



**Product**

## AVS Series Rigid Couplings

**Application**

## Refinery Vertical Turbine Pumps

**Highlights**

- Specifically designed to improve vertical turbine pump efficiency
- Integral nut allows for infinite adjustment of the pump's turbine spacing
- Torque capacities up to 1,363,861 lb.in.
- API 610 compliant when balanced
- Zinc phosphate coated hubs, spacer and adjustment nut
- Grade 8 zinc plated hardware
- Meets AGMA 8 balance standard

Vertical turbine style pumps are widely used in refinery and water treatment applications. The pumps are designed to lift fluids 20 ft. or more from sumps, pits or tanks. These types of pumps have a vertically mounted drive motor positioned directly above a long shaft that extends down inside a pipe and connects to a series of stacked turbine impellers, each nested inside a bell-shaped housing.

During operation, fluid is drawn up the pipe from the suction created by the rotating impellers. However, after extended use, the impeller blades become worn which creates a gap between the blade tips and the bell housings – reducing the pump's efficiency.

TB Wood's introduced the AVS Series coupling specifically to improve vertical turbine pump efficiency. Positioned directly beneath the drive motor, the AVS (Adjustable Vertical Spacer) coupling connects the motor to the long impeller shaft. The coupling features a threaded adjustment nut that receives the threaded end of the impeller shaft. The integral nut allows for infinite adjustment of the pump's turbine spacing. A series of radial holes in the adjusting nut allows operators to increase suction by drawing the worn blades snugly back into the bell housings.

AVS couplings are specially designed to support the downward axial thrust load while the pump is lifting fluids. Major components are made from AISI 1045 steel with zinc phosphate coated motor and pump hubs, spacer and adjustment nut. Units feature Grade 8 zinc plated hardware and meet the AGMA 8 balance standard. Balancing can be provided to meet the requirements of API610. Models are available in a wide range of sizes with max bores to 11.0 in. and torque capacities up to 1,363,861 lb.in.

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