GO FURTHER
WITH HIGH-QUALITY PUMP SOLUTIONS

be
think
innovate

GRUNDFOS

TOUGH CONDITIONS **ARE OUR SPECIALTY**

If you are looking for a truly dedicated and reliable pump partner Grundfos is the one to turn to. Backed by decades of experience of developing state-of-the-art pump solutions, we understand the challenges you face in the mining industry and design every one of our products accordingly to make sure they are tough enough to tear through some of the harshest environments on the planet.

Our robust pumps cover most processes in surface, open pit and underground mining. Materials are carefully chosen to reduce wear, tear and corrosion and offer you long product life and reliable continuous operation to eliminate downtime. Unique features include:

- Bearings designed to keep aggressive liquids in and sand out
- High efficiency motors that generate less heat
- All vulnerable parts made from high grade stainless steel

Contact your local Grundfos sales representative to find out how we can apply our extensive knowhow to your mining operation and tailor pump solutions that will benefit your business.

HIGH **OPERATIONAL EQUIPMENT EFFICIENCY** IS KEY

Grundfos keeps a clear focus on the operational equipment efficiency (OEE) in every partnership we enter into – because we understand the tangible value of reliable pump operation underground. No two mines are exactly alike and customised solutions are a cornerstone in our quest for high OEE. In North West Australia we helped increase an OEE of just 27% in one of the world's largest Iron Ore deposits by means of:

- High grade stainless steel submersible pumps – corrosion-resistant in the aggressive ground water
- Pump units fitted with stainless steel flow sleeves to provide adequate cooling in the hot desert climate
- Cables joined with special heat shrink kites to handle the aggressive ground water

Grundfos' customised dewatering solution has moved the OEE closer to the original target of 75% – and equally important eliminated the risk of loosing several million dollars per day due to inefficient pumps and subsequent ceased mining.

HIGH EFFICIENCY MOTORS **GENERATE LESS HEAT**

Designed for efficient operation in the hot areas of the world where mines are often located, Grundfos pumps are fitted with high efficiency motors that generate less heat. Their innovative design translates into a reduced need for cooling which affects both the energy efficiency and product wear positively.

MEET THE **UNDERGROUND STARS**

You will probably agree with us that reliability and operational efficiency are what matter the most when you work underground. Robust, hard-working and dependable, Grundfos dedicated mining products fit that bill and are the perfect fit for the world's toughest conditions. Meet a few of our underground stars here and find out why they are making a big difference in the mining industry.

CR/T/N

Designed to resist aggressive, corrosive liquids the CR/T/N series comprises some of our most flexible, all-round pumps for a wide range of mining applications:

- Available in four different materials – cast iron, two grades of stainless steel and all-titanium
- Customisable with a variety of shaft seals
- High efficiency motor
- Able to produce up to 50 bar of pressure

DWK

The DWK range features robust, high-efficiency dewatering pumps, ideal for temporary installation in pits:

- Solid cast-iron construction and narrow design
- High efficiency motor
- Available in high chrome stainless steel impeller
- MP204 available as an optional pump control

NBG/NKG

The NBG/NKG end-suction pumps are made from stainless steel and suitable for a variety of different mining applications requiring reliable, cost-efficient supply:

- Ideal water treatment processes
- Excellent corrosion-resistant properties
- Available with double seals for pumping of abrasive and aggressive liquids

SP

An industry favourite for almost 50 years, Grundfos SP submersible pumps are renowned for their high efficiency and unsurpassed reliability:

- 100% stainless steel
- High resistance to sand and other abrasive materials
- Motor burnout protection
- Easy maintenance

DIG INTO A POOL OF **GLOBAL REFERENCES**

Open-pit nickel mine in Talvivaar
Finland
Applications: Dewatering, pond/dust suppression, heap Leaching, water intake, wastewater
Products: AP, KP, S-range, CR(N), Hydro MPC, DME, SP, SQE, MTR.

Sandstone ore bodies
Kazakhstan
Applications: Intake and monitoring
Products: SP, CRNE, MTR, MP204

Iron Ore mine
South Africa
Application: Peripheral Dewatering
Pumps: SP

Coal mine
South Africa
Applications: Open Pit Dewatering, Potable Water Supply, Potable plant water
Pumps: DWK, NK, booster sets

Platinum mine
South Africa
Applications: Shaft water booster pumps, Underground dewatering pumps
Pumps: DWK, CR

Gold mine
South Africa
Application: Plant Fire control
Pumps: NK, CR

Copper mine
Zambia
Sewage treatment works
Pumps: SV pumps with guide rails and duck foot connectors

Open pit Iron Ore
Australia
Applications: Dewatering, pond/dust suppression, heap Leaching, water intake, wastewater
Products: SP/SP-R

Open pit Iron Ore
Australia
Applications: Dewatering, Pressure boosting
Products: SP/SP-N, Minescope Hydro MPC

Open pit Coal mine
Australia
Applications: Underground water transfer
Products: SPN

Open pit Coal mine
Australia
Applications: Raw water transfer
Products: S-pumps

COVERING YOUR EVERY **REQUIREMENT ON SITE**

At Grundfos, we understand that no two mining operations are alike. With hundreds of variables coming into play, defining and implementing a solution has to be done with the utmost precision and care. Our complete solution approach includes pumps for surface, open pit and underground mining. And our CUE frequency converters make it very easy to set up, optimise and regulate an entire system in just a few steps. In short, Grundfos pumps are built to last – even under the toughest working conditions.

