

Screw pumps – for the African oil and gas industry

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One of the leading German screw pumps manufacturers has established itself as a reliable partner in the African oil and gas industry. The keys to success: continuous improvement of its products and state-of-the-art engineering.

Screw Pumps from the German pump specialist are globally used in various application areas: e.g. in tank farms, in the power generation industry or chemical and petrochemical industry – only to mention a few. In the oil and gas industry they are applied for handling crude oil, emulsions, produced water, multiphase fluids with high gas contents as well as intermediate and final liquid products. Based on the worldwide largest product range of twin, triple, and even five

screw pumps, the company is serving the oil and gas industry upstream, midstream and downstream. Today, pumps and systems are charging the pulse-beat of the most modern oil and gas processes.

Multiphase pumps in Algeria

“We have entered the African market years ago,” says the Managing Director. “Our pumps are used in numerous projects all over the continent, for



Fig. 1: Multiphase pump skid



Fig. 2: Multiphase pump in Algeria

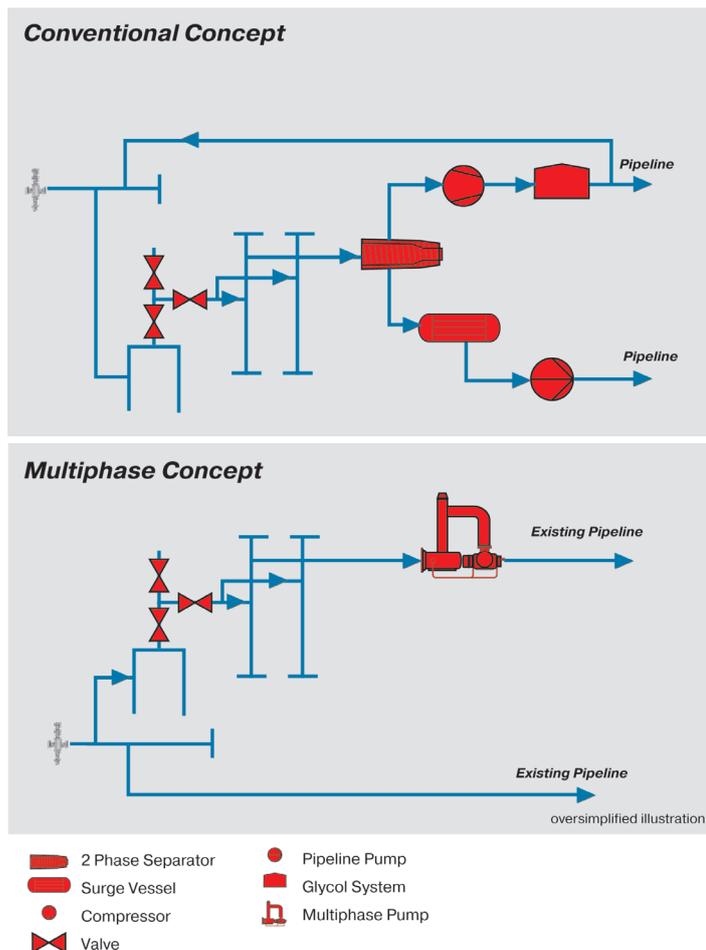


Fig. 3: P&ID Conventional & Multiphase concept

example in South Africa, Egypt, Libya, Sudan and Angola.” The most recent project in this range was executed in an oil field in Algeria. Since February 2014 five multiphase pumps are transferring crude oil and gas with a gas volume fraction (GVF) of 97% from the wellheads and manifolds to centralized treatment facilities. After separating oil and gas the oil is transferred over a distance of 700 kilometres across the Sahara to the Mediterranean. “Handling liquids and gas at the wellhead of an oil field is a costly procedure,” the Managing Director explains. The conventional way is to separate the associated gas from the liquid fraction (hydrocarbons with water) and to convey them in separate pipelines to a gathering point for a first separation process before feeding them into trunk pipelines. “Conventio-

nal equipment like separators, compressors, liquid pumps, heaters or individual flow lines are replaced by economical multiphase pumps which also boost the well flow to a central treatment facility through only one pipeline,” the pump expert describes.

Sophisticated technology

Multiphase pumps from the German supplier are used for handling untreated well flow with capacities of up to 5,000 m³/h and differential pressures of up to 100 bar. Multiphase pumps are based on twin screw pump technology. The self-priming pumps are of double volute design and hence, axially balanced. The possibility of speed variations by means of variable frequency drives offers a wide operating range. The pump along with all further equipment inclu-

ding required controls and electric motors is usually skid mounted. The special Liquid Management System guarantees the operation for GVF of up to 100%. “One very important aspect must be mentioned: by using multiphase pumps flaring is vastly eliminated. So, by handling the entire well flow within one machine we not only contribute to a cleaner environment but also to a more efficient use of our energy resources,” the Managing Director concludes.

Kome Oil Field in Chad

Another example of an outstanding client solution was executed 2003 in Chad. 15 Multiphase equipment were installed in the Kome oil field. They successfully pump oil and gas, which is transported through a 1,000 kilometres long oil pipeline – starting in Chad, crossing Cameroon to the Atlan-

tic border. Those pumps which are driven by 1,000 HP push up to 1,000 m³/h with a differential pressure of 56 bar.

Africa represents a very promising market, since its prospects and potential for further oil and gas finds remain exceedingly positive. The pump manufacturer will continue to intensify its presence on this continent and is looking forward to future projects here.

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