Hydro International

Grit Snail®

High Performance Grit Dewatering Escalator

Product Summary

Quiescent dewatering retains even the finest grit particles.

The Grit Snail® uses a slow moving cleated belt to gently escalate grit from the clarifier pool without re-suspending fine grit particles which will cause them to escape with the clarifier overflow.

Performance

- Removes 95% of particles 75 µm and larger at the design flow rate when used with a Hydro washing system
- 60% total solids and less than 20% volatile solids when used with a SlurryCup™ or TeaCup®

Capacity

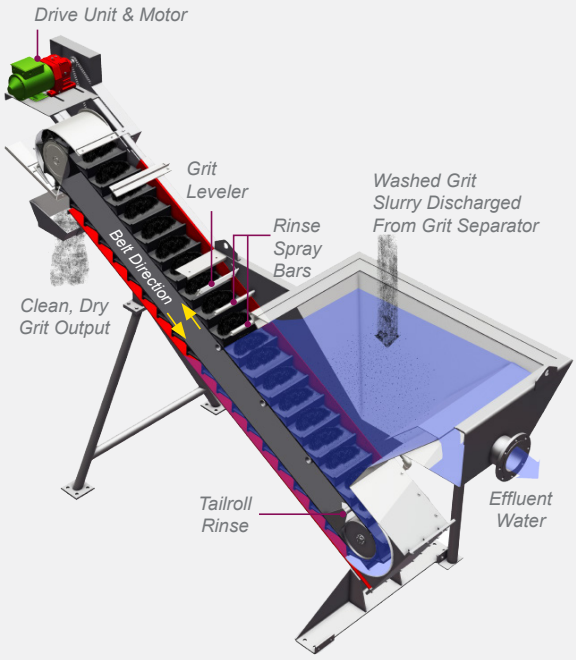
- Dewatering capacity from 1 to 10 yd^3/hr (0.7 to 7.7 m^3/hr) of grit
- Clarifier sizes from 48” to 96” (1.2 to 2.4 m) square
- Belt widths from 6” to 57.5” (0.15 to 1.5 m)
- The Grit Snail® can be configured to match most applications as the clarifier is sized for flow while the belt is sized for grit load

How it Works

A washed grit slurry is discharged into the Grit Snail® clarifier. The clarifier is sized to provide sufficient area for particles as small as 75 micron (µm) to settle. Degritted effluent overflows a weir and goes on to the next process. The captured grit settles to the bottom of the clarifier and onto the belt. The slowly moving belt gently lifts accumulated grit from the clarifier bottom without re-suspending it, eliminating the potential for carry-over. The belt typically moves at 1-2 feet / minute (30-60 cm / minute) which creates quiescent dewatering conditions.

The grit settles onto the stepped cleats and is gently lifted out of the clarifier. Dewatering begins as the grit and fine abrasives are quiescently raised from the clarifier pool. The dewatered abrasives are carried to the top of the Grit Snail®, where they are discharged into a container for disposal. The lined belt housing, stepped rubber belt cleats, and no metal-to-metal contact ensures long component life and minimal wear. The variable frequency drive adjusts belt speed to match changing grit loads.

Grit Snail® Components



Applications

- Grit dewatering for municipal WWTPs
- Dewaters grit output from a SlurryCup™, TeaCup®, or Grit King® unit
- Sludge degritting or headworks dewatering applications
- Agricultural and industrial applications

Benefits

- Non-turbulent process retains the smallest grit particles
- Durable 304 or 316 stainless steel construction ensures a long product life
- Large clarifier with a low overflow rate provides sufficient time for grit to settle
- Conveys a very large quantity of grit while still retaining fine grit particles as small as 75 µm

Water & Wastewater Solutions

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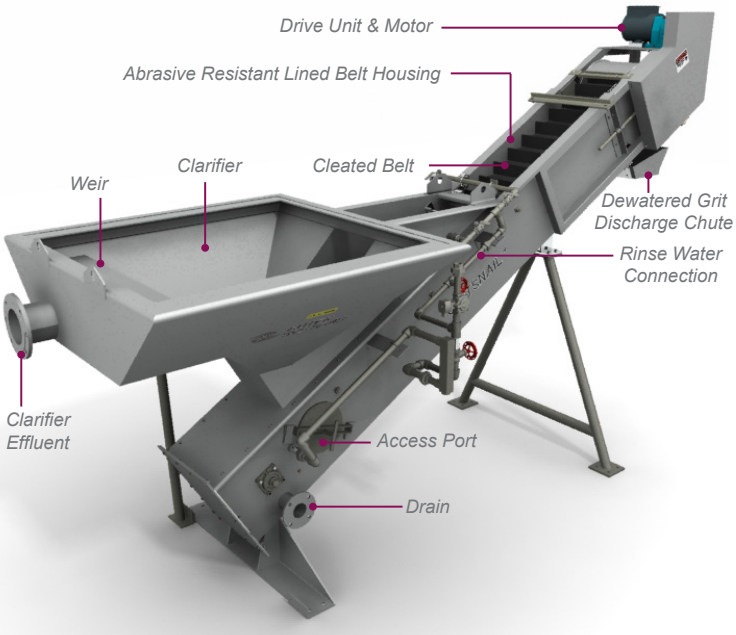
Configurations

- The SlurryCup™ (or TeaCup®) / Grit Snail® system can either be used for headworks degritting or to degrit concentrated slurry captured from a HeadCell® or a Grit King® separation system
- Multiple inlet and outlet arrangements are available to accommodate plant piping conditions
- The system can be provided with an optional maintenance access platform



Design Notes

- Large clarifier area allows even very fine grit to settle
- Slow moving belt eliminates grit carry over
- Belt housing is lined with abrasion resistant urethane for long service life

Installed TeaCup® / Grit Snail® system

TeaCup® / Grit Snail® washing and dewatering system

Hydro International

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Learn more

Visit our website to learn how Grit Snail® grit dewatering will protect your plant, reduce your operational costs, and improve the performance of your entire plant.

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