

# Case Study

## Oil-Free screw Compressor



### Dubai Aluminum Company Limited (Dubal) Jebel Ali - UAE

2011

Two units of Hibon Compressor Model HC SF+ H42 PC are used for Alumina Unloading Stations in one of the world's largest aluminium smelters.

#### Customer Overview

Built on a 480-hectare site in Jebel Ali, the complex's major facilities comprise a 980,000 metric tonne per annum primary aluminium smelter, a 2,335 megawatt power station (at 35°C), a large carbon plant, casting operations with a capability of more than 1,270,000 metric tonnes per annum, a 30 million gallon per day seawater desalination plant, laboratories, port and storage facilities.

The Jebel Ali site has the capacity to produce more than one million metric tonnes of high quality finished aluminium products a year, in three main forms: foundry alloy for automotive applications; extrusion billet for construction, industrial, forging and transportation purposes; and high purity aluminium for the electronics and aerospace industries.

#### Challenge

Aluminum smelting is the process of extracting aluminium from its oxide alumina.

Alumina is a white powder with a density generally between 0.85 to 1.05, very free flowing and quite abrasive: Its particle characteristics make its handling rather complex in order to achieve optimum performances, in terms of quantity that can be conveyed, and the amount of dust and spillage must also be taken into consideration during unloading operations.



#### Solution

We propose two units of Hibon oil-free screw compressors Model HC SF+ H42 PC.

Gas: Air  
Inlet pressure : 1.013 mbar abs  
Discharge pressure : 3 bar abs  
Differential pressure : 2 bar g.  
Inlet capacity at suction conditions : 3607 m<sup>3</sup>/h  
Absorbed power : 172.0 kW  
Motor : 250 kW



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