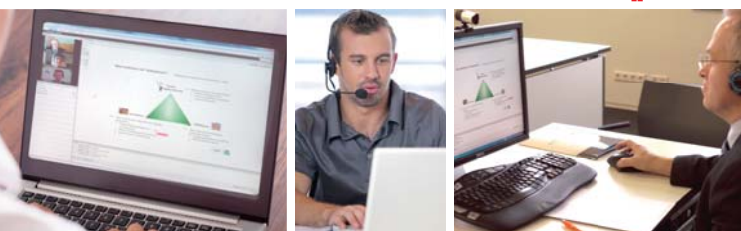




OilDoc

Online-Trainings



Gas engines – Lubrication and Oil Condition Monitoring

Online-training with 7 modules



Every module (duration 1 hr.)
only EUR 95,- + VAT

Summary:

Gas engines, especially those run on landfill waste gas or bio-gases, require careful monitoring: They are not only exposed to extreme mechanical and thermal stress. Problems are also caused by a highly variable composition and impurities of the gases used to operate the engine. All this directly influences the condition of the gas engine and the gas engine oil. A regular monitoring of the gas engine oil is the key for an early detection of possible problems. Understanding the results of oil analysis in conjunction with the appropriate knowledge how gas, oil and engine work together, the technician can reduce gas type related risks to a tolerable minimum. To define reliable condition based oil drain intervals well defined limit values for the different test methods are unalterable. Attending the seven modules of this practical oriented training series you will learn everything about lubrication and monitoring of gas engines, the choice of the right lubricant, how to define optimal oil drains intervals and to establish reliable application related limit values.

Easy to attend!

All you need is a broadband internet connection, a current Internet Browser with Flash Player, a headset / speakers for your laptop, PC or tablet and one hour of your time. Thus equipped, take part in our online training - no matter where you are! The Adobe Connect App is available for Apple, Android and Blackberry tablets, for free.



Dates and registration:
www.oildoc.de/online-trainings



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Easy to attend!

The series is repeated at regular intervals. So you can always enter new or catch up on individual modules, if you get an appointment inconvenient.

Module 1:

Fundamentals of lubrication and monitoring of gas engines

- ✓ Professional oil sampling
- ✓ Oil monitoring methods for gas engine oils and their real meaning
- ✓ The optimal set of analysis methods depending on application
- ✓ General rules to prolong oil drain intervals and to improve reliability

Module 2:

Select the right gas engine oil

- ✓ Gas engines in comparison to conventional gasoline or diesel engines
- ✓ Design types of gas engines and their special lubrication requirements
- ✓ Gas types and their influence on engine and oil
- ✓ Engine oil types and their application
- ✓ OEM specifications and approvals

Module 3:

Oil ageing of gas engine oils

- ✓ General rules and case specific factors of oil ageing
- ✓ Base oil degradation: oxidation, nitration, sulfation, thermal degradation
- ✓ Additive depletion: antioxidants, alkaline and other additives
- ✓ Contamination from the combustion process and from environment
- ✓ Consequences of oil ageing for engine operation

Module 4:

Gas engines and the fuel

- ✓ Influence of gas type and quality on oil condition and engine
- ✓ Gas cleaning technologies
- ✓ Special problems of operation with liquid, bio-based fuels in pilot injection engines

Module 5:

Understanding limit values to monitor gas engine oils

- ✓ Limit values - different purposes created by different parties
- ✓ Professional understanding and applying limit values
- ✓ Limit values for wear and contamination and operational time and trend evaluation
- ✓ Case studies

Module 6:

Profound understanding limit values: Oxidation, nitration, sulfation

- ✓ Different detection methods and their (r)evolution
- ✓ Which of the methods should be selected when
- ✓ Limit values for oxidation, nitration and sulfation, Case studies

Module 7:

Profound understanding limit values: Base Number (BN), Acid number (AN), i-pH value

- ✓ Fundamental understanding of bases and acids in oil
- ✓ Detection methods and their meaning
- ✓ BN and AN- why both? How to interpret BN, AN & Co?
- ✓ SAN and ipH, Limit values for BN, AN and ipH
- ✓ Considering different oil types and additive levels
- ✓ Why different OEM use different limit values for acids, Case studies