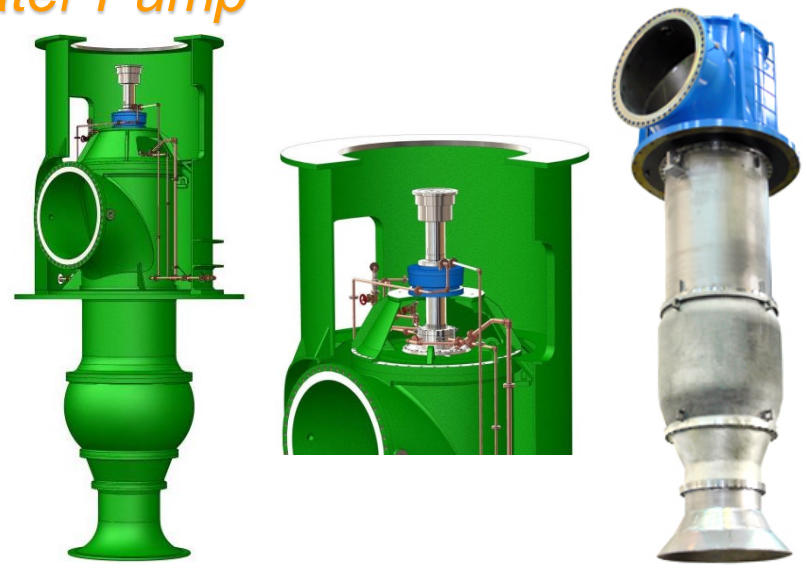


Tori Seal Mechanical Seal Case Histories

Main Cooling Water Pump

Region: *Middle East*
 Plant Type: *Desalination Plant*
 Pump Model: *SPV Vertical Mixed Flow Pump*
 No. of Pumps: *9*
 Delivery Date: *March 1997*
 Service: *Main Cooling Water*
 Liquid: *Sea Water*
 Pumping Temperature: *23-33°C*
 Flow Rate: *23,903 m³/hr*
 Total Head: *36 mtrs*

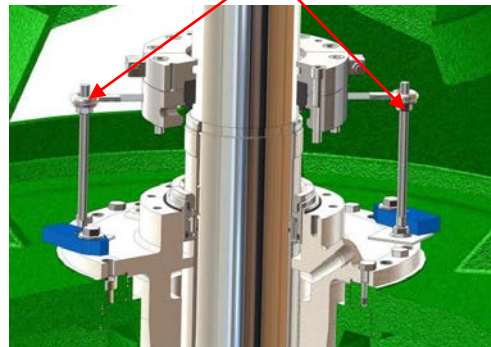


Seal Type: ***MB2910 Rotating Balanced Semi-Split Seal***
 Seal Code: *MB2910BN15BH240*
 Shaft Size: *240mm*
 Metallurgy: *316L Stainless Steel*
 Face Materials: *316L Stainless Steel/Carbon*
 Elastomers: *NBR*
 Seal Pressure: *2.5 – 3.5 barG*
 Pump Speed: *445 rpm*
 Face Velocity: *6.5 m/s*
 API Plan: *32 (External - during startup)*



Tori Seal Mechanical Seal Case Histories

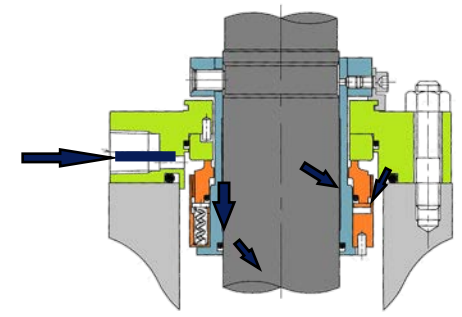
Customized screw jacks for lifting and setting the seal



A total of 9 pumps were supplied in 1997, all fitted with the MB2910 mechanical seal. Since then until 2016, a total of only 13 spare seals were ordered with the longest interval of no spare seals being ordered being over 5 years.

Over a 19 year period a total of 22 seals (including the seals fitted to the new pumps) have been, and are still being used. This equates to a average seal usage of 2.4 seals per pump over 19 years, resulting in an average seal life of 7.8 years per seal.

The customer is extremely satisfied with the performance of these seals. The Main Cooling Water pumps are a critical part of the plant and require a reliable and durable mechanical seal.

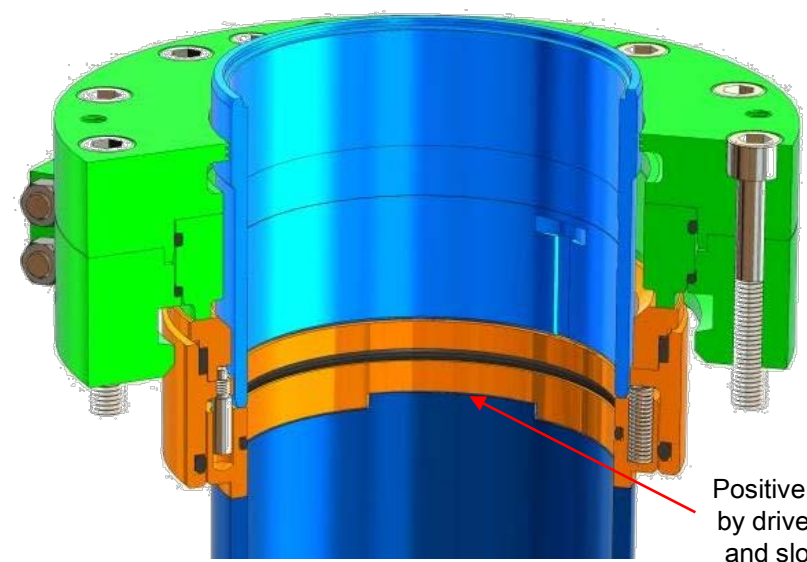


External Flushing on Start-Up



Tori Seal MB2910

Split glands for easy maintenance



Tori Seal MB2910

Positive drive by drive lugs and slots in sleeve and rotary unit



TORI SEAL

Over Half a Century of Sealing Reliability

