



APE vertical turbine pump prior to shipping

Nigeria – Raw water pumps

Two vertical turbine pumps have been shipped by APE Pumps to Nigeria for installation in a high-volume raw water transfer application.

Designed as single-stage pumps each with an under-floor discharge volume of 4 000 m³/h at a head of 25 m, the pumps will be installed in an existing pump house and connected directly to a pipeline feeding adjacent water treatment works. The value

of the order, excluding electric motors, is in excess of R1 million. Besides raw water supply, vertical turbine designs are used in steel works, chemical process plants, effluent disposal, cooling water circulation applications, irrigation, mine dewatering, pipeline booster, transfer service and in condensate extraction.

These pumps have several advantages over other designs. Civil works to accommodate them are simpler and cheaper and the pumps can be suspended in wet sumps, boreholes, rivers, steel tanks, dams, dry pits with a suction pipe connected to the bellmouth, or as pot pumps with various positions of the inlet and outlet branches. There is no necessity for a pump house if weatherproof motors are used, and there is no danger of flooding electric motors.

Mechanically, the pumps are generally non-overloading and have a steep-head quantity curve. The absence of a suction valve reduces pressure loss, while bearings and glands last longer because there are no radial loads on them. By adding stages to the pump, a very wide range of duties can be covered with standard parts, thus reducing the spares stockholding needed for maintenance.

In raw water applications such as the Nigerian installation, the grit in dirty water tends to fall vertically out of wear areas, causing less damage. Materials for the manufacture of APE vertical turbine pumps are selected from a number of standard variations to suit the application. Casings for the Nigerian units were made from a high-quality close-grained cast iron. Shafts were made of stainless steel, while bronze was used for the impellers. **35**