Optimize

Service product
Visual Condition Assessment

Equipment
Gasketed Plate Heat Exchangers

Customer
Petrochemical Plant

↑ **Equipment Reliability**

↓ **Unexpected Failures**

Alfa Laval

# Assessment reduces costs by optimizing spare parts inventory and maintenance plan

**GPHEs**
A major petrochemical plant in the U.S. operates 70 gasketed plate heat exchangers (GPHEs) across various applications. As part of its commitment to operational efficiency and reliability, the company wanted to assess the performance of its heat exchangers and spare parts management for the plant.

The company turned to Alfa Laval to conduct a Visual Condition Assessment (VCA). As part of the assessment, the Alfa Laval team inspected all components of the heat exchangers, captured thermal images and checked the spare parts inventory to develop a comprehensive maintenance plan for the site. This plan aims to enhance equipment reliability and reduce overall maintenance costs.

**The challenge**
During the on-site Visual Condition Assessment, the Alfa Laval team discovered several issues, including:

- **Aging gaskets:** Several gasketed plate heat exchangers had exceeded the safe lifetime for gaskets, increasing the risk of failure.
- **Expiring spare parts:** The existing spare parts inventory was nearing the end of its shelf life, leading to potential waste and financial inefficiencies.
- **Inventory imbalance:** Some critical heat exchangers lacked essential spare parts, increasing downtime risks, while noncritical units had excess spare parts unlikely to be used in the next 10 years.

**Our solution**
To address these issues, the Alfa Laval team recommended a strategic approach to spare parts and maintenance planning, including the immediate usage of available gaskets to prevent unnecessary inventory waste. This approach would involve stock optimization to ensure spare plate packs were available for critical units while reducing excess inventory for noncritical equipment. The team also recommended a structured inventory management system to balance stock levels, minimize operational risks and enhance cost efficiency.

**Customer benefit**
By implementing Alfa Laval's recommendations, the petrochemical plant has achieved complete asset visibility with a full report on the condition of its heat exchangers, enabling proactive maintenance planning. It's also working to prevent the expiration of gaskets by using them more efficiently and reducing unnecessary scrapping.

Through this process, the company has gained enhanced equipment reliability. A well-planned spare parts strategy ensures continuous operation without unexpected failures, while optimized inventory management lowers unnecessary expenditures and improves budgeting.

By adopting proactive VCA support and a spare parts management strategy, the petrochemical plant has enhanced the reliability and efficiency of its heat exchangers while optimizing maintenance costs.


**Optimize**
Our Optimize services keep your equipment ahead of technological advancements, exceeding current standards and future needs. Whether enhancing quality, reducing energy use, or increasing capacity, our new upgrades boost sustainable performance and optimize operations for greater returns.

Contact Alfa Laval