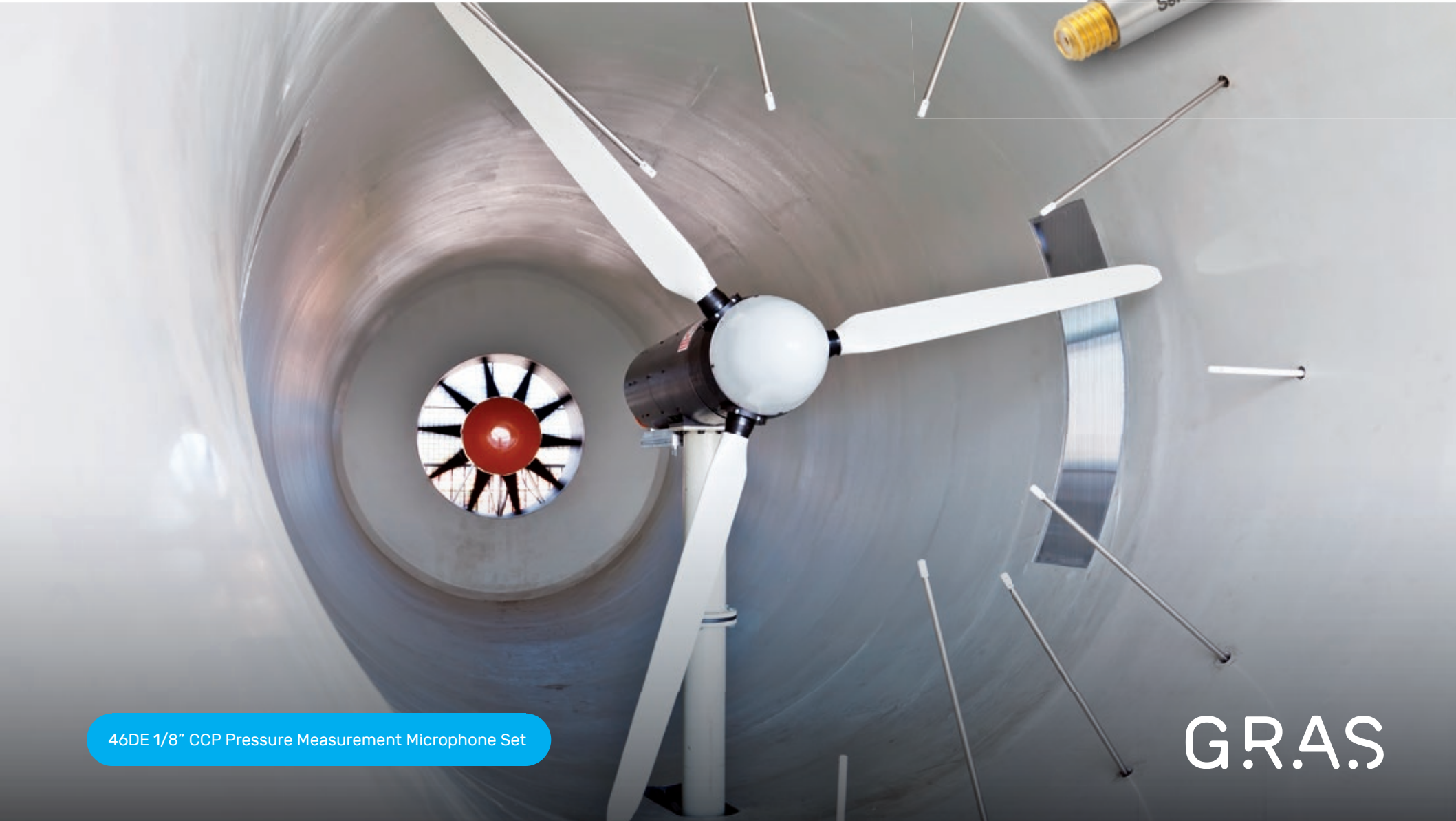


46DE

World's Smallest Measurement Microphone Set



46DE 1/8" CCP Pressure Measurement Microphone Set

GRAS

Unique – and World’s Smallest

GRAS is proud to present the smallest measurement microphone set in the world – 46DE is the only microphone set where no parts are larger than 1/8”.

Because of its small size and low sensitivity, 46DE is ideal for measuring high frequencies and high sound pressure levels. Furthermore, the small size allows measurements in confined spaces, not previously accessible. This includes scale models and other applications requiring a very small measurement microphone, as well as in the event of the need for higher resolution by mounting several microphones in close proximity to each other.

46DE is a 1/8” Constant Current Power (CCP) pressure microphone set with a nominal sensitivity of 0.8 mV/Pa and TEDS.

46DE is compatible with all modern analyzer systems that support IEPE and ICP.

