

THE WORLD'S SMALLEST MEASUREMENT MICROPHONE SET

– Unique and made for versatility

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G.R.A.S. is proud to present the 46DE, the smallest measurement microphone set in the world - the only microphone set where no parts are larger than 1/8".

The 46DE is a 1/8" Constant Current Power (CCP) pressure microphone set with a nominal sensitivity of 0.8 mV/Pa and has TEDS. It is the latest in a long line of innovative and advanced microphone measuring products and comes with the G.R.A.S. proven seal of quality. 46DE is compatible with all modern analyzer systems that support IEPE and ICP.

Because of its small size and low sensitivity, it is ideal for measuring high frequencies and high sound pressure levels and additionally it can be used where you previously could not get access. For example in very small scale models or in applications where your measurement challenge calls for a very small microphone or where several microphones must be mounted in close proximity to each other for higher resolution.

Breaking a size barrier

How did we manage to make the 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 (Ø 5.5 mm.) output section at the other end of the specially designed cable.

In this way, the section of the preamplifier that is 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 1 m. long cable. However, customized lengths are available.

Ideal for many different applications

The 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 any compensation.

The microphone set can be used for a wide range of applications including impulsive noise measurements (like gunshot and airbag), aircraft turbulence, flow measurements or scale model measurements.

Exploring new ways to measure

Reducing trailing edge noise emitted by wind turbines and aircraft on approach 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, G.R.A.S. is testing how 46DE can contribute to the analysis of trailing noise reduction measures such as serrated edges and meshes. 46DE's small size means that it will unprecedented allow for analysis of pressure fluctuations at trailing edges of geometries of the order of 1 mm as well in fully porous configurations.

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At G.R.A.S. we are dedicated to help our customers find the best possible solutions. With more than 20 years of experience of testing microphones and related acoustic equipment, we are ready to guide you and together we will find the best possible solution for your demand.

For further information please contact us at gras@gras.dk