



Integrated solution from a single source: Pump-motor assembly for Linz waterworks

More than motors – units consisting of motor, pump, cooling jacket and PT100

Franklin Electric is not only a leader in the development and manufacturing of submersible motors up to 400 kW / 12" / 3300 V, but also offers complete pump systems including matching submersible pumps which are produced in-house.

These systems are designed for flow rates of up to 650 m³/h and are available in various stainless steel configurations – ideal for demanding applications such as municipal water supply. Matching control and monitoring units not only increase system efficiency but also enhance reliability and service life.



The unit is prepared at the German factory in Wittlich.

For the drinking water supply in Linz (Austria), a high-performance pump and motor unit in 10"/12" configuration was recently installed – with a total length of approximately 3 meters and a total weight of over 1,000 kg.

Due to its size and complexity, installation was carried out at the Franklin Electric facility in Wittlich (Germany). In addition, the experienced Franklin Electric service team supported the commissioning process directly on site in Linz.

The unit was installed in a drinking water well approximately 30 meters deep, located in a wooded area near the Donau River. From there, the water is transported—together with water from additional wells—to a nearby municipal waterworks that ensures the city's drinking water supply.

PT100 temperature sensor



The customer opted to install an additional PT100 temperature sensor. This is a high-precision platinum sensor with a linear resistance-to-temperature characteristic. The sensor is installed in the upper endbell, measures the temperature above the winding head, and thus continuously monitors the winding temperature.

The PT100 temperature sensor is equipped with a 4-core shielded cable, available in various lengths, providing additional protection against high-frequency interference that can occur in applications with frequency converters.



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System components:

- VSI submersible pump (VSI344/03/2B)
weight: 168.5 kg, length: 123.5 cm
- 10" rewindable submersible motor, 150 kW, DOL II
weight: 658 kg, length: 176.9 cm
PE2/PA motor winding
316SS Stainless steel
- 12" Stainless steel 304SS cooling shroud
length: 225 cm
- PT100 temperature sensor
- 2 motor leads of 35 m each

The system was additionally equipped with a **PT100 temperature sensor**, which monitors the winding temperature and protects the motor from overheating. In addition, the team decided to install a cooling shroud, as the well diameter in Linz is too large to ensure sufficient cooling flow along the motor (see info box).



The unit is 3 metres long and weighs more than 1000 kg.



Installation at a depth of 30 metres in a drinking water well



Submersible motors
& Accessories



VSI submersible pumps

Why Franklin Electric? Reliable. Efficient. Available.

Franklin Electric submersible systems are exceptionally reliable and powerful. Especially in installations of this kind, it is essential to rely on a motor and a pump that deliver the specified performance, **operating dependably and maintenance-free**.

Franklin Electric VSI submersible pumps feature **highly efficient hydraulics with efficiencies of up to 85%** and are perfectly matched to the motor. They are made from **durable stainless steel investment castings**, ensuring outstanding corrosion resistance. The pumps are available in various metallurgies, from CF8/304 and CF8M/316 to premium DUPLEX. Moreover, almost all models are **available from stock, eliminating long lead times**.

A key factor in choosing Franklin Electric products is the **personal consultation and on-site support provided by our experienced service technicians**.

Cooling jacket



To ensure adequate motor cooling, a cooling shroud was used. This separate metal sleeve is sealed above the pump intake. The pumped medium is thus drawn in from below and directed along the motor, allowing the generated motor heat losses to be dissipated via convection.

A cooling jacket is required in the well if the well diameter is very large, the water supply comes from above, or the flow rate is insufficient.

