



## CASE STUDY

### INDUSTRY: REFINERIES



**CUSTOMER:** Qatar Petrochemical Company



**LOCATION:** Mesaieed, Qatar

**BACKGROUND:** Qatar Petrochemical Company had been using ultrasonic flow meters on their cooling water lines. A number of issues inherent to the process were causing measurement inaccuracies, loss of signal, and unstable readings on the meter's display.

Ultrasonic flow meters can be sensitive to disturbances within the fluid, flow stream, and piping arrangement. In this instance, partial flows, high velocities, and pipeline vibrations were causing inaccurate readings. The fluid, being sea water, also presented difficult circumstances; fibers from the glass-reinforced pipe were impeding the transmission of the ultrasonic waves between the transducers. The presence of sediment or jelly fish within the sea water would also contribute to false readings from the ultrasonic flow meter.

**SCOPE OF WORK:** Under the recommendation of Armstrong's Veris Flow Measurement Group, the customer purchased a partial insert Verabar to be used as a trial. The Verabar has been in service for years and its performance throughout has confirmed its superiority to ultrasonic meters in sea water applications.

**BENEFITS:** The nature of differential pressure measurement coupled with the Verabar's unique design provided a perfect solution for Qatar Petrochemical. Unlike other averaging pitot tubes, the Verabar's no-clog design makes it impermeable to sediments present in the fluid, and the partial insert sensor can withstand high fluid velocity common to cooling water applications. Unlike an ultrasonic meter, the Verabar is unaffected by process or pipe vibrations.

The glass-reinforced pipe does not limit performance of the Verabar either, and thus the meter will not lose signal due to pipe impediment. Lastly, to avoid air entrapment during partial flow conditions, air venting valves were suggested during installation of the sensor.

Veris was able to solve a difficult application by utilizing a simple, reliable, insertion-type design that outperforms competing technologies.