

Hangzhou Waste Water Treatment Plant – Hangzhou / China

In 2002, Putzmeister supplied the first sludge processing plant to one of the largest waste water treatment plants in Hangzhou in the Zhejiang province.

The dewatered sewage sludge from several belt presses is combined and conveyed to four storage silos using two high density solids pumps. The sludge is then loaded from these silos onto trucks and taken to landfill sites, as before.

Now the dewatering capacity is greater and more belt presses have been installed.

Putzmeister has installed an additional pump for conveying the sludge to the silos. Putzmeister also installed a pump to convey the sludge approximately 400 m from the silos to a composting facility, instead of it being loaded onto trucks. In the future, composting will be the principal means of disposing of the sludge.

This has the advantage of being a closed transport system which can be controlled in terms of volume from a central control station.

Material transport

The dewatered sewage sludge is pumped from the dewatering building to the silos via three DN 200 pipelines. This allows very easy, economical and low-maintenance material transport compared to all other transport systems.

Material

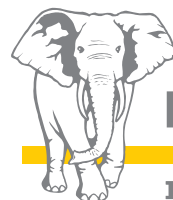
The material to be pumped is dewatered sewage sludge from a municipal waste water treatment plant which is dewatered to a dry matter content of approximately 22 % using belt filter presses.



Above: Silos with sliding-frame discharge systems and single-shaft discharge screw are powered hydraulically

Left: KOS 1470 HP with THS 842 HCB pumps the sludge from the drainage point to the silo

Right: Four Silos each with a volume of 250 m³ and 5.5 m diameter for loading onto heavy goods vehicle



Putzmeister

Industrial Technology

Mining · Energy · Environment · Oil & Gas

Plant equipment: (status 2005)

■ **Dewatering building:**

- 2 KOS 1470 HP with THS 842 HCB
- 1 KOS 1070 HP with THS 842 HCB
- 3 HA 75E
- 3 control cabinets with PLC

■ **Silo facility:**

- 4 silos each with 250 m³ total capacity
- 4 sliding frames PDF 5500
- 4 discharge screws SHS 5551 MH
- 4 HA 22 CE
- 4 control cabinets with PLC
- 2 transport screws SHS 5051 SH
- 1 KOS 1470 HP with THS 842 HCB
- 1 HA 132 E
- 1 control cabinet with PLC
- 1 BLI system
- plus gate valves, ball valves and fill-level sensors

Outputs

The pumps from the dewatering building to the silos deliver 20 – 25 m³/h; the pump from the silos to the composting facility delivers 20 m³/h.

Delivery pressures

The pumps for filling the silos deliver at approx. 50 bar; the pump for conveying material to the composting facility delivers at approx. 70 bar if a BLI system is used.

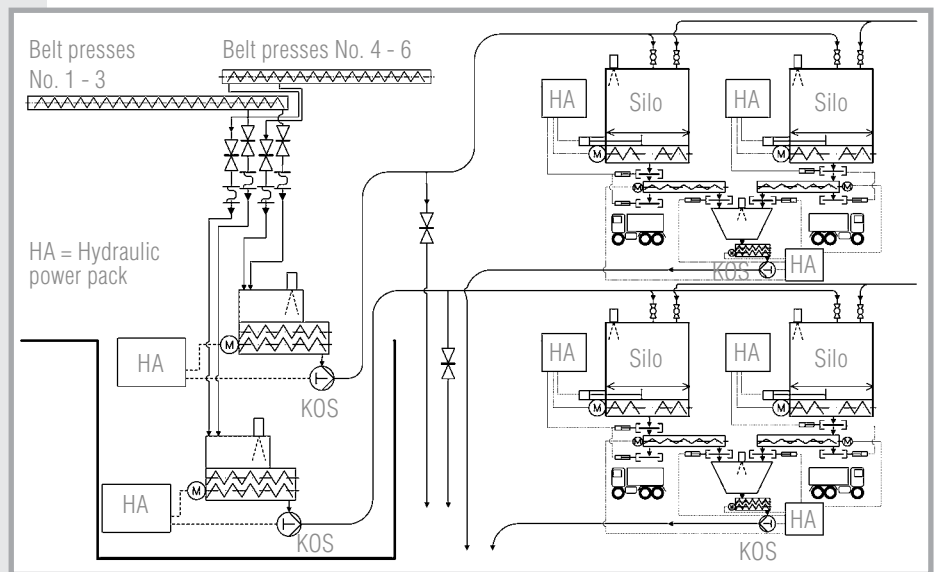
Pipeline length / diameter

All pipelines have a nominal diameter of 200 mm.

The distance from the dewatering building to the silos is approx. 50 m. The distance from the silo to the composting facility is approx. 400 m.

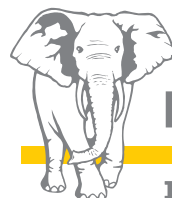


Silo roof with filler line, ventilation connector and ultrasonic sensor for measuring the filling level



Putzmeister Solid Pumps GmbH

Max-Eyth-Str. 10 · 72631 Aichtal / Germany
P.O.Box 2152 · 72629 Aichtal / Germany
Tel. +49 (7127) 599-500 · Fax +49 (7127) 599-988
psp@pmw.de · www.pmsolid.com



Putzmeister

Industrial Technology

Mining · Energy · Environment · Oil & Gas