



FLUIDYNE'S **HYDRO-GRIT™**

Fluidyne's Hydro-Grit™ grit vortex system removes sand and inorganic material before the wastewater treatment process. Historically one of our most popular and effective products, the high efficiency Hydro-Grit™

offers the same advantages as the standard Hydro-Grit™ with improved grit removal efficiencies. Performance data through the high-efficiency unit has shown 95% removal of all grit 74 micron and larger.



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HOW THE HIGH EFFICIENCY **HYDRO-GRIT™** WORKS:

FLUIDYNE AIRCIRC™ CIRCULATING JET

Recent studies and data from operating plants indicate as much as 50% or more of the inorganic material contained in domestic sewage is fine material (particle size less than 250 micron) and not removed by conventional grit removal systems. The removal of this fine material through the use of the Fluidyne Hydro-Grit™ has numerous advantages in modern treatment plants.

The high-efficiency Hydro-Grit™ takes maximum advantage of the principle of subcyclonic separation through a combination of forced and free vortex along with gravity. The Hydro-Grit™ consists of the free-standing grit vortex chamber with support legs, AirCirc™ cleaning system, air-liquid separation unit, circulating jet motive nozzle, grit pump, blower station and automatic control panel.

TOTAL PACKAGE GRIT REMOVAL

Fluidyne designs and manufactures complete Hydro-Grit™ systems. These feature the same advantages of the standard Fluidyne Hydro-Grit™ without the need for concrete housing and mounting bolts. Plus the high-efficiency Hydro-Grit™ demonstrates the following attractions.

- Systems can be placed above/below ground in sealed/open environment
- Chamber is made of corrosion resistant fiberglass reinforced polyester or stainless steel
- Capable of removing 95% of grit greater than 74 micron in size
- Single unit capable of handling flows up to 15 MGD
- Standardized sizing so multiple installation of units is possible
- HydroCirc™ which uses influent flow to create cyclone can be used in sealed systems where the AirCirc™ is not possible
- Greater grit washing due to air scouring in AirCirc™ unit
- Fluidyne fine screen can be used in combination with the system



BENEFITS:

- Total package grit removal
- Removal efficiency is independent of influent flow rate
- Minimum head loss
- Low energy requirements
- No submerged moving parts
- Pre-aeration if required
- Grit washing
- Variable circulation rate control
- All hydraulic operation
- Non-clogging
- Free-Standing FRP or Stainless Steel
- No need for concrete housing and mounting bolts
- Above or below ground in a sealed or open environment
- AirCirc™ Maintains Vortex Regardless of Influent Flow Rate





HOW THE STANDARD EFFICIENCY **HYDRO-GRIT™** WORKS:

Using a combination of inlet feed stream energy and auxiliary water jet energy, the Fluidyne Hydro-Grit™ vortex grit separation system is unique in design and the benefits provided, yet the principles of its operation are well-proven. Grit and other heavy particles are separated, washed and removed from liquid streams effectively and efficiently. The Hydro-Grit™ system is all-hydraulic, non-mechanical and non-clogging.

FORCED VORTEX AND GRAVITY WORKING TOGETHER

The Hydro-Grit™ system takes maximum advantage of the principle of sub-cyclonic separation without the need for any moving parts resulting in removal of grit particles as small as 0.2 MM. Special application design is available which provides for the removal of even finer particles.

SIMPLE AND EFFICIENT

In the Hydro-Grit™ system, the forced fluid vortex, with the assistance of gravity, causes grit to fall to the chamber floor. The sloped shoulder of the grit chamber maximizes the effect of the active vortex and gravity acting on the grit particles while eliminating accumulation. Here, the AirCirc™ unit acts to pick up the lighter organic particles while the grit particles settle to the collection hopper.

PERFECT FOR VARIABLE FEED STREAM FLOW RATES

The Fluidyne AirCirc™ circulating jet, featured in the Hydro-Grit™ system, provides effective sub-cyclonic grit separation action irrespective of the feed stream flow rate or volume. This makes it ideal for domestic wastewater treatment and similar applications.

MATCHED TO YOUR OPERATION

Given that the influent flow in typical wastewater treatment plants is highly variable, the Hydro-Grit™ system is designed so it can be matched in size to peak flow rate in order to provide optimum results. Because of the unique Fluidyne AirCirc™ - jet circulator, full-range performance is possible, from zero to peak flow. Depending on peak flow conditions, the Hydro-Grit™ system can be installed in multiple tanks if required.



BENEFITS:

- Reduced abrasion of pumps and other operating machinery
- Improved biological treatment as a result of lower inert level in biological process
- Reduced sludge yield resulting in reduced biological sludge disposal costs
- Reduced pumping for biological sludge recycle and disposal
- Removal of sugar sands most of which are 150 microns or less particle size
- Separation of grit particles including fine grit
- Independent of influent flow rate
- Pre-aeration, grit washing and removal
- Minimal head loss
- Low energy requirements
- Variable circulation rate controls
- No submerged moving parts



FLUIDYNE

THE EXPERIENCED LEADER IN WASTEWATER TREATMENT TECHNOLOGY



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WASTEWATER TREATMENT TECHNOLOGY

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