KlickFix®

James Walker

Case Study: Air-con plant water pump shaft sealing

Problem

Repeated need for seal replacement

Due to failure in operation the customer was having to change mechanical seals on the water circulating pump within the air conditioning system every four weeks. This had a negative impact on operations, particularly during the summer months when temperatures were higher.

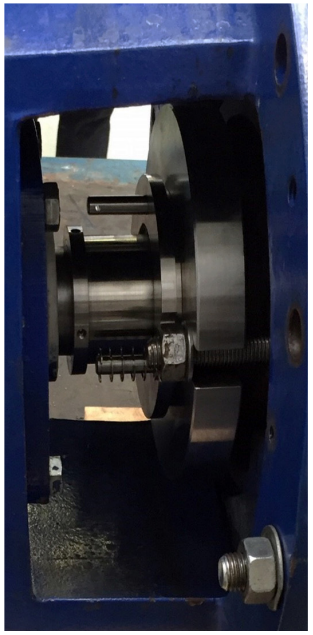
Application

KSB centrifugal pump at a semi-conductor manufacturer in Germany.

- Shaft diameter: 55 mm (2”) shaft sleeve 65 mm (2½”)
- Shaft speed: 5 m/s (984 ft/min)
- Stuffing box pressure: 6 bar (0.6 MPa) unflushed
- Media: water with airborne particulate

Existing solution

Mechanical seal



James Walker solution

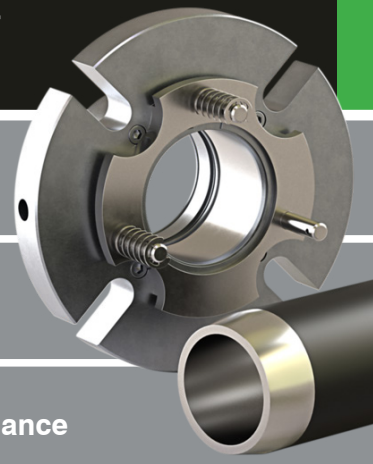
A KlickFix® cartridge was installed to minimise the downtime required to change the mechanical seal. With the sequentially deployable sealing lip system, the KlickFix would be able to offer the customer extended periods of operation without the need to shut the pump down as frequently. As and when the stored lips need to be utilised, the process can be undertaken in a matter of minutes.

Results and benefits

Hugely extended seal life cycle

The KlickFix® was installed in spring and ran on the first lip until winter, when the pump was put into standby, with no visible leakage and no adjustment required.

The existing mechanical seal required to be changed every 4 weeks, therefore the first lip alone has extended the life cycle by 8 times, with a further five lips ready to be deployed when required.



- **Zero leakage in operation**
- **Improved operational efficiency due to less downtime**
- **Significant reduction in maintenance**
- **Reduced costs related to shut-down and replacement**