Tritech	Document Ref: 0711-TNS-00001
	Rev. 01, Feb 2023

Product Advisory - Tritech Eductor Dredge Pumps

Operating Performance Indicators for the Tritech Merlin and Super ZipJet Eductor Dredge Pumps

It should be noted by all customers that the quoted hydraulic requirements and maximum operating specifications for the dredge pumps are indicative of the performance of the pump and are the maximum operating pressures and flow rates.

The Tritech Merlin and Super ZipJet Pumps are annular nozzle eductor dredge pumps specifically designed to ensure the dredge suction fluid does not directly contact or affect the pump impellor. This protects the pump impeller and hydraulic systems from damage or failure from the dredged solids or particulate. The main pump is a centrifugal design which offers further protection to the hydraulic drive components and systems. As with all pumps of this type, the variable interaction between the mechanical impeller and the pump inlet fluid, and the subsequent interaction between the pump fluid and dredge suction fluid does not allow for the creation of exact performance data. Tritech have derived the expected pump performance requirements from a combination of in-house test data, industry test data, and industry standard performance models.

Variability in the operating environment (depth, dissolved air in the water, water salinity / weight etc.) also play a big part in the performance and operating characteristics for the pump. An example would be where the pump is near the surface, or in an area with a high level of dissolved gas in the pump feed water. In this situation and assuming a constant hydraulic pressure, hydraulic flow would increase as there is less load on the pump impellor and the pump speed would increase. While this gives an increase in hydraulic flow rate it would not necessarily give an increase in overall pump performance.

Taking the above into consideration, there is no direct correlation between achieving the maximum operating hydraulic pressure, the maximum operating hydraulic flow rate, and the maximum dredge performance. Any quantitative performance measures should be made on the overall performance of the pump in it's ideal operating conditions based on the dredge performance. Whilst hydraulic input is indicative of the load and speed the centrifugal pump is operating at, this does not indicate the eductor pump is operating at a performance, less or greater than expected, in any specific environment.

Tritech International Limited
Peregrine Road, Westhill Business Park
Westhill, Aberdeenshire AB32 6JL
United Kingdom
Email: support@tritech.co.uk
Tel: +44 (0)1224 744111