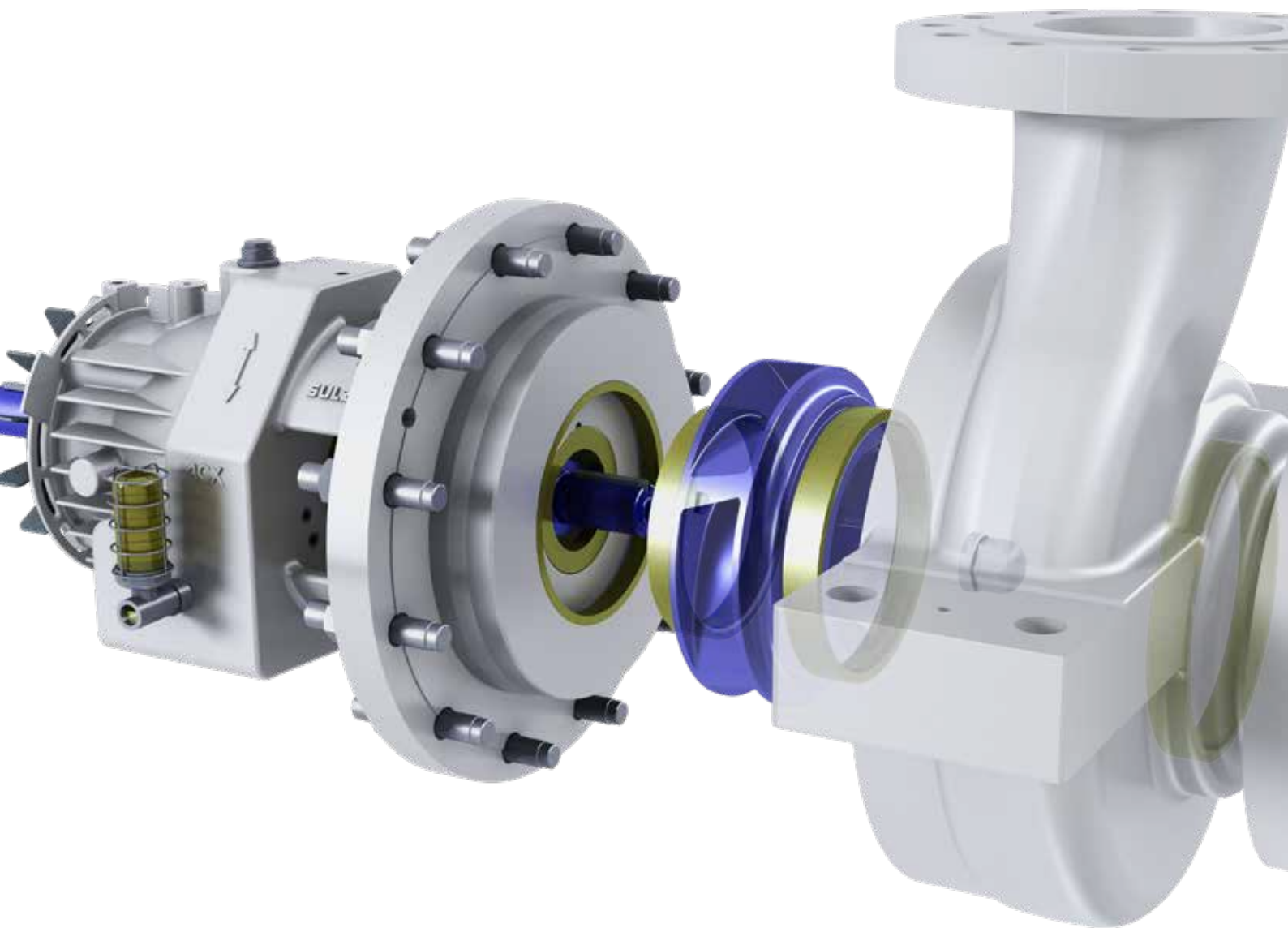


Reliability by design:
OHX pump retrofit kit API 610



Main industries and applications

OHX pump upgrade is designed for retrofit applications covering the full range of refinery services, including water, gasoline, LPG and other light products, as well as crude oil and fractionator bottoms.



