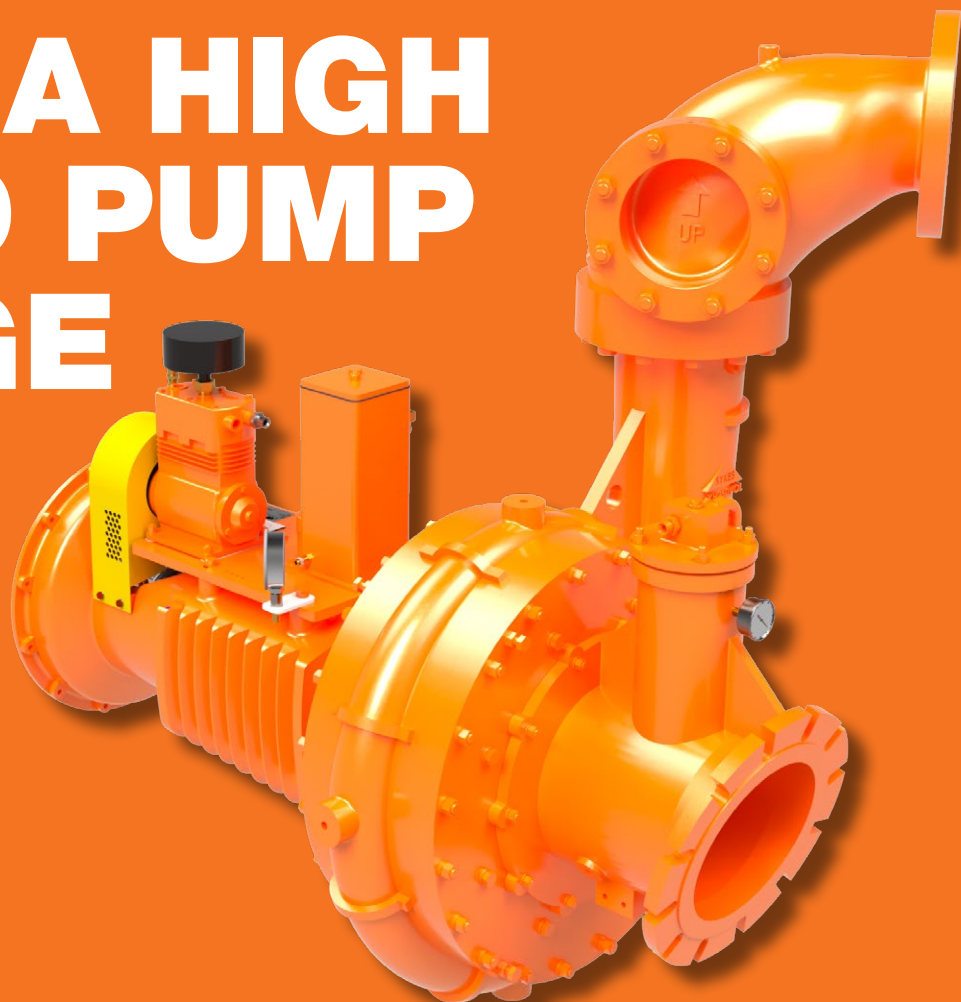


XH

Sykes Dewatering Solutions

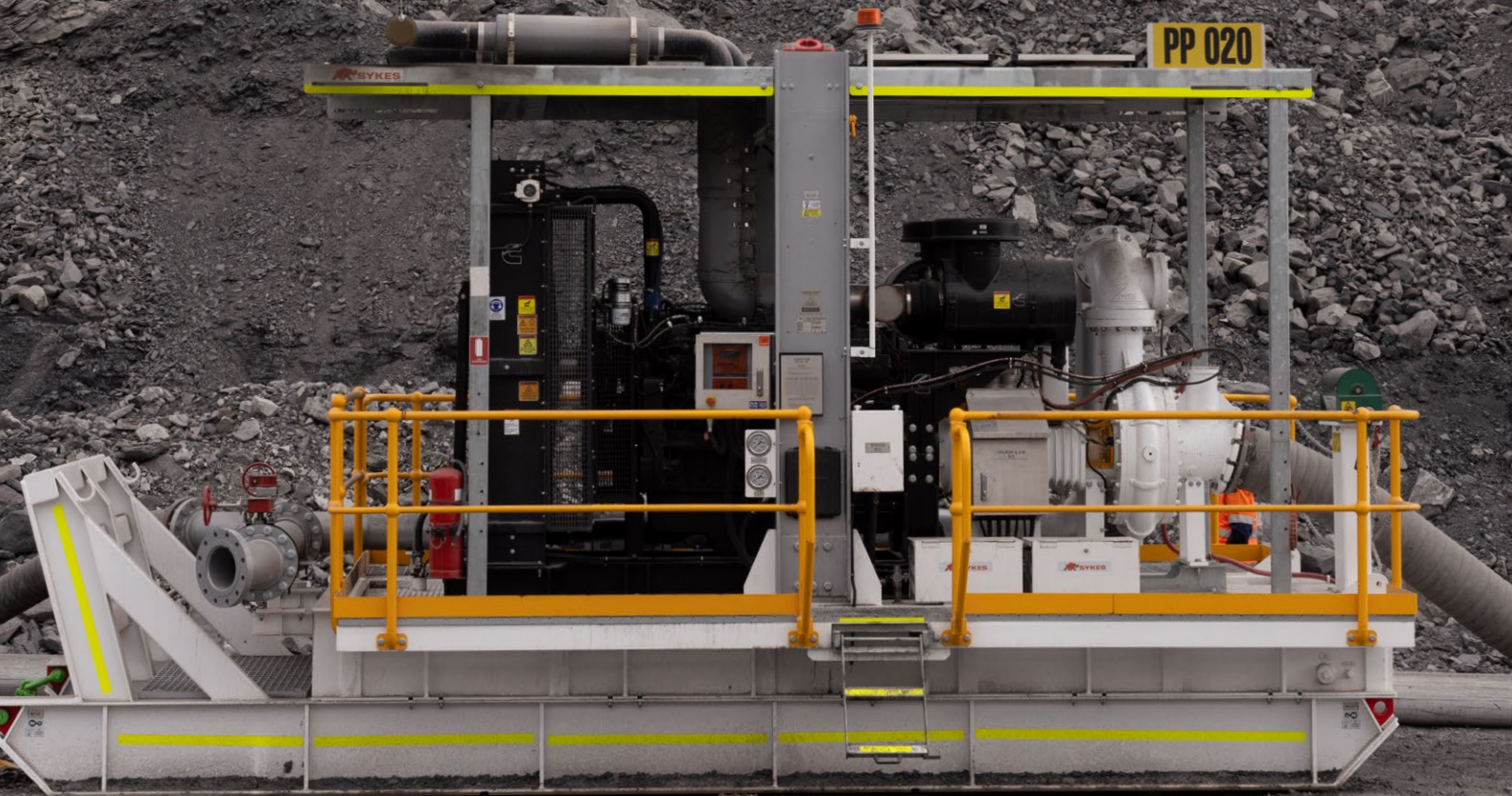
EXTRA HIGH HEAD PUMP RANGE



SYKES

www.sykesgroup.com

We offer in-house solutions to meet your design requirements, manufacturing, and aftermarket needs no matter where you're located.



SOLVE IT WITH A SYKES

Here to stay

When we first started designing our pumps, we set out to produce the toughest dewatering pumps in the world. We knew that if our dewatering pumps could withstand Australia's harsh conditions, then they could perform in any climate. Now, more than 50 years later, Sykes pumps can be found worldwide operating in areas such as the Middle East, Africa, Asia, North and South America, and, of course, Australia.

From urban work-sites to the most remote mines, our wide range of robust, dependable dewatering pumps provide efficient water management solutions. Sykes pumps are universally recognised as one of the most reliable and energy-efficient pumps on the market. And even though we may be the front-runners in energy efficiency, we're continually investing in research and development to improve our dewatering equipment to ensure even bigger energy savings for our customers.

We have our own engineering design, sales, and product support teams so when you invest in a Sykes pump you'll be partnering directly with the designer and manufacturer of the product.

Our quality engineering, extensive experience, and global service and support means that you get a product with lower operating costs, reduced downtime, and a longer life-cycle.

Built for the toughest and deepest applications

As mines and quarries go deeper it is essential to have a reliable extra high head pump to ensure pits remain as dry as possible so mining can continue uninterrupted.

