Why Oil -HP Detector tube is the best choice for the determination of Oil content in Compressed Breathing air

According to BS EN 12021, the compressed air used for breathing purposes should not contain any contaminant at a harmful level to the human being. The above standard stipulates the allowed limits for these contaminants. Hence it is mandatory to determine the concentration of these contaminants in compressed breathing air. Among the different contaminants found in compressed air, oil is considered a major contaminant. It is present in the form of oil mist, oil droplets, aerosol and vapor in varying concentrations depending upon the health and quality of the compressor. Any method used should determine the total oil content, existing in any form, in compressed air. For this purpose, the Uniphos Oil-HP detector tube is found to be the best choice.

The Oil-HP detector tube method: - This method is cost-effective, less time-consuming and determines the total oil content in whichever form it exists. The detection method is described in the Instruction manual of Uniphos Oil-HP Synth Detector tube Part No 10040887.

There are other methods also for the above purpose. Three of the notable ones are mentioned below.

1. **Impactor method:** - This technique suffers from the drawback that it detects only the oil mist, while oil vapor which is also present in most cases, escapes the impactor giving erroneous results.
2. **PID-Based method:** - This method uses a Photo Ionization Detector (PID) for the detection of oil in the compressed air sample. As already pointed out the oil in compressed air is present in the form of mist, aerosol and even oil droplets along with oil vapor. But the PID detector can only detect oil vapor and not the oil present in other forms which in many cases by far exceeds the oil vapor content in a compressed breathing air sample.

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3. **Short-term detector tube method:** - This method uses an oxidizer to oxidize all oil content including oil vapor. But in this technique, the stain length obtained is not proportional to the total oil content as they are a composite of oil vapor, oil mist of different sizes, aerosol, etc. in varying proportions.

In conclusion, the Uniphos Oil-HP Synth detector tube is the best choice which detects oil present in all forms (total oil content) in compressed air. Detection of total oil content is what is required to ensure user safety and compliance with EN 12021 standards.