

# Hydraulic Fracturing — Chemical Injection



## CUSTOMER

Oilfield & Industrial Equipment Manufacturer  
Tyler, Texas

## APPLICATION

This customer is building chemical injection trailers for the Baker Hughes AddFrac system. These are movable trailers that continually monitor and inject chemicals, such as corrosion inhibitors, biocides, and H<sub>2</sub>S inhibitors into the fracking fluid being pumped into the ground. These chemicals are used for flow assurance and to reduce well contamination.

## CHALLENGE

The system originally used turbine meters, but needed lower flow rates for some chemicals than the turbines could reach. As fracking operations moved into areas with cold temperatures, it was discovered that more concentrated solutions of chemicals were needed to ensure the water would not freeze. In addition, the meters were to be integrated into the existing wireless communication system on the trailers. Because this was all for outdoor use, the meters and all electronics had to be designed to withstand both high and low ambient temperatures, as well as exposure to the elements.

## SOLUTION

Positive Displacement meters were specified because of their high turndown ratio, ability to get down to very low flow rates and high accuracy. These meters are viscosity independent, so the changing environmental conditions do not have a strong effect on accuracy.



### *AW products supplied:*

- *JVS Positive Displacement Flow Meters*
- *MAG-PB Sensors*

*“Thank you for knowing what I needed before I did. The solution of replacing the turbine meters with PD meters has worked out well. We appreciate the support of your technicians coming on-site here to help with the integration into the existing data collection system.”*



*continued:*  
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The AW Gear Meters JVS series PD meter has been time proven for chemical injection both off and on shore and is installed in hundreds of locations around the world. Our MAG-PB sensor is encapsulated to protect against the environmental conditions and can be easily integrated with any equipment that can read an amplified pulse frequency signal.

**RESULTS**

Because the chemicals used in hydraulic fracturing are very expensive, the operator can better control costs by real-time monitoring and adjustment of the amount of chemicals required. Accurate reporting of chemical usage is becoming more important as regulation of the fracturing process increases and this solution can provide the needed information. The design change has since been implemented in all BH AddFrac chemical trailers, and incorporated into the design of all new trailers being built.



JVS series spur gear PD flow meter



MAG-PB sensor

