Screening

Screening is the first step in every headworks operation. The efficient removal of solids ensures proper protection to your downstream equipment and plant processes.

CleanFlo™ Spiral

For plants with flows under 10 MGD, the WesTech CleanFlo Spiral screens, conveys, and dewater simply and economically in a single unit. The stainless steel screen basket is automatically cleaned by durable segmented brushes attached to the shaftless spiral auger. An expanded discharge zone provides unrestricted solids discharge and the hinged top mounted door allows clean and easy access.

- Shaftless spiral operation
- Openings 3 – 6 mm
- Installed in channels or tanks

CleanFlo™ Vertical Spiral

Specifically designed in a vertical orientation, the CleanFlo Vertical Spiral is ideal for pump wetwells or confined short channels. The screen is composed of a cylindrical 3 or 6 mm perforated basket with an integral shaftless spiral and conveyor tube. The unit provides screening and conveyance of solids and can provide additional dewatering of material.

- Vertical conveyance
- Optional rail support allows removal without entering wetwell
- Pump station screen
- Comminutor replacement
The CleanFlo Monoscreen works on the same principle as a precoat filter. The screened material forms a mat that bridges the bars. The formation of this mat efficiently captures particles smaller than the bar opening, while still allowing flow to pass. The unique motion and progressive step design of the Monoscreen minimizes the “cleaning breakthrough effect” resulting in a 50% higher capture rate than traditional step screens.

The blades in the lower part of the unit move in an elliptical horizontal motion, while the blades in the upper section move in the traditional circular motion. This progressive motion moves the captured solids (precoat solids) up the screen at a slower and more even rate.

CleanFlo™ Rotoscreen®

Designed specifically for facilities with limited space, the CleanFlo Rotoscreen delivers powerful results while managing high flow.

- Ideal for limited space
- Slot widths 1 – 6 mm
- Robust screen design
- High capacity
- Available with simple chain drive or linkage system
Screening

**Internally Fed Rotary Drum Screens**

**CleanFlo™ Shear**

Drum screens eliminate debris carryover. Other moving media screens experience some carryover due to inefficient cleaning, lower seals, or poor distribution. Drum screens keep all of the debris inside the rotating drum until it is discharged.

- Rugged direct drive unit
- Protects debris-sensitive membranes
- Ease of maintenance