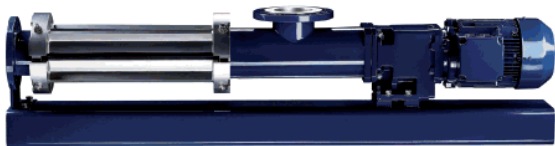


Water & wastewater

# Innovative replacement in wastewater plant



SEEPEX progressive cavity pumps equipped with SCT provide the fastest possible maintenance times.

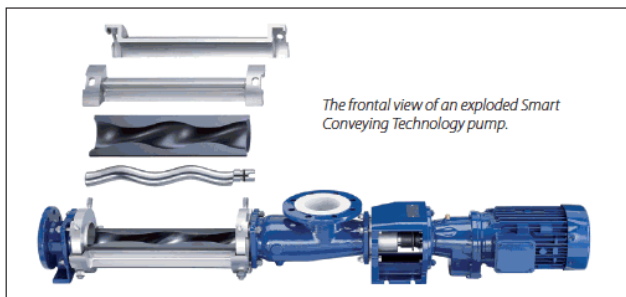
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he City of Hays Wastewater Treatment Plant is a Tertiary Treatment facility and is listed as a Class V plant by the State of Kansas, USA. One of the main objectives of the City of Hays is to find ways to conserve energy and to find more efficient ways of getting the job done, of which SEEPEX was happy to provide a solution.

The City of Hays Wastewater Treatment Plant treats approximately 1.8 million gallons of wastewater a day. The plant utilised a piston pump to convey 2-3% solids primary sludge and also intermittently for emptying their primary clarifier grease pit. There were several issues with the piston pump, the first being that the

pump was simply too old. The piston pump was installed in 1967 and ran for 47 years. Roger Moerke, the Wastewater Superintendent at the City of Hays WWTP stated, "It definitely served its purpose for many years, but it was not cheap to repair or replace. Parts were difficult to obtain and lead times were lengthy, which made

rebuilding not a feasible option. Replacement of the pump could cost in excess of \$20,000. We also wanted to get away from various maintenance issues; primarily, the mess the old pump would make transferring sludge when packing wore out and how long it took us to deal with the grease pit."



The frontal view of an exploded Smart Conveying Technology pump.



City of Hays Piston Pump: before.



City of Hays SCT: after.

### The solution

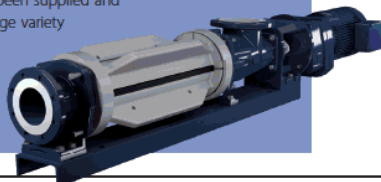
The City of Hays approached Industrial Process Systems (IPS), a pump and process solutions provider located in Kansas City, MO for assistance in finding a new pump technology that could handle both their primary sludge and grease applications while also providing easy serviceability. IPS suggested an innovative split stator progressive cavity pump design called "Smart Conveying Technology" or "SCT" from SEEPEX. In theory the pump was appealing, but the City worried a progressive cavity pump would not be hardy enough or able to perform as well as the piston pump. Moerke said, "Grease is something all wastewater facilities have to deal with. It's a normal by-product of the homes and businesses we serve. We do not actually pump the grease, but we remove the water below the grease and convey it to headworks. The water and grease do mix though and this liquid can become very viscous."

### The benefit

SCT progressive cavity pumps have an axially split stator with integrated re-tensioning segments that clamp the stator halves together. A readjustment of the segments can increase service life of the pump by up to 30%. This technology was developed to speed up maintenance without the need for dismantling piping when changing parts or during the removal of blockages. No special tools are required to work with SCT pumps. The new SCT pump was simpler, efficient and had a much smaller footprint. It fit nicely on the existing base of the old pump. Moerke said, "The SEEPEX SCT progressive cavity pump performs both functions cleanly and empties the grease pit twice as fast. We have yet to perform maintenance on the new pump after it has been installed for three months now. We will be able to adjust the stator three times before a replacement is needed" •

www.seepex.com  
www.ips-kc.com

SEEPEX revealed the new 2-stage SCT design during theACHEMA show in Frankfurt, Germany in June 2015. Due to stator and rotor innovations, PCPs with the SCT design allow for shorter service times without special tools, prolonged part life with fewer replacements, and a smaller energy footprint resulting in overall lower lifecycle costs when compared to PCPs of conventional design. 2-stage SCT pumps handle the same types of market applications and offer all the benefits associated with 1-stage SCT pumps, but have higher pressure capabilities and utilise a new, equally-simple smart design in order to do so. SEEPEX introduced Smart Conveying Technology (1-stage) in 2008. Since then, thousands of pumps have been supplied and successfully used in all market sectors in a large variety of applications including environmental, pulp and paper, shipping, mining, chemical, pharmaceutical, food and beverage, renewable energy.



For Domestic Use

## Better Life Through Innovation

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