Hydro International

TeaCup®

Advanced Grit Removal & Classification

Product Summary

Industry leading performance since 1976.

The TeaCup® is a versatile system well suited for grit removal or grit washing in many plants. The TeaCup® is used for grit collection, grit washing, sediment removal on pumped flows and for classifying and washing grit on systems where batch discharge is required. The system has been shown to pay for itself in as little as 2 1/2 years.

Performance

- Removes 95% of particles equal to or greater than 75 micron (µm) at the design flow rate
- Less than 20% volatile solids
- Greater than 60% total solids

Capacity

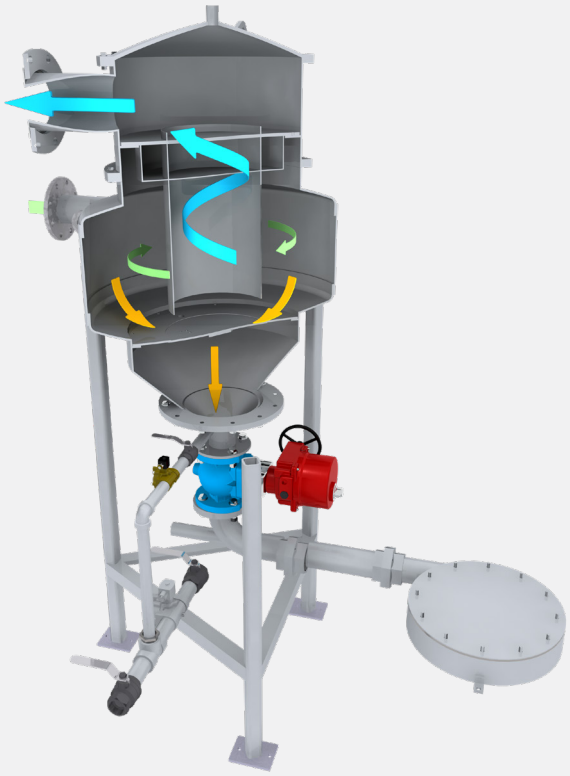
- Handles flow of 70 gpm to 8 Mgal/d (44 to 350 L/s)
- Sizes from 24” to 96” (0.61 to 2.44 m) diameter
- Solids concentration up to 1.5%

How it Works

Flow enters the stainless steel vessel tangentially at a controlled rate and velocity. The flow regime established in the device forms a free vortex which results in high centrifugal forces and a thin predictable boundary layer. Grit is forced to the outside perimeter or held in suspension until it falls by gravity into the boundary layer which sweeps the grit, but not volatile solids, into the collection chamber at the bottom of the unit.

The concentrated slurry is collected in the chamber at the bottom of the unit. Periodically fluidizing water is added and the grit is purged from the system. The slurry discharged is clean and ready for dewatering. The water containing the volatile solids exits the top and returns to the WWTP for treatment.

TeaCup® Flow Pattern



Applications

- Grit removal & washing at WWTP headworks
- Snail shell removal from trickling filters
- Grit system replacement and upgrades
- Sediment removal pretreatment for potable water

Benefits

- An economical alternative to grit chambers for smaller plants
- Durable 304 or 316 Stainless Steel construction
- No moving parts and all-hydraulic design
- Typically requires 1-5 feet (0.31 - 1.52 m) of headloss
- Requires up to 80% less area than conventional grit chambers

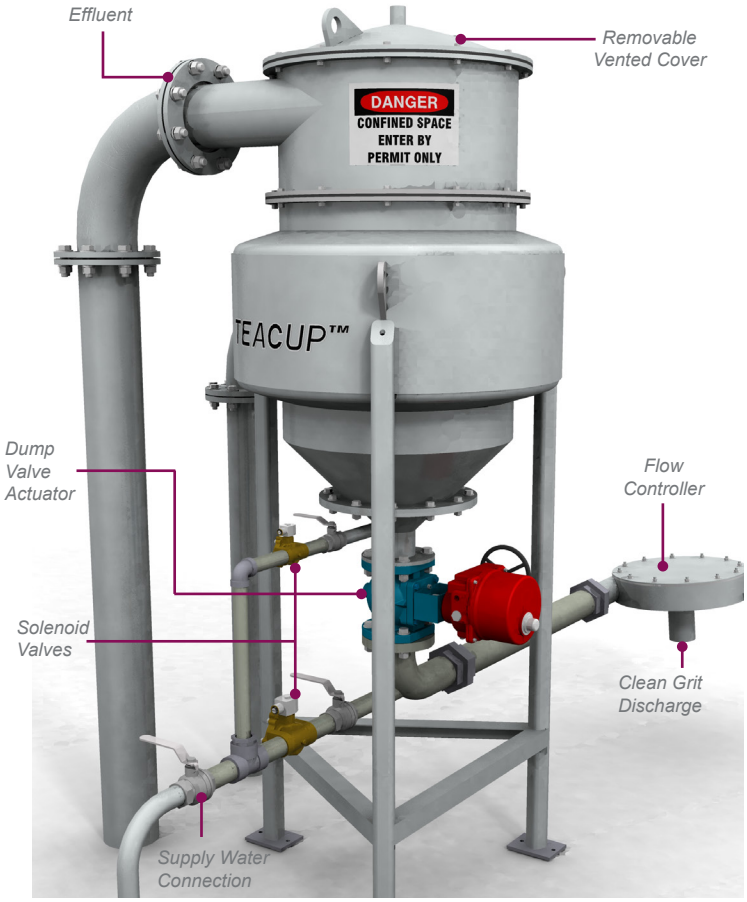
Water & Wastewater Solutions

→ hydro-int.com/TeaCup

Configurations

» Inlet and outlet can be oriented to accommodate many piping configurations.

TeaCup® / Grit Snail® with Standard Discharge Box Design



TeaCup® Components with Optional Pressure Cap Design

Design Notes

» Open free vortex design

» Simple operation, long product life

» Large diameter easily handles peak flow volumes

» Prefabricated modular components

» Discharges a clean grit slurry, low in volatile solids

» Standard turndown ratio of 3:1 peak to average daily flow

» Batch processing operation

TeaCup® / Grit Snail® Systems with Standard Discharge Box Design

TeaCup® / Decanter with Optional Pressure Cap Design

Hydro International

Hydro International
2925 NE Aloclek Suite 140 | Hillsboro, OR 97124
Tel: (866) 615-8130
Email: questions@hydro-int.com
Web: www.hydro-int.com

Learn more

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

→ hydro-int.com