

## **SUCCESS STORY**

### **COMPRESSOR REVAMP - SUCCESSFUL INCREASE OF MASS FLOW**

In 2011, a South Korean LDPE plant conducted a plant capacity increase of 50%. Debottlenecking of the entire compressor system (Hyper Compressor and Booster/Primary Compressor) was needed in order to fit the new operation parameters. Comprehensive engineering services were applied on both compressors and new major components were delivered.

#### **CUSTOMER ISSUE**

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- The total plant capacity to be increased to its maximum, estimated increase approximately 50%, including all specifications and detailed planning for all project steps. The compressors were built in 1989.
- Shortest possible downtime for project execution
- Continuous reliable operation after revamp and start-up, environmental improvements provided

## APPLICATION DESCRIPTION

### Capacity increase of reciprocating compressors for LDPE plant

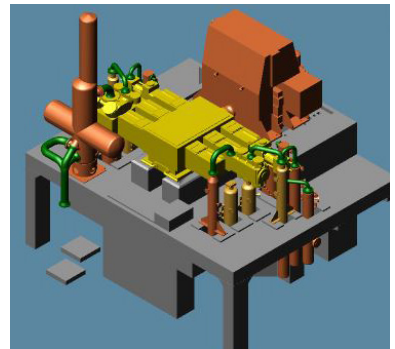
<b>Type</b>	Burckhardt Compression Hyper Compressor: F8 Booster/Primary: 6B5A-1.57	<b>Gas</b>	Ethylene
<b>Power</b>	12'700 hp / 9'500 kW	<b>Suction pressure</b> <b>Discharge pressure</b>	250 barg/3'620 psia 2'750 barg/40'000 psia
<b>Speed</b>	200 rpm	<b>Lubrication</b>	Forced lubrication to cylinder



Process Gas Compressor as a Booster/ Primary compressor before the revamp

## BURCKHARDT COMPRESSION SOLUTION

- Close cooperation with compressor user and process design.
- Debottlenecking of the entire compressor system to fit the new operation parameters to increase the mass flow from 46t/h up to 63t/h by enlargement of plunger diameter, cylinder and replace the main drive.
- Comprehensive engineering services like performance calculations, torsion analysis, pulsation study, vibration study were applied
- Modernization of defined components like N<sub>2</sub> buffered low pressure packing and auxiliaries.
- Know-how and experience provided from the market leader in LDPE compressor manufacturing.



3D Model

## CUSTOMER BENEFITS

- Successful increase of the mass flow from 46t/h up to 63t/h
- Increased reliability and lower life cycle costs with the new solution
- Effective environmental improvements in process technology
- Delivery to full customer satisfaction and warranty on our solutions



Overhauled cylinder before delivery

**"This project was finalized seven years ago. Today, I can confirm that both compressors are still running to our full satisfaction. Burckhardt Compression's engineering competence and their pro-active approach fully met our expectations. In 2016, we placed a revamp follow-up order for our K10 Hyper Compressor due to another plant capacity increase of 20%."**

Yungwoo Lee, LDPE Plant Manager

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