

Optical Vibration Measurement

Visualization of amplified vibration and root cause analysis

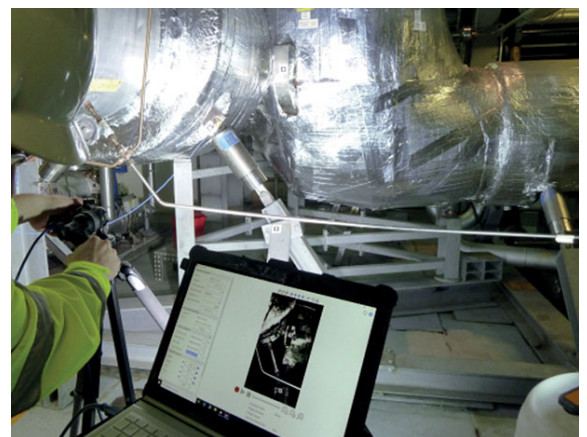
Contactless and rapid vibration identification, even on difficult accessible assets.

Challenge

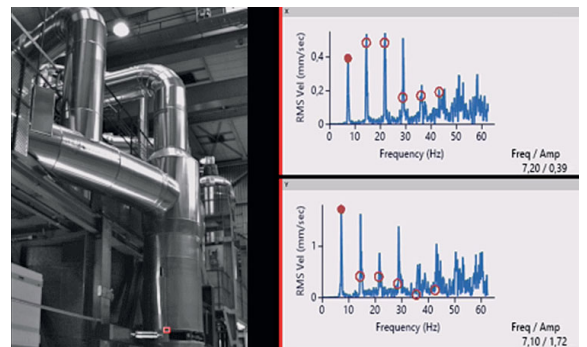
Different structures and assets are subjected to vibrations and the material fatigue induced by these phenomena can be limiting their lifetime. The design lifetime of structures, components and equipment is limited by a conservatively defined number of such cycles of specific character. As well, changes on existing systems, i.e. new installed or replaced components, or unexpected signs of wear could lead to unexpected vibrations, with the risk of complicated time-consuming troubleshooting.

Solution

With our Motion Amplification Camera, we are able to identify, contactless and fast, the vibration. We are able to make the smallest vibrations (2.5 μm at 1 m distance) visible, to get a global overview of structure vibrations. Due to the contactless detection method we are able to check the assets even in difficult areas. The identified issues allow to create a root cause analysis within a short time and facilitate to find solutions to rate these issues.



Test Setup



Test Results

Customer benefits

- Contactless detection of vibrations
- Setup & collection of Data in Minutes
- Fast and easy checks of difficult accessible structures or assets
- Prevention of consequential damages
- Root cause findings
- Recommendations to reduce vibration levels

Technical information

- Contactless vibration measurement
- Visualization of amplified vibration displacements
- Max. sampling rate: 1300 frames per sec.
- Min. displacement: 2.5 μm (at 1 m distance)
- Frequency range up to 600 Hz
- Optical distances typical 1 to 25 m
- Resolution: 1920 x 1080 pixel
- Leakage detecting optional

Your performance
is **our everyday commitment**

Success Stories

- BWR cooling pump vibration measurement
- Heat exchanger vibration measurement
- Pipe impact tests

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