

# OPTIMISED FOR UNDERGROUND PERFORMANCE

Meet the energy challenge **NOW**





# COVERING YOUR EVERY APPLICATION WITH SUBMERSIBLE PERFECTION

If you want to benefit from unsurpassed underground reliability, Grundfos' SP pump is the obvious choice. Featuring improved, high resistance sand bearings, long-term operation and easy assembly, it remains superior – not least thanks to the four decades of submersible knowhow that is built into every SP pump.

## DESIGNED IN 1967. BETTER THAN EVER

Grundfos' submersible pump, the SP pump, is a true original. When Grundfos invented it in 1967, it was the first ever submersible pump to be made entirely from stainless steel. Since then, on-going further development has manifested the popularity of the SP pump.

Today, the SP range is recognised for its high efficiency, low maintenance cost and unsurpassed reliability – in virtually all water abstraction applications including e.g.:

- Private and public water supply
- Irrigation
- Mining

## ENERGY EFFICIENCY AND RELIABILITY AT ITS BEST

When a pump is installed underground, nothing is more important than reliability. Maintenance is difficult and expensive – which is why the SP pump has been carefully designed for trouble-free operation and long service-intervals. Over the years our range of submersible pumps has been continuously improved to ensure the lowest possible energy consumption.

## ATTRACTIVE LIFE CYCLE COSTS

The total cost of owning a pump over its entire life is about much more than just the purchase price. In fact, only approximately 5% of a pump's life cycle cost is related to the initial investment, whereas operational costs account for as much as 85%. As a consequence, the efficiency of your pumps is essential if you wish to drive down the total cost of ownership. And with its high efficiency the SP pump has been designed to do just that.

## GLOBAL PRESENCE. LOCAL SERVICE

As one of the world's leading pump manufacturers, Grundfos is never far away. No matter where you are located, a dedicated Grundfos specialist is standby with professional knowhow and support in your local language. Offering an array of service centres on every continent, we have one of the most closely-knit service networks in the pump industry. This includes a number of local sub-factories and distributors where SP pumps can be assembled to ensure fast delivery and efficiently reduce the risk of expensive downtime at your end.

## GRUNDFOS FACTS

OVER 16 MILLION PUMP UNITS PRODUCED EVERY YEAR

MORE THAN 80 SALES AND SERVICE COMPANIES IN MORE THAN 55 COUNTRIES

MORE THAN 600 AUTHORISED GRUNDFOS SERVICE PARTNERS GLOBALLY

MORE THAN 18,300 EMPLOYEES WORLDWIDE

5.8% OF ANNUAL TURNOVER IN 2011 DEDICATED TO RESEARCH AND DEVELOPMENT

GRUNDFOS SUBMERSIBLE



# COMPLETE SUBMERSIBLE PUMP SYSTEMS OPTIMISED THE GRUNDFOS WAY

When you team up with Grundfos you benefit from an experienced system supplier who is dedicated to providing you with the best possible solution – underground as well as above ground. In addition to the pump itself, a complete system consists of a specially designed submersible motor, a dedicated electronic motor protection unit and a remote monitoring system. Combining these products you are guaranteed a fully optimised water supply system that will save you energy as well as money.

PROTECT YOUR  
INSTALLATION WITH  
GRUNDFOS' MOTOR  
PROTECTION MP204  
AND BENEFIT FROM  
TROUBLE-FREE  
OPERATION AND  
REDUCED NEED FOR  
PUMP SERVICE

## THE PUMP

SP pumps combine the very best materials with the superior hydraulic design and offer a variety of benefits:

- Efficient, reliable products
- Customisation of products
- High availability through local sub factories and distributors
- Grade 3B test as standard. Optional grade 1 and 2 test.

## THE MOTOR

If you want high efficiency, the motor is as important as the pump. Backed by more than 30 years of submersible motor knowhow, Grundfos is an expert in the field.

- MS and MMS submersible motors have been specially developed for the SP pump
- Our motors match the best duty points
- Motors are all stainless steel
- Robust and corrosion resistant
- Long life even in rough conditions

## CONTROL AND MONITORING

The efficiency and reliability of the SP pump system can be further increased by means of motor protection unit (MP204), Grundfos variable speed drive (CUE) and Grundfos Remote Management (GRM). Benefits include:

- Variable speed drive (CUE)
- 24-hour monitoring of both motor and entire system
- Protection of all vital pump parameters, including dry running and overload
- Trouble-free operation
- Reduced need for pump service

GRUNDFOS REMOTE MANAGEMENT (GRM) OFFERS 24-HOUR SYSTEM MONITORING, WHILE THE COMMUNICATION INTERFACE UNIT (CIU) ENABLES THE CONNECTION OF GRUNDFOS ELECTRONIC PRODUCTS TO STANDARD FIELD BUS NETWORKS.





# TAKING WATER INTAKE TO NEW LEVELS

## ATTRACTIVE LIFE CYCLE COST

An efficient supply of clean water begins with a submersible pump. Sourcing raw water is the very first step in any water supply system – and the SP pump is a reliable partner when you wish to get water to the surface. Due to the SP pump's energy efficiency and trouble-free operation that requires virtually no maintenance the life cycle cost is one of the most attractive on the market.

## ENERGY OPTIMISATION

If you wish to make sure that your well field is operating in the most energy-efficient way it pays to let Grundfos perform a Well Field Energy Audit. Experience shows that half of all the savings in energy consumption that can be made in a municipal water supply relates to the well field energy audit. Typical problems that lead to inefficiency and increased costs are oversized pumps and issues with the water speed and pressure in the pipes.

## UNIQUE TESTS

All submersible pumps undergo thorough testing to ensure that the pump operates in perfect accordance with the performance curve. The pumps can also undergo the even stricter Grade 1 testing.

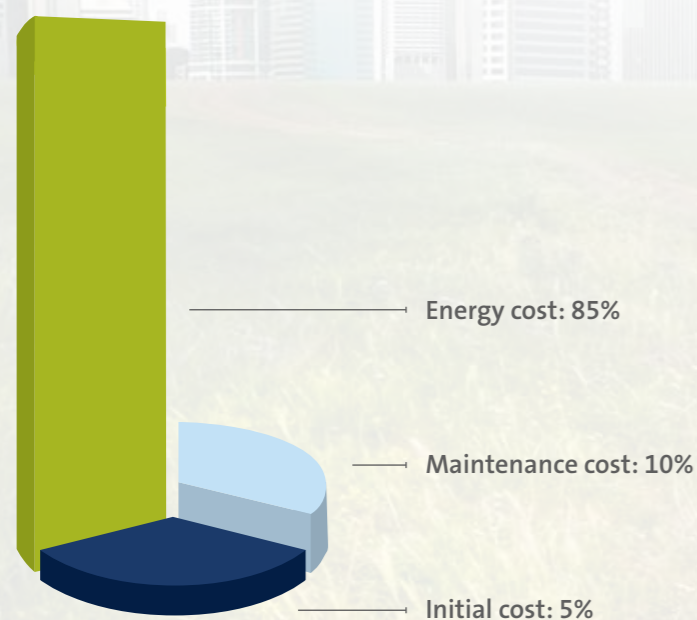
- All tests are performed at our state-of-the-art facilities in Denmark
- Tests are carried out on the most accurate testing equipment
- Grade 1 tests are provided with a detailed certificate

## SMARTDESIGN IS PART OF THE PACKAGE

When you purchase a submersible SP solution from Grundfos, you are not just buying state-of-the-art technology. The SP provides technology designed especially to meet your needs and maximise your benefits. We call it **smartdesign**. Grundfos products that carry the label **smartdesign** live up to the strictest standards of functionality, user friendliness and elegance. The SP displays its smart design in its trouble-free operation, low maintenance, and high efficiency.



smartdesign



The initial purchase price of a pump makes up as little as 5% of the total cost of ownership. Maintenance costs account for 10% while the energy cost amounts to as much as 85%.



# YOUR CROP IS OUR BUSINESS TOO

## MODERN PUMPS FOR MODERN IRRIGATION

A reliable supply of sufficient water is of the utmost importance when you wish to make the most of your crop and increase yield. Grundfos is strongly committed to using our pool of knowhow to bring groundwater to the surface whenever required and at the lowest possible cost. Which is exactly what the SP pump does.

## READY WHENEVER YOU NEED WATER

In agriculture even two days without irrigation can be fatal. This is why our range of SP pumps has been designed with a strong focus on reliability. The careful construction in stainless steel:

- Prevents the pump from corroding on the inside during long periods e.g. during winter
- Means you need never worry about downtime in your irrigation system

## EMBRACING THE ENERGY RESOURCES AVAILABLE

Grundfos is dedicated to promoting sustainability wherever we go and the agricultural business is no exception. The energy-efficient SP pumps controlled by Grundfos frequency drive (CUE) adapt their speed according to demand to reduce the energy consumption related to the pump significantly. If you wish to take sustainability further SP pumps can be operated by solar cells, using only the natural resources available all year round.

For a complete presentation of Grundfos' high quality pumps, motors, motor protection and controls for irrigation applications, please visit [www.grundfos.com/water-utility](http://www.grundfos.com/water-utility)



GRUNDFOS SUBMERSIBLE PUMPS CAN ALL BE DELIVERED WITH A GRUNDFOS FREQUENCY DRIVE (CUE), WHICH ENABLES SPEED-CONTROLLED OPERATION AND AT THE SAME TIME ENSURES FULL PROTECTION OF THE PUMP SYSTEM.



# TOUGH CONDITIONS ARE OUR SPECIALITY

## IMPROVED SAND BEARINGS

Grundfos' submersible pumps (SP) come with the best durability on the market. Due to their careful design, continuously refined over the last four decades, the pumps efficiently resist sand and other abrasive material encountered in mining applications. Our efficient sand bearings come as an optional addition to the SP. The extra high-grade stainless steel version provides further protection in severe conditions to eliminate the need for maintenance and support long life.

## DEWATERING

The submersible SP range offers variants specially designed for peripheral and underground dewatering. In open pit mines where it is essential to prevent flooding, the SP pumps efficiently go against nature and significantly reduce the amount of water entering the mine to offer safe working environments. Here, just as in underground dewatering, the SP pumps are built to last longer than conventional dewatering pumps – to ensure that downtime and maintenance are reduced to an absolute minimum.

## COVERING ALL MINING APPLICATIONS

In addition to dewatering, Grundfos is able to cover all other mining applications with dedicated expertise:

- Open pit drainage
- Underground drainage
- Raw water intake
- Wastewater handling
- Water treatment
- Processing/heap leaching
- In-situ leaching mining
- Dust suppression/settlement pond

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