EXTERNALLY POLARIZED MEASUREMENT MICROPHONES

FREE FIELD, RANDOM INCIDENCE AND PRESSURE

GRAS 40AF

½″ Free-field Microphone

General-purpose high-sensitivity microphone with a frequency range from 3.15 Hz to 20 kHz. Can measure sound pressure levels down to 14 dB(A). For Type 0 and Type 1 measurements.

GRAS 40AC

½″ Free-free Microphone, Wide Frequency

High-precision microphone for laboratory work and as a working standard microphone in calibration laboratories. Wide frequency range from 3.15 Hz to 40 kHz. Its size and low sensitivity make it extremely robust and stable and can measure sound levels up to 164 dB.

GRAS 40AN

½″ Free-field Microphone, Low Frequency

High-sensitivity microphone ideal for measuring sound at frequencies down to 0.5 Hz. This microphone is the obvious choice for infra-sound measurement.
Use the dedicated 26HG ¼″ preamplifier in order to obtain the low frequency response.

GRAS 40AR

½″ Random-incidence Microphone

High-sensitivity microphone with a frequency response optimized to measure sound correctly in random, diffuse and reverberant sound fields. It fulfills the requirements of ANSI standard S1.4.

GRAS 40BF

¼″ Free-field Microphone

Low sensitivity microphone for high level and high frequency measurements. Its low sensitivity makes it ideal for measuring high sound pressure levels of up to 172 dB. Its small size reduces the effects of diffraction and reflections around the microphone, resulting in a frequency range reaching up to 100 kHz.

GRAS 40EN

1″ Pressure Microphone

High precision microphone for laboratory work. Ideal for measurements in couplers, e.g., the RA0075 NBS 9-A 6cc Coupler for testing earphones according to ANSI S3.7 – 1995 and RA0113 which is a 2cc IEC 60318-5 (60126) Coupler. Can also be flush mounted to measure sound pressures on walls and boundaries.

	Size	Application	Sensitivity	Dynamic Range	Frequency Range	Polarization Voltage	IEC 61094 Designation
40AF	12.7 (½″)	Free field	50	14 – 149	3.15 – 20 k	200	WS2F
40AC	12.7 (½″)	Free field	12.5	20 – 164	3.15 – 40 k	200	WS2F
40AN	12.7 (½″)	Free field	50	14 – 149	0.5 – 20 k	200	WS2F
40BF	6.35 (¼″)	Free field	4	30 – 172	4 – 100 k	200	WS3F
40AR	12.7 (½″)	Random	50	14 – 149	3.15 – 12.5 k	200	WS2P/D
40EN	23.77 (1″)	Pressure	50	9.6 – 146	2.6 – 8 k	200	WS1P
Units	mm (housing)		mV/Pa	dB re. 20 µPa	Hz	V	

ES France - Département Tests & Mesures
127 rue de Buzenval BP 26 - 92380 Garches
Tél. 01 47 95 99 45
Fax. 01 47 01 16 22
e-mail : tem@es-france.com
Site Web : www.es-france.com

EXTERNALLY POLARIZED MEASUREMENT MICROPHONES

PRESSURE

GRAS 40AG

½" Pressure Microphone

High precision microphone for laboratory work and coupler measurements (e.g., in the RA0039 IEC 60318-1 (60318) Ear Simulator). Has a frequency range from 3.15 Hz to 20 kHz. Its size and low sensitivity makes it extremely robust and stable and it can measure sound pressure levels up to 164 dB.

GRAS 40AP

½" Pressure Microphone, High Sensitivity

High-sensitivity microphone with a frequency range from 3.15 Hz to 10 kHz. Can measure sound pressure levels down to 16 dB(A). May also be used as a random-incidence microphone.
A front-vented version is available, 40AP-FV.

GRAS 40BP

¼" Pressure Microphone

Low sensitivity microphone for sound measurements at high levels and high frequencies. Its low sensitivity makes it ideal for measuring high sound pressure levels of up to 169 dB. Its small size reduces the effects of diffraction and reflections around the microphone, resulting in a frequency range extending up to 70 kHz.
A front-vented version is available, 40BP-FV.

GRAS 40BH

¼" Pressure Microphone, High Pressure

Low sensitivity microphone for sound measurements at very high levels. Its very low sensitivity makes it ideal for measuring very high sound pressure levels up to 193 dB. Its small size reduces the effects of diffraction and reflections around the microphone, making it ideal for pulse measurements in frequencies up to 20 kHz.

GRAS 40DP

⅛" Pressure Microphone

Low sensitivity microphone for sound measurements at high frequencies and high levels. Its low sensitivity makes it ideal for measuring high sound pressure levels up to 178 dB. Its very small size reduces the effects of diffraction and reflections around the microphone, resulting in a frequency range extending up to 140 kHz.

