Acoustic Camera Array Evo AC Pro

Mobile System for Wind Tunnel Applications

The mobile array Evo was developed specifically for use in aeroacoustic applications, namely wind tunnel testing. The array's foldable construction simplifies handling, transport and storage. The back frame is conveniently used as a storage area for the data recorder to ensure high mobility and compactness of the entire measurement system. Ground anchor points ensure a high repeatability and accuracy.

This array is available with 96, 120, 144 or 168 channels. The perfect microphone positions for your application are determined in a complex opimization process, so the microphone distribution ensures the highest acoustic dynamic range and sound localization accuracy.

In addition, the central positioning of the optical camera provides the best possible spatial resolution for perfect reference images.

BENEFITS

- Easy handling and storage due to foldable construction
- Easy to set up
- Complete mobile measurement system to measure vehicles from different positions

APPLICATIONS

- Wind tunnel measurements
- Pass-by measurements of vehicles
- Leakage detection

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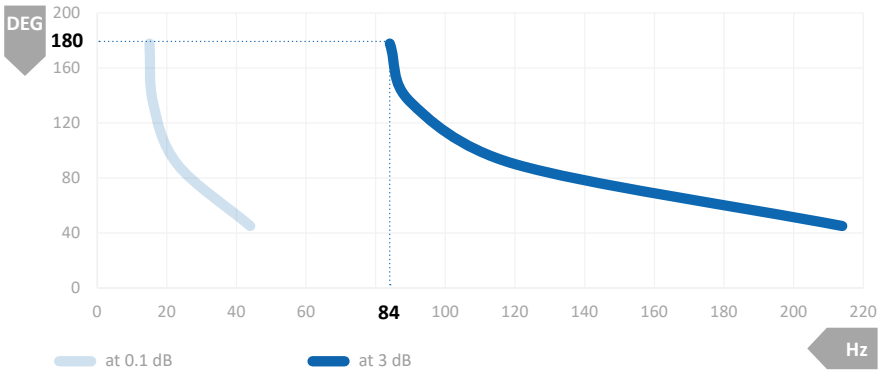
SIZE AND WEIGHT	
Array-body dimensions	2.4 x 2.5 m (2.4 x 1.9 m for transport)
Weight	70 – 90 kg (depending on the configuration)
FEATURES	
Video camera	Baumer VCXG-25C
Resolution	1920 x 1080 (Full HD)
OPERATING CONDITIONS	
Ingress protection code	IP20
Cable length to data recorder	up to 20 m (on request: 50 m)
Operating environment	0 °C – 45 °C, up to 80 % RH

MICROPHONE DATA	
Microphones	Electret condenser capsule + special designed preamplifier
Frequency response	20 kHz – 60 kHz (< 15 dB) 100 Hz – 15 kHz (< 0.5 dB) 20 Hz – 20 kHz (< 3 dB)
Max. sound pressure level	130 dB at 3 % THD
Noise level	27 dB(A)
Sensitivity	20 mV/Pa
ARRAY DATA	
Channels	96/120/144/168
Recommended measurement distance	Depending on the configuration
Acoustic mapping range (min. – max.)	96 channels: 8 dB – 130 dB 120 channels: 7 dB – 130 dB 144 channels: 6 dB – 130 dB 168 channels: 6 dB – 130 dB
Recommended mapping frequencies	84 Hz – 10 kHz for 144 channels
Dynamic range*	16 dB – 24 dB, up to 50 dB with advanced algorithms



Calculation of the lowest frequency (Hz) at 180° opening angle (DEG) for 144 channels

* Distance to the source: 3 m; calculation points: 90.000

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