TECHNICAL NEWSLETTER

TN #11 Filter Monitor Transition update 12/05/2022

SUMMARY

This update includes the latest information from the industry filtration field trials and summarises the reasons why JIG will not be adopting the current version of the Parker Velcon CDFX Water Barrier (2") technology into the JIG Standards.

1. FIELD TRIAL PERFORMANCE – ELEMENT INTEGRITY

As communicated in TN10 (December 2021), findings from the field trial of 2" CDFX elements led to some focus being placed on the structural integrity of the CDFX elements. Findings included:

- Inconsistencies in the adhesion of the open end caps of elements
- A change in design of the centre tube to open end cap joint, from the overlapping joint used in filter monitors, to a butt joint (the butt joint having a smaller surface area for bonding, thus being an inherently weaker joint than the overlapping joint).

Lab testing showed that a failure of the end cap to centre tube joint can allow the filtration media to distort, affecting its ability to stop contaminants passing downstream.

Despite changes to the manufacturing process, structural failures continue to occur, meaning that these changes have been unable to fully resolve the robustness and reliability of this design / construction.

The manufacturer is aware of these failures and has stated its intention to partly redesign the end cap in order to strengthen and improve the consistency of the joint. When the new design is finalised and has been produced it will require at least partial requalification to the EI 1588 Specification. If the redesign is successful, the manufacturer has advised that they will submit for requalification later this year.

2. CONSEQUENCES FOR ADOPTION INTO THE JIG STANDARDS

The failure rate observed for the CDFX 2" elements, and the potential for these failures to occur during active service represents a current level of risk that is not acceptable in the JIG Standards and therefore, JIG will not be adopting the current version of CDFX 2" into the Standards.

JIG remains committed to the technical evaluation of new technologies for the replacement of Filter Monitors (FM), and therefore does intend to conduct further evaluate a redesigned version of the CDFX 2". However, this will only be considered after it has been requalified to EI 1588.

Please note that:

- It has been confirmed that the filtration media and construction will be the same for the updated CDFX element, meaning that the service life expectations already detailed in previous Newsletters are not expected to improve.
- Diligently trialling new or updated technology to ensure that only equipment that is fit for purpose is adopted into the JIG Standards takes time. Consequently, if requalified, it could be 6-12 months after EI qualification, whilst field trials are carried out, before a decision can be made regarding adopting an updated version of 2" CDFX technology in JIG.
- This decision does not automatically prohibit the possible future adoption of the CDFX 5" and 6" elements, as we understand their structural design to be different and should not contain the same potential vulnerability described above. Please note however that the 5" and 6" variants have not yet been submitted for EI 1588 qualification.
- This newsletter may require users to revise their Management of Change plans and Transition plans that are defined in TN9 and Bulletin 132.

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For further information on this subject, readers are welcome to contact JIG at filtration@jig.org or technical@jig.org

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