Oil and gas

- FPSO - Floating Production Storage and Offloading
- Oil production
- Petro chemical
- Refining
- Pipeline
- Gas processing
- LNG - Liquefied Natural Gas



Chemical

- Biochemical
- Biofuels



Power

- Coal fired generation
- Gas fired generation
- Nuclear generation
- Industrial power generation



Efficiently extend your product life cycle

OHX is a drop-in back-pull-out retrofit solution for any existing OEM overhung pump type which reuses existing baseplate and motor. Being a standardized solution makes it a fast and cost-effective option to improve reliability, safety and lessen the environmental impact of your equipment all while reducing your on-site inventory and total cost of ownership.

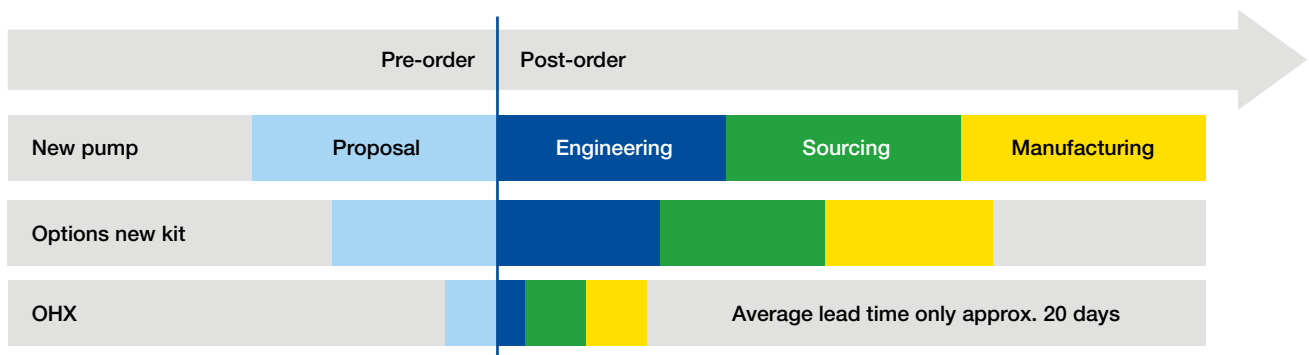


Faster and better OH2 retrofit through speed, quality and cost-effectiveness

Through its retrofit services, Sulzer gives your pump a second life by improving reliability, minimizing costs, adding interchangeability and adapting performance to changing processes. Sulzer provides tailored solutions that add sustainable value to your overhung process pumps including single-stage double suctions and two-stage pumps regardless of the brand.



Shorter lead time vs new equipment and less process down-time



Features and benefits

Casing gasket

- Fully confined with controlled compression and metal to metal fit

Seal chamber

- Standardized dimensions according to ISO 13709 (API 610)
- Furnished with all API 682 seal flush piping plans for improved seal life
- Single or dual cartridge type mechanical seals available to meet all process requirements
- Standard and close clearance throat bush for control of sealing chamber pressure

Shaft

- Extra heavy-duty large diameter shaft increased stiffness of rotor at seal chamber; better L3/D4 ratio for better seal and bearing life

Impeller retention

- Per design requirements to suit existing impeller and new Sulzer shaft

Impeller

- Existing impeller
- Optional new impeller based on current operational requirements

Coupling

- Flexible disk spacer couplings are supplied to comply with your specific and ISO 13709 (API 610) requirements (upon request)

Coupling guard

- Standard coupling guard meets ISO 13709 (API 610), ATEX and OSHA requirements
- Other types of guards are available