○ GRAS 46DE

○ Match

- › Scale models
- › Building acoustics



- › Explosions
- › Impulsive noise measurement
- › Gunshot noise



- › Scale models
- › Wind turbine testing
- › Flow measurements



- › Leading and trailing edge noise
- › Jet noise
- › Scale models
- › Wind tunnel





46DE's low sensitivity and small size make it ideal for measuring high levels and high frequencies.

Breaking a size barrier

How did we manage to make 46DE so small? We have developed a 1/8" preamplifier consisting of a very small input section, 1/8" in diameter, which is attached to the microphone, with the larger (\varnothing 5.5 mm) output section at the other end of the specially designed cable.

Consequently, the section of the preamplifier close to the microphone is kept very small while the more space-demanding electronics in the output stage are located at the other end of a long cable. However, customized lengths are available.



Because of its size, it is also useful for high frequency free-field measurements or it can be used as a handheld probe microphone in confined spaces.

Ideal for many different applications

46DE is a pressure microphone set and as such optimized for acoustic measurements of sound pressure at a boundary or a wall. Because of the microphone set being 1/8" it is also useful for up to at least 40 kHz free-field measurements without compensation.

The microphone set can be used for a wide range of applications including impulsive noise measurements (of gunshots, airbags etc.), aircraft turbulence, flow measurements or scale model measurements.

For mounting on a tripod the AL0035 1/8" microphone set holder is available.

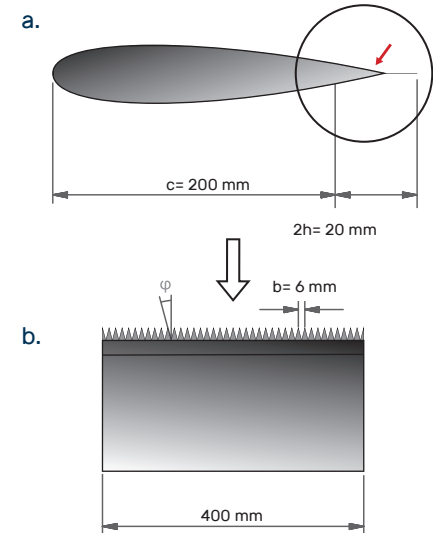


Illustration of airfoil side (a) and top (b) views. The red mark shows where 46DE will be mounted.

Exploring new ways to measure

Reducing trailing edge noise emitted by wind turbines or an approaching aircraft represents a special design challenge for developers. Because of the turbulent nature of this noise, it is difficult to predict the effects of noise-reduction measures based on numerical simulations, and therefore measurements are essential.

In collaboration with the internationally recognized Delft University of Technology, GRAS is testing how 46DE can contribute to the analysis of trailing noise-reduction measures such as serrated edges and meshes.

46DE

1/8" CCP Pressure Measurement Microphone Set

GRAS Sound & Vibration A/S
Skovlytoften 33, 2840 Holte
Denmark

gras@gras.dk
+45 4566 4046

gras.dk



Ask the experts

46DE is the latest in a long line of innovative and advanced microphone measuring products and comes with the GRAS proven seal of quality. With more than 20 years of experience with measurement microphones and related acoustic equipment, we are ready to help you meet your measurement challenges.

Depending on your needs, we have other 1/8" measurement microphone sets, including a 1/4" preamplifier, which might be suitable for you.

Please contact us, and together we will find the best solution for your need.
support@gras.dk | +45 4422 5253

46DE Specifications

For complete specifications, please visit gras.dk/46de.html

Frequency range (± 1 dB)	Hz	10 to 25 k
Frequency range (± 2 dB)	Hz	6.5 to 70 k
Frequency range (± 3 dB)	Hz.	6.5 to 140 k
Dynamic range (at nominal sensitivity)	dB(A)	47 to 174
Set sensitivity @ 250 Hz (± 3 dB)	mV/Pa	0.8
Output Voltage Swing, min. @ 24-28 V CCP voltage supply	Vp	8
Power supply min. to max.	mA	2 to 20
Microphone venting		Rear
Temperature range, operation	$^{\circ}\text{C} / ^{\circ}\text{F}$	-30 to 70 / -22 to 158
Temperature coefficient @250 Hz	dB/ $^{\circ}\text{C}$ / dB/ $^{\circ}\text{F}$	-0.01 / -0.006
Static pressure coefficient @250 Hz	dB/kPa	-0.014
Humidity range non condensing	% RH	0 to 95
Influence of axial vibration @1 m/s ²	dB re 20 μPa	59
TEDS UTID (IEEE 1451.4)		27-0-0-0U
Connector type		Microdot 10/32
Weight	g / oz	7 / 0.247

1/8" flush-mount 47DX Specifications (Included 1.5 m Microdot cable)



Frequency range	10 Hz - 100 kHz
Dynamic range	52 dB(A) - 173 dB
Sensitivity	0.9 mV/Pa

1/8" Pressure 46DD Specifications



Frequency range	6.5 Hz - 140 kHz
Dynamic range	47 dB(A) - 174 dB
Sensitivity	0.8 mV/Pa