



# Acoustic Diagnostics



## Measurement and noise analysis

## **AD** ACOUSTIC DIAGNOSTICS

Due the proven noise hazardous influence on health, but also on a environment, demands for constant reduction in noise are pushing research in this area. This requires an analysis of noise sources and knowledge of its characteristics. Identification, location, quantification and evaluation of the partial sources represent key steps in order to reduce overall noise.

Using specialized measuring equipment (acoustic camera) we provide development services and diagnostic testing's as well as solving the problems of acoustic noise detection and noise propagation in our surrounding.

## AD features

- Identification of the noise source is performed considering the location, frequency spectrum and sound power levels of partial noise sources
- The transformation of the sound signal into a acoustic image
- Condition diagnosis based on changes in the acoustic emission
- In combination with vibration measurements additional information can be acquired for improved diagnostics





- Measurement with 42 microphones Beam forming (Frequency response: 1000–8000 Hz)
- Measurement with 36 microphones Holography (Frequency response : 50—1200 Hz)

## AD specification

## Services:

- Laboratory and on-site measurement
- Recording of noise, complete and complex analysis of noise sources
- Identification, location, quantification and evaluation of partial noise sources
- Detection of noise paths and corrections in order to reduce noise
- Quick noise analysis of large dimensions objects
- Analysis of noise sources that are hard to reach
- Noise measurements in product research projects
- Diagnostic measurement of noise in transformers, rotating machines, power converters and other stationary objects
- Suggestions for products modifications considering noise sources

## Additional info :

- KONCAR Electrical Engineering Institute Inc., has many years of experience and knowledge in solving acoustical problems and actively participates in a wide range of projects for noise optimization and noise reduction
- Various tests, measurement, analysis and research are performed in the area of vibro acoustic of machinery, electrical equipment, installation, plant, equipment and rotating machinery in the two anechoic chambers within the Institute as well on the site measurements
- Key activities include testing and certification of noise emission values of machinery and equipment, determination of sound power levels of noise sources using sound pressure, determination of sound power levels of noise sources using sound intensity, as well as the identification and location of a sound source by measuring the noise intensity

Anechoic chambers		
	large anechoic chamber	small anechoic chamber
volume (m³)	320	25
dimensions (mm)	8000 x 7400 x 5500	3000 x 3600 x 2300
door dimensions (mm)	3000 x 4000	1100 x 1950
lower limit frequency (Hz)	90	250
mean acoustic insulation (dB)	90	90

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