



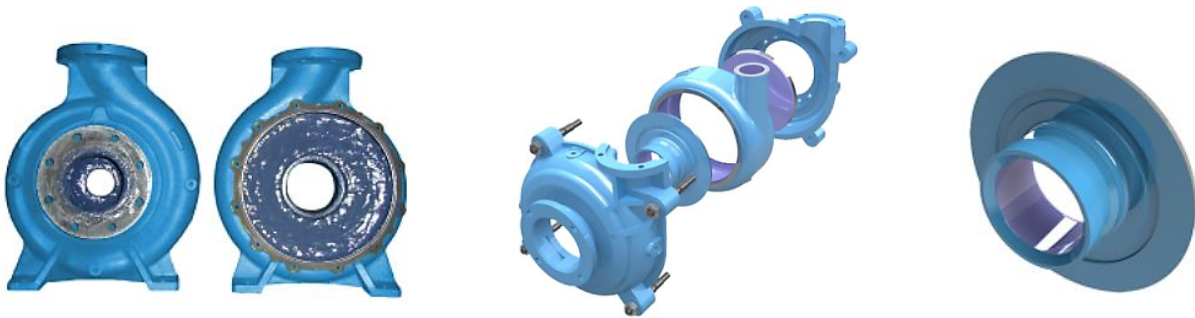
ArmorPUMP®

ArmorPUMP® is proud to be a part of the Imatech group of companies.

The ArmorPUMP® range of interchangeable rotatable slurry pump components are an innovative line of ultra-wear resistant pump parts, specifically designed to extend the product lifecycle of your pumps and increase the mean time between failures (MTBF).

They are tailor engineered for tough and specific processing environments to offer the highest abrasion resistance, reduce maintenance costs and match the pumping system capacity to your production requirements.

Our new range of ArmorPUMP® rubber, ceramic, hard facing technology and metallurgic changes of designed componentry, mean your entire site-specific pump operational conditions are covered!

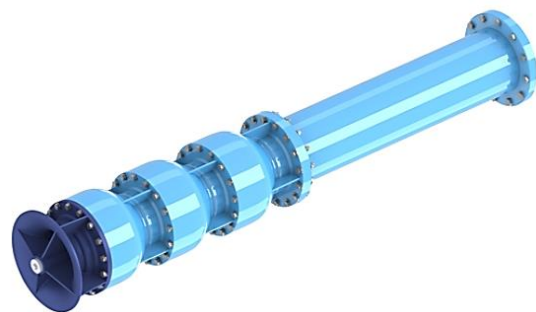


ArmorPUMP® Vertical Turbine Pumps

ArmorPUMP® Vertical Turbine Pumps are an advanced pump solution designed to combat heavy abrasion, erosion and corrosion while increasing the product lifecycle. They are customised and manufactured to increase pump flow rates and MTBF to provide longer service life.

The internal ArmorPUMP® pump parts are specifically designed to be interchangeable with standard OEM parts and provide superior wear protection and performance.

Whether redesigning or refurbishing your existing vertical turbine pumps, ArmorPUMP® covers a range of hydraulic conditions to meet your pumping system requirements. Our pump solutions also include site inspections, assembly and installation along with a Pump Efficiency Improvement Program (PEIP) that ensures pump efficiency with decreased energy costs.



Case Study: Unveil High Energy Savings with Vertical Turbine Pumps

Problem

An operational and mechanical assessment of the pumps revealed excessive clearance between the spigot location diameter and the counterbore on the flange ends of the column. This resulted in misalignment, causing uneven wear in the spider bearing bush and shaft that created excessive vibration within the assembly.

Consequently, this affected the abrasion and corrosion properties of the medium flowing through the pump.

Further inspection of the parts determined that the product flowing through the pump had a river sand/silt base. This had increased the abrasive operational conditions within the pump leading to accelerated wear on components where no protective coatings had been applied. Other possible factors included the lack of a detailed assembly process with wrongly assembled configurations, poor maintenance practices and a need for regular dredging and cleaning of pump pits.

Solution

Following site assessment, ArmorPUMP® offered to install two pumps with a sixteen week lead time and the other two pumps with a twenty two week lead time as per the client's requirements. The design changes and initiatives that were implemented into the quotation offering included:

- Shaft coupling assembly that incorporated split collars with fitted keys
- Coupling – stepped key design
- Sealing arrangement utilising spiral trac and restriction bush design
- Wear rings – flange head design change (bolt on design)
- Column – design change to eliminate misalignment
- Column bearings – material and flange head design change
- Ceramic coating for columns, pump cases, impellers and suction bells
- Discharge housing – ceramic coating of pipe internals with ARC SD4i – advanced polymer/high loading ceramic composite
- Complete assembly coating of external surfaces – coated with ARC S1 a polymer/surface modified mineral composite
- Fully assembled wet end components offered by ArmorPUMP® with customer site personnel
- Complete traceability on manufactured parts for quality control
- Regular pump status reports to assist the client site with scheduling installations
- Pump assembly manual provided with video hyperlinks for training of site personnel
- ArmorPUMP® representation during commissioning to assist with the correct assembly procedure



Assembly and Installation

ArmorPUMP® travelled onsite to view the installation of two pumps and decided that one pump would be installed and operated to approve its performance for four weeks before the installation of the second pump.

The remaining pumps were then installed as per the client's requirements. ArmorPUMP® performed flow rate readings for all the OEM pumps that were running prior to the installation of the vertical turbine pumps. A video recording of the assembly procedure was taken along with suggestions for assembly tooling required for inclusion with the pump manual; to assist with future assemblies.

Result

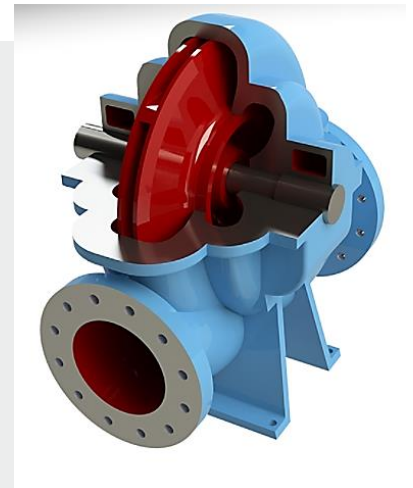
With the complete installation and operation of the pump onsite, flow readings were taken that revealed a significant improvement in flow rates and reduced energy savings of \$177,118.80/running pump. In addition, initiatives towards the client were taken to establish a continuous pump performance improvement program to ensure their efficiency needs were being met.

The installation of ArmorPUMP® pumps demonstrated that the incremental design change significantly improved supply lead time and aided site personnel in adeptly providing spare pumps and performing future maintenance to the pump assembly in more efficient timeframes.

Pump Efficiency Improvement Program (PEIP)

Our Pump Efficiency Improvement Program (PEIP) has been scientifically designed to facilitate the continuous development of pump efficiencies and counter energy and maintenance costs, in accordance with your operating environment.

With wear material specialists that are highly trained to encompass the principles of best efficiency point, while being actively aware of changes to industrial pump parts and pump repair requirements, ArmorPUMP® demonstrates net driving power savings, energy savings and increases in pump efficiency, whilst offering a superior corrosion protection for the wear surface of your equipment.





IMATECH

INNOVATIVE SOLUTIONS

Pump Coatings

ArmorPUMP® delivers pump coatings that provide superior protection from corrosion, abrasion and chemical attack to both metal and concrete surfaces.

Our extensive line of Chesterton® ARC advanced reinforced composite pump coatings are designed to tackle the most challenging site demands. These include high temperature, condensing gases or immersion in aggressive chemicals; avoiding costly replacements, reducing spare pump part consumption and increasing your pumps MTBF.

A Range of Chesterton® Arc Coatings:

ARC BX5 - Rapid curing fine particle wear compound

ARC SD4i - High temperature ceramic reinforced erosion resistant coating

ARC S2 - Ceramic reinforced erosion resistant coating

ARC MXHT - High temperature severe wear compound

ARC MX2 - High wear fine particle wear compound

ARC MX1 - Vertical build extreme wear compound

ARC I BX1 - Impact and wear resistant epoxy composite

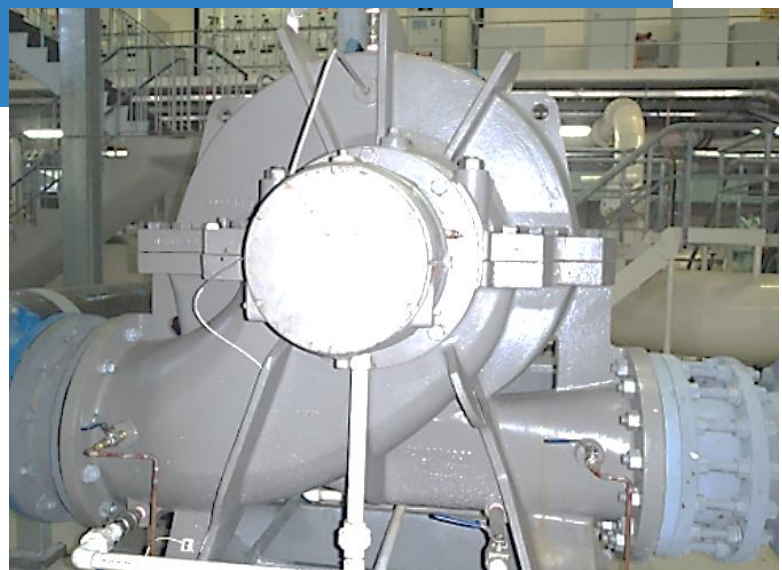
ARC HT-S - High temperature corrosion resistant pump coating

ARC BX2 - Contractor grade fine sliding wear compound

ARC BX1 - Contractor grade sliding wear compound

ARC 858 - Abrasion resistant rebuilding and faring composite

ARC 855 - Abrasion control liquid



IMATECH

E info@imatech.com.au
W imatech.com.au
P 1 800 352 228, +61 2 8853 3000

