Site report

WWTP Oftringen (CH) – Sludge reception and storage bunker

Putzmeister

KOS type piston pump set-up beside the concrete silos

Putzmeister high density solids pump KOS 1040 HP with S-tube handling dewatered sewage sludge even containing foreign bodies from sludge reception to incineration.

Task

ERZO (Entsorgung Region Zofingen) operates since several years a sludge handling system consisting of a 20 m³ reception bunker and a 100 m³ storage silo. From the storage silo the sludge will be pumped into a rotary kiln for incineration. The amounts of sludge generated in the Area is continuously rising and a new system was required. Two new concrete silos with a volume of 175 m³ each were build as reception and storage silo at the same time.

The decision for Putzmeister was made because of the technical concept which has been developed for such special concrete silo systems. Another reason was the low maintenance cost of Putzmeister equipment proven in the WWTP ProRheno in Basel (see site report IP 4018).

Rotary kiln for incineration of sewage sludge

Material transport

The dewatered sewage sludge is delivered with trucks to the plant and will be discharged into the two concrete silos. A Putzmeister sliding frame discharges the sludge to a twin screw auger feeder which feeds the Putzmeister high density solids pump that then pumps the sludge through a DN 150 pipeline over approx. 110 m into the rotary kiln.

HA 75 E hydraulic power pack

BLI – injection unit for lubrification of the pipeline if pressure loss is rising

Medium

Mechanically dewatered municipal sewage sludge with a AS-content of 25 – 40 %.

Equipment

- 2 x Silolid (Butterfly type), hydraulically driven
- 4 x sliding frame PDL 6027
- 2 x silo discharge screw SHS 5542 SH LCB (low cross booster)
- 2 x high density solids pump KOS 1040 HP LCB
- 1 x BLI unit

Process data:

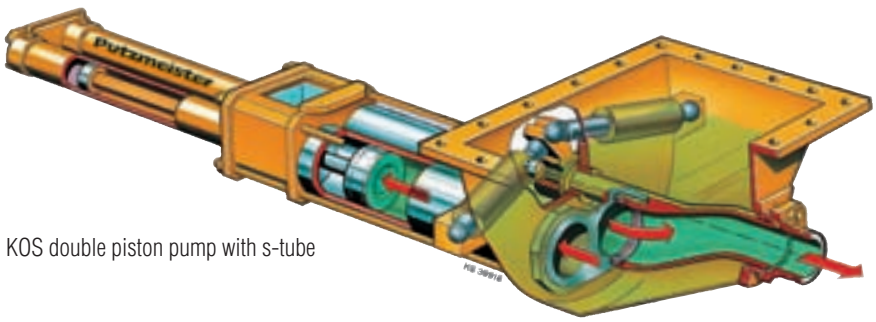
Output: 5 m³/h
Delivery pressure
Operating pressure 60 – 80 bar
Max. theo. pressure: 100 bar

If the delivery pressure rises in the delivery line it is possible to reduce the pressure loss again by injecting a boundary layer liquid (water or polymer) via the BLI unit. This will help to save energy while pumping.

Silo lid, sliding frame PDL 6027, discharge screw SHS 5548SH

KOS series…

Especially at reception bunkers for foreign sludges the KOS piston pump has proved its high reliability. Since those sludges can contain most likely any type of foreign bodies like stones, wood pieces, etc. the KOS piston pump without valves will guarantee a continuous process. Even particles woth a size of up to 80 % of the outlet diameter can be conveyed.



KOS double piston pump with s-tube

The Putzmeister Group
Concrete Technology PCT · Mortar Technology PMT
Pipe Technology PPT · Water Technology PWT
Industrial Technology PIT · Belt Technology PBT
Underground Technology PUC

Putzmeister Concrete Pumps GmbH
Max-Eyth-Str. 10 · 72631 Aichtal/Germany
P.O.Box 21 52 · 72629 Aichtal/Germany
Tel. +49 (71 27) 599-0 · Fax +49 (71 27) 599-520
E-mail: pmw@pmw.de · www.putzmeister.com

Putzmeister