



# ANNUBAR MULTIVARIABLE FLOW METERS REDUCE OPERATING COSTS AND PROJECT CYCLE TIME IN STEAM FLOW MEASUREMENT

## Customer

A coal power plant that supplies steam to end users in China

## Application

Wireless measurement of steam energy flow in steam distribution application

## Challenge

A power plant in China that supplies steam to a nearby industry park wanted to accurately calculate steam energy (calorific) flow, which is chargeable to customers.

The first challenge the customer faced was their customers, they were located at varying distances across the length and breadth of the industrial park, resulting in a required complicated network of cables that were difficult to lay. Second, due to the diverse locations, it was very costly and time consuming to lay the cables.

## Solution

The customer chose to install more than 20 Rosemount™ 3051SFA Annubar™ Flow Meters with Rosemount 3051S MultiVariable™ Transmitters and Emerson Wireless 775 THUM™ Adapters.

WirelessHART® signal is transmitted from THUM Adapters through the gateway and further assisted by General Packet Radio Services (GPRS) before received by a distributed control system (DCS) without any required cabling. Flow rate from different end users were consolidated, allowing for better management of the steam energy.

The Rosemount 3051S MultiVariable Transmitter is engineered with built-in flow calculations for fully compensated mass flow measurements and meets National Standards of steam calorific measurement. The instrument

## Results

- Reduced installation and operating costs by 30%
- Reduced project cycle time by 300 hours



Rosemount 3051SFA MultiVariable Flow Meter

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measures differential pressure, static pressure, and process temperature in a single device while dynamically calculating mass flow 22 times per second within the transmitter.

Additionally, the Rosemount 3051SFA Annubar Flow Meter eliminated impulse lines, thereby simplifying installation and reducing potential leak points. Rosemount Annubar flow meters measure multiple variables and are engineered with an integrated thermowell for temperature measurement. Its patented T-shaped sensor is capable of obtaining measurements via a single pipe penetration while maintaining a small profile in the pipe to reduce permanent pressure loss and increase energy savings. This solution helped the power plant reduce complexity, improve execution time, and most importantly help reduce the overall cost of project deployment.



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