

## FELUWA AWARDED CONTRACT FOR PRESTIGIOUS BAJA BOLEO TAILINGS DISPOSAL PROJECT

### **Double hose-diaphragm pumps in quintuplex configuration guarantee minimum pulsation and wear**

Long distance hydrotransportation of aggressive or abrasive products is an exceptionally challenging task even for positive displacement pumps. FELUWA's MULTISAFE double hose-diaphragms pumps are provided with two hose-diaphragms, which are arranged one inside the other. They ensure linear flow path and redundant, hermetical sealing between wet and drive end.

For high flow rates, by far the highest efficiency and lowest irregularity is achieved by means of single-acting five cylinder pumps. Quintuplex configuration not only allows for uniformities comparable with that of centrifugal pumps, but also contributes to a reduction of valve wear and life cycle costs to an extent that has not been feasible thus far. Even without pulsation dampeners, residual pulsation is reduced to 5.1 % p to p (vs. 23 % of single-acting three cylinder pumps and 32.5 % of single-acting four cylinder pumps).

With slurry pipelines, inevitable variations of the dry solid contents play a decisive role. They not only influence the viscosity of the product, but likewise result in fluctuations of the working pressure. Redundancy of pulsation dampening equipment with MULTISAFE quintuplex configuration is all the more advantageous as the negating of manually or automatically operated dampening devices is a great benefit as they are usually mandatorily employed when operating at variable discharge pressures.

In recognition of outstanding benefits of MULTISAFE double hose-diaphragm pumps, FELUWA has recently been awarded the contract for the supply of three sets of quintuplex pumps for tailings disposal at Baja's prestigious Boleo mining project in Baja California Sur, Mexico. Each of these pumps is specified to handle 750 m<sup>3</sup>/h at a pressure of about 53 bar along a slurry pipeline of 6 kilometres.

Seawater is used carrier fluid, which requires the use of corrosion resistant materials. In order to ensure continuous plant operation, speed of the remaining two sets is increased in the event that one of the pumps is shut down for service. For flow control, the pumps will be provided with variable frequency drives (VFD). In order to avoid phase synchronism as a result of several pumps operating in parallel and discharging at independent speed into a common main, the VFDs will additionally be provided with special electronic control systems.

Reliability and energy savings due to high efficiency of the entire assembly ensure a short return on investment period and cost-efficient disposal of the system, which is planned to be operated for 25 years.