	Size	Application	Sensitivity	Dynamic Range	Frequency Range	Polarization Voltage	IEC 61094 Designation
40AG	12.7 (½")	Pressure	12.5	25 – 160	3.15 – 20 k	200	WS2P
40BP	6.35 (¼")	Pressure	1.6	34 – 169	4 – 70 k	200	WS3P
40AP	12.7 (½")	Pressure	50	16 – 149	3.15 – 10 k	200	WS2P
40BH	6.35 (¼")	Pressure	0.4	54 – 193	10 – 20 k	200	WS3P
40DP	3.16 (⅛")	Pressure	1	49 – 178	6.5 – 140 k	200	-
Units	mm (housing)		mV/Pa	dB re. 20 µPa	Hz	V	

ES France - Département Tests & Mesures
127 rue de Buzenval BP 26 - 92380 Garches
Tél. 01 47 95 99 45
Fax. 01 47 01 16 22
e-mail : tem@es-france.com
Site Web : www.es-france.com

PREPOLARIZED MEASUREMENT MICROPHONES

FREE FIELD AND RANDOM INCIDENCE

GRAS 40AE

½″ Free-field Microphone

General-purpose high-sensitivity microphone with a frequency range from 3.15 Hz to 20 kHz. Requires no external polarization voltage. Ideal with CCP preamplifiers, Type 1 sound level meters and other similar measurement setups.

GRAS 40AM

½″ Free-field Microphone, Wide Frequency

High-precision microphone for laboratory work.
Wide frequency range from 3.15 Hz to 31.5 kHz. Its size and low sensitivity make it extremely robust and stable and it can measure sound levels up to 163 dB.

GRAS 40AQ

½″ Random-incidence Microphone

High-sensitivity microphone with a frequency response optimized to measure sound correctly in random, diffuse and reverberant sound fields. Requires no external polarization voltage. It fulfills the requirements of ANSI standard S1.4.

GRAS 40AZ

½″ Free-field Microphone, Low Frequency

Low-frequency microphone especially designed for infra-sound measurements. Frequency range from 0.5 Hz to 20 kHz. Use the dedicated 26CG ¼″ CCP preamplifier in order to obtain the low frequency response.

GRAS 40BE

¼″ Free-field Microphone

Low-sensitivity microphone for high level and high frequency measurements. Requires no polarization voltage. Its low sensitivity makes it ideal for measuring high sound-pressure levels up to 168 dB. Ideal with CCP preamplifiers and for sound measurements at very high frequencies and levels.
A front-vented version is available, 40BE-FV.

	Size	Application	Sensitivity	Dynamic Range	Frequency Range	Polarization Voltage	IEC 61094 Designation
40AE	12.7 (½″)	Free field	50	15 – 148	3.15 – 20 k	0	WS2F
40AM	12.7 (½″)	Free field	14.5	20 – 163	3.15 – 31.5 k	0	WS2F
40AQ	12.7 (½″)	Random	50	16 – 148	3.15 – 12.5 k	0	WS2P/D
40AZ	12.7 (½″)	Free field	50	14 – 148	0.5 – 20 k	0	WS2F
40BE	6.35 (¼″)	Free field	4	30 – 168	4 – 80 k	0	WS3F
Units	mm (housing)		mV/Pa	dB re. 20 µPa	Hz	V	

ES France - Département Tests & Mesures
127 rue de Buzenval BP 26 - 92380 Garches
Tél. 01 47 95 99 45
Fax. 01 47 01 16 22
e-mail : tem@es-france.com
Site Web : www.es-france.com

PREPOLARIZED MEASUREMENT MICROPHONES

PRESSURE

GRAS 40AD

½" Pressure Microphone, High Sensitivity

A high-sensitivity microphone with a frequency range from 3.15 Hz to 10 kHz. Requires no external polarization voltage. Can measure sound pressure levels down to 16 dB(A). May also be used as a random-incidence microphone.
A front-vented version is available, 40AD-FV.

GRAS 40AO

½" Pressure Microphone, Wide Frequency

A high precision microphone for laboratory work. Has a frequency range from 3.15 Hz to 20 kHz. Requires no external polarization voltage. Its size and lower sensitivity make it extremely robust and stable and it can measure sound pressure levels up 163 dB.
A front-vented version is available, 40AO-FV.

GRAS 40BD

¼" Pressure Microphone

Its low sensitivity makes it ideal for measuring high sound pressure levels up to 166 dB. Its small size reduces the effects of diffraction around the microphone, resulting in a frequency range extending up to 70 kHz.
A front-vented version is available, 40BD-FV.

GRAS 40DD

⅛" Pressure Microphone

Low sensitivity microphone for sound measurements at high frequencies and high levels. Its low sensitivity makes it ideal for measuring high sound pressure levels of up to 175 dB. Its very small size reduces the effects of diffraction and reflections around the microphone, resulting in a frequency range extending up to 70 kHz.

	Size	Application	Sensitivity	Dynamic Range	Frequency Range	Polarization Voltage	IEC 61094 Designation
40AD	12.7 (½")	Pressure	50	16 – 148	3.15 – 10 k	0	WS2P
40AO	12.7 (½")	Pressure	12.5	25 – 163	3.15 – 20 k	0	WS2P
40BD	6.35 (¼")	Pressure	1.6	40 – 174	4 – 70 k	0	WS3P
40DD	3.16 (⅛")	Pressure	0.9	49 – 175	6.5 – 70 k	0	–
Units	mm (housing)		mV/Pa	dB re. 20 µPa	Hz	V	

ES France - Département Tests & Mesures
127 rue de Buzenval BP 26 - 92380 Garches
Tél. 01 47 95 99 45
Fax. 01 47 01 16 22
e-mail : tem@es-france.com
Site Web : www.es-france.com