



White Paper

## **Piston Pumps for the Hydraulic Transport of Solids**

Edited by on 28. Nov. 2023

[Published in bulk solids handling, Vol. 3 \(1983\) No. 1](#)

The author describes the various types of pumps at present available for the conveying of slurries. The advantages and disadvantages and field of application of each pump type are discussed and examples of their use detailed.

### **1. Introduction**

Selection criteria for the economic employment of rotary pumps are, above all, the abrasivity of the medium to be pumped, the lifting pressure as well as the grain size of the solids. Nowadays the following piston pump types are used for the hydraulic long-distance transport of solids:

1. duplex piston pumps
2. triplex piston pumps
3. plunger pumps
4. duplex piston diaphragm pumps
5. triplex piston diaphragm pumps

For more than 80 years, rotary pumps have been included in the production program of Wirth GmbH, Erkelenz. At the turn of the century, the first pumps were employed in the oil drilling industry. Due to the constantly increasing requirements with regard to drilling depth and delivery the originally small pumps

with low driving power have turned into equipment with driving capacity of up to 1,500 kW.