Bearings

- Thrust bearings are 7300 series, heavy-duty 40 degree angular contact bearings with machined brass cages
- Mounted back to back
- Radial bearing is deep groove ball bearing with increased clearance as required by ISO 13709 (API 610)

Bearing housing

- Carbon steel construction with cooling fins for improved heat dissipation
- Instrumentation available for condition monitoring
- Dimples are provided for consistent location when taking vibration measurements with a portable instrument

Bearing isolators

- Non-metallic or bronze bearing isolators or magnetic type oil seals provided to meet your requirements



Bearing assembly

- Five sizes of bearing housing for maximum interchangeability
- Pre-defined list of features available to meet the most challenging operating conditions
- Low noise fan added for high ambient or high product temperatures
- Standard with vibration equipment taps
- Available with RTD bearing temperature probes

Bearing lubrication

- Standard highly effective ring oil lubrication system uses an oil ring mounted within a deep groove retainer that guarantees the oil ring does not become dislodged
- Bearing housing oil channel routes the lubricant to the rear of each bearing to ensure positive lubrication under all conditions suitable for CW or CCW rotation
- Available with finned tube oil coolers where required
- Housing is supplied with connections for purge oil mist or pure oil mist
- Oil mist ports are located on the outboard side of each bearing to ensure positive oil mist flow through each bearing

