

# Vector Intensity Probe Type 50VI

## *Product Data and Specifications*

### *Typical applications*

- *Vector-intensity measurements*
- *Sound-field mapping*
- *Sound-source location*
- *Near-field investigations*

The G.R.A.S. Vector Intensity Probe Type 50VI (Fig. 1) is a new flexible and adjustable 2 or 3-dimensional sound-intensity probe. The probe head is based on the proven design of the G.R.A.S. Sound-intensity Probe Type 50AI.

The Type 50VI complies fully with the requirements in:

- IEC 61043, *Electroacoustics - Instruments for the Measurement of Sound Intensity - Measurements with Pairs of Pressure Sensing Microphones, 1993* for Class 1 Sound-intensity probes.
- The draft document ISO/DIS 11205.2.

The first generation of sound intensity probes was designed and developed using available standard microphones and preamplifiers; resulting in a number of compromises regarding size, acoustical performance and durability. In the new generation of sound-intensity probes, all components have been made specifically for sound intensity applications. Each small ¼-inch diameter and 40mm long microphone preamplifier is housed in a robust, stainless steel casing which enables novel probe designs. These novel probe designs reduce the disturbances to the sound field otherwise brought about by the effects of shadows and diffraction, and its symmetry enables reliable calibrations as described in the proposed standard (ISO/DIS 9614-2) for sound power measurements using sound-intensity measurements.



*Fig. 1 Vector Intensity Probe Type 50VI version 1 for 3-dimensional sound-intensity measurements*

The Vector Intensity Probe Type 50VI includes spacers for 25 mm and 50 mm for covering the frequency range from 80 Hz to 6.3 kHz. The probe handle has an input for 6 preamplifiers and LEDs for indicating two states as well as a push button for remote control. The remote-controlled output can, for example, be connected to the RS232 port of a computer for controlling the process of data acquisition.

The output of the probe handle is a 24-pin LEMO connector and the Type 50VI includes a 5 m cable terminating in another 24-pin LEMO connector. This can be connected to a break-out adapter with six standard 7-pin LEMO microphone connectors

# Vector Intensity Probe Type 50VI

for connection to three G.R.A.S. Power Modules Type 12AA.

The G.R.A.S. Vector Intensity Probe Type 50VI is available in two versions:

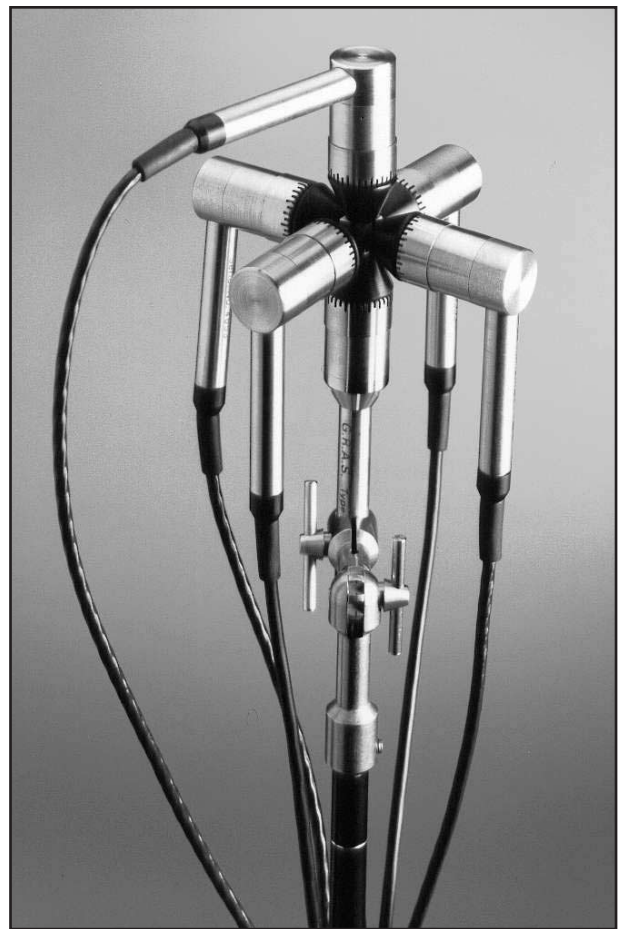
**Type 50VI version 1** is a full 3-dimensional vector intensity probe (Fig. 1) and includes:

- Three pairs of G.R.A.S. Sound-intensity microphones Type 40AI
- Three pairs of G.R.A.S. ¼-inch Preamplifiers Type 26AA
- 25 mm and 50 mm spacers
- 6-channel probe handle
- 5 m cable with LEMO connectors.

**Type 50VI version 2** is a 2-dimensional vector intensity probe and includes:

- Two pairs of G.R.A.S. Sound-intensity microphones Type 40AI
- Two pairs of G.R.A.S. ¼-inch Preamplifiers Type 26AA
- 25 mm and 50 mm spacers
- 6-channel probe handle
- 5 m cable with LEMO connectors.

For further information on the sound-intensity microphones and preamplifiers, see separate data sheets for Types 40AI and 26AA.



*Fig. 2 Vector Intensity Probe Type 50VI version 1; close up of the 3-dimensional probe head*

## Specifications

**Sound-intensity microphone pairs:**

G.R.A.S. .... Type 40AI

**Frequency response and phase matching:**

IEC 1043 Class 1

**Preamplifiers:**

G.R.A.S. ¼-inch .... Type 26AA  
with 4-pole LEMO connector type FGG OB

**Remote handle:**

Six 4-pole LEMO connectors for preamplifier input. One 24-pole LEMO output connector. Built-in overload indicator, averaging-status indicator and control button.

**Cable:**

5 m cable with 24-pin LEMO connectors

**Type 50VI version 1:**

3 pairs of matched microphones .... Type 40AI  
3 pairs of preamplifiers .... Type 26AI

**Type 50VI version 2:**

2 pairs of matched microphones .... Type 40AI  
2 pairs of preamplifiers .... Type 26AI

**Accessories included:**

Spacer ..... 25 mm  
Spacer ..... 50 mm

**Accessories available:**

24-pin LEMO to 7-pin LEMO adapter

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

**G.R.A.S.**  
**Sound & Vibration**

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