OPTIMEX
SEALLESS PUMPS

LIQUEFIED GAS PUMP SOLUTION
FOR AMMONIA TRANSFER

Sealless Multistage Pump for Hazardous Application in the Fertilizer Industry.

Context and Challenge

A leading phosphate industrial company based in Morocco required a reliable pumping solution to handle **liquefied ammonia at -33°C** with high pressure transfer.

The pumps were intended for **storage operations** in a classified **explosive area (ATEX)**, demanding specific safety standards and a leak-tight configuration.

Given the hazardous nature of the fluid which can evaporates in contact with atmosphere, the client needed a solution that would combine **robust design**, **safety**, and **long-term reliability.**

Pump Specifications

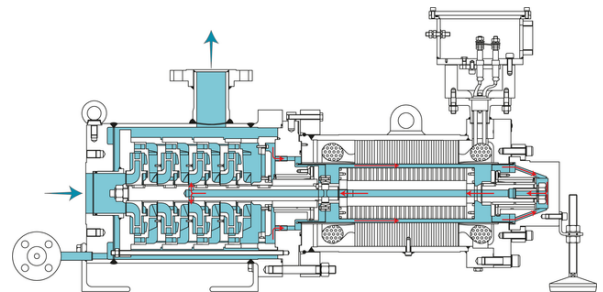**Fabrication Number:** BF2237 - BF2242

Name of the Pump: 65GI-A 4 BAIN_P45F2

User Industry: Fertilizer Plant, Morocco

Pumped Fluid: Liquefied Ammonia (NH_3)

Design Conditions: 25 barg at -33°C

Pump Working at: 52.8 m3/hr at 179.1 m

Solution Provided by OPTIMEX

OPTIMEX delivered a tailored solution based on its **MULTI range of sealless canned motor pumps,** specifically designed for liquefied gas applications.

Key features of the solution included:

- **Casing barrel design** to reduce static seals and anvoid tie rods
- **Inducer** for improved NPSH performance
- **Hermetically sealed pump** with no dynamic sealing
- **Designed according to API 685 standards**
- **Compliant with ATEX directive**

All six pumps were designed, assembled and tested at OPTIMEX before shipment.

Results and Benefits for the Client

- **Safe and leak-free operation** in a hazardous environment
- **Reliable transfer** of liquefied ammonia at low temperature
- **Minimal maintenance** thanks to Optimex axial balancing system design
- **Standardized solution** across six units for simplified installation

By providing a safe and **efficient pumping solution, OPTIMEX** contributed to the **secure storage** of **liquefied ammonia** in **explosive atmospheres.** These **multistage pumps with casing barrel** reflect **OPTIMEX's expertise** in designing **tailor-made solutions** for **critical chemical applications.**