

VORTEX GRIT REMOVAL



Automatic Grit Removal System for continuous wastewater flows. Grit is settled, concentrated, washed and dewatered producing a dried and cleaned product of reduced volume and odor.



VORTEX GRIT CHAMBERS

A circular, continuous flow-through vortex grit settling chamber, sized according to plant peak flow rate, is used as the system primary wastewater grit separation stage. The compact chamber is suitable for confined space applications and is available in fabricated steel or stainless steel tankage or for concrete installations. The chamber consists of an upper separation tank, where grit is removed from the flow, and a lower tank which stores settled grit between extraction cycles and is provided with water and/or air scour systems to clean and fluidize grit prior to pumping out. Excellent grit removal performance is achieved at minimal headloss and independent of flow rate variation.



VORTEX AGITATOR

Within the vortex grit separation tank a slow speed mechanically driven agitator regulates the internal vortex action to ensure that, while grit settles to the storage tank floor, organics are maintained in suspension and carried out with the de-gritted flow. The vortex agitator is driven by a geared motor located on the vortex grit chamber bridge for ease of access.

GRIT PUMPING

Grit is automatically removed from the vortex grit chamber storage tank on a timed basis. Grit may be pumped by either of three methods offered by WTP Equipment Corp.:

- 1) an air lift pump, which is driven by an external blower,
- 2) a recessed impeller type grit pump located in a dry well; or
- 3) by a self-priming grit pump located at the tank top.

GRIT WASHING

Air and/or water scour fluidizes the grit into a slurry within the storage tank prior to grit pumping and washes out any remaining organics. The washed grit slurry is fed through a separator cyclone to an external grit classifier for final stage processing where it is further concentrated and dewatered prior to discharge for easier and less expensive off-site disposal.



CONTROL SYSTEM

The entire process is controlled by a dedicated, stand-alone control system to provide automatic (timed) and/or manual grit removal operation: agitator rotation; opening and closing of control valves; air / water scour operation; grit pump and grit classifier duty cycles.

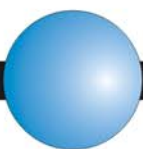
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Manufacturers of Engineered Environmental Treatment Systems

TORONTO, CANADA

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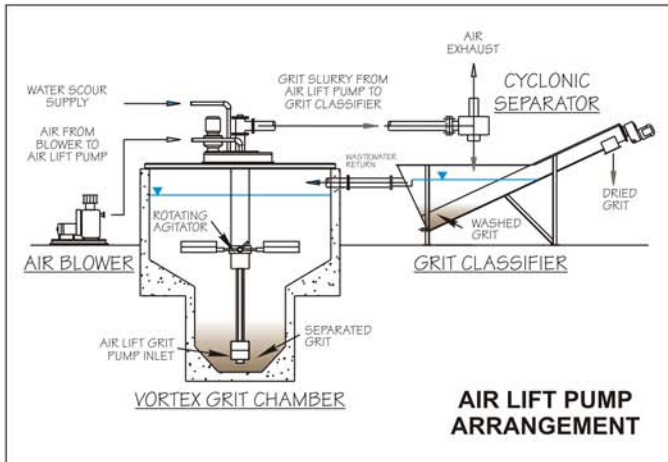
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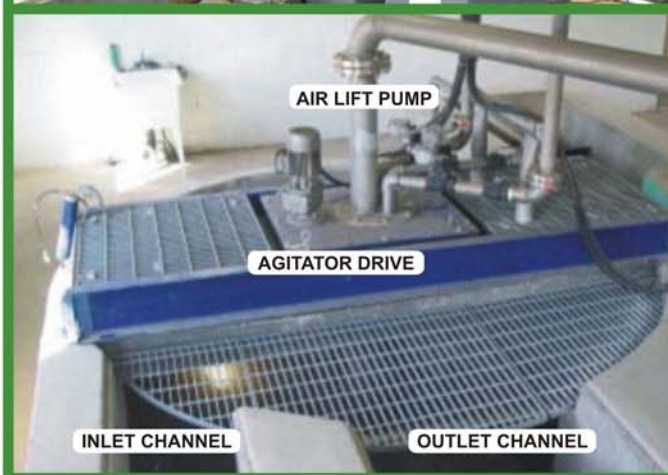
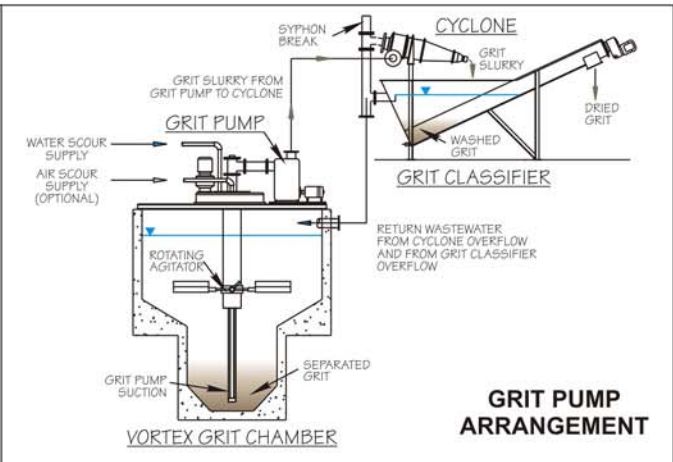
AIR LIFT PUMP

