



V-Cone Application Guide

Industry: Water/Wastewater

Process: Measure Raw Water Flow to the Semper Water Treatment Plant

Application: Accurately measure raw water flow out of a reservoir outlet structure.

Measurement Challenge/Difficulty: A space length of 42" was available in a 42" line to insert a flow meter. Connection lines feeding into the main header were located 1/2, 3 and 5 pipeline diameters upstream from the meter and were inducing considerable turbulence into the flow approaching the meter.

Previous Method: A standard brand flow tube was originally used. Current accuracies of the flow-tube were from 5% of flowrate to 35% of flowrate over a 5MGD to 45MGD range. The lower the flowrate the higher the error. Current water management policies require much better measurement accuracy than the flow tube was providing to the Farmers Irrigation Co.

Solution: A 42" V-Cone was installed with its overall length shortened to fit into the available space. The cone element protruded past the downstream flange of the V-Cone tube approximately 22" and was inserted into the customer's pipe. After one year in operation, accuracy of this system was estimated at +/- 2% over the entire flow range. Accuracies were expected to be higher after all factors of service water and reclaim water at the water treatment plant were factored into the equation.

Date Installed: March 1993

System Diagram: See attached

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Additional Comments: None

Literature No.

24509-75/Rev. 1.1

Industry:

Municipal Water

Niche Market:

N/A

Process:

Water Flow in a Water Treatment Plant

Product:

Water

Fluid:

Raw Water-Reservoir

Viscosity & Sp.G:

Flow Rate:

5MGD - 45MGD

Pressure:

Temperature:

Size:

42 inch

Date:

March 1993

Submitted by: