

**FEATURE** CHEMICALS & PETROCHEMICALS

# Petrochemical pumps receive tenth edition upgrade

Desi Tzoneva | Features Reporter

**E**ngineered pumps manufacturer APE Pumps is manufacturing its petrochemicals pump range to a new edition of the American Petroleum Institute (API) standard 610, APE Pumps engineering director Alan Sternsdorf tells *Engineering News*.

The pump designs are being revised and upgraded from the eighth to the tenth edition to comply with new classifications and specifications required for methods and materials of pump manufacture by the API.

The tenth edition has already been manufactured by APE.

The process of upgrading a pump to a higher edition involves certification of materials and being able to demonstrate that no deflection, or strain, of pump shafts and flanges occurs. Tested in APE's workshop, cables are attached to the pump shaft and the flange.

The cables are then pulled along specified axes, while carrying a nominated weight load.

Tests aim to confirm that no deflection will take place once a pump is bolted to a base frame.

Moreover, the mechanical seals, which are bought from South African suppliers, must be able to stop liquids from leaking out of a pump to avoid a toxic leak from being released in the atmosphere.

Petrochemical refinery pumps are joined to a driver, which is normally electric and is built to specification, either flameproof, explosionproof or sparkproof.

Materials used in a pump for a specific corrosive or abrasive chemical are determined according to client specifications, says Sternsdorf.

End-suction, horizontal split-case, between-bearing two-stage and double-suction pumps are the range of petrochemical pumps manufac-



## API 610 PUMP

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tured to API standards. All pumps are made to accommodate varying temperatures and liquid pressures passing through it.

Pump flow or pressure varies between 12 m<sup>3</sup>/h at 40-m pressure to pumps with a flow of 1 200 m<sup>3</sup>/h at 120-m pressure.

APE has exported about 140 API 610 petrochemical pumps to the Middle East, particularly to Iraq.

He says that spares and manuals for the API 610 pumps are supplied to refineries for a pump's maintenance schedule.

The company, in compliance with API standards, began manufacturing the petrochemical pumps to the sixth edition in 1981, and in 2005, the eighth edition was manufactured.

APE is one of three local manufacturers of petrochemical pumps built to API standards, and is the original-equipment manufacturer of these pumps.