



Smith & Loveless Ltd.

The

# TOTEX SOLUTION

for AMP7 Grit Removal Systems



# Surpass TOTEX Requirements

with Smith & Loveless PISTA® Grit Removal Systems

**PISTA®**  
GRIT REMOVAL SYSTEM



Smith & Loveless Ltd.'s innovative **PISTA®** hydraulic vortex grit removal systems deliver the AMP7 TOTEX solution to costly, less effective alternatives. Since pioneering the first flat-floor vortex grit removal system many years ago, S&L has lead the water industry in advanced grit removal research and development. Emphasizing the combination of CFD analysis with the practical approach of internal and field testing, we have developed a vast array of state-of-the-art grit removal system technologies. These single-source supplier systems achieve industry-leading grit removal while facilitating ease of operation and operator-safe maintenance. The result is effective protection of downstream equipment, long service life and actual realised savings vs. other designs. **In other words, the TOTEX Grit Removal System Solution.**

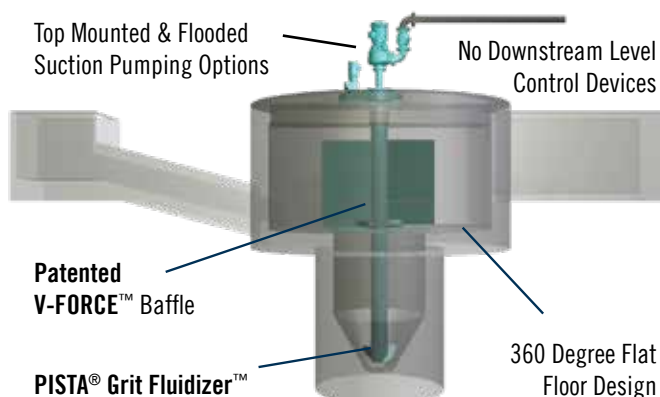
**Providing 95% Grit Removal down to 105 microns for applications up to 4,380 lps (100 MGD).**



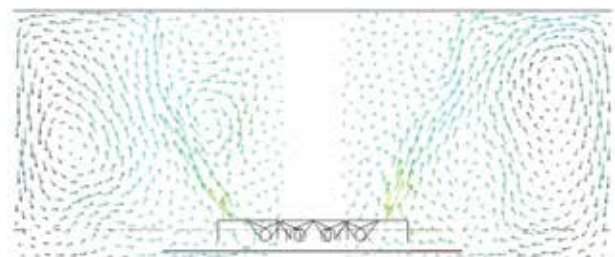
## Hydraulic Vortexes Offer Economical Grit Removal

**PISTA®** system designs optimise flow paths and velocities to generate a true forced hydraulic vortex path that effectively removes grit. Entering grit is moved along the flat floor and into the lower collection hopper, while a center rotating paddle enhances the vortex and lifts lighter organic material, enabling it to continue downstream. The grit particles are captured in the lower hopper, where they are removed. **PISTA®** system designs reduce the number of units typically required, eliminate the need for downstream level control devices, reduce required footprint and minimise concrete and energy usage, offering many cost benefits.

## Exclusive PISTA® 360™ Features












## PISTA® Forced Vortex CFD





*This CFD model shows the hydraulic vectors created by the proprietary PISTA® design. You can see the way these forces direct the grit to the floor and then to the center opening where it is captured. You can also see the uplift force that separates the lighter organics.*




# S&L PISTA® Grit Removal Systems TOTEX Advantages vs. Other Types of Systems

CAPEX Advantage	S&L	Others	Comments On How/Why CAPEX Costs Are Lower
# of Units Required			Wider 10:1 turndown of the <b>PISTA®</b> reduces the number of units required, reducing CAPEX costs up to 75%.
Installation Factors			Forced vortex chamber design requires significantly less concrete than conventional systems — offering CAPEX savings up to 85%.
Flow Control Requirements			<b>PISTA®</b> systems minimise headloss and can eliminate the need for downstream level control devices.
OPEX Advantage	S&L	Others	Comments On How/Why OPEX Costs Are Lower
Grit Removal Efficiencies			<b>PISTA®</b> provides 95% grit removal to extend life of downstream equipment and eliminate the need to remove accumulated grit.
Energy Usage			No continuous grit pump or blower usage contributes to significantly lower energy costs for the <b>PISTA®</b> system.
Utility Water Usage			Forced vortex chamber design requires significantly less utility water than other systems, especially stacked tray units.
Grit Pumping			Vertical <b>PISTA® TURBO™</b> Grit Pump minimises regular O&M; pump is easily accessed with no sewage spills and no belt maintenance.
Grit Concentration			S&L <b>DURALYTE®</b> Grit Concentrators offer a longer expected life than cast iron/steel alternatives, w/ no neoprene liners to replace.
Grit Washing / Conveying			The <b>PISTA® TURBO™</b> Grit Washer produces clean grit with less than 5% organic material, minimising associated landfill disposal costs.



Grit Pump Run Times  	
System Type	Typical Grit Pump Run Time
Stacked-Tray	24 hours per day
Aerated Grit Chamber	24 hours per day
S&L <b>PISTA®</b>	> 3 hours per day

Utility Flush Water Usage 	
System Type	Typical Flush Water Usage
Stacked-Tray	2.9 lps / 66,000 GPD
Aerated Grit Chamber	.02 - .03 lps / 600 - 725 GPD
S&L <b>PISTA®</b>	.02 lps / 600 GPD



UVDB  
empowered by Achilles

# We Deliver to You Reliable Offsite Built, 25+ Year TOTEX **HEADWORKS SOLUTIONS**



**PISTA® 360™ w/  
V-FORCE BAFFLE™**



**PISTA® VIO® w/  
Variable Inlet/Outlet**



**OPTIFLOW 270™  
Baffle System**



**PISTA® WORKS™  
Pre-Engineered  
Headworks**



**PISTA® PRO-PAK™**



**OBEX™ and  
SCHLOSS™ Screens**



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