (4 key + 4 secondary) is ISO 3746:2011 B1/ANSI S12.56 compliant and includes:

- 1x Hemisphere structure
- 4x GRAS 46AF 1/2" LEMO Standard Microphone Sets, cables, holders

The GRAS 67HA-02 1 m LEMO Hemisphere kit, 10 channels (10 key + 10 secondary) is ISO 3744:2010 B2/ANSI S12.54 compliant and includes:

- 1x Hemisphere structure
- 10x GRAS 46AF 1/2" LEMO Standard Microphone Sets, cables, holders

The GRAS 67HA-03 1 m LEMO Hemisphere kit, 20 channels (20 key) is ISO 3745:2012 E2/ANSI S12.55 compliant and includes:

- 1x Hemisphere structure
- 20x GRAS 46AF 1/2" LEMO Standard Microphone Sets, cables, holders

### Typical applications and use

Depending on the size and the emitted acoustic level of the DUT, the hemispheres will allow sound power measurements on everything from small-sized personal electrics to office machines and IT products, household appliances, power tools, and smaller engines. The only restriction is, that the characteristic dimension of the DUT may be no more

than half the measurement radius.

### Design

The GRAS 67HA 1 m LEMO hemisphere kit comes with 4, 10 or 20 GRAS microphone sets that can be connected directly to all professional measurement systems. If your system platform supports intelligent transducers according to IEEE 1451.4 (TEDS), the system can be set up to identify the microphone properties and position in the array.

The microphone sets included are delivered with individual calibration charts including sensitivity values and frequency responses. These sensitivity values can be used directly in your system setup.

### Calibration

For frequent measurement chain verification, a reference sound source will be required. GRAS supplies 114 dB types for the standard microphone sets and a special 94 dB adapter for the low-noise sets.

Depending on the use and your internal quality control requirements we recommend that the sets are re-calibrated at least every second year.

### Performance and warranty

GRAS microphone sets are made of components from our proven standard portfolio and are all manufactured of high-quality material and branded parts that were chosen and processed to ensure life-long stability and robustness.

All parts are manufactured and assembled at the factory in Denmark by skilled and dedicated operators in a verified clean-room environment. The microphone diaphragm, body, and unique protection grid are made of high-grade stainless steel and make the microphone set resistant to physical damage as well as corrosion caused by aggressive

air or gasses.

This, together with the enforced gold-plated microphone terminal which guarantees a highly reliable connection, enables us to offer 5 years warranty against defective materials and workmanship. The warranty for cables is 6 months.

Frequency range ( $\pm 2$ dB)	Hz	3.15 to 20 k
Dynamic range lower limit with GRAS preamplifier	dB(A)	17
Dynamic range upper limit with GRAS preamplifier @ +28 V / $\pm 14$ V power supply	dB	149
Set sensitivity @ 250 Hz ( $\pm 2$ dB)	mV/Pa	50
IEC 61094-4 Compliance		WS2F

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

## Available configurations

GRAS 67HA-01	1 m LEMO Hemisphere kit 4 ch.
GRAS 67HA-02	1 m LEMO Hemisphere kit 10 ch.
GRAS 67HA-03	1 m LEMO Hemisphere kit 20 ch.

## Included

	1 m structure
50	Microphone holders
GRAS 46AF	1/2" LEMO Free-field Standard Microphone Set (1 per ch.)
GRAS AA0009	10 m LEMO cable (1 per ch.)

## Optional

GRAS RA0276	Flight cases (2): One with foam tailored for the microphones and cables One with foam tailored for the structure and microphone holders
<a href="#">GRAS 42AG</a>	Multifunction Sound Calibrator (94 dB or 114 dB)
<a href="#">GRAS 42AP</a>	Intelligent Pistonphone (114 dB)

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# GRAS Worldwide

Subsidiaries and distributors in more  
than 40 countries

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## 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