



SMITH & LOVELESS INC.

PISTA[®]

Grit Removal System



The PISTA[®] Turbo Grit Pump

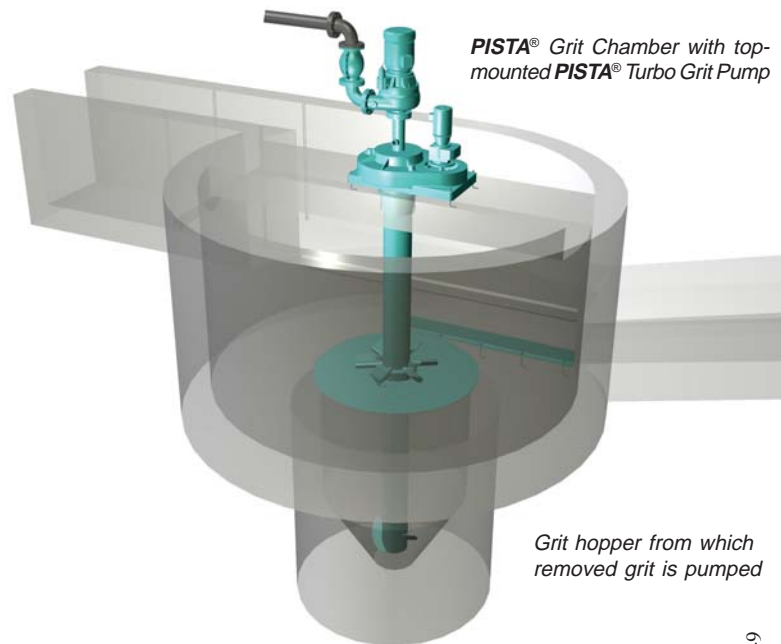
The PISTA[®] Turbo Grit Pump's heavy-duty design provides maximum grit pumping efficiency for Smith & Loveless PISTA[®] Grit Chamber grit hoppers. Designed specially for pumping grit slurry, the PISTA[®] Turbo Grit

Pump comes equipped with a Ni-Hard volute and recessed impeller (located separately from the abrasive flow path) as well as the

famous staples of S&L pump design: an oversized, stainless steel shaft and oversized bearings. This powerful combination yields reliable grit pumping and the velocity required for effective grit washing and dewatering devices, day-in and day-out for numerous years.

PISTA[®] Turbo Grit Pump Data

- Up to 500 GPM (31.5 lps)
- 4" & 6" Sizing
- Top-Mounted Vacuum Prime or Remote-Mounted Flooded Suction
- Ni-Hard Impeller & Volute



Key Points

1 Flexible Application: VP or FS

PISTA[®] Turbo Grit Pumps can be top-mounted (vacuum-primed with Sonic Start[™] prime sensing) or remote-mounted (flooded suction). Top-mounted units eliminate expensive piping while lowering the head and horsepower requirements — and thereby lowering operational costs.

2 Ideal Upgrade for Airlifts

Older systems may employ airlifts, which are less efficient and require blowers to remove collected grit. The PISTA[®] Turbo Grit Pump delivers more flow at a higher head, including at higher elevations.

3 How it Works

As the hopper fills, the pump is triggered, eliminating continuous pumping.



Remote-mounted, flooded suction examples

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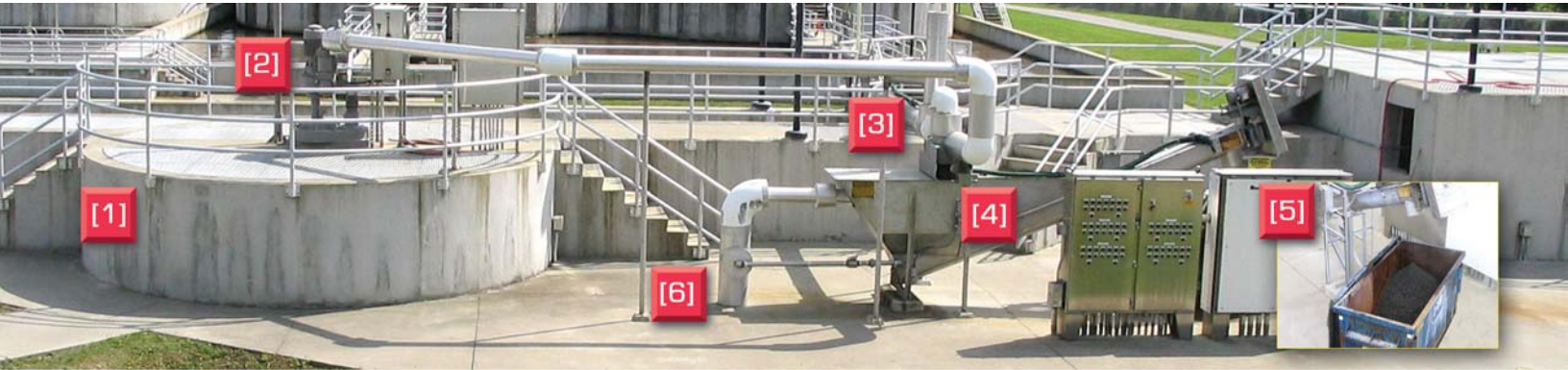
SMITH & LOVELESS INC. SYSTEM INNOVATORS FOR GLOBAL PUMPING, WATER AND WASTEWATER TREATMENT



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PISTA® Grit Removal System

PISTA® Complete Grit Removal, Handling & Dewatering System Flow Scheme



For maximum grit removal, the PISTA® Grit Chamber should be complemented with Smith & Loveless PISTA® grit handling and dewatering components, which transport, dewater and prepare the grit for final disposal. These components can be retrofitted to increase the efficiency of your grit handling system originally equipped with older components or non-Smith & Loveless accessories.

Smith & Loveless' commitment to market leadership in grit removal kindles on-going research and development, which leads to continued system and component innovations. See the timeline below for just some of the key PISTA® system design milestones.

Unparalleled Innovation For 30+ Years

- 1973 - PISTA® Grit Removal System (270°)
- 1974 - PISTA® Grit Screw Conveyor
- 1981 - 50 MGD PISTA® Grit Chamber
- 1982 - PISTA® Grit Turbo Grit Pump (4")
- 1982 - 175 GPM PISTA® Grit Concentrator
- 1984 - 70 MGD PISTA® Grit Chamber
- 1988 - 360° PISTA® In-Line Design
- 1988 - 250 GPM PISTA® Grit Concentrator
- 1989 - Parallel Plate PISTA® Grit Screw Conveyor
- 1992 - PISTA® Grit Fluidizer
- 1992 - 4" PISTA® Grit Turbo Grit Pump
- 1998 - 6" PISTA® Grit Turbo Grit Pump
- 1998 - 500 GPM PISTA® Grit Concentrator
- 1999 - 100 MGD PISTA® Grit Chamber
- 2004 - PISTA® Grit Flow Control Baffle
- 2006 - PISTA® Grit Stick Deflector

PISTA® Grit Removal System Components & Scheme

- [1] **PISTA® Grit Chamber** — Influent enters flat-floor grit chamber hydraulically guided by coanda ramp, internal baffles and central, low-speed propeller. Forced vortex drives grit particles to center chamber floor and into lower grit hopper while organics and flow continue to plant.
- [2] **PISTA® Turbo Grit Pump** — Top-mounted or remote mounted unit pumps collected grit slurry (kept fluid by the PISTA® Grit Fluidizer) to the PISTA®'s second-stage grit washing and dewatering system while also providing proper head.
- [3] **PISTA® Grit Concentrator** — Specifically engineered for the PISTA® system, this abrasion-resistant Ni-Hard unit washes grit further. It positions on the grit discharge line.
- [4] **PISTA® Grit Screw Conveyor** — Grit from the concentrator deposits into the parallel (lamella) plate section of the S&L dewatering screw conveyor, which aids in retaining finer grit and reducing the stream's turbulence and overflow rate.
- [5] **Dewatered Grit Discharges** from the top of the inclined screw conveyor into a container for disposal.
- [6] **The Flow and any Residual Organics are Returned** to the inlet channel prior to the grit chamber, typically 93% of flow and 95% of organics.

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