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HUBER STRAINPRESS® Placed in the Most Impressive City in Italy: Rome

SEVEN HUBER SLUDGE CLEANERS STRAINPRESS® FOR IMPROVED WATER TREATMENT FOR 3.5 MILLION INHABITANTS: HUBER TO RENEW SLUDGE SCREENING AT ALL THREE MAJOR WWTPS IN ROME

Rome, which is worldwide known as “The Eternal City”, is the biggest and also capital city of Italy counting more than 4.200.000 inhabitants. As in other metropolitan cities, the issue of efficient management of infrastructure and investment in technological innovation to achieve ever-higher quality is crucial.

The entire water cycle from spring water to waste water treatment for the Lazio region is managed by the company ACEA. ACEA spa is a utilities provider with activities not only in the water section but also in energy generation and distribution or waste management. It is one of the leading utility operators in Italy and was founded in 1909 with the initial target to serve the city of Rome. Nowadays it is active in its business fields all around Italy as well as globally.

The City of Rome has in total three major WWTPs which are all being operated by ACEA SPA. Due to major operating issues and maintenance cost caused by settlement and accumulation of high amounts screenings/solids inside the digestors, ACEA has approached HUBER to discuss the possibility to install a sludge screening system at the South and North WWTPs and to increase the existing capacities of Strainpress SP290 units at the East WWTP. The sludge line at these plants consists of pre-thickening followed by anaerobic digestion, post-thickening before the sludge is being dewatered via decanter centrifuges.



Series of STRAINPRESS® Sludge Screens installed at the East Rome WWTP.

and 3 pieces HUBER STRAINPRESS® SP 290. And more precisely:

1. South Rome WWTP with a capacity of 1.5 million PE:

2 pcs HUBER STRAINPRESS® SP 430 and 1 pc HUBER STRAINPRESS® SP 290

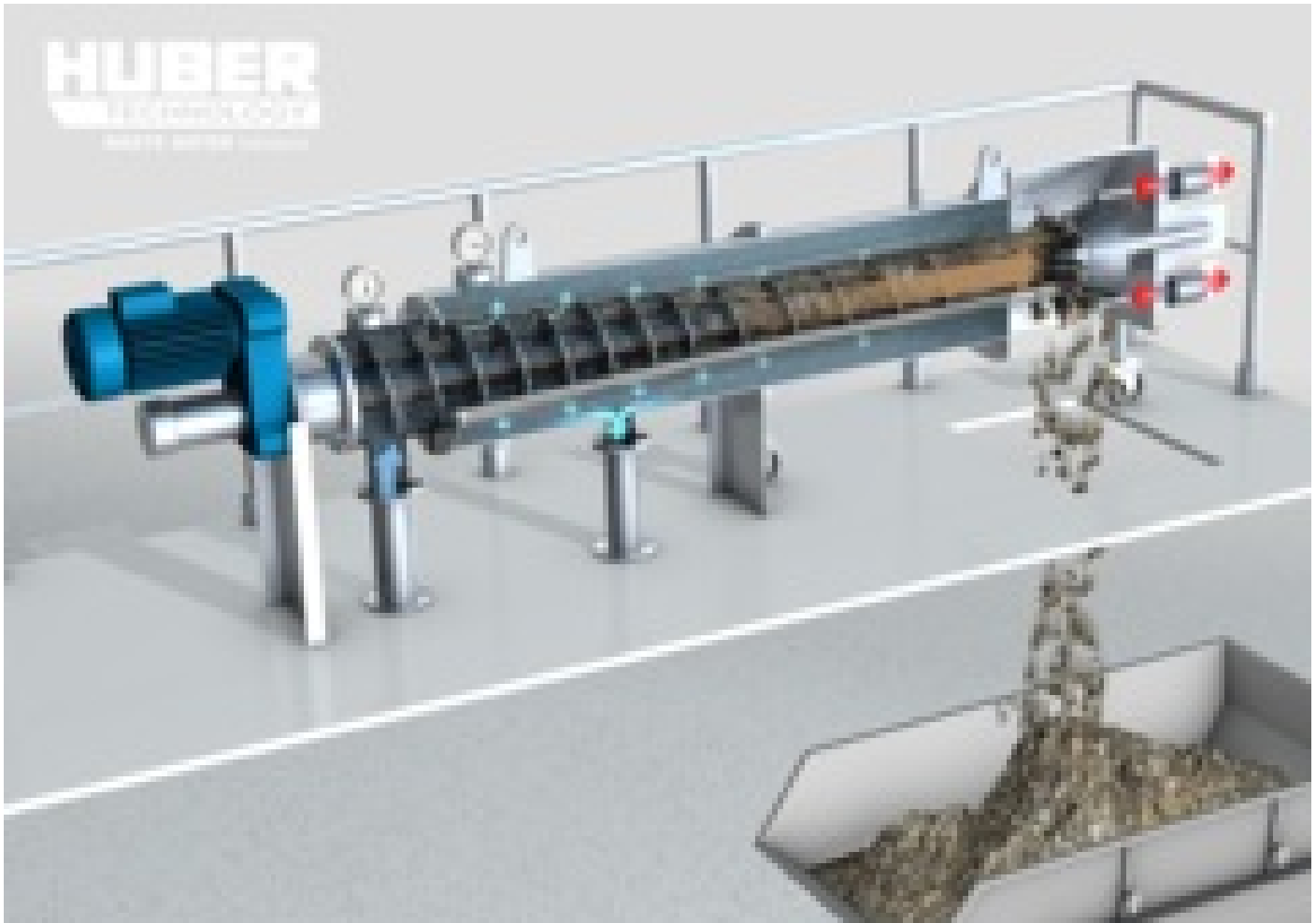
2. North Rome WWTP with a capacity of around 1 million PE:

