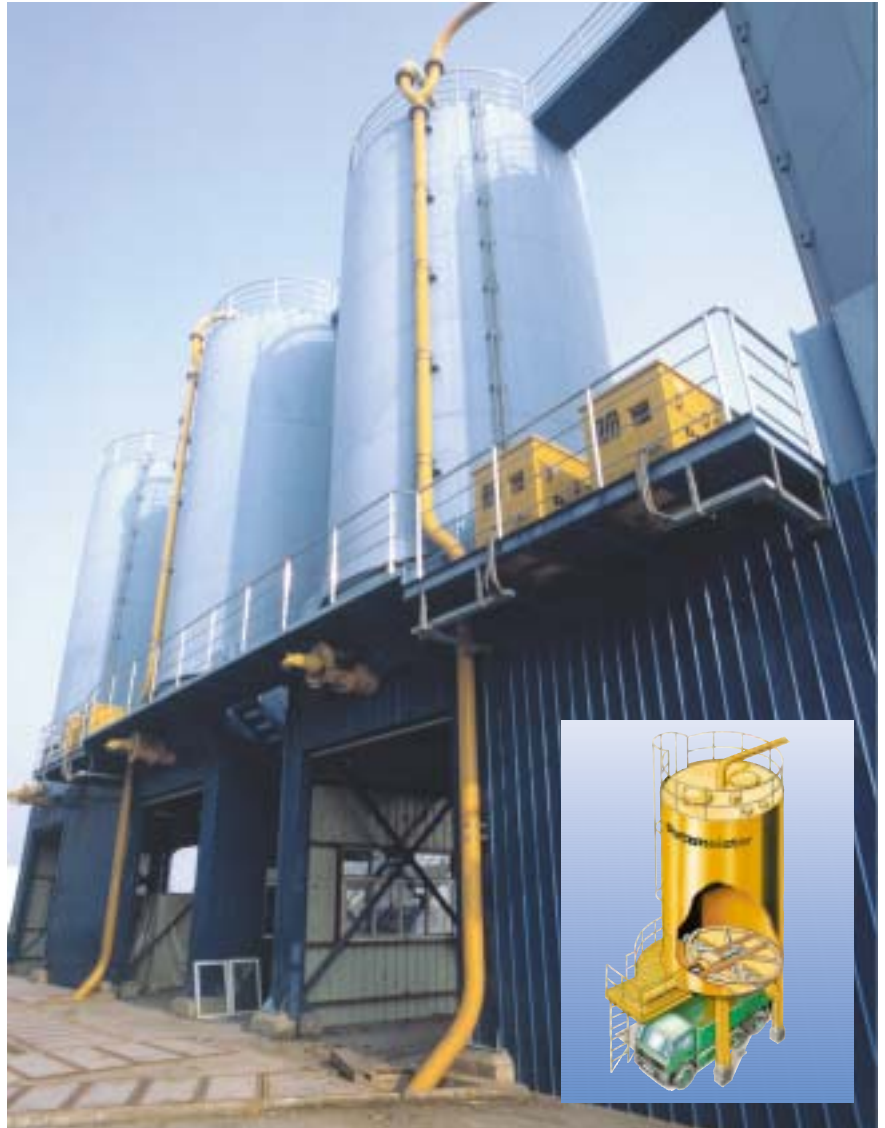


# Hangzhou Waste Water Treatment Plant Hangzhou / China

**Task**

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

In 2005, Putzmeister will install an additional pump for conveying the sludge to the silos. Putzmeister will also install a pump to convey the sludge approximately 400 m from



