

# STRAINPRESS® FOR SLUDGE SCREENING AT AMSTERDAM: 3 YEARS OF SUCCESSFUL OPERATION

## CASE STUDY



When the Dutch sewage treatment plant Amsterdam-West was modernised in 2006 it was redesigned for the treatment capacity of 1,000,000 PE. In addition, more than another 1,000,000 PE external sludge can be treated there. In the past, particularly the treatment of primary sludge was a problem in terms of the operating reliability of the entire sludge line. The solids contained in the different types of pre-treated sludge and from the transport tanks cause high wear and lead to unforeseeable maintenance work requirements on pumps, digester internals and sludge dewatering systems.

In order to remove the solids from the sludge four HUBER STRAINPRESS® units were installed and successfully commissioned in 2011 via the company Dutch Spiral. The supply included removal systems and screenings containers.

Up to 75 m<sup>3</sup>/h primary sludge with a solids content of 1 to 6 percent is pumped through each STRAINPRESS® unit. The solids are retained by a conical-shaped screen with a perforation of 5 mm. When the screen surface is blinded with solid material, a filtration resistance develops on the screen surface. When the filtration resistance exceeds a certain pressure difference a removal screw inside the screen drum automatically starts to operate and cleans the screen surface. In the same process step the solids retained in the screen are compressed

against a pneumatically operated pressure cone and then discharged. The screened primary sludge is transported to the digester by the pressure of the feed pump.

At Amsterdam-West the dewatered solids with a dry substance content of 40% are dropped into two troughs where the screenings from two machines are collected prior to being discharged into two odour-tight containers. The screenings are incinerated in an incineration plant that is installed directly next to the sewage treatment works.

The high efficiency of the HUBER STRAINPRESS® units becomes especially evident when comparing them to the four screens that are installed in the STP inlet and have a bar spacing of 6 mm and width of 4 m each:

The screens separate an annual screenings volume of 125 tons dry substance. A downstream screenings press compacts the screenings to a dewatering degree of 55%.

In comparison, the downstream STRAINPRESS® units separate 600 tons dry substance a year, which is five times the volume the screens are able to remove. The integrated dewatering mechanism constantly achieves dewatering degrees of 40% and thus can produce a combustible product.

Since the STRAINPRESS® is a completely odour-encased system, neither sludge nor screenings cause a corrosive or explosive atmosphere inside the building.

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The machines can nevertheless be completely opened very easily for inspection or maintenance.

Since the installation of the HUBER sludge screening systems at the beginning of 2011 maintenance costs and shutdowns have been reduced significantly on STP Amsterdam-West.

The operating reliability of HUBER STRAINPRESS® systems can be witnessed not only on the reference sites Amsterdam and Den Haag in the Netherlands but also on many other sites all over the world, such as Berlin, Barcelona, San Diego, Seoul, Marrakesh, etc.

Benefits of STRAINPRESS® Sludgecleaner:

- High separation efficiency
- Compact, fully enclosed design
- Proven in thousands of installations
- Significantly reduced operating costs