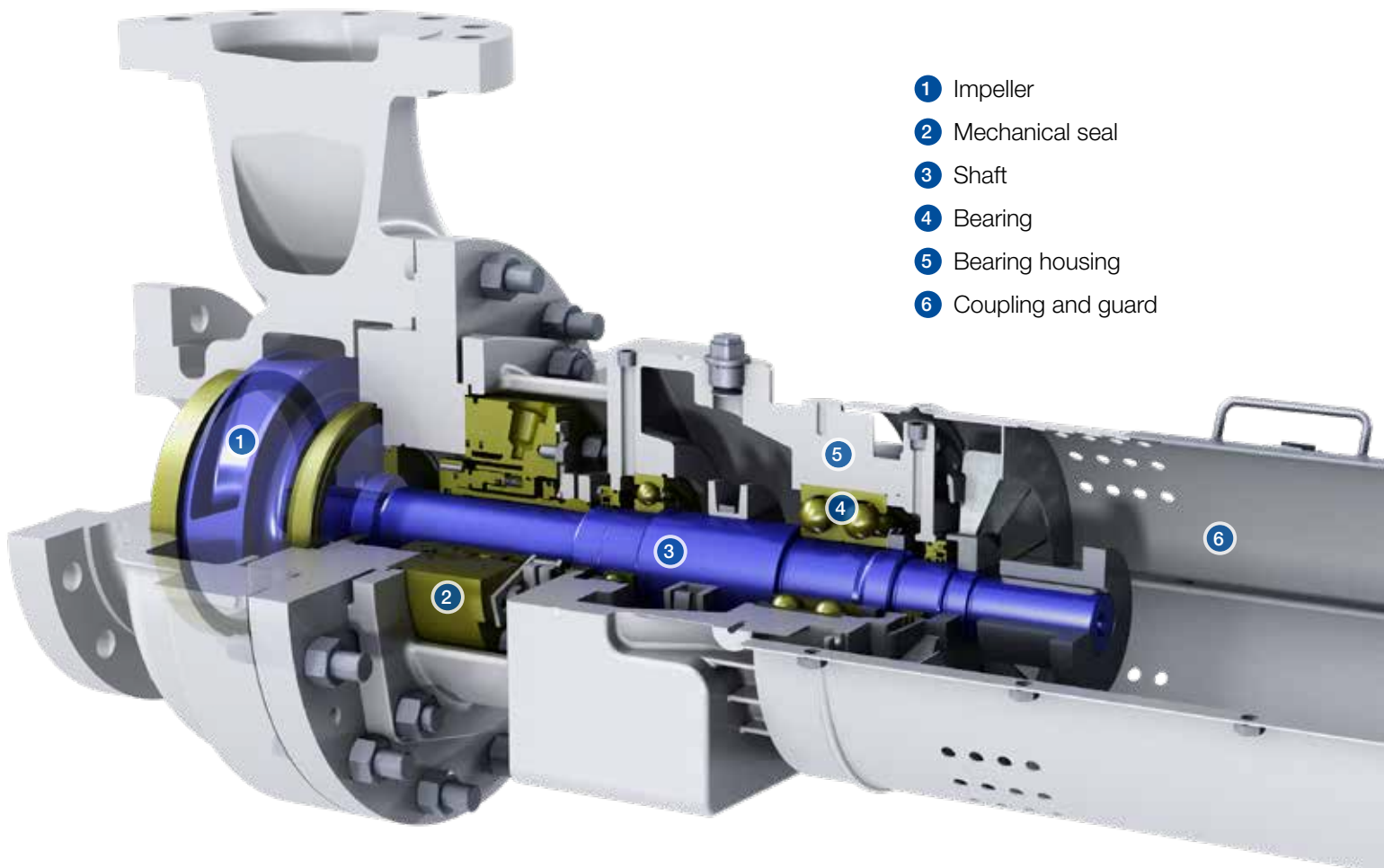
Case cover

- New case cover with API 682 seal chamber
- Adaptation of existing flat gasket to spiral wound gasket design

Complete solution offering



- Mechanical seal
- Coupling and guard
- Impeller (hydraulic improvements)
- Seal piping and design
- Choice of instrumentation
- Reverse engineering
- ATEX certification
- Remote wireless offering






- 1 Impeller
- 2 Mechanical seal
- 3 Shaft
- 4 Bearing
- 5 Bearing housing
- 6 Coupling and guard

Why Sulzer?

