

DST GROUP

Australian Government Department of Defence

Defence Science and Technology Group



Filter Patch and Magnetic Chip Detector Quantifier

How well do you know the condition of your engine or gearbox?

When bearings and gears start to fail in a machine they shed metallic wear debris into the lubricant. Knowing when this happens and how far advanced the damage is critical for preventing catastrophic failure.

Conventional lubricant analysis is poor at detecting common failures as they detect only sub-visible particles. Some engines and gearboxes use magnetic chip detectors to detect failing components – but there is no effective way of quantifying the debris captured.

FilPaQ incorporates the latest commercial sensor technology in a system which:

- Removes debris from a chip detector/collector or filter patch using sequenced compressed air
- Quantifies the debris in terms of size and number
- Re-captures debris for further composition analysis if desired

Intellectual property:

Patented in Australia and the USA.

Advantages

- ► Wide particle size detection range
- Simple to use
- Requires only compressed air and mains power
- Debris is readily available for archiving or further composition analysis if needed
- Uses commercial inductive wear debris sensors

Commercial Opportunities

The FiLPaQ system fills a gap in the analysis of gearbox and engine systems resulting in better condition monitoring and opportunities for prognostic health monitoring



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