



VERDER

Pumping solutions for the water
and wastewater industries
with peristaltic hose pumps

Peristaltic hose pumps

In water and wastewater

Water and wastewater treatment facilities have common equipment requirements. Pumps should perform as expected, have a low cost of ownership, be reliable and easily maintained without specialized maintenance skills.



Important features are

- Repeatable flow rates especially when dosing
- Easy to maintain and require infrequent attention
- Resistance against abrasive wear
- Controllable via plant control systems

Sodium Hypochlorite Dosing

Sodium Hypochlorite (Hypo) has outstanding disinfection properties. Dosing with locally generated solution is one of the primary methods of drinking water disinfection and odor control solutions.

Verderflex' solution

Verderflex pumps pump both gas and liquid and ensure all the liquid stream receives a consistent dose and do not vapor lock. Verderflex's Hypalon® hoses withstand up to 17% solutions allowing them to be used with both low and high strength Hypo generation systems.



The Verderflex Range

Verderflex High-Pressure Hose Pump Range

- Discharge pressures up to 230 PSI
- Port connections include ANSI 150lb, DIN, NPT and sanitary clamp
- Can be supplied with accessories including pulsation dampeners, variable speed drives, and a wide variety of related accessories

Flow rates	0.05 - 220 gpm
Pressure range	up to 230 psi



The Verderflex Dura hose Pump

The Verderflex® Dura is the first real advance in hose pump technology since the high pressure hose by combining the compactness of a close coupled pump, with all the benefits of the traditional long coupled pump.

Compact vertical design with:

- Vertical motor
- Air gap between gearbox and pump to eliminate heat transfer from the gearbox
- Optimized hose design to greatly reduce fatigue

Flow rates	0.005 - 39 gpm
Pressure range	up to 175 psi for the D10 to 25
	230 psi for the D35 to D45 systems



The Verderflex Hose

- 11 standard hose sizes from 5mm (3/16") to 125mm (5").
- Verderflex pumps are designed to maximize hose life by optimizing the hose's fatigue strength.
- Hoses are available in:
 - Natural Rubber for general purpose uses and abrasive chemicals.
 - Nitrile Buna Rubber (NBR) for fatty acids and various petroleum.
 - EPDM for aggressive chemicals such as Ferric Chloride; low-strength Hypo.
 - Hypalon® for extremely aggressive compounds such as Hypo and some Polymers.
- Hoses have color coded identification tape bonded into the outer cover during manufacture to clearly identify material type.



Lime Dosing and Mixing in pH and Odor Remediation Treatments

Lime, is one of the wastewater and water treatment chemicals that are used to adjust the pH of wastewater and water. Other chemicals include Ferric salts, Caustic Soda, Aluminium Sulphate, Ferrous Sulphide and Powder Activated Carbon (PAC).

Verderflex' solution

- Linear flow-speed characteristic, ideal for feedback control systems, allowing precise control of the chemicals being dosed, minimizing chemical usage.
- Smooth liquid passage. No opportunities for product to settle. The peristaltic action keeps product in suspension.
- Product may be mixed onsite -solids in the liquid stream are no problem
- Seal-less design eliminates leaks and workplace contamination.
- All Verderflex pumps can run dry without damage



Dosing Polymers and Ferric in Coagulation Processes

"Ferric" and polymers are used to dose coagulants into clean water plants to remove peat, suspended solids and residual colors from clean water streams. In wastewater treatment, sophisticated polymers maximize plant output by increasing the solid separation rate allowing greater primary waste volumes to be treated per day.

Most polymers are highly shear sensitive, which increase coagulant costs, lowering plant efficiency. Over-dosing causes coagulant to be re-circulated into the plant inlet stream, this reduces the effectiveness of lime treatment, additionally increasing the costs of this operation

Verderflex' solution

- Gentle peristaltic action maximizes coagulant performance by maintaining the particle size and increases overall plant efficiency.
- The linear flow-speed characteristic allows accurate coagulant dosing rates, optimizing chemical usage
- High abrasive resistant providing reliable and predictable service.

Filter Presses and Waste Minimization

All water and wastewater treatment plants produce waste, which has to be prepared for disposal, usually by filter pressing, thickening or centrifuging to minimize volumes and constrain the waste processing costs. Usually such waste is sent to landfill or incinerated giving a disposal cost based on the waste's weight and volume.

Traditional pumping solutions

Abrasivity creates stator wear, slip and consequentially drop of the pump flow. To maintain flow rate, the pump speed is increased and the pump is operated with a higher degree of wear. Increased leakage and abrasive wastes wearing on the shafts, rotor, seals and stator. This creates variable suction performance and creates "Rat Holes" (water is pulled from above the top of the sludge blanket) in the filter press feed, increasing the water content (the weight) and the volume of the pressed waste. Dewatering operation costs are increased

Verderflex' solution

- Consistent suction performance and do not suffer wear
- "Rat Holes" are eliminated, a more consistent, denser waste is produced.



Transferring Sludge

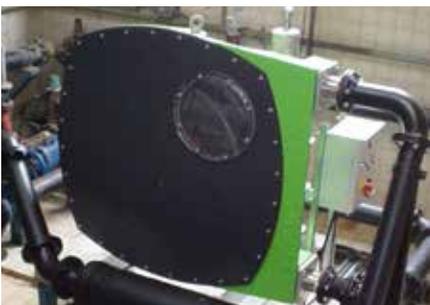
Wastewater treatment plant primary sludge pumps have to transfer whatever is in the clarifier presenting many problems, even after the use of screens to remove rags, sand, grit, paper and other modern day debris.

Traditional solution

A progressing cavity pump, has high maintenance costs when rags become trapped around the stator. Sludge can have a high grit content leading to persistent high maintenance costs due to abrasion and grit removal systems also being required

Verderflex' solution

- High abrasion resistance
- Low cost of ownership solution, only wear part is the hose
- Able to pump rags, so that the rag removal screen can be located after the pump.
- To maximize digester performance, pumps have been fitted with turbidity monitoring systems so that low solid content sludge remains in the settling tank further increasing plant efficiency.





Any questions? You may still have questions and/or comments after reading this brochure. Please feel free to contact us on 877 7 VERDER. You can also respond via email to info@verder-us.com. For more information about Verderflex hoses please visit our website www.verder-us.com

