

Air Release Value - why is it tested?

ASTM D3427, BS 2000 Part 313, IP 313, ISO 9120

During operation or storage, oils are constantly in an exchange process with their air-containing environment. Lubricating oils are not completely free of air and whilst a sample may seem free of air bubbles it may contain a proportion of dissolved air. The amount of dispersing additives, the oil's density and any impurities also play a role in how much air they may contain. Excess amounts of entrained air can lead to serious disruptions in equipment operation, increased oxidation tendency and shortened lubricating efficiency. The ARV (Air Release Value) test determines the time taken for hydraulic fluids and lubricating oils to release entrained air and gases.

The traditional ARV test instrument has several shortcomings:

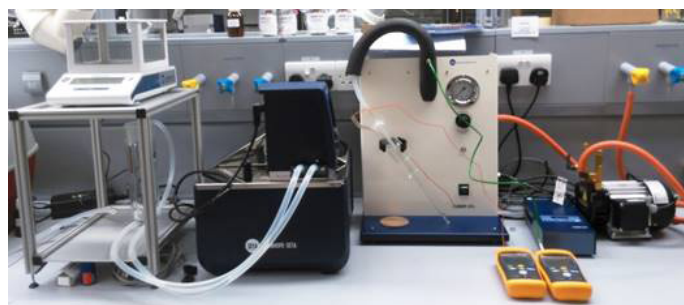
- Several different components must be fitted together to accommodate the test
- Operator needs to manually control both test sample & weighing 'sinker'
- Also manually control the Airflow
- Also operate the Density balance
- Also record the time
- Also manually transfer the hot test sample (50-75c)
- + Contend with noxious fumes from the hot test sample

The new single footprint integrated SETA ARV Apparatus:

- The new instrument automates & greatly simplifies test protocols
- Automatic timing & regulated aeration ensures stable density & test repeatability



The traditional configuration



Traditional operator problems – solved!

- It is easy to drop the balance sinker into the hot sample when trying to hang it on the balance - no longer a concern because on the new instrument the sinker remains permanently fixed to the balance and the sample is raised up over it
- Manually transferring the sample from aeration to density measurement is difficult – a quick transition from aeration to density measurement with the traditional set up is difficult because several components must be moved at once and a hot sample is involved. The new instrument has a mechanical vessel platform which allows the sample to be quickly and precisely moved between the test modes without risk to the operator

Enhanced operator safety:

- No need for handling hot sample vessel (up to 75c)
- Protective safety shield around vessel during aeration reduces risk of accidents
- Exhaust filter system extracts noxious fumes emitted by the test sample
- Safety cut-out prevents overheating & air flow interlock prevents heating when there's no air flow

For more information please visit: www.stanhope-seta.co.uk/