

Remove, separate, classify and wash wastewater and process solids at a range of municipal and industrial treatment plants

The TeaCup® is a high-performance accelerated gravity grit removal system.

Available in a range of sizes and able to accommodate flows as low as 4.5 l/s in a single unit. TeaCup® units can be used to accommodate a wide range of flow characteristics, making it the ideal system for many different types and sizes of plants.



Applications

- Grit removal and washing at WWTP headworks.
- Snail shell removal from trickling filters.
- Grit system replacement and upgrades.
- Industrial water reuse.
- Surface water pretreatment.

Performance

- Removes 95% of grit particles 75 µm and larger at the design flow rate.
- Outputs less than 20% volatile solids, greater than 60% total solids.
- Handles flows of between 4.5 and 350 l/s in a single unit.
- Handles solids concentrations up to 1.5%.
- Sizes from 0.61 to 2.44 m diameter.
- Typically requires 300 mm to 1500 mm of headloss.

Benefits

Reduce footprint and save money on electricity

The compact design requires up to 80% less area than conventional grit systems, which frees up valuable plant space for other processes. Aside from low energy solenoids and an actuator that only needs to operate as infrequently as once every 8 hours (for 3 minutes), the all-hydraulic TeaCup® requires no additional electricity.

Reduce downstream wear and maintenance

With guaranteed performance and removal rates of up to 95% of wastewater abrasives you can be confident that the TeaCup® will reduce downstream deposits and significantly reduce excessive mechanical wear - cutting annual maintenance and repair costs.

Protect your plant when peak flows strike

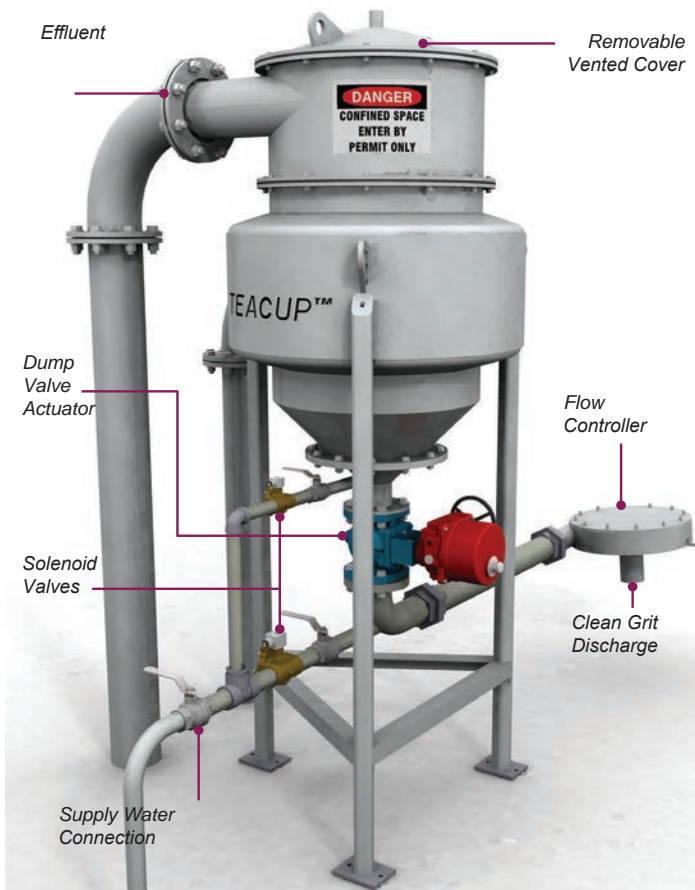
Designed to provide increasing performance as flows increase the TeaCup® offers protection when your plant is at its most vulnerable.

Increase your downstream solids handling capacity

Grit accumulates in downstream processes, clogging them and significantly decreasing their capacity. With the TeaCup® you cut out the grit upstream, reducing downstream accumulation and reducing the need to pay for expensive process capacity to store your grit.

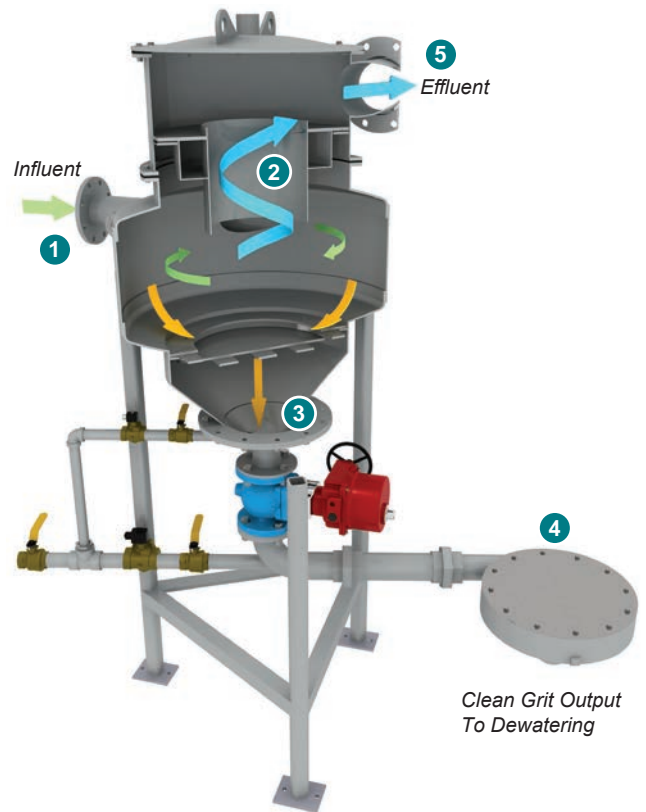
Product Information

- Open free vortex design.
- Simple operation, long product life.
- Large diameter easily handles peak flow volumes without clogging.
- Prefabricated modular components provide simple installation and maintenance.
- Discharges a clean grit slurry, with low volatile solids.
- Suitable for batch processing operation.
- Standard turndown ratio of 3:1 peak to average daily flow.
- Inlet and outlet can be oriented to accommodate many piping configurations.



How it works

1. Flow enters the stainless steel vessel tangentially at a controlled rate and velocity.
2. 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.
3. 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.
4. The slurry discharged is clean and ready for dewatering.
5. The water containing the volatile solids exits the top and returns to the WWTP for treatment.



Learn more

To learn more about how TeaCup® can help you to make better water management decisions, visit hydro-int.com, search Hydro TeaCup online or contact us:

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