Our Extra High Head (XH) automatic priming, solids-handling pumpsets are designed to dewater more efficiently and more effectively.

Design features:

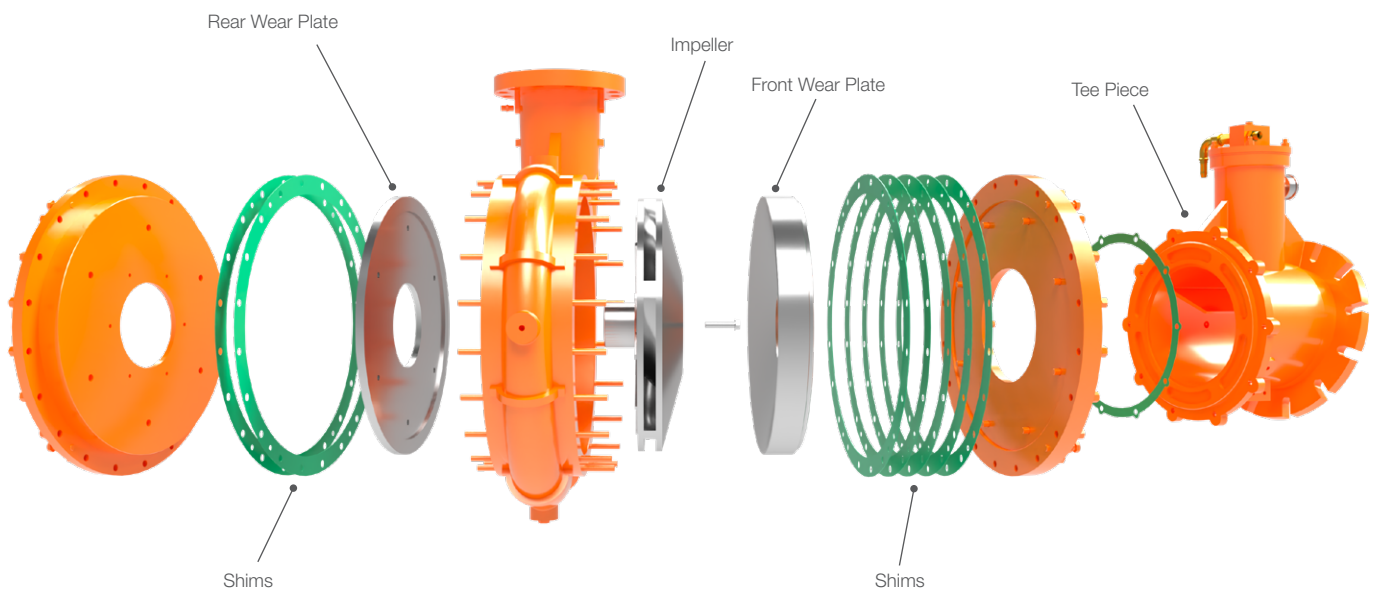
- Low fuel usage
- Low maintenance costs
- Dry self prime and reprime
- Increased shaft stiffness ratios
- Large solids capacity while maintaining hydraulic efficiencies
- Close coupled SAE bearing frames
- Suction lifts to 9m [30ft]
- Operates in 'snore' conditions
- Available in diesel and electric configurations
- Simple and fast maintenance
- Replaceable wear parts
- Chassis - skid, site trailer, caged
- Powered by Perkins® or Caterpillar® engines (other engines available on request)
- Sykes purpose-built control panel
- Able to operate unattended at high discharge heads
- Available in Standard (SR), Premium (PR) and Acoustic (AR) build configurations
- Custom build available

Wear plates

To keep your pump working at optimal hydraulic efficiency our innovative wear plate adjustment system is fast, efficient, and simple delivering minimum downtime, reduced labour costs, and minimised production losses.

The hydraulic efficiency of a dewatering pump is controlled by maintaining the clearance between the impeller and front wear plate within a specific tolerance. But dewatering pumps don't just pump clean water. They need to also be able to seamlessly handle silt and large solids. However, pumping solids will ultimately result in wear. This eventually leads to loss of efficiency due to the increased clearance created between the impeller and the wear plate.

