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TECH TALK 0082

ERP101 Electronic Remote Pulser Torque with New Seal

Liquip witnessed installations where ERP101 electronic remote pulser was fitted to truck without sound sealing arrangement to prevent water ingress to unit. In cases where water could come in contact with the pulser and the installation was not sound (ie. No seal installed) this could result in water ingress to unit via the bottom bearing of the ERP101.

A V-type seal was found by the R&D team to be the best preventative approach against such installation issues. As with any seal, it applies friction to the shaft, which in turn increases the torque needed to turn the shaft.

Concerns were raised from the field regarding the stiffness of the new ERP101 shaft assembly. Tests were undertaken to determine if the increase in torque would effect the operation of the pulser. Tests were conducted at high speed (up to 1000rpm) for 3 days. Turned on & off at intervals for checking. The sealing arrangement was then re-tested & found not to leak.

The seal was then replaced with a new seal to determine the actual torque of the shaft. The torque measured to be less than 1Nm.

It was then decided to compare the torque of the ERP101 to that of a mechanical register. To determine if new ERP101 with lip seal had a torque greater than that of a mechanical register.

The ERP101 with new lip seal was connected via a drive dog to a mechanical register. The ERP101 was rotated. This was done to determine if the shaft of the ERP101 or the shaft of the mechanical register would move. The shaft with the greater torque will not move.



After several turns, the shaft of the ERP101 rotated 9 out of 10 times. This showed that the torques of the ERP101 & mechanical register are very close but the mechanical register greater.

As the torque of the ERP101 with lip seal is less than the mechanical register, the ERP101 will have no effect on the meters.