WE KNOW OUR GRIT UPGRADE TO 95%
After more than 40 years, the PISTA® 270™’s proven performance makes it still one of the most specified grit removal systems on the market today. Build upon the PISTA® 270™’s performance with one of S&L's baffle units seen in this catalog and reach the best grit removal performance in the industry today with 95%.
UPGRADE TO 95%

Upgrade your aging 270° vortex unit to modern efficiencies with a plan that’s easy on the wallet and saves you money!

The OPTIFLOW 270™ Baffle System brings previously unachieved grit removal efficiencies to any 270° Grit Vortex system during peak and low flows alike. The OPTIFLOW 270™ Baffle system is the only system that adapts both high and low flows into the ideal influent range of 2 to 3.5 ft/second and minimizes grit slugs frequently seen with large variability in flow. This baffle system fits within existing concrete structure to improve performance while avoiding the high costs of a full concrete structure replacement.

With more than 2,500 PISTA® Grit Chamber installations worldwide, Smith & Loveless continues to advance the science of grit removal with the patent pending OPTIFLOW 270™ Baffle System for the PISTA® 270™. The OPTIFLOW 270™ Baffle System brings previously unachieved grit removal efficiencies to new PISTA® 270™ Grit Chambers, improving grit removal from 65% of 100 mesh (150 micron) grit and 85% of 70 mesh (210 micron) to 95% of 100 mesh (150 micron) during peak and low flows alike.

GRIT REMOVAL EFFICIENCY

<table>
<thead>
<tr>
<th>CONFIGURATION</th>
<th>300 MICRON (50 MESH GRIT)</th>
<th>210 MICRON (70 MESH GRIT)</th>
<th>150 MICRON (100 MESH GRIT)</th>
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<tr>
<td>PISTA® 270™</td>
<td>95%</td>
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<tr>
<td>Existing PISTA® 270™ units with OPTIFLOW 270™ Baffle System</td>
<td>95%</td>
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<tr>
<td>270° units by others with OPTIFLOW 270™ Baffle System</td>
<td>95%</td>
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The **270™LFB** Low Flow Baffle is installed on most units. Each baffle is custom engineered based on flow rate to achieve 95% of 150 micron (100 mesh). Bisecting the influent channel, this baffle makes it possible for your existing unit to handle a wide range of flows while maintaining optimum channel velocity of 2 to 3.5 ft/sec for grit transport with minimum turbulence, and to provide the proper entry velocity into the main 270° grit chamber.

The **270™STF** Slope To Flat Chamber Floor Conversion is necessary only for non-PISTA® vortex grit chambers constructed with a sloping chamber floor.

To ensure the efficient transportation of grit, as well as simultaneous lifting and discharge of organic material, the bottom of the chamber must be set at a constant level elevation \( \wedge \). An **OPTIFLOW 270™STF** adapter baffle ring \( \wedge \) will be added, and the chamber floor will go from a sloped surface to a flat surface to enhance the toroidal flow path within the chamber.
GRIT HAPPENS

Upgrade your PISTA® 360™ Grit Chamber with the V-FORCE BAFFLE™, which is an integral flow control baffle for both the inlet and outlet of the main chamber. The V-FORCE BAFFLE™ is designed to direct the inlet flow into the chamber in a manner ensuring the proper vortex flow and to prevent short-circuiting, allowing for a full 360° rotation through the inlet and outlet, providing maximum grit removal.

The V-FORCE BAFFLE™ on the outlet directs the flow out of the unit and acts as a “slice weir” to control the water level in the main chamber and in the inlet channel. No additional downstream flow control device is required to keep the velocity between 3.5 f/s (1.1 m/s) at peak flow and 1.6 f/s (.5 m/s) at minimum flow with a 10:1 turn down.
The PISTA® VIO™ Grit Removal System provides unprecedented application flexibility and superior grit removal efficiencies with a design that allows for full variability of the inlet and outlet channels.

PISTA® VIO™ features a hydraulic vortex grit chamber design that utilizes a ring and tunnel system to create the vortex flow pattern that facilitates grit removal, rather than a baffle system typical of other vortex systems.

This type of grit removal system—one of the first of its kind in the industry—provides the ability to design the inlet and outlet channels at any variable angle up to the full 360° of the chamber. Designers can flexibly arrange the system to fit existing sites, or maximize space during construction on new sites.

The ring and tunnel system, in addition to providing application flexibility, also offers superior grit removal efficiencies. A ring attached to the chamber wall promotes the vortex flow pattern and separates the inlet and outlet paths, minimizing grit bypass. Influent flow is assisted through a tunnel that directs it towards the flat chamber floor for removal of grit.
Redesigned axial-flow propellers have been improved to allow for improved lift within the deeper chamber.

Supports influent flow velocity, which is especially helpful during low flow.

Designed to minimize the harmful weir effect that can contribute to grit bypass in these systems.

Directs the flow towards the chamber wall to create vortex movement at necessary velocities.
The PISTA® TURBO™ Grit Washer with PISTA® Grit Concentrator is the only dewatering unit to maintain 95% grit removal. Featuring Tri-Cleanse Technology™ for retrofit applications, the PISTA® TURBO™ Grit Washer can either be specified with or without the PISTA® Grit Concentrator, depending upon whether an existing PISTA® Grit Concentrator will be reused on the new PISTA® TURBO™ Grit Washer. If a treatment plant already has the 500 GPM Ni-Hard PISTA® Grit Concentrator (as shown above) and one of the Smith & Loveless dewatering units (screen or PISTA® Grit Screw Conveyor), they can save money by reusing their existing PISTA® Grit Concentrator. Some piping changes will be required.

Get the most from your grit removal system by upgrading to the Smith & Loveless PISTA® TURBO™ Grit Washer, the newest addition to the PISTA® Grit Removal System family of products. By upgrading, you’ll have drier, cleaner grit with less putrescible organic material, less odor, and even better fine particle retention. The TRI-CLEANSE TECHNOLOGY™ uses intense hydroflushing, air infusion and grit agitation to produce the cleanest, low odor grit around.
Whether your treatment plant already has a PISTA® Grit Dewatering System or another manufacturer’s grit classifier, you can now upgrade to grit washer technology with one of our three material selections: 316 Stainless Steel, 304 Stainless, or Painted Carbon Steel. Our painted carbon steel model is priced well below our stainless steel models as well as every other grit washer on the market today, making the leap to grit washer technology more affordable for your treatment plant.
Grit removal systems are not all equal. There are many copycats that don’t understand how hydraulic vortex systems work. They end up with chambers and piping full of grit. There are other stacked tray designs full of grit after every rain storm requiring it to be hosed and dug out. The PISTA® product line is the most effective design that captures 95% and keeps grit moving at 95% efficiency clear through the dewatering phase.

Be careful of false promises because they just might be full of organics.