See the complete selection of mining pumps on the next page, or visit us online at grundfos.com for more information.

SP

SUBMERSIBLE PUMPS

Flow, Q:	max. 468 m³/h
Head, H:	max. 810 m
Liquid temp.:	max. +60 °C
Submersible depth:	max. 600 m
Materials:	
Stainless steel (AISI 304)	
Stainless steel (AISI 316)	
Stainless steel (AISI 904L)	

DW/DWK

CONTRACTOR PUMPS

Flow, Q:	max. 432 m³/h
Head, H:	max. 102 m
Liquid temp.:	0 °C to +40 °C
Installation depth:	max. 25 m

NB/NBG/NK MAXA/MAXANA

SINGLE-STAGE STANDARD PUMPS

Flow, Q:	max. 1000 m³/h
Head, H:	max. 160 m
Liliquid temp.:	-25 °C to +140 °C
Operat. pressure:	max. 16 bar (NB/NBG/NK) max. 10 bar (Maxa/Maxana)
Materials:	
(NB/NBG/NK): Cast iron and Stainless steel	
(MAXA/MAXANA): Stainless steel (EN 1.4404.316L)	

CR/CRN/CRT

MULTISTAGE CENTRIFUGAL PUMPS

Flow, Q:	max. 180 m³/h
Head, H:	max. 470 m
Liquid temp.:	-40 °C to +180 °C
Operat. pressure:	max. 50 bar
Materials:	
Cast iron GG20 or GGG50	
Stainless steel (EN 14301(304))	

HS

HORIZONTAL SPLIT CASE PUMPS

Flow, Q:	max. 2500 m³/h
Head, H:	max. 148 m
Liquid temp.:	0 °C to +100 °C
Operat. pressure:	10-16 bar
Materials:	
Casing: Ductile iron (PN16) or cast iron (PN10)	
Sleeve/wear ring: Bronze or stainless steel	
Shaft: Stainless steel (AISI 420)	
Impeller: Bronze, aluminium bronze or stainless steel	

HYDRO MPC

HYDRO BOOSTER SETS

Flow, Q:	max. 1080 m³/h
Head, H:	max. 55 m
Liquid temp.:	0 °C to +70 °C
Operat. pressure:	max. 16 bar
Materials:	
CRI(E): Stainless steel	
CR(E): Cast iron and stainless steel	
Manifold: Stainless steel	

DMX/DMH

MOTOR-DRIVEN AND PISTON DIAPHRAGM DOSING PUMPS

Flow, Q (DMX):	0.4 to 2x4,000 l/h
Flow, Q (DMH):	0.15 to 2x1,500 l/h
Setting range:	up to 1:10
Max. operat. pres. (DMX):	10-3 bar
Max. operat. pres. (DMH):	200-4
Materials:	
Robust aluminium housing (DMX226, DMX227 + DMH)	
Robust cast iron housing option (DMH)	

MTR

MULTISTAGE CENTRIFUGAL IMMERSIBLE PUMPS

Flow, Q:	max. 85 m³/h
Head, H:	max. 238 m
Liquid temp.:	-20 °C to +90 °C
Operat. pressure:	max. 25 bar
Materials:	
Cast iron	
Stainless steel (AISI 304)	

SE1/SEV SL1/SLV

DRAINAGE, EFFLUENT, AND SEWAGE PUMPS

Flow, Q:	max. 88 m³/h
Head, H:	max. 44 m
Liquid temp.:	0 °C to +40 °C
Discharge diameter:	Rp 2 to DN 65
Materials:	
Cast iron	

BMS hs/BMST/ BMSX

HIGH-PRESSURE BOOSTER SYSTEMS

Flow, Q:	max. 120 m³/h
Head, H:	max. 820 m
Liquid temp.:	0 °C to +40 °C
Operat. pressure:	max. 82 bar

AMD/AMG

INTERMEDIATE-SPEED MIXERS WITH PLANETARY GEAR DRIVE

Flow, Q (AMD):	max. 1435 m³/h
Flow, Q (AMG):	max. 6985 m³/h
Propeller Speed (rpm) (AMD):	675-710 rpm
Propeller Speed (rpm) (AMD):	325-354 rpm
Liquid temp. (AMD/AMG):	5 °C to +40 °C
Materials (AMD):	Stainless steel
Materials (AMg):	Cast iron

MONITORING AND CONTROLS

CUE, MPC, MP204, DEDICATED CONTROLS

Grundfos offers a complete range of pumps controls, frequency converters, motor protection units, sensors, and monitoring solutions.

In combination with Grundfos pumps, the Grundfos monitoring and control products offer substantial savings in installation, maintenance, service cost, energy consumption, as well as in the day-to-day operation.

GRUNDFOS MINING

WHY CHOOSE GRUNDFOS AS YOUR MINING PARTNER?

- The biggest pump manufacturer in the world with over 16 million pumps produced every year
- Present with 80 sales and service companies in 51 countries, which also ensures presence in all the major mining markets in the world
- Cutting-edge technology based on the largest R&D budget in the industry with focus on optimising energy efficiency
- Grundfos iSOLUTIONS offer remote communication and complete control of the pump solutions, e.g. monitoring of liquid levels, automation of pumps, detailed log files as well as warnings/alarms.

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