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

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



4 Silos each with a volume of 250 m<sup>3</sup> and 5.5 m diameter for loading onto heavy goods vehicle

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 build-

ing 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**

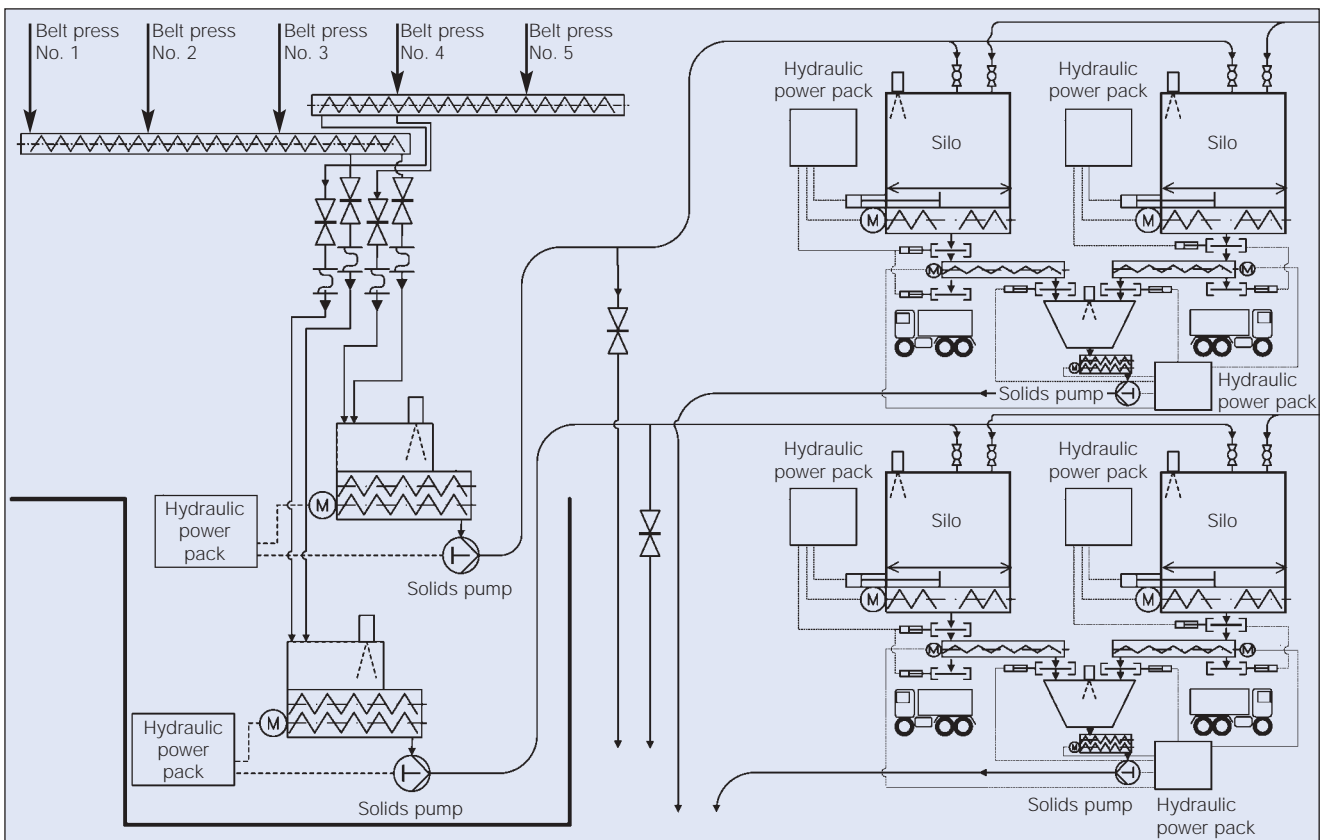
The material to be pumped is dewatered sewage sludge from a municipal waste water treatment plant which is dewatered to a dry matter content of approximately 22 % using belt filter presses.



Simple pipeline layout from the drainage building to the silos



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



### Plant equipment

(Situation in early 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 m<sup>3</sup> total capacity
- 4 PDF 5500 sliding frames
- 4 SHS 5551 MH discharge screws
- 4 HA 22 CE
- 4 Control cabinets with PLC
- 2 SHS 5051 SH transport screws
- 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 m<sup>3</sup>/h; the pump from the silos to the composting facility delivers 20 m<sup>3</sup>/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.



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