To solve this problem Sykes pumps feature a unique wear plate system. Shims sit between the front adaptor plate and the casing which gives you up to 5mm of adjustment on the clearance between the impeller and wear plate. By simply removing a shim you regain the required clearance and regain optimal pump efficiency. This is done quickly and simply without the need for a major overhaul. This streamlined process is significantly easier and faster than the traditional method of wear ring replacement. And it also does not need to be done as often, further minimising downtime and increasing overall efficiency.



SYKES WEAR PLATE SYSTEM

VS.

STANDARD WEAR RING SYSTEM

(non-Sykes competitor pump)

SYKES
 ★ Fast ★ Simple ★ Efficient

UNINTERRUPTED PRODUCTION



Wear plate clearance does not need to be adjusted often. ✓



It's fast & easy to adjust clearance between impeller & front wear plate. (just remove shim) ✓

A gradual decline in hydraulic efficiency delivers a smaller loss. ✓



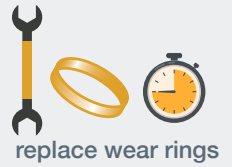
Simply remove shim and your pump is **back in action**. This means significantly **less downtime, lower labour costs** and **increased overall efficiency**.



SOLVE IT WITH A SYKES



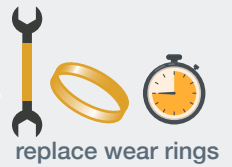
✗ Wear rings need to be replaced 2-3 times more often.



✗ It takes 4-5 times longer to replace wear rings & it's more complicated.

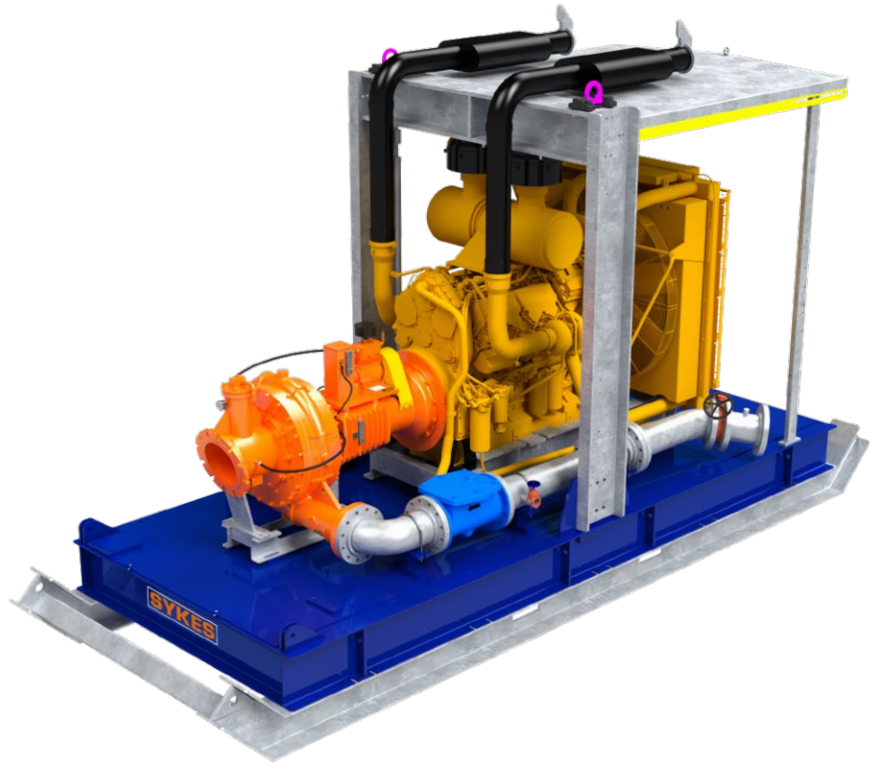


✗ Loss of hydraulic efficiency occurs more quickly & results in a bigger loss.



+ =

Replacing wear rings means significantly **more downtime** and **higher labour costs** which equals unnecessary **production losses**.



Priming options

Our heavy duty, automatic self-priming XH pumps feature four priming systems. Stainless steel and duplex material options are available for all systems.



Compressor prime

Features a twin cylinder air compressor which passes a jet of compressed air through a venturi-type jet and nozzle to evacuate air from the pump casing and suction line. It makes sure priming is fast, positive and continuous, even under 'snore' conditions. The standard priming system has minimal moving parts which greatly reduces maintenance requirements.



