OPTIMEX
SEALLESS PUMPS

CASE STUDY

HIGH-PRESSURE PUMP SOLUTION

WITH GAS CONTENT (HYDROGEN 10%)

Featuring the Centrifugal High-Pressure Pump for Products with Hydrogen Content at 20°C

Context and Challenge

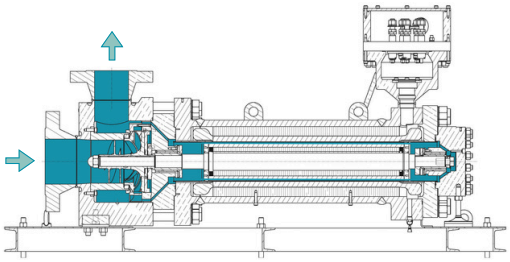
A leading **chemical production facility** needed a **high-pressure pump** for handling hydrogen-containing products at 20°C. The production site operates under strict **safety standards**, processing a wide range of chemical products, including **ammonia** and **fertilizers**.

The challenges included:

- **High suction pressure:** 92 bar
- Safe operation in **hazardous zones** (Zone 2).
- Compliance with strict **industry regulations** (ATEX, PED).
- Reliable performance for **continuous production.**

Pump Specifications

Fabrication Number: BF2156 - BF2161
Name of the Pump: PREI-A 150/26 HpIn_P150F2
User Industry: Chemical Plant, Germany
Pumped Fluid: Chemical Product with 10% Hydrogen
Design Conditions: 117 barg at 120°C
Pump Working at: 386 m3/hr at 80 m



Solution Provided by OPTIMEX

Optimex complies a tailormade solution for client's needs in **centrifugal high pressure pump**, offering:

- **Monoblock design** for high pressure construction and safety operation.
- **Canned motor technology** for leak-free operation.
- **Single Stage Construction** according to EN 13445 standards.
- Compliance with the Hazardous Environment Directive (**ATEX**), and Pressure Equipment Directive (**PED**).
- **Temperature resistance** from -20°C to 120°C.

Results and Benefits for the Client

The OPTIMEX Pumps delivered:

- **High pressure construction** compliance to PED**.**
- Full compliance with **industry standards.**
- Reliable, long-term performance with **minimal downtime** (good MTBF).
- Reduced **maintenance** and **operational costs**.

OPTIMEX's expertise ensured a tailored solution for **high pressure with hydrogen content applications,** meeting the client's high standards for **safety** and **performance.**