

Application Report

ABEL HM

Soil washing with ABEL pumps
at GBAV in Berlin



Background information

A plant for cleaning contaminated mineral soil and other mineral waste is operated by the German soil and waste recycling company "GBAV" (in German: Gesellschaft für Boden- und Abfallverwertung mbH) in the South of Berlin. Environmentally friendly disposal of the contaminated soil that is excavated during construction is a top priority of the company's treatment process. Another focus is on saving resources and protecting the environment by recycling the soil after it has been cleaned and reusing it, for example, as a secondary raw material in road and path construction.

The washing procedure of contaminated mineral materials consists of a multistage water-based mechanical process. In the first step, the contaminants contained in the soil are mobilized by adding water and subsequently, they are separated by sorting and screening devices.

The challenge posed to ABEL pumps

In order to increase the efficiency of the sludge dewatering process and to reduce the maintenance costs for the transport of the highly abrasive sludge, the plant operators were looking for innovative solutions for their three filter press lines. Adapted to the customer's needs, a frequency-controlled ABEL diaphragm pump, type HMD-G-32-0250, was selected in 2018.

This special pump type is characterised by a moulded diaphragm and the pressure balanced membrane position control. Compared to the former eccentric screw pumps installed at GBAV, that required two pumps per feed line, the use of the ABEL hydraulic diaphragm pump required that GBAV use only one pump per filter press feed line.



Hydraulic type HMD-G-32-0250 diaphragm pumps at GBAV

The ecological contribution of ABEL Pumps

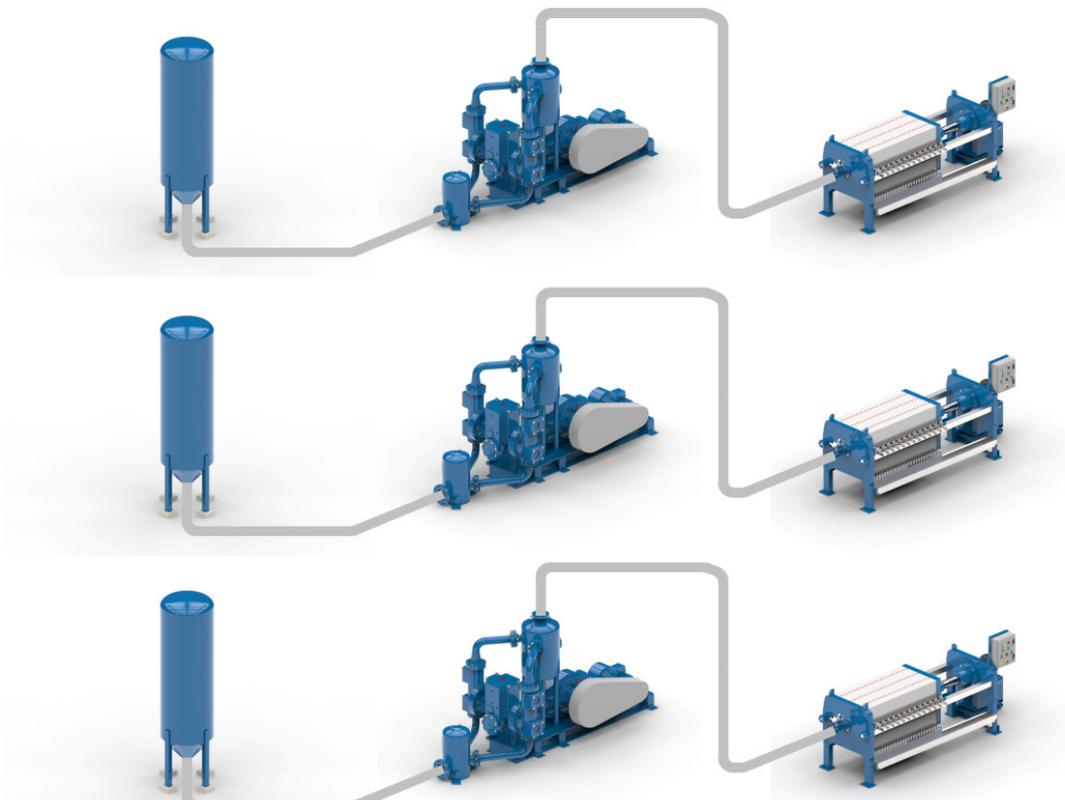
In conclusion, one hydraulic diaphragm pump can replace two eccentric screw pumps reducing the need for spare parts and maintenance. The total savings realized on each feed line has already facilitated the achievement of a significant operating cost reduction of approximately EUR 20k during the first year of operation.

In the meantime, three HMD pumps and one filter cloth cleaning pump made by ABEL have been put into operation at GBAV and are contributing to a sustainable and environmentally friendly recycling economy.

Since the GBAV soil washing plant has been commissioned in 1993, an impressive 4.5 million tons mineral waste and 1.3 million tons of street sweeping waste have been decontaminated. (Source: GBAV)



ABEL HM pump HMD-G-32-0250



Use of ABEL HMD pumps in filter press feed applications