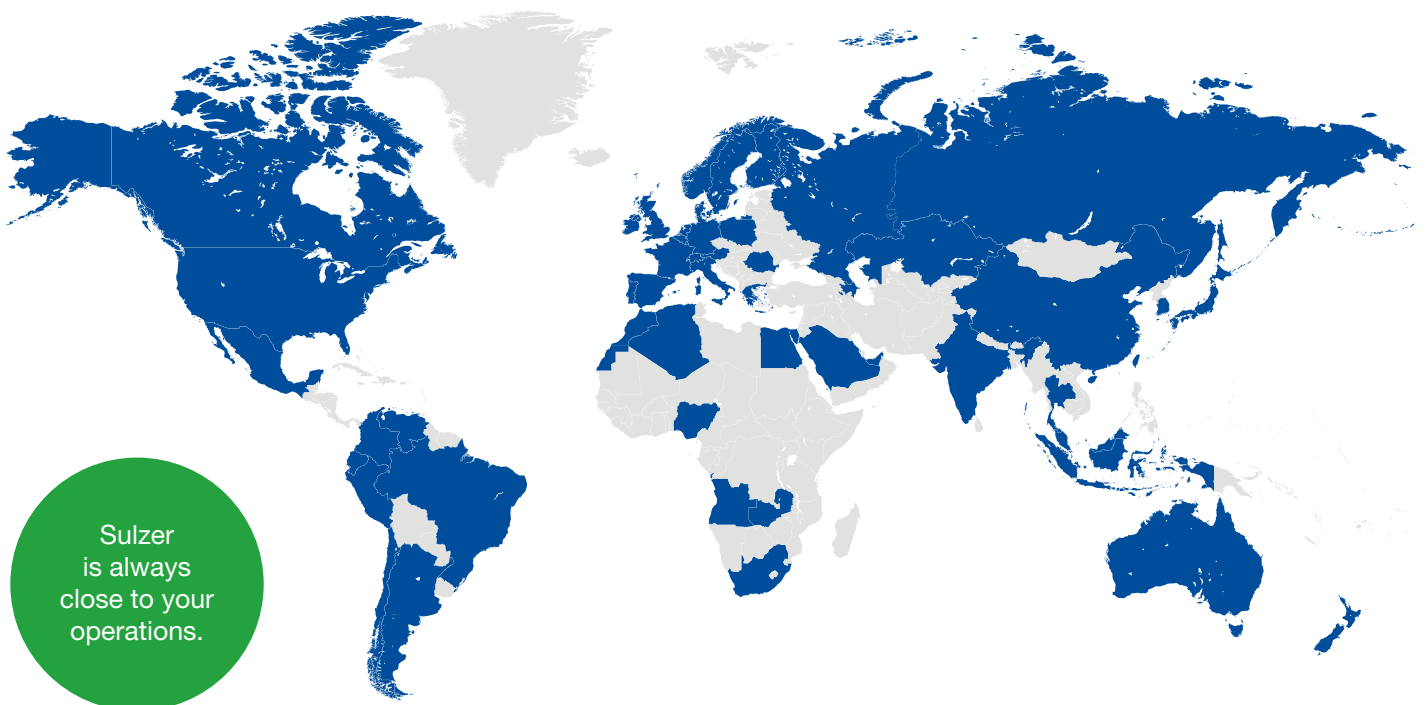
	Design features	Bearing isolators	Seal upgrade	Coupling upgrade	OHX standard	OHX extra
Reliability	Latest design API 610 to boost each sub-component life				✓	✓
	Seal upgraded to API682 provides wider stable operating envelope		✓		✓	✓
	Bearing upgraded to latest heavy duty design				✓	✓
	Bearing isolators support extended bearing life	✓			✓	✓
	Bearing life extended through stiffer shaft and cooler operation	✓			✓	✓
	Coupling upgrade to API 610 or simple modification to reuse existing coupling			✓	✓	✓
	Optimized hydraulics reduce vibration and improve seal and bearing life					✓
Safety	Seal upgraded to API682 with secondary containment or full dual seal		✓		✓	✓
	API682 support system provides containment and necessary warning indicators		✓		✓	✓
	Longer oil operating life due to more effective cooling means less operator intervention				✓	✓
	Pump cover as pressure boundary item is guaranteed to maintain API610 for API682 single and dual seal options				✓	✓
	ATEX compliant				✓	✓
Environmental	Shaft stiffness stabilizes fluid film reducing background emissions				✓	✓
	Fan cooling eliminates need for external water				✓	✓
	API 682 secondary containment or dual seal eliminates process fluid emissions		✓		✓	✓
	Improved gasket technologies reduce casing emissions				✓	✓
	Optimized hydraulics improves efficiency and reduces energy waste					✓
	Reduced fugitive Volatile Organic Compound (VOC) emissions meeting 3rd and 4th API 682 standards (ISO 24109) for seal chambers and flush piping for improved seal life				✓	✓
Risk and change management	Fully integrated solution does not compromise any single design component and is backed by comprehensive Sulzer warranty				✓	✓
	Drop in design minimizes hot works and management of change eliminates need for process pipework change, ties into existing baseplate and reuses existing driver				✓	✓

Your ideal service partner

<h2>Diagnostic and consulting services</h2>  <p>Consulting Monitoring Inspection</p> <p>Take informed decisions and maintain control</p>	<h2>Maintenance and support services</h2>  <p>On-site services Workshop services Spare parts</p> <p>Maintain your equipment to industry best practices</p>	<h2>Technical and economic optimization</h2>  <p>Technical improvement Reliability increase Economic optimization</p> <p>Get the most out of your assets</p>
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Global service network

Implementing a cost-effective and efficient maintenance regime requires an experienced and reliable partner that has the proven expertise and facilities worldwide. Sulzer can service all brands of rotating equipment such as turbines, compressors, expanders, generators, motors and pumps. With over 150 service centers around the world, Sulzer is close to our customers with easily accessible locations.



Sulzer
is always
close to your
operations.



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