2 pcs HUBER STRAINPRESS® SP 430

3. East Rome WWTP with a capacity of around 1 million PE:

2 pcs HUBER STRAINPRESS® SP 290 (in addition to the 4 machines of the same size installed in previous years).

The solution proposed by HUBER was to use the new Strainpress size SP 430 especially for screening of the primary sludges with a typically higher DS concentration. Specifically for the Rome WWTPs the SP 430 allows to treat up to 100 m³/h of primary sludge up to 5% DS and thus reducing the number of units needed by around 50% compared to the use of the old size SP 290. The SP 290 however was also needed to screen the biological sludge with a DS concentration of up to 2,5% and a hydraulic flow up to 60 m³/h.



Functional sketch of HUBER STRAINPRESS® Sludge Screen

STRAINPRESS® – Design and function

The STRAINPRESS® is a horizontal cylindrical coarse material separator which consists of inlet and screening zone, press zone, and a discharge section. A pump presses the unscreened liquid through the screening zone and delivers the screened liquid to further process steps. The coarse material which is retained on the cylindrical screen is stripped off by a coaxial screw and pushed through the press zone where the material is extensively compacted and dewatered. The screw operates only when the pressure sensors detect a differential pressure caused by screen surface blinding.

The compacted material is pressed through a gap around a hydraulically operated pressure cone which closes part of the pipe end and builds up counterpressure. The counterpressure of the cone is automatically regulated inversely proportional to the screw motor load. The system does not need any wash water as backwashing of the screen is unnecessary. The perforation and design of the screw shaft are individually adjusted to optimally suit specific requirements.

The specific chosen size HUBER STRAINPRESS® SP 430 represents a very convenient solution in terms of performance vs available footprint, with reference to big plants with huge amount of primary and biological sludge to be treated. The machines have been supplied in September 2020 and are already installed and in operation.

The very good test results achieved by the machines make ACEA SPA very satisfied with the **STRAINPRESS®** performance.

The above-mentioned machines add to the more than 1000 HUBER STRAINPRESS® successful installations worldwide.

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