

Enerflex in Action



6,800 TR PROPYLENE REFRIGERATION FOR A PETROCHEMICAL PLANT PRODUCING POLYOLEFIN

Louisiana, USA

Modular design reduces costs and saves time.

Enerflex engineered, designed, and manufactured a completely modular 6,800 TR (24 MW) propylene refrigeration system for process chilling in polyolefin production at a petrochemical plant. This was the second plant for the customer of this size and scope, completed by Enerflex. All modules were trial-fitted in Enerflex's manufacturing facility in Houston, Texas.

The refrigeration system was built in compliance with strict API and ASME codes and regulations and included:

- One centrifugal compressor drivetrain, driven by a 11,500 HP (8,6 MW) electric motor;
- Water-cooled condenser;
- Receiver;
- Process chillers; and
- Knock-out drums.

The Refrigeration Experts

As experts in fully modular and stick-built turnkey design solutions, our proven history and success in refrigeration systems spans the globe.

OUTCOME

This was a heavy-duty, large-scale refrigeration unit with logistical challenges. The largest exchanger for the unit weighed about 105 tons (210,000 lbs or 95,400 kgs), and the largest vessel measured around 14 ft in diameter (4.2 m). Enerflex accepted the scale of the challenge — and successfully engineered and delivered a completely modular design, meeting customer's expectations.

The design included a propylene receiver, high-pressure sub-cooler and knock-out drums, water cooled condenser, relief and drain headers, and a suction and discharge piping rack. The system is a two-level multi-module design — with the propylene condenser on the second level, complete with interconnecting pipe-racks. Each module is a packaged unit with complete assembly, inspection, and testing completed in-house. The unit was trial-fitted in Enerflex shop and then disassembled for shipping with match-marks for reassembly in the field. Enerflex's modularized approach, including pre-assembly and trial-fit at the Houston manufacturing facility, minimized costs and maximized the efficiency of field installation.

Enerflex also offers commissioning, after-market service, and parts for all refrigeration applications.