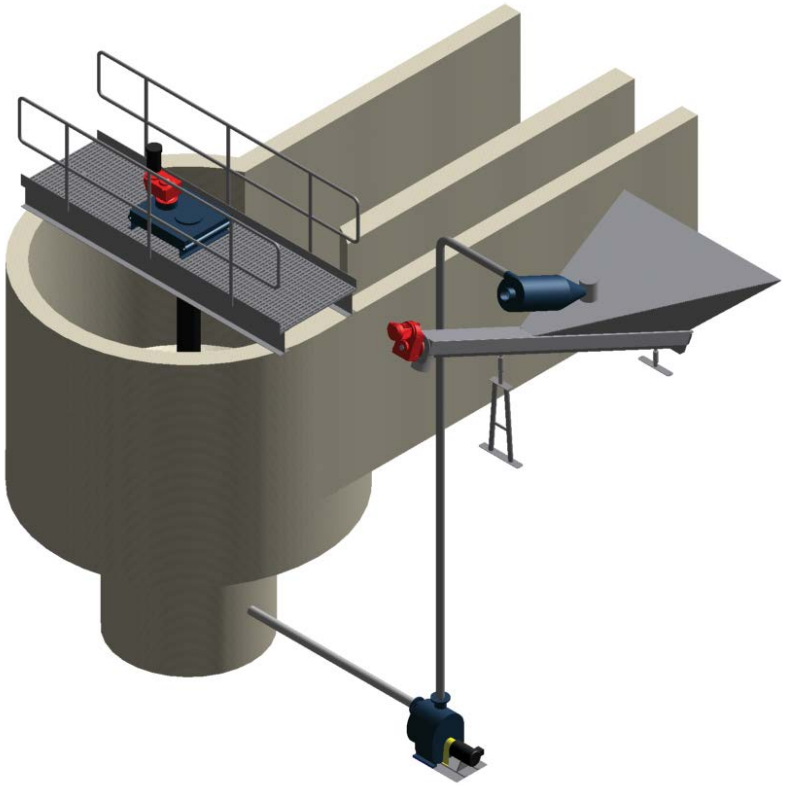
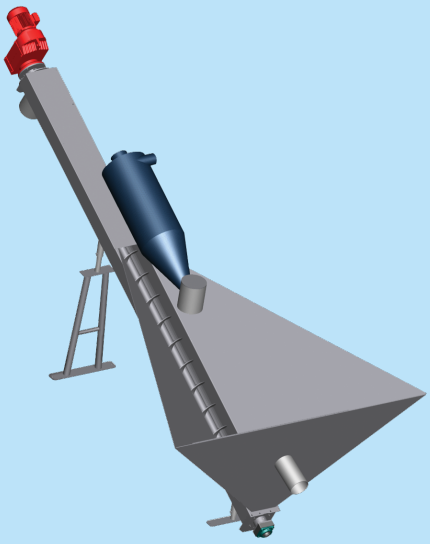
Sand Shark Grit Trap & Grit Classifier

- Highly efficient removal of grit particles at variable flow rates
- Low energy costs
- Low headloss (less than 1/4 inch)
- Low maintenance
- Durable and rugged construction
- Standard chambers handle flows up to 70 MGD
- All stainless steel construction standard with carbon steel options





HYDRO DYNE® ENGINEERING

www.hydro-dyne.com

Sand Shark Grit Trap

Vortex style system allows continuous operation under variable flows

Compact circular concrete chamber suitable for tangential entry channel and parallel exit channel

The rotating impeller maximizes grit capture in the storage hopper and ejects light organic solids from the chamber

In-line design also available

Grit Pump Options

A centrifugal pump installed in a dry pit adjacent to the grit chamber extracting the grit slurry through the storage hopper wall (shown above)

Self primed centrifugal pump installed at the top of the grit chamber above normal water level

A highly efficient air lift pump lifts the slurry up through the centrally mounted drive tube

Grit Dewatering Package

Hydro-Cyclone
No moving parts

Replaceable wear liner

Specifically designed for de-gritting wastewater

Mounted directly over Sand Shark Grit Classifier inlet hopper

Sand Shark Grit Classifier
Shafted screw flight

Dry and de-watered grit deposited directly into the dumpster

Flared inlet hopper with internal overflow weir sized to trap and process 100 micron grit particles

Lower bearing fully protected against the ingress of abrasive grit particles

Grit Removal Equipment

Hydro-Dyne Engineering is your single source supplier for the complete grit removal and handling system.

