YOU DO NOT NEED TO BE A SCIENTIST TO FIND AIR LEAKS AND PARTIAL DISCHARGES

Acoustics researchers use acoustic cameras for sound source detection and analysis, but what if you are not an acoustician and want to find compressed air leaks and partial discharges (PD)? In this article, we explain what can go wrong if you are not specialized in acoustics, and how we have solved this problem for you.

What You Need to Consider When Buying an Acoustic Camera

Any acoustic camera can typically locate air leaks and PDs if the sound pressure levels they emit are strong enough. However, if you are not a trained acoustics researcher, using these kinds of devices without any analysis capabilities will not give you the results you need to make informed maintenance decisions, as the gadgets cannot even tell you if the sound source you have located is caused by an air leak or PD. When acquiring an acoustic camera for air leaks, see if the device has air leak recognition and real-time on-device leak and cost estimation analysis. For PDs, the camera should include PD recognition and PD pattern to determine whether the PD is harmless or of a more severe type. In other words, an effective acoustic camera has PD type classification and PD severity analysis possibilities.

Image 1. Ensure the acoustic camera you are about to purchase offers extensive analytics to get the best value for your money.

An Acoustic Camera Without Analytics Is Like a Car Without a Working Dashboard

Using a standard acoustic camera without analytics is like driving a car without a working dashboard: you can drive, but you have to estimate your speed based on the objects you pass by and you do not know if the tachometer readings have anything to do with reality. With such an acoustic camera, successful air leak and PD audits require expertise in operating the complicated device: adjusting the frequency range and dynamic range manually. The wrong frequency range can affect the detection sensitivity and result in missed leaks and PDs. Furthermore, the incorrect dynamic range can lead you to perceive a leak's or PD's location wrong.

After you have located the problem source with an average acoustic camera, it is difficult to determine whether the detected sound source is a leak or a PD or if it is just an interfering noise source. To decipher this, you need to export the snapshots to a computer and analyze them manually. This is a laborious task, and misinterpreting interfering, harmless sound sources as potential problems happens easily. To convert sound recordings to valuable information, you again need to be a scientist. Converting air leaks into air leak size estimates and cost estimates involves using tables or complicated algorithms. However, with PDs, this process is even more demanding, as there are no standardized methods for classifying the type or severity of a PD. In the worst case, you are left with an acoustic camera that offers you no analytics and gives your findings little to no explanation.

What the NL Camera Does Differently

The NL Camera is the market-leading, comprehensive, and fully automated solution for finding compressed air leaks and PDs. The camera has automatic, optimized filters for filtering out interfering noises and automatic dynamic range for both single and multiple sound source modes. In other words, the camera automatically recognizes whether the sound resembles an air leak or PD. As a result, the device is easy to use and does not require extensive training. Furthermore, the camera has real-time on-device analytics: leak size and leak cost analysis for leaks and PD pattern analysis for PDs.

The camera uploads snapshots instantaneously and automatically over Wi-Fi to the cloud interface where they are backed up and analyzed by the NL Cloud software. You can also use the NL Camera Viewer and NL Camera Viewer Pro software for offline analysis.

The NL Cloud provides you with more in-depth information, such as PD classification and severity analysis. Thanks to the AI-powered cloud, generating automatic reports for air leak and PD audits is effortless and fast.

Image 2. The NL Camera is easy to use and requires no expertise.