

# GRAS RA0402



100 Hz to 10 kHz according to IEC 60318-4  
10 to 20 kHz:  $\pm 2.2$  dB test tolerance  
Damped resonance, with peak @ 13.5 kHz  
Volume 1260 mm<sup>3</sup> @ 500 Hz according to IEC 60318-4  
Sensitivity 12.5 mV/Pa  
Based on ITU-T Rec P.57

GRAS RA0402

20 kHz

40AO 1/2"  
[GRAS RA0401](#).



GRAS RA0402 60318-4 10 kHz 10 kHz 13.5 kHz  
Q 10 kHz  
GRAS 13.5 kHz  
20 kHz  
IEC60318-4 IEC60318-4 10 kHz 20  
kHz  $\pm 2.2$  dB THD ITU-  
T P.57

[GRAS RA0401](#)



- IEC60318-4
- 10 20 kHz  $\pm 2.2$  dB
- 13.5 kHz 14 dB



- 10 kHz -- 10 kHz /
- 10 kHz 10 kHz
- 3-5 kHz

- IEC 60318-4
- ITU-T P.57 (08/96) P

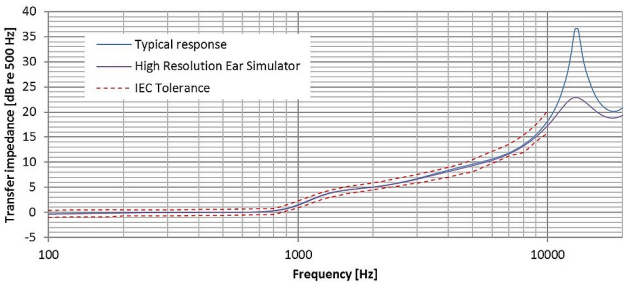


RA0402

[GRAS 40AO](#) 1/2"

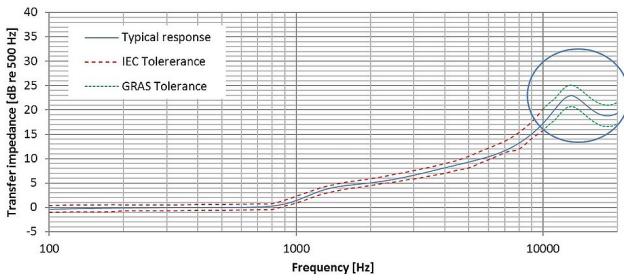
13.5 kHz Q 14 dB  
20 kHz

60318-4 RA0402  
RA0045 RA0402  
RA0045 60318-4 1



1. 60318-4

IEC GRAS 10 20 kHz 2



2. IEC GRAS RA0402

36 dB RA0402 14 dB  
RA0402 RA0402



RA0402  
GRAS KEMAR

KEMAR

RA0045 KEMAR

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**GRAS 43** □□□□□□□□  
RA0402 RA0045 43AC 43EA  
43AG

[GRAS 43AC](#), [GRAS 43AE](#), [GRAS 43AG](#)

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ITU-T P.57 GRAS

- [GRAS RA0056](#)
- [GRAS RA0057](#)

IEC 60318-4  
GRAS

□□□  
10 kHz  
60318-4 10 kHz IEC --  
60318-4 60711

□□□□□□□ □□□□□□□  
60318-4 13.5 kHz  
10 kHz  
1/4 " RA0402 10 kHz 10 kHz

RA0402  
RA0402 KEMAR

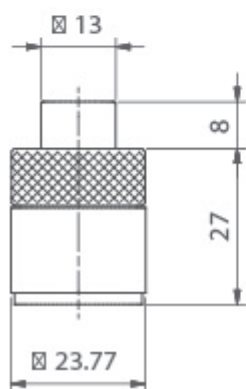
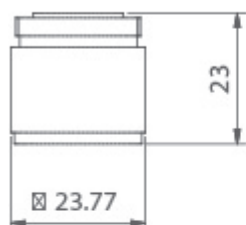
RA0402  
RA0402 45CA /

□□□  
RA0402 CCP [GRAS 26CA](#) [GRAS 26CB](#)  
1/4" 1/4 " RA0003 RA0001  
RA0045 RA0402



|                                                                                                 |                 |                        |
|-------------------------------------------------------------------------------------------------|-----------------|------------------------|
| Polarization/Connection                                                                         |                 | 0 V / CCP              |
| Theoretical dynamic range lower limit with GRAS preamplifier                                    | dB(A)           | 25                     |
| Theoretical dynamic range upper limit with GRAS preamplifier @ +28 V / $\pm 14$ V power supply  | dB              | 153                    |
| Theoretical dynamic range upper limit with GRAS preamplifier @ +120 V / $\pm 60$ V power supply | dB              | 164                    |
| Set sensitivity @ 250 Hz ( $\pm 3$ dB)                                                          | dB re 1V/Pa     | -38                    |
| Resonance frequency                                                                             | kHz             | 13.5                   |
| Coupler volume                                                                                  | mm <sup>3</sup> | 1260 @ 500 Hz          |
| Temperature range, operation                                                                    | °C / °F         | -30 to 60 / -22 to 140 |
| Temperature coefficient @250 Hz                                                                 | dB/°C / dB/°F   | 0.05                   |
| Humidity range non condensing                                                                   | % RH            | 0 to 90                |
| ANSI standard                                                                                   |                 | S3.7                   |
| IEC standard                                                                                    |                 | 60318-4 (former 60711) |
| ITU-T recommendations                                                                           |                 | P.57                   |
| CE/RoHS compliant/WEEE registered                                                               |                 | Yes/Yes, Yes           |
| Weight                                                                                          | g / oz          | 52 / 1.8               |

Dimensions in mm



## Optional items

|                             |                                                                |
|-----------------------------|----------------------------------------------------------------|
| <a href="#">GRAS RA0088</a> | In Ear Adapter                                                 |
| GRAS GR0433                 | Calibration Adapter                                            |
| GRAS GR0434                 | Stop Washer                                                    |
| GRAS GR0436                 | Tube Adapter                                                   |
| GRAS GR0437                 | Ear-mould Simulator                                            |
| GRAS GR0438                 | Retention Ring                                                 |
| GRAS GR0440                 | Tube Adapter                                                   |
| <a href="#">GRAS RA0056</a> | Low-leak Pinna Simulator                                       |
| <a href="#">GRAS RA0057</a> | High-leak Pinna Simulator                                      |
| <a href="#">GRAS 26CA</a>   | 26CA 1/2" CCP Standard Preamplifier with BNC Connector         |
| <a href="#">GRAS 26CB</a>   | 26CB 1/4" CCP Standard Preamplifier with Microdot Connector    |
| GRAS RA0001                 | Right-angled Adapter for 1/2" microphone and 1/4" preamplifier |
| GRAS RA0003                 | Adapter for 1/2" microphone and 1/4" preamplifier              |

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

# 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 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](http://www.grasacoustics.com)

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