The Sand Shark Grit Trap

The Hydro-Dyne vortex grit removal system is the simple, efficient and economic solution to your grit removal needs.

The Sand Shark Grit Trap will generally be installed immediately downstream of the fine screen. The inflow enters the circular chamber carrying the heavy grit particles, which will be drawn towards the side wall and flow around the edge of the chamber. Gravity settles the grit particles as they travel this path.

The impeller, rotating in the direction of the flow, has four angled blades that are designed to create an up-draft that pushes the grit toward the periphery of the chamber. Light organic solids, paper and plastic are lifted to the surface and rejected with the remainder of flow from the grit trap. The impeller enables the proven design to work efficiently at average and low flow conditions.

The calm condition around the edge of the chamber allows the grit particles to sink and be guided by the sloped floor to the center of the chamber. The solids will fall underneath the rotating impeller and collect in the bottom of the chamber for storage then remove.

Sand Shark Grit Classifier & Grit Hydro-Cyclone

The Hydro-Dyne grit dewatering package is specifically designed for handling grit removed from wastewater. The grit slurry will be pumped from the storage hopper at flow rates of 200 - 250 US GPM directly into the hydro-cyclone, mounted on top of the Sand Shark Grit Classifier. The excess water will exit via the 6 inch "overflow" and be returned to the main flow, generally upstream of the Sand Shark Grit Trap. The "underflow", containing less than 50 US GPM, and the heavy grit solids will be located by the vortex finder and dropped via the outlet cone into the Sand Shark Grit Classifier hopper.

The flared grit collection hopper is sized to trap and process grit particles as small as 100 microns. The heavy solids sink to the bottom and the excess water will spill over an internal weir system and be returned to the main channel, generally upstream of the grit trap.

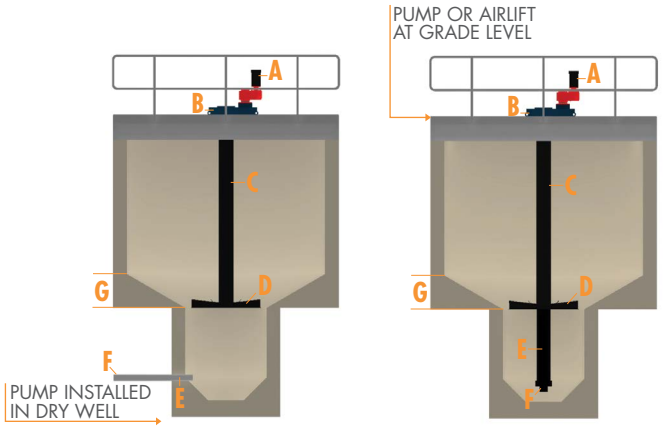
The settled grit will be elevated by a shafted screw that is supported between a top and bottom bearing leaving a ½ inch clearance between the screw flights and the Sand Shark Grit Classifier trough. This will allow a permanent layer of grit to build up creating a protective wear liner. The lower bearing will be fully enclosed to prevent the ingress of grit and premature wear of the assembly.

The screw lifts grit from the bottom of the hopper. During conveyance, free water drains back to the hopper while dry grit is elevated and deposited in a receptacle for disposal.

The Grit Pump

Hydro-Dyne offers various pumping solutions to suit the configuration of the application. The self primed centrifugal pump is generally used when the grit chamber is cast in the ground. There will be significant construction cost savings by mounting the pump at grade (illustrated far right). When the grit chamber is elevated it is common to install the suction pipe through the storage hopper wall and install the grit pump in a dry well for ease of maintenance and accessibility (illustrated near right).

The air lift pump is an efficient method of moving grit from the storage hopper directly to the inlet of the Sand Shark Grit Classifier, without the need for the hydro-cyclone.



A – The geared motor	**E** – Suction pipe
B – The drive head	**F** – Fluidizing pipe
C – Drive tube	**G** – 30 degree slope
D – The impeller	

4750 118th Avenue North Clearwater, FL 33762 USA
Phone (813) 818-0777 Fax (813) 818-0770
www.hydro-dyne.com