



WORKING WITH TARMAC TO OPTIMISE PUMPING





IT'S IN THE BLOOD

QUARRY AND MINING PUMPING IS IN THE BLOOD OF DXB PUMP & POWER.

WHY DXB PUMP & POWER

For over twenty years, the owners of the company have designed and manufactured pumps and pumping solutions for quarries and mines all over the world including gold mines in Ghana, diamond mines in Russia, coal mines in Mozambique and of course, all types of quarries here in the UK including sand & gravel, limestone and granite quarries from Scotland to Cornwall and everywhere in between.

From the very first sound attenuated quarry dewatering pump that the team designed, manufactured, and supplied in 2004, the founders of DXB P&P have focused on designing pump sets that focus on improving efficiencies, reducing the carbon footprint and driving down total cost of ownership (TOC).

THE TECHNOLOGY

Whether you are dewatering, supplying a washplant or pumping slurry, many applications require high flows and relatively high pressures. This means high energy consumption and potentially increased maintenance costs reducing your unit profitability.

DXB Pump & Power have designed pumpsets that have taken the voice of the customer (VOC) into consideration and offering both standard and optional features that reduce costs substantially, offer user friendly operating whilst improving the return on operations. Four key features are:

- 1** A selection of wetends. Depending on the application, there are a variety of high efficiency dewatering pump wetends and materials of construction to suit specific applications, these include performance efficiencies as high as 89% efficiency, and 65- BHN hard-iron wetends which are incorporated into our pumpsets and include Cycloseal protection and 50cfm fast priming systems mounted directly on the engine or gearbox mounted where required.
- 2** Lower operating speeds results in a reduced fuel burn and lower emissions through choosing the best possible pump from Cornell pump, our US partner.
- 3** Our engineered designed packages enable us to use the smallest possible engines whilst ensuring the best efficiency and speeds regardless of ambient temperatures.
- 4** Optimised control and telemetry systems ensures that the pumpset can monitor and control the engine and pump either locally or remotely. This allows for preventative maintenance to be scheduled, and prevent catastrophic breakdowns resulting in downtime, whilst extending service intervals by up to 1000 hours in some cases.

SLURRY AND WASHPLANT RETURN PUMPING:

All DXB pumpsets are supplied with the 650BHN Hard Iron pump construction, Cycloseal™ protection system as standard allowing for indefinite run-dry capability, full self-priming down to 8.5m and of course, extended seal life in these abrasive pumping applications where others charge in damage costs and expensive spare parts.



DEWATERING:

Whether you choose electric or engine driven, you can be sure that your new DXB Pump is the most energy efficient, environmental pumpset you will ever purchase and use to dewater your quarry.

Utilising modern engines, features such as Cycloseal and 21st century control systems, combined with the largest range of pumps and materials, DXB Pump really does ensure the lowest possible costs for your pumping on site.

With flows up to 8000m³/hr and pressures of over 20 bar all from our Rediprime range, there has never been a larger range of pumps in Ductile Iron Hard Iron, CD4MCu Duplex Stainless Steel to choose for your specific application.



PROCESS PUMPS:

Supplying water to continuously running wash plants requires outstanding reliability and superior hydraulic efficiency. Often running 8 – 12 hours a day and at 300 tonnes or more an hour, these plants are business critical to any sand and gravel operation.

Pumping dirty water or slurry back to the settling lagoons has never been easier with the use of Hard Iron slurry pumps from DXB Pump complete with Cornell Cycloseal™ run dry protection and oil lubricated bearing housings.

Whatever your application on a quarry or in a mine, DXB Integrate have the number one solution for your application regardless of the challenge, because our business has one goal...

**AROUND YOU CLOCK,
AROUND YOUR WORLD®**



CLIENT REQUIREMENTS:

MAXIMISE
RELIABILITY

REDUCE
CARBON
FOOTPRINT

IMPROVE
EFFICIENCIES

A TECHNOLOGY
BASED SOLUTION
SOLUTION

JOB SPECS:

- DEEP LIMESTONE QUARRY WITH 300-400M³/HR INFLOW
- DESIGN AND INSTALLATION OF 1000M+ OF 300MM HDPE SDR11 16 BAR PIPELINE WITH VALVES AND ACCESSORIES
- DESIGN OF ENERGY RECOVERY THROUGH THE USE OF A HYDRO TURBINE TO DELIVER POWER TO WATER TREATMENT PLANT PRIOR TO DISCHARGE OFFSITE
- DESIGN AND INSTALLATION OF ELECTRIC HIGH PRESSURE 500M³/HR DEWATERING PUMPSET COMPLETE WITH 350KW MOTOR

TARMAC – SWINDEN, UK

DXB Integrate worked very closely with Tarmac Engineering to design a new discharge pipework system from the main pumpstation in the quarry floor, through a settling lagoon to a water treatment plant prior to discharge.



