

Grundfos SQ submersible range

The best choice for domestic Groundwater supply

Why choose SQ/SQE?

1. Save time during installation

The SQ/SQE is a very compact and light weight pump when comparing with other submersible pumps. The product is easy to handle, and can therefore be installed by a single person - no lifting equipment or hoist truck is needed.

Furthermore, no extra components are needed in the installation due to the pump design and the built-in protection features.

2. Low installation cost

The SQ/SQE is a 3" submersible pump, and can fit in all 3" and larger wells. The SQ/SQE is perfect for wells with existing 4" pumps where e.g. deposits in the well prevents replacement with a standard 4" pump. Furthermore, no motor starter/starter box is needed as the SQ/SQE pumps have built-in electronic motor control.

3. Reliable & robust pump with the best Built-in features. - And the end-user will always have Water available

1. The SQ/SQE has the best built-in protection features on the market, creating a very reliable and robust pump. Avoid costly service calls - and water will always be available when conditions allow it. The built-in features are:

- Wide supply voltage range (150 V - 280 V), ensures stable water supply with varying supply voltage
- Dry-run protection, protects the pump and ensures water when available
- Soft-start, prevents overload of the mains power and water hammer
- Up-thrust bearing, which protects the pump & motor during start-up

- Overload protection, the motor will automatically reduce speed if overloaded
- High starting torque, will be able to start the pump under all load conditions
- Over-temperature protection, protects the pump against high temperatures

The first three features are explained in more detail on the back of this leaflet.

2. Furthermore, the SQ/SQE is among the best in sand handling, even when compared to conventional 4" submersible pumps. The excellent sand handling capabilities are made possible by the special "sandslinger" design of the inlet section.

4. High energy efficiency - Lower energy bill

Despite the smaller pump diameter of SQ/SQE, the permanent magnet motor in the SQ/SQE has a high energy efficiency compared with conventional 1- and 3-phase motors, resulting in a lower energy bill for the end-user.

5. Maximum comfort and less space Needed

When choosing the advanced solution: SQE, you get the option for constant pressure control with the CU300/301 control unit. With constant pressure control you increase the comfort level - no matter how many taps you open, the pump will adjust its capacity accordingly and keep the water pressure constant.

You furthermore save installation space, as only an 8 litre pressure tank is needed, instead of the much larger tank needed in conventional installations controlled by a pressure switch.



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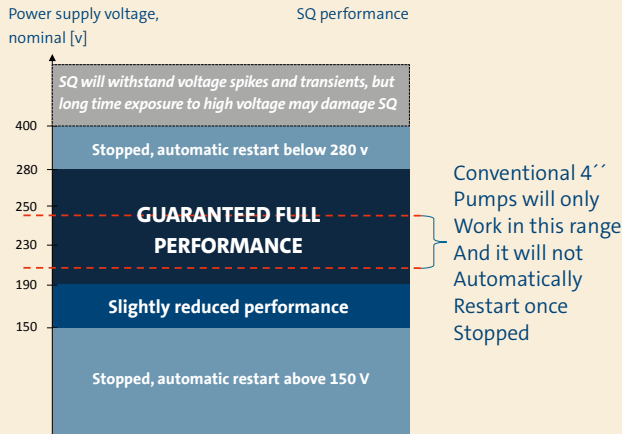
Possibility in every drop

SQ/SQE protection features

Voltage range protection/wide voltage range

Increased winding temperature caused by under-/over-voltage often results in reduced lifetime of submersible pumps. SQ/SQE has a very wide voltage range (150 V – 280 V) and automatically adjust operation according to supply voltage to protect the motor, making it perfect in regions where low voltage or voltage fluctuations occur.

If the supply voltage increases or decreases beyond the accepted voltage range, the SQ/SQE will stop, but it will automatically start when the supply voltage reaches an acceptable level.

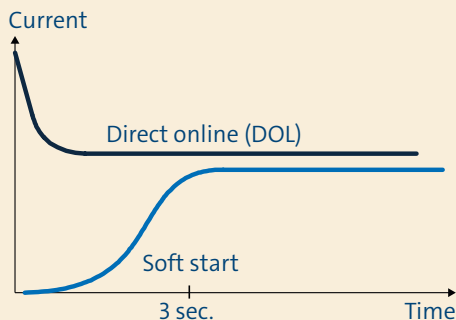


Dry-run protection

When the water level in the well drops below the inlet of the pump the SQ/SQE will protect itself. Dry-run is detected automatically by the built-in motor electronics and the SQ/SQE will stop. It will automatically restart after 5 minutes, and continue to operate or stop again depending on how the water level has changed. If water is again available, the end user will also have water available.

Soft-start

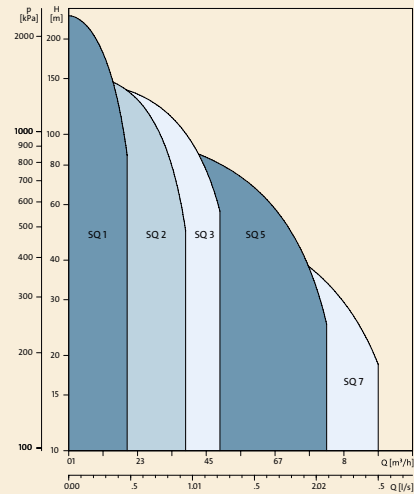
The SQ/SQE soft-start ensures a low starting current with a smooth and steady acceleration, which prevents overload of the mains power. It minimises the disturbances on other electrical appliances and reduces water hammer in the pipes. Sand and deposits are not swirled-up during start-up which reduces the wear of the installation. Conventional 4'' pumps start "Direct on-line" (DOL), which can disturb the electrical supply system and increase the wear of components in the system.



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SQ/SQE technical, application & Performance data

Performance



Applications

	SQ	SQE	SQ-N	SQE-N	SQE-NE
Groundwater supply and pressure boosting	●	●	●	●	
Irrigation	●	●	●	●	
ATEs: Aquifer Thermal Energy Storage	●	●	●	●	
Groundwater lowering	●		●		
Groundwater with Chloride			●	●	
Contaminated water					●

Technical data

- Fluid temperature: 0 to +40 °C
- Mains voltage: 1 x 200-240 V, 50/60 Hz; 1 x 100-115 V, 50/60 Hz (only for 0.7 kW motor)
- Full load motor current: 2.5 to 10.7 A
- Weight (min./max.): 4.7 – 6.7 kg
- Pipe connection: Rp 1¼" and 1½"
- Pump diameter: 74 mm
- Borehole minimum diameter: 76 mm
- The SQ/SQE pumps can be installed vertically or horizontally – or at any angle in between
- Installation depth: Max. 150 m below static water level and min. 0.5 m below dynamic water level
- Standard cable length: 1.5 m
- Materials (Stainless steel): Standard version DIN W.-Nr. 1.4301, N-version DIN W.-Nr. 1.4401, NE-version FKM rubber parts & PVDF CN-F impellers

