

Denka Lowers Steam Costs with Emerson™ Remote Monitoring Services for Steam Traps

RESULTS

- 7% steam savings with automatic and continuous remote monitoring service
- Traps in bypass reduced to less than 4%
- On system startup, 15% blow-through and 8% cold units identified



APPLICATION

Polystyrene Resins production

CUSTOMER

Denka Singapore, a chemical plant on Singapore's Jurong Island, which manufactures Polystyrene Resins

CHALLENGE

Denka purchases steam from a utility provider used in the process. The plant has hundreds of steam traps. After years of operation, steam traps may fail as cold or blow-through which results in wasting steam, water hammer, erosion, corrosion, and lower heat transfer efficiency.

Due to expensive manpower, location safety, and high capital expenditure, it is challenging for Denka to survey their steam traps frequently. Hence, they engage contractors to inspect them yearly, and forgo the steam loss between inspections.

SOLUTION

With Emerson's Remote Monitoring Service business model, Denka only pays monthly subscription fees for the necessary services. There is no upfront capital expenditure.

For this Industrial Internet of Things (IIoT) solution, Emerson installed Rosemount™ 708 Wireless Acoustic Transmitters on 148 of Denka's critical steam traps. The transmitters monitor noise and temperature of the steam traps and transfer the data through a 3G mobile network to a Microsoft® AZURE™ cloud virtual server. The analytics software, SteamLogic™, then automatically analyzes the data and generates alerts.

Emerson experts review this information and provide actionable reports to Denka. Then Denka's maintenance staff repairs or replaces the failed steam traps according to the reports using new standard

“The exception reports provided by Emerson become work orders for the maintenance team and have enabled us to reduce steam consumption by 7%.”

Mr. Ng Hock Cheong

Maintenance Manager, Denka Singapore



Rosemount 708 Wireless Acoustic Transmitters installed on the steam traps

operating procedures (SOPs) and therefore achieves substantial savings, thanks to this digital transformation. Periodic surveys by workers and annual inspections by contractors are no longer required.

RESOURCES

Emerson Process Management Chemical Industry

EmersonProcess.com/Industries/Chemical

Rosemount 708 Wireless Acoustic Transmitter

EmersonProcess.com/Rosemount/Wireless/708-Acoustic

Emerson Steam Trap Health Monitoring

EmersonProcess.com/Rosemount-Documents/Brochure

“Remote monitoring services have enabled us to transform our operations.”

Mr. Hidetoshi Himeno
Deputy Managing Director,
Group Engineering,
Denka Singapore




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