This included the design, supply and installation of almost 1000m of SDR 300mm pipework and accessories in order for the existing pump that was running at maximum performance to operate in a more reliable manner through lower friction losses and reduced power.

The design was undertaken in partnership with the Engineering team in Tarmac to facilitate the use of a future hydro turbine with controls to power the Archimedes turbines on the existing water treatment plant reducing the overall power consumption on site.

Finally, DXB Integrate has specifically designed a high efficiency new 8X6, 500m³/hr high pressure pumpset for the quarry to ensure reliable and low energy pumping for the long term on site further reducing the overall emissions and pumping costs on site.



CASE STUDY

THE ECO SIDE



Exceeds
NRMM
Standards



THE PUMPS THAT RESET THE ENVIRONMENTAL STANDARD & PUMPING PERFORMANCE

A KEY ELEMENT OF THE GLOBAL
FOCUS ON CLIMATE CHANGE IS ON
EMISSIONS REDUCTION.

One of the cornerstones of our sustainability strategy is utilizing the very latest Stage V compliant engines from suppliers such as Deutz, Scania and CAT. This very latest technology combined with the most efficient pump-end selection enables DXB Pump & Power to offer a solution that is the most efficient and cleanest on the market.

Our focus on designing efficient pumping solutions utilising the latest technology, assists our customers to meet their own emission reduction targets without compromising performance whilst reducing costs of operation and ownership.

All DXB Pumpsets including Stage 5 are HVO fuel compliant where required and if desired by clients to run on this fuel.

DXB Pump also supply electric pumpsets up to 2000kW in size along with variable speed drives (VSD's) on some of the smaller pumpsets including our 18.5kW where it is inbuilt and fully integrated with the DXB standard control panel.



**REDUCED
FUEL CONSUMPTION**

**REDUCED
OPERATING COSTS**

**REDUCED
POLLUTION & NOISE**



PUMPSET FEATURES

AND OPTIONS...

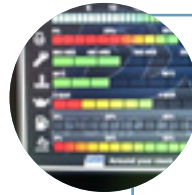
ULTRA
QUIET,
FULLY
BUNDED



SOUND ATTENUATED CANOPY

Sound attenuated and fully banded for complete environmental protection from noise, pollution such as fuel and oil leaks.

Multiple and large access doors allow for easy maintenance on site ensuring our equipment can be easily maintained and monitored at all times during operation or standby.



FUEL MANAGEMENT

With modern engines requiring emission compliance, the need to monitor the system is critical which is why the custom in-house panel from DXB Pump monitors not only the oil and water but also the fuel and DEF (AdBlue) on the pumpset.

STAGE 5 AND EXHAUST AFTER-TREATMENT

All DXB Pumpsets are designed to be easily maintained which is why the company designs their Stage 5 pumpsets with a minimum amount of after-treatment possible across a wide range of pumps designs.

All our pumpsets up to 300mm are available with the 55kW engine meaning the avoidance of Ad-Blue systems and the additional maintenance involved. DXB also offer a range of 80-150mm pumpsets with no additional exhaust after treatment as well all with up to 1000 hour service times through the use of the Fuel Active System.



CASE STUDY 2

TARMAC – BALLIDON, UK

Tarmac Ballidon were using two hired in older Stage 2/3 pumpsets from a competitor with regular breakdowns and increased costs of pumping.

DXB Integrate developed a solution based on an extensive site survey and engineered a solution in conjunction with the Quarry Section Manager using technology advanced Stage 5 pumpsets complete with long range fuel tanks that dramatically reducing the breakdowns, callouts and problems on site for the operations team.

The new installation resulted in increase in uptime, reduced breakdowns, reduced emissions in terms of noise and CO2 whilst at the same time reducing the overall costs of pumping seen on site at Ballidon- all great news for the quarry.

Finally, after trialling both a DE200/100 and SS300/70 pumpsets each with the same integrate canopy and Stage 5 105kw Deutz engine, it was decided that two medium pressure pumpsets were installed with new hoses and accessories engineered into the existing system through optimising the layout and location of the equipment.



JOB SPECS:

- REDUCED BREAKDOWNS, CALLOUTS AND FLOOD RISKS ON SITE
- REDUCED EMISSIONS AND COSTS OF PUMPING
- OPPORTUNITY TO INSTALL CONTROL AND MONITORING SYSTEMS
- INCREASED SERVICE TIMES FROM 250 HOURS TO 500 HOURS
- INTEGRATED MONITORING OF THE PUMP AND THE ENGINE ENSURING RELIABLE LONG TERM PUMPING



JOB SPECS:

- ELIMINATE EMISSIONS
- REDUCED DOWNTIME AND COSTS OF OPERATION

CASE STUDY

TARMAC – ELLERTON, UK

Tarmac Ellerton were using five engine driven older Stage 3 pumpsets for dewatering their location including several rented in from a supplier. The pumpsets were consuming several thousand litres of fuel each week and emitting many tonnes of carbon on site as well as experiencing many pumpset failures and downtime.

