

Differential Pressure Flow Meters

Application

Pumping station supplies circulating water to a large Ethylene Petrochemical plant. The flow measurement is used to stage pumps and control distribution to various processes.

Problem

Initially orifice plates were replaced with diamond shaped averaging pitots to reduce permanent pressure loss. These sensors experienced breakage problems due to the high flow rates and flow induced vibration. These sensors were replaced with insert vortex meters that also experienced problems with accuracy due to vibration, loss of signal and single point measurement of the velocity profile.

Solution

The Verabar® flow and structural calculations were performed. The DP transmitters were recalibrated. The local representative assisted in the hot tapping, installation and start up.

Pipe sizes:	526 mm/8 mm	Quantity 2
	325 mm/8 mm	Quantity 1
	920 mm/10 mm	Quantity 1
	820 mm/10 mm	Quantity 1

Fluid:	Cooling Water
Industry:	Steel
Application:	Utility/Power Management
Specifications:	Replace orifice plates & broken diamond shape averaging pitots

Results

The Verabar bullet shaped design produces a low fluid drag and eliminated the flow induced vibration problems. The Verabar significantly improved accuracy and reliability. Since the original installations in 1998, additional sensors have been added to improve the control and distribution of the entire circulating water system.



**Model: V200 Hot Taps
with ball (access valves)**

