

## Case study

Greenfield Refinery and Terminal Facilities  
Saudi Arabia

### Project Summary

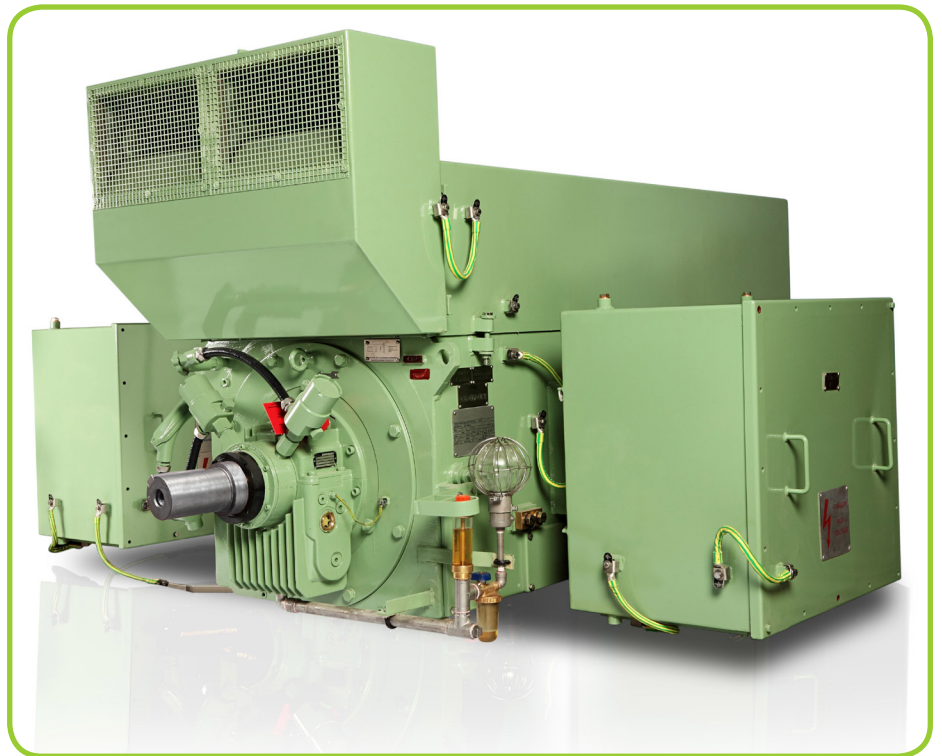
**Project:** Greenfield Refinery and Terminal Project

**Application:** Electrical feed for centrifugal pumps and compressors

**Planned production capacity:** 400 million barrels/year

### Nidec's Role

Nidec Industrial Solutions supplied the electrical package for many of the pumps and compressors at one of the Middle East's larger grassroots refinery and hydrocarbon terminals.



### Scope of Supply

- 36 D.O.L. IEC Induction Motors
- 10 D.O.L. NEMA Induction Motors
- Total electrical power: 49.2 MW

### The challenge:

**To supply an electrical power solution that meets stringent requirements for efficiency, performance and reliability in a challenging refinery environment**

With a crude oil refining capacity of 400 million barrels a year, a new grassroots refinery and terminal is one of the largest refinery complexes in the Middle East.

The design and construction standards for the \$76 billion USD project mandated the use of highly reliable solutions that maximize oil and gas production, from extraction to distribution. Motor and drive contractors that wished to support the project's construction were expected to meet these exacting standards. In addition to stringent requirements for vibration, noise, efficiency and performance, the electric power solutions had to be built to withstand the high temperatures and sandstorms that prevail year-round at the facilities' coastal location.

**The solution:****Nidec Industrial Solution's IEC and NEMA induction motors**

As one of the owner's primary motor suppliers, Nidec Industrial Solutions provided the medium voltage motors used for the centrifugal pumps and compressors associated with many of the complex's oil and gas pipelines. With more than 40 years of experience – including supplying the induction motors used on other similar projects – Nidec has a reputation for producing motors that meet the highest standards for reliability in harsh operating environments.

The 46 motors provided by Nidec for these critical path pumps supply a total of 49.2MW of electric power. Each was custom-designed and -sized to deliver optimum performance over the full operating parameters and life cycle of the project.

The new refinery and terminal is expected to support future community development and to satisfy growing domestic demand for oil within the Kingdom of Saudi Arabia.