Working closely with the site operations team and engineers from Tarmac, DXB engineered a solution to improve their site dewatering which included the supply and installation of 4x 250mm low head electric submersible pumps on pontoons which generated almost 3000m³/h, which provided an increase in flow rates and reduced the costs of dewatering whilst providing a significant carbon footprint reduction.



PUMP TYPES



CLEAR LIQUIDS

DXB's clear liquid pumpsets are known around the world as the most durable, most reliable, highest efficiency pumps in the industry. We offer a large selection of clear liquids pumps that meet or exceed optimum efficiency standards for centrifugal pumps. These can be found in a variety of applications in the industrial, municipal & construction markets and are available in Close-Coupled, SAE Engine Mounted, Horizontal, and Vertical configurations.



SOLIDS HANDLING

DXB's solids handling pumps are available in discharge sizes from 50mm to 750mm and are designed to handle difficult solids handling applications. A range of mounting configurations are available, from close-coupled, SAE engine-mount, and horizontal frame-mount, to vertical and vertical coupled. Featuring enclosed impeller (50mm to 250mm solids, and flows up to 8100m³/hr), N-series can also be fitted with a delta impeller to handle stringy materials, rags, etc. Robust and reliable, the N-series has more than 30 years' of service as a waste-water handling favourite of the industry.

SIZES 50MM TO 250MM	FLOWS UP TO 1570M³/HR
PRESSURES UP TO 24 BAR	EFFICIENCIES UP TO 89%

FEATURES

- Full GGG40 Ductile Iron Pump
- CA6NM Stainless steel impellers
- Cycloseal® seal protection
- CD4MCu Stainless Steel (option)
- Replaceable wear rings
- Oversized bearings
- High efficiency, fully-machined impellers
- Heavy walled castings
- Two-year warranty

SIZES 50MM TO 750MM <small>IN OPEN SETS OR ENCLOSED CANOPIES</small>	FLOWS UP TO 8100M³/HR
PRESSURES UP TO 21 BAR	EFFICIENCIES UP TO 83%

FEATURES

- Full GGG40 Ductile Iron Pump
- CA6NM Stainless steel impellers
- Cycloseal® seal protection
- Solids handling 76-250mm
- Replaceable wear rings
- Oversized bearings
- High efficiency, fully-machined impellers
- Robust Mount Frame with mounting surfaces
- Two-year warranty

CLEAR LIQUIDS



SOLIDS HANDLING



SLURRY



SLURRY

DXB's range of slurry pumps expand our line of standard dewatering pumping solutions to the more abrasive applications in the drilling, construction, mining & quarrying, industrial & municipal industries. With the patented Cycloseal® technology, our slurry pumps are built to operate without flush water.

FEATURES

- 650BHN Hard Iron construction
- Wear resistant shaft
- High efficiency impeller design
- Cycloseal® seal protection
- Oversized bearings
- Rubber lined option
- Two-year warranty

SIZES 50MM
TO 300MM

FLOWS UP TO
3180M³/HR

PRESSURES
UP TO 24 BAR

EFFICIENCIES
UP TO 79%

SP Series pumps bring patented Cycloseal® technology to the mining process industry. Adding to the diverse range of mine dewatering pumps, the SP Series slurry pump offers a DXB solution to abrasive applications throughout the mill process. Available in rubber and metal lined configuration to handle various particle sizes, and pH requirements.



MP Series pumps are designed to provide a world-class, robust service life in any slurry pump. Cornell's Mining Pump Series combines 70 years of innovation in pump manufacturing and design, with the highly regarded patented Cycloseal® technology. Capable of operating at high pressures, the MP pumps are specifically designed for coarse abrasive slurry applications such as sand, gravel, coal, manure and mine dewatering.

SM Series pumps are hard metal slurry pumps. All SM pumps have a standard pressure rating of 200 BAR for high head and multi-stage series pumping applications. High chrome white iron alloy is the standard material of construction for all wet end components. A unique adjustable suction wear plate incorporates the newly patented Cycloguard™ feature to reduce recirculation for longer wear life.



WE'RE HERE FOR YOU.



AROUND YOUR CLOCK, AROUND YOUR WORLD®

Anywhere, Anytime... DXB specialise in designing bespoke solutions for your fluid handling requirements.



WORLD CLASS ECO-FRIENDLY PRODUCTS

Like you, we care about the environment, which is why our efficient pumpsets use the latest Stage 5 emission compliant engines as standard.



REAL TIME ASSET CONTROL

Downtime isn't an option. All our pumpsets can be remotely monitored for ultimate asset control and performance.



WARRANTY & AFTERCARE

Our aftermarket team are here to support your business for the life of the pumpset. All products come with a market leading warranty period for absolute peace of mind.



YOUR TRUSTED PARTNER

Simply put, our customers support us and we support them. We're partners! That is why we don't walk away once the pumpset is delivered.



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