

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

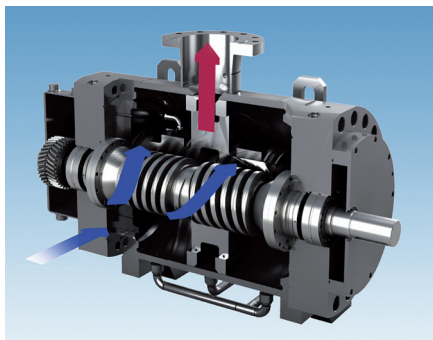
Multiphase screw pumps for African oil and gas

LEISTRITZ SCREW PUMPS are globally used in various application areas: eg, in tank farms, in the power generation industry or chemical and petrochemical industry – to mention but 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, Leistrizt serves the oil and gas industry upstream, midstream and downstream. Today, pumps and systems made by the German experts are charging the pulse-beat of the most modern oil and gas processes.

Multiphase pumps in Algeria

“Leistrizt entered the African market years ago,” said Lotfi Chouba, sales director for Africa at Leistrizt. “Our pumps are used in numerous projects all over the continent, for 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 Leistrizt multiphase pumps are transferring crude oil and gas with a gas volume fraction (GVF) of 97 per cent from the wellheads and manifolds to centralised treatment facilities. After separating oil and gas, the oil is transferred over a distance of 700 km across

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Cut-away of a high pressure multiphase pump. Image: Leistrizt Pumpen.



Multiphase pump skid on the multiphase pump test bed. Image: Leistrizt Pumpen.

the Sahara to the Mediterranean. “Handling liquids and gas at the wellhead of an oil field is a costly procedure,” Lotfi Chouba explained. 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. “Conventional 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,” described the pump expert.

Sophisticated technology

Leistrizt multiphase pumps are used for handling untreated well flow with capacities of up to 5,000 cu m/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 extra equipment including required controls and electric motors, is usually skid

mounted. The special Leistrizt Liquid Management System guarantees the operation for GVF of up to 100 per cent. “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,” Lotfi Chouba concluded.

Kome oil field in Chad

Another example of an outstanding client solution was executed in 2003 in Chad. “15 Leistrizt multiphase equipment were installed in the Kome oil field. They successfully pump oil and gas, which is transported through a 1,000 km long oil pipeline – starting in Chad, crossing Cameroon to the Atlantic border,” Lotfi Chouba illustrated. Those pumps which are driven by 1,000 HP push up to 1,000 cu m/h with a differential pressure of 56 bar.

“Africa represents a very promising market for us, since its prospects and potential for further oil and gas finds remain exceedingly positive,” Lotfi Chouba concluded. “We will continue to intensify our presence on this continent. We are looking forward to future projects here.” ■