Our Spanish agent is presently working on an interesting project, in cooperation with an engineering office in Madrid. Off the Andalusia coast in the south of Spain, the Spanish government is erecting a power generation plant with offshore aero generators, to comply with international requirements (Kyoto Agreement – reduction of pollutant emission).

In the coastal area where the power plant is planned, there are several rare fish species which are under nature conservation. So when preparing the foundations on the sea floor only those methods can be considered that cause as little noise and vibration as possible.

The idea of how to solve the problem is to drive piles through the tubes into the sandy seabed, by means of high pressure.

The zone marked green shown on the left is the area which is “inflated” with high pressure water (sea-water) and due to the expansion of this area, the pile is driven through the tube vertically into the ground.

Through the second hole in the top segment, liquid cement will be injected between the pile and the tube.

The rate of propulsion and driving of the pile will be controlled by a flow meter and a complex control and monitoring system.
Technical data of the planned power plant:

- Total capacity of the aero generator power station : 1000 MW
- Number of aero generators : appr. 280
- Power generated by each turbine : appr. 3,6 MW

Proposed details using KAMAT pumps:

- Medium : Sea water
- Planned maximum working pressure : 280 bar
- Capacity per pump : 240 l/min.
- Number of high pressure units required : 8
- Type of pump : 13045 MC
- Pump drive : Diesel engine