Air lift pump, mounted above the grit chamber, uses plant air or a dedicated blower to periodically extract grit from the storage chamber. Pumped grit slurry is fed to a grit classifier for final processing.



GRIT PUMP

Self-priming, recessed impeller-type grit pump, mounted above the grit chamber, periodically extracts grit from the storage chamber. Pumped grit slurry is fed through a separator cyclone to a grit classifier for final processing.



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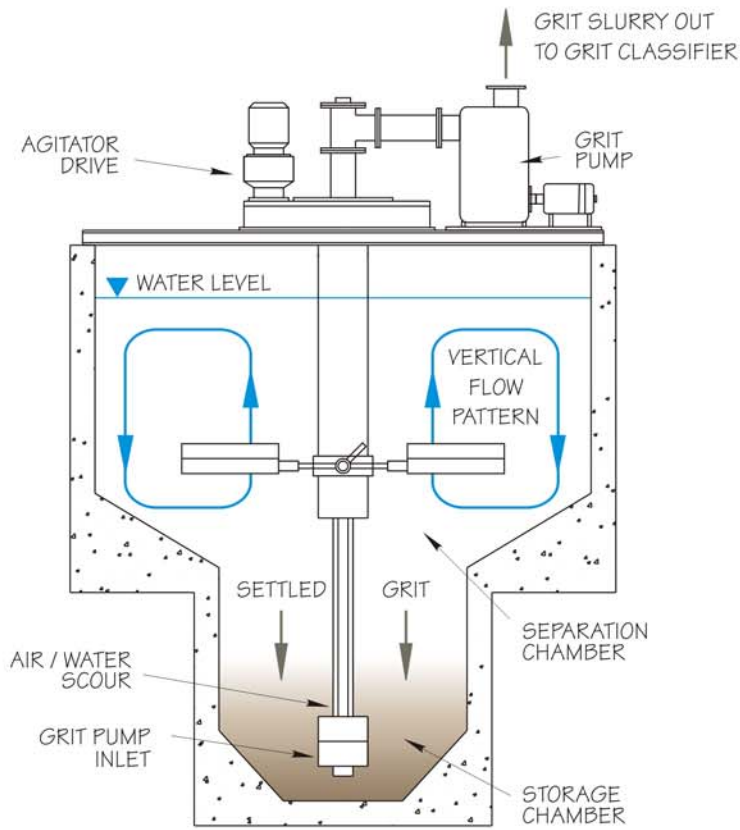
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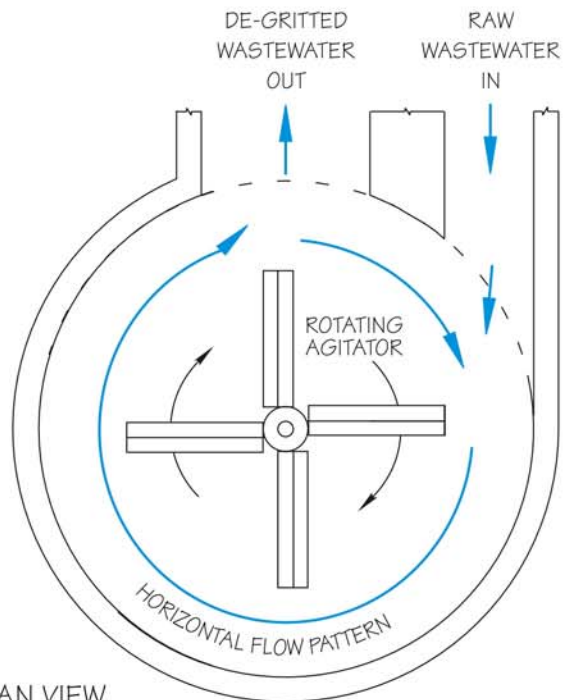
WTP EQUIPMENT CORP.
 COMPLETE HEADWORKS
 INSTALLATION PROVIDING
 SCREENING & GRIT REMOVAL:

CONVEYOR SCREEN
VORTEX GRIT CHAMBER
GRIT CLASSIFIER



SIDE VIEW

VORTEX GRIT REMOVAL



PLAN VIEW



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