



CONDITIONING ORIFICE FLOW METER ENSURES BEST-IN-CLASS FLOW MEASUREMENT USING ADVANCED TECHNOLOGIES FOR POLYSILICON INDUSTRY

Customer

In the upstream of the new energy industry chain, this polysilicon plant owns three high purity crystalline silicon production in Yunnan, China.

Application

Flow measurement for hydrogen and steam in polysilicon industry.

Challenge

The impurities of high-purity polysilicon products are extremely high. Once the measurement is inaccurate or the flow ratio is wrong, it will affect the product quality and production efficiency. In addition, the product is easy to deliquesce and volatilize into corrosive fumes. In the event of leakage, it will not only cause product failure and endanger personnel safety, but can also create serious environmental penalties.

Solution

Emerson provided a conditioning orifice flow meter assembled with a Rosemount™ 3051S MultiVariable™ Transmitter, which is engineered with built-in flow calculations for fully compensated mass flow. This helps to ensure high accuracy measurement of hydrogen and steam and high product qualification rates. The customer is able to reduce waste and maximize economic benefits.

Rosemount 3051SFC Flow Meters have best-in-class flow measurement using advanced technologies. There is a reduction of straight pipe requirements to two diameters upstream and downstream from most flow disturbances. The installation cost is also reduced compared to traditional orifice plates with its compact design.

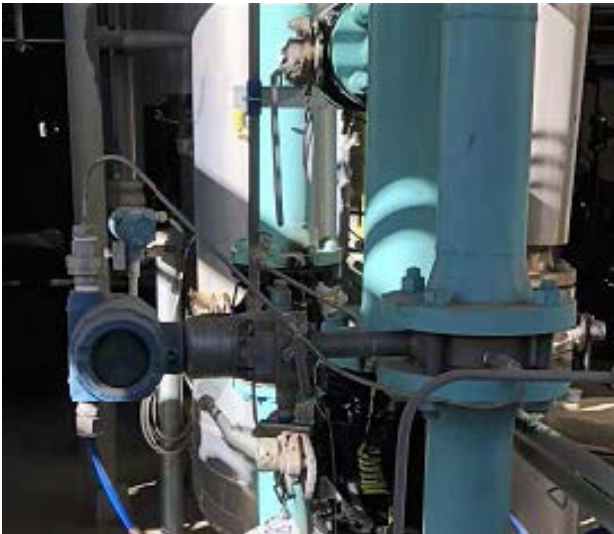
Results

- Improved product qualification rate and production efficiency by measurement of highest possible flow accuracy
- Reduced installation and operation cost by 50%
- The highest accuracy and stability compared with other types of flow meter
- Advanced diagnostics provide coverage to detect abnormal process conditions and electrical loop issues



Rosemount 3051SFC Compact Orifice Plate Flow Meter

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Customer site view of piping at the polysilicon plant



"The Rosemount 3051S MultiVariable Transmitter helped our plant with high accuracy measurement of hydrogen and steam and high product qualification rates."

*-Plant Manager
Polysilicon Plant
Yunnan, China*

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00830-2300-4001, Rev AB

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