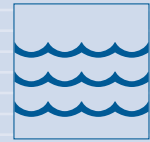


GROUNDWATER PUMPS



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Groundwater pumps are usually applied for developing and purging monitoring wells before executing a sampling procedure. Applying submersible pumps 12.27 and 12.12 sampling can be executed too.

12.27 Submersible pump sets, suitable for purging and sampling monitoring wells

Various standard sets are available for purging and sampling monitoring wells to a depth of 20 to 90 m.

The submersible pump MP1, included in these sets, has been specially designed for purging and sampling of monitoring wells with a diameter from 50 mm. The pump motor is controlled by an adjustable frequency-converter. Due to the continuously variable setting of the frequency, the capacity of the pump can be adjusted from 0 to 2 m³/hour. This results in a steady flow of anaerobe water. A new measuring point has to be purged before sampling. The high capacity of this pump

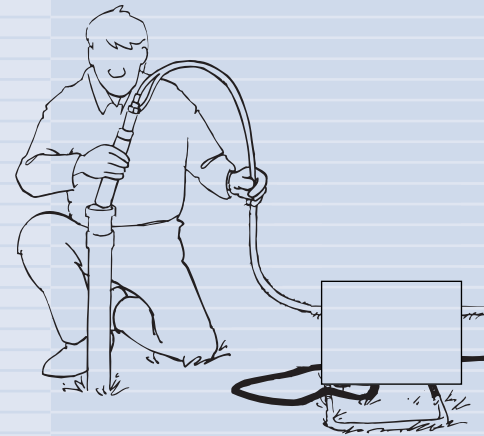
allows for quick purging of the measuring point. By setting a low pumping capacity the same pump can be used for sampling. Built-in safeguards protect the MP1 and the convertor against overload. The actual frequency as well as possible failure can be read from a display.

Among other items the standard sets contain: an MP1 submersible pump, a cooling jacket, a service kit, a frequency-converter, a badweather protection (IP23), a suspension cable, teflon tube with connection, a hose reel cart, a generator and insulation guard.

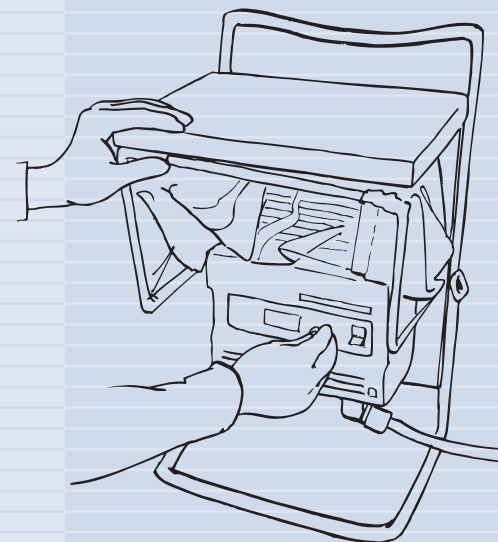
Advantages

- High top capacity for purging, smooth flow for sampling.
- Compact and easy to install; mobile.
- Resistant against corrosive fluids.
- The pumped medium only has contact with stainless steel and teflon.
- Anaerobe sampling.
- Simple cleaning procedures.

Lowering the submersible pump MP1 into a monitoring well.



The speed is set on the frequency-converter .



Submersible pump set, complete set



Submersible pump MP1

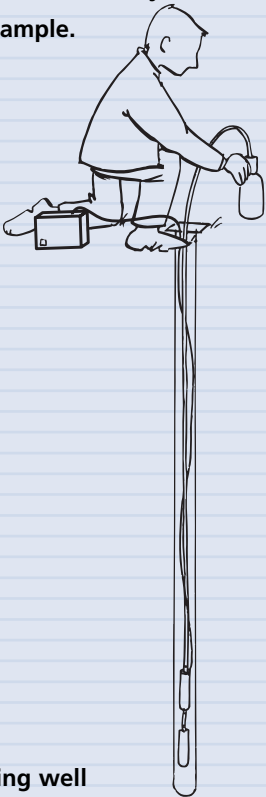


Frequency-converter



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Two submersible pumps have been connected to the battery to take a sample.



A monitoring well is purged using the water pump with combustion engine.



GROUNDWATER PUMPS



12.12.SA Submersible pump set

This low cost submersible pump set is suitable for use in monitoring wells with a diameter of minimal 40 mm. The set includes three submersible pumps "Gigant", three booster pumps, a roll of extension cable, sealed crimp splices (to make a waterproof cable extension), a roll of polyethylene sampling tube and a battery with battery charger.

Both pumps are small centrifugal pumps with small but powerful motors. This allows them to fit in narrow monitoring wells.

The Gigant pump can push water to a height of 10 meter. The Booster pumps have the same capacity and can be applied as boosters.

By fitting one or more Booster pumps directly over a Gigant pump the pressure can be raised to 20, 30 or more meter. The pumps can be used for purging a new sampling filter. Connecting the pumps to the regulator of the peristaltic pump 12 Vdc allows for setting a relaxed speed. This allows the pumps to be used also for taking samples (the regulator can

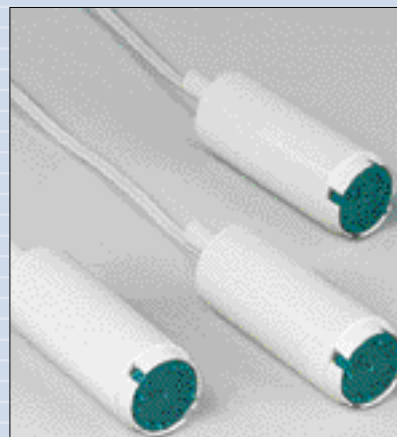
power a maximum of two pumps with a maximum sampling depth of approx. 12 meter). The low price of the pumps makes it possible to use them only once. This prevents the risk of cross-contamination. The pumps are made from non-toxic ABS plastic and are fitted with a stainless steel impeller.

12.08 Water pump with combustion engine

This self-priming (up to a depth of 6 meter) centrifugal pump is used primarily for (fast) purging or emptying of monitoring wells and bore holes. Other applications are pumping water for irrigation, drinking water for cattle, etc. The pump has a quiet, reliable starting, economical fourstroke engine running on ordinary or unleaded petrol. The pump is not sensitive to polluted water and the maintenance is minimal and easily executed.



Submersible pump set



Submersible pumps "Gigant"



Water pump with combustion engine