

PSI Process & Equipment



Pumping Services, Inc.
An Employee Owned Company

March 2014

PSI Newsletter

ISSUE HIGHLIGHTS

Flygt Pressurized
Sewerage Systems

What is a Pressurized
Sewerage System

Where are
they used ?

Engineered Packaged
Pump Stations

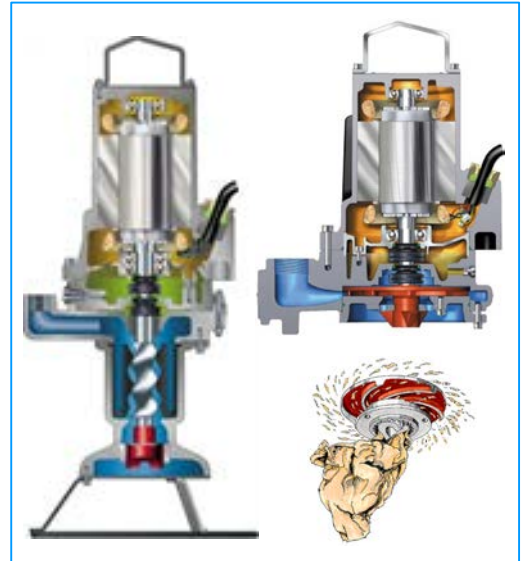
Pumping Services, Inc.
201 Lincoln Blvd.
Middlesex, NJ USA
P: 732 469 4540
F: 732 469 5912
www.psiprocess.com



Dear Readers:

Pumping Services, Inc./PSI Process & Equipment provides support and service for the Flygt, a Xylem brand, Pressurized Sewerage Systems (PSS). Developed in the early 1960s, these systems were popular in the early 1970's for use in areas with rocky, hilly terrain, or high water tables where installing a conventional gravity type sewer system would be cost prohibitive. Pressure sewer systems had a worldwide breakthrough in the early 1980's with the development of submersible pumps with a grinding mechanism. These pumps were inexpensive, reliable and easy to use. Since the grinder mechanism reduces the wastewater to fine slurry (grey water) with no large solids they were able to pump wastewater at high pressure through small diameter pipes over long distances. This provides a substantial cost savings over installation of gravity sewer lines or centralized pumping stations with long larger diameter force mains. Pressure sewer systems are usually installed to handle lower volumes of inflow from a specific site over difficult terrain to a

common discharge location. In some areas several pressurized sewerage pumping systems can be routed over difficult terrain to an existing force main or gravity system to transport the wastewater to treatment plant. Flygt offers a complete line of progressing cavity and centrifugal grinder pumps that can reach heads of 180 feet and 150 gallons per minute pumped flow.



Flygt Progressing Cavity and Centrifugal Grinder Pumps

The primary applications for these types of pumps are residential housing, light commercial and municipal sewerage systems. In residential housing the typical application would be to install a single pump mounted into a polypropylene or fiberglass basin (wet well) to collect

John Corkery 732.667.1800
New York-New Jersey
Roger Parkhurst 732.667.1804
New Jersey
Denis Rehse 732.667.1820
New Jersey
Dale Parkhurst 732.667.1805
VP Sales

David J. Silverman P.E. 347.563.0766
New York Region
Edward Johnson 732.667.1822
Industrial Sales NY-NJ
Engineering Assistance 732.667.1833
Ana Hende, James Ohia
Martin Striefler 732.667.1861
Aftermarket Sales NJ/NY

Edward Cornell 732.667.1818
Project Management
Richard Scott 732.667.1816
Project Management
David Hull 732.667.1803
Estimating Management
Richard Malt 732.667.1814
VP Service Manager

Spotlight on

Flygt Packaged Pressure Systems (PSS)

the sewerage then transport it through a small diameter force main to a common discharge point either a gravity sewer or common force main that can handle the flow rate from multiple systems. These systems generally use the progressing cavity type grinder pump which provides a mechanism to grind the wastewater into a fine slurry (grey water) then utilize a progressing cavity pump to eject the waste water through the force main at high pressure. These pumps have a capacity of 9 to 160 gallons per minute maximum at various discharge pressures with shut off heads of 180 feet. The progressing cavity pump design of positive displacement allows the movement of waste water through the system up to very high pressures. A pressure relief valve is installed to prevent over pressurizing the system or stalling the pump motor. This type of pump is recommended for small commercial buildings which have lower flow rates. Examples are office buildings, small stores, warehouses etc. The pump selection will need to be determined by actual required flow from the site and the required Total Dynamic Head Loss.



Fiberglass or Polyethylene Basins Pre-Assembled in sizes from 24-inch to 72 -inch diameter to depths of 20 feet.

For larger applications where higher flows are required we utilize the Flygt centrifugal grinder type pump which incorporates a grinder mechanism to reduce the wastewater to a fine slurry (Grey water) then pumps the wastewater using a centrifugal type impeller pump designed to move the fine slurry through the small diameter force main at high pressure. These pumps can deliver flows from 20 gallons per minute and shut off heads of 180 feet.

Engineering assistance for Hydraulic Modeling Analysis and Basin Design available for your application

Basic and Advanced PSS Controls

The Flygt PSS low cost control panel is a robust control which includes simple start/run capacitors and floats for level control which is easy to maintain. For more advanced control, where early warning to upset system conditions is required, control and status relay provide equipment protection. A variety of level control devices such as float switches, transducer or Flygt probe ensures customer satisfaction.



Flygt Probe, Float Switches or Transducer for reliable level control

PSI Process and Equipment provides support to the New Jersey Water Environment Association 2014 Winter Technology Transfer Seminar March 3 - March 6, 2014 at the Sheraton Eatontown 6 Industrial Way, Eatontown, NJ. The following PSI presentations are being provided. "Hands-on" Instrumentation Workshop - VFDs Hands on Energy Savings using VFDs Joe Halliday, Danfoss. Bypass Pumping Considerations – Sewer System Rehabilitation – Trenchless Technologies - John Corkery PSI. Contact the NJWEA web site to register.

PSI Process and Equipment will be exhibiting at the New Jersey Water Environmental Association – Annual Conference Annual Conference, May 12 - 16, 2014, Bally's, Atlantic City, New Jersey.

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| ASA Analytics, Inc. | Monroe Environmental |
| AWI Anthratech U.S. | Danfoss LLC |
| NOVA Water Technologies | ICS Healy Ruff Inc. |
| Philadelphia Mixing | Verder Inc. |
| Filtronics Inc. | PSI Rental, Service |
| FLYGT a xylem brand | Grundfos Dosing Pumps |
| Multitrode FLYGT | A-C Pumps FLYGT |
| Primex - Ecosmart™ | Oldcastle Precast |

Contact the PSI Sales and Engineering team for your Pressure Sewer Systems