

Case study

Clean Fuels Project 2020

Kuwait

Project Summary

Project: Oil Refinery Clean Fuels Project 2020

Application: Reciprocating compressor installation

Total electrical power: 100 MW

Nidec's Role

Nidec Industrial Solutions supplied synchronous motors for the world's largest reciprocating compressor at a major oil refinery in Kuwait, which was installed as part of a Clean Fuels Project 2020.



Scope of Supply

- Quantity 6 Synchronous motors - MSCR 13Y18 type, 16.6 MW, 11 kV, 333 rpm

The challenge:

Supply synchronous motors that will ensure the performance and reliability of the world's largest reciprocating compressor in a refinery.

In recent years, a national oil company in the Middle East undertook a multi-billion dollar Clean Fuels Program to expand, upgrade and transform a 270,000 bpd refinery and a 466,000 bpd refinery into an integrated refining complex with a combined crude oil processing capacity of 800,000 barrels per day. The company's plans, which also included constructing an additional new 615,000 bpd grassroots refinery complex, supported the larger goal of boosting the company's global position in the oil refining industry.

Among other things, the Clean Fuels Program involved installing a new reciprocating compressor in one of the existing refineries. Because it would be the world's largest compressor of its kind, the company's design standards called for it to be driven by proven, powerful and dependable motors that could withstand the high temperatures and rugged conditions found in a demanding refinery environment.

The solution:

Nidec Industrial Solutions' engineered-to-order synchronous motors

Nidec Industrial Solutions was selected to provide the engineered-to-order synchronous motors used to drive the reciprocating compressor.

Drawing on more than 40 years of experience in the oil & gas industry, Nidec worked with the owner and its contractors to deliver six engineered-to-order synchronous motors designed and sized to deliver optimum performance over the project's life. The 83-ton motors meet the highest standards for reliability in harsh operating environments.

Together, the six 16.6 MW motors provided by Nidec for this critical application supply a total of 100 MW of electric power.

Following the successful completion of the Clean Fuels Project, Nidec was contracted to supply an additional seven MSCR motors for the company's green-field New Refinery Project now under construction.