Anti-spit prime

The new anti-spit technology mounts on top of the pump's priming tee and stops water from discharging out of the nozzle after priming the pump. This means that sewage bypass, contaminated water, and harsh chemicals no longer discharge to the ground and surrounding environment.



Diaphragm prime

Features a high-capacity diaphragm pump that evacuates air from the pump casing and suction line. A robust, float-driven positive seal arrangement prevents carry-over to the environment.



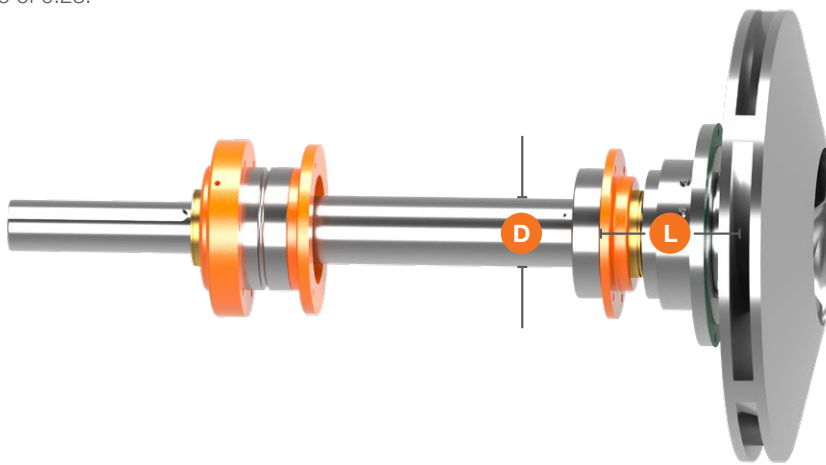
Vacuum prime

A high-capacity vacuum pump in combination with a robust primary tank floatation system. It evacuates air from the pump casing and suction line, resulting in a fast and effective priming and repriming set-up. The vacuum prime is ideal for wellpoint dewatering and long suction conditions.

Shaft stiffness

Our XH pumps come with increased shaft stiffness ratios enabling them to withstand very high pressures and loads, without any threat of compromise to the seal integrity through shaft flexing. As our pumps are used in a wide variety of applications there is the risk that they may be exposed to misapplication or operation outside of their designed parameters. As such, our pumps are designed with exceptional shaft stiffness ratios which help to minimise the risk of shaft bending if not operated correctly.

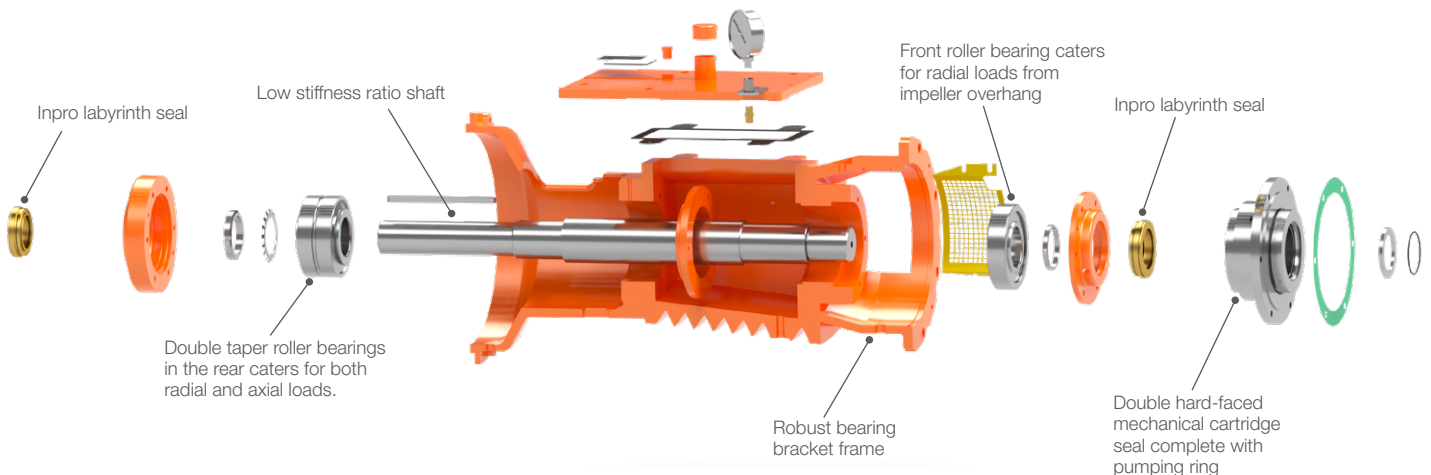
Shaft stiffness is calculated as L^3/D^4 (L is the length from the front bearing to the centre line of the impeller, D is the shaft diameter). The accepted industry standard for dewatering pumps is a ratio of 1.5 to 2.5, with the US Navy using 0.75 for demanding applications such as drive shafts. But our pumps deliver even better shaft stiffness ratios. For example, our XH250 has a shaft stiffness ratio of 0.23.



Bearing arrangement

Featuring a roller bearing in the front and double taper roller bearings in the rear, our XH pumps are built to last. The front roller bearing caters for the radial loads from the impeller overhang and the rear bearings cater for both radial and axial loads. The bearings are oil lubricated and are protected from contamination ingress and lubrication loss (the leading causes of bearing failure) by Inpro labyrinth seals delivering exceptional bearing assembly life.

The bearing frame is common throughout our entire XH range, so it is possible to convert one XH to another by simply replacing some of the pump components without requiring a new bearing bracket or sealing arrangement.





Drive options

Our XH range of dewatering pumps are available in either diesel drive or electric drive configurations to minimise their carbon footprint and to help you hit your sustainability targets.

Sealing

All of our XH pumps come complete with a double, hard-faced mechanical cartridge seal with pumping ring which circulates a barrier fluid while priming and running on shore. Pressurised options are also available.

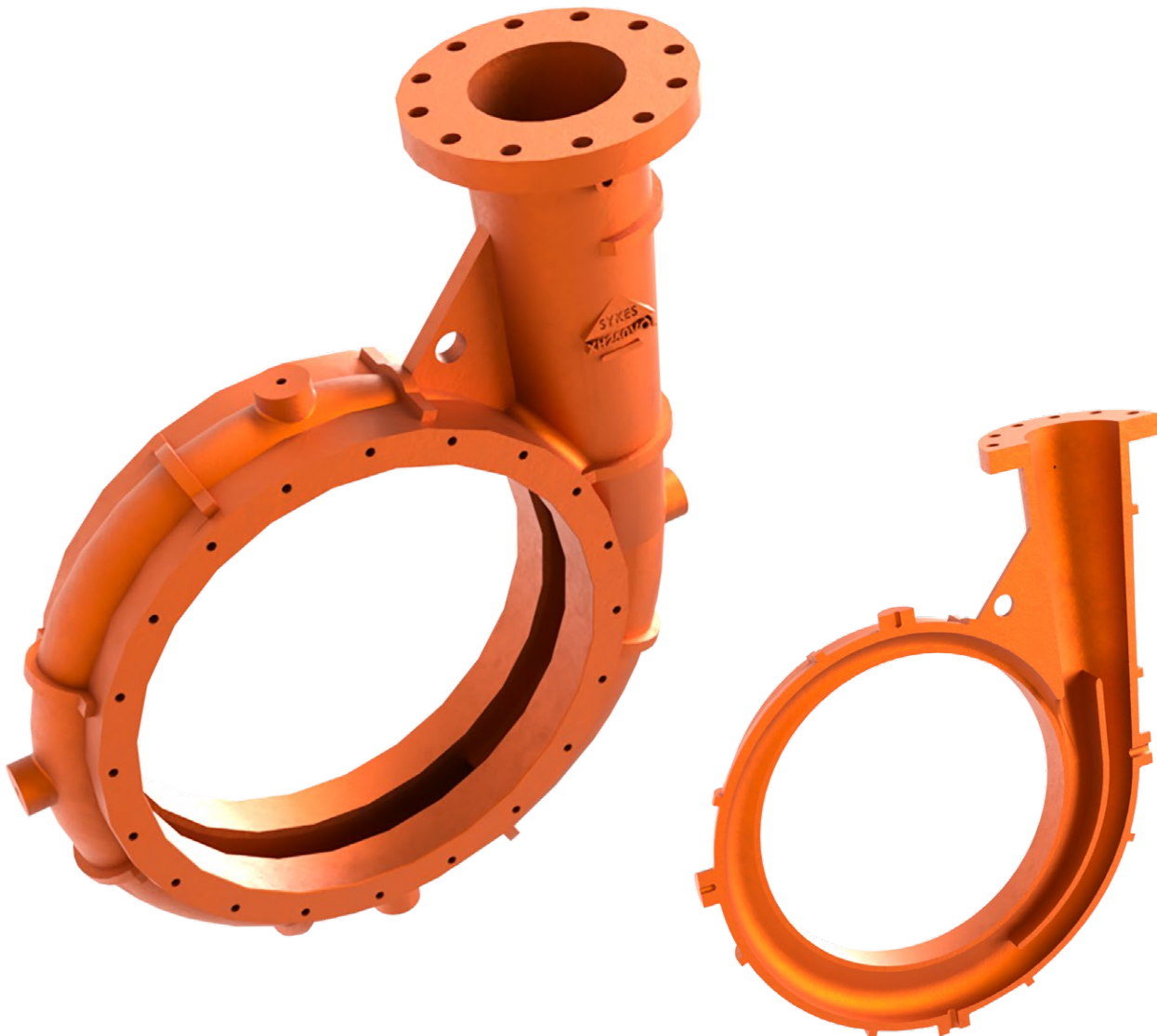
Other options include water lubricated gland packed or gland packed with a lantern ring and automatic grease lubrication (shown above). The automatic lubrication occurs prior to start up and after shut down which stops air being drawn into the gland while priming the pump.

Materials

Our rugged pumps are built with corrosion resistant stainless steel 316 impeller and wear plates, and SG iron volute, priming tee and NRV as standard. Other options include: Fill 316 SS, CS340, CS500, CD4MCU, H7A SS, CD4MCU, SAF2205 and SAF2507.

Double volute

Our XH range of pumps have been designed with a double volute which dramatically reduces the radial forces acting back on the impeller resulting in reduced shaft deflection. This maximises the life of the shaft, seals and bearings, and minimises life cycle costs.



SYKES SERVICE

With every one of our products supported by our dedicated, highly trained service teams, we consistently deliver optimised productivity, slashed project downtime, and improved workplace safety.

Our fully equipped service centres provide tailored service solutions to every one of our customers. Ranging from routine service and maintenance to urgent repairs, our fully equipped vehicles are ready to be dispatched to carry out on-site servicing and repairs quickly and efficiently.

Our highly experienced service team can provide service solutions for not only Sykes pump equipment, but also other branded pumps. This includes general service, minor and major overhauls, as well as retrofit and upgrades.

We offer a range of preventive maintenance and service options. Please contact your Sykes representative for a service quote for your site:

- Commissioning Service
- 250 Hour Service - three monthly maintenance check to ensure optimal pump performance and to support pump longevity
- 500 Hour Service - six monthly maintenance plan that includes all elements of the three monthly service plus additional tests and inspections
- 1000 Hour Service - the twelve monthly service is our most comprehensive preventive maintenance and service program
- Extended Service Contract - covers replacement costs and labour for major components

SYKES COMMISSIONING

We deliver systems that are designed and installed to meet your exact operational requirements.

The professional installation and commissioning of pumps is the first step towards smooth ongoing operations. Our trained pump technicians will arrive on-site to perform the pump commissioning checks and guarantee that the pump has been installed and started-up as specified to reduce the risk of breakdown following installation.

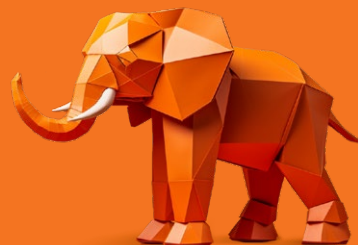
SYKES SPARES KITS

We offer a range of spares kits to address any accidental breakdowns throughout the life of your pump. We offer:

- Recommended operational spares kits for all pump models
- Major wear part kits for all pump models
- Service kits for different service intervals
- Customised spares kits tailored to your operation

TRAINING

Our experienced service experts design and deliver customised on-site training programs. Contact the Sykes service team for a quote.



Our unparalleled knowledge of the global dewatering industry ensures that we have clear insight into the local issues faced by all of our customers.





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