Simplified Sand Removal for Water Treatment Plant Intakes

Applied successfully in thousands of water and sewage treatment schemes on all continents, the PISTA® Sand Removal Chamber serves as the efficient choice for sand removal at water treatment plant intakes. In many conventional arrangements, large sedimentation basins require significant space and additional chemical usage to help maintain proper settling. The PISTA® Sand Removal Chamber significantly lessens space requirements, while removing 95 percent of river and surface water intake particles from 300+ microns down to 100 microns. The technology is proven in more than 2,700+ Installations, including for Water Treatment Plants.

- Smaller Footprint Than Conventional Settling Tanks
- Lowest Total Installed and Energy / Utility Costs Compared to Others
- S&L Offers Unequaled Innovation, Experience & R&D in Sand / Grit Removal Technologies with more than 2,700 Installations Globally and 40+ Years of Product Development

Hydraulic action from chamber geometry sweeps grit toward hopper.

Municipal Water Plants

Power Generation

Industry

Upgrade from large settling tanks that can require higher chemical use to enhance settling and large volumes of facility space.

At this coal and natural gas power plant in the United States, S&L provided two Model 12 PISTA® Grit Chambers to remove rocks and sand from river intake.

S&L can provide both concrete or steel grit chambers for implementation in any industrial intake system like this one in Australia.
Superior Sand Removal Performance   |  Lowest Total Cost of Ownership   |  Unequalled Experience and R&D
www.SmithAndLoveless.com   |    800.898.9122

System Components

PISTA® TURBO™ Sand Pump
[Top-Mounted & Remote-Mounted Options]
Removes sand from storage hopper to washing and dewatering. Available in vacuum-primed and flooded suction arrangements. Now available with SONIC START® prime sensing.

Outlet Channel
S&L can assist with design information for optimal performance.

Exclusive Flat-Bottom Basin Floor
Facilitates the forced vortex flow pattern inside the chamber. Minimizes organic capture while hydraulically directing grit into lower hopper. Patented, 360-degree in-line design.

Hopper Cover Plate
Stationary and recessed, it removes for quick access to storage hopper.

Axial-Flow Propeller
Aids in directing organic-free sand into lower hopper by enhancing flow patterns. Rounded edges prevent solids build-up, thus ensuring high efficiency.

Key Cost-Saving Benefits

# of Units Required
The wider 10:1 turndown can reduce the number of units required, reducing capital costs up to 75%.

Installation Factors
Forced vortex chamber design requires significantly less concrete than conventional and stacked tray systems — as much as 85%.

Flow Control Requirements
PISTA® systems minimize headloss and can eliminate the need for downstream level control devices.

Superior Sand Removal Efficiency
PISTA® provides 95% sand removal to extend life of downstream equipment and eliminate the need to remove accumulated sand.

PISTA® V-FORCE BAFTEL™
New, patented innovation enhances removal efficiency for low-flow periods and offers design engineering benefits.

PISTA® Sand Fluidizer
Patented blade exclusive to S&L design. Loosens collected sand, preventing compacting.

PISTA®® V-SCREW BAFTEL™
Patented blade exclusive to S&L design. Loosens collected sand, preventing compacting.

Storage Hopper
Stores removed sand prior to dewatering.

Inlet Channel
Controls velocity of influent and draws sand to the sand removal chamber floor.

Coanda Ramp
Engineered entry facilitates laminar flow so that it takes a steady tangential direction as it enters the sand removal chamber and properly conditions the sand for entrapment.

Bull Gear Drive
Provides minimum service 5.0 factor and trouble-free operation.

Exclusive Flat-Bottom Basin Floor
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Models & Capacities

<table>
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<tr>
<th>Model Number</th>
<th>Max. Flow (U.S.)</th>
<th>Max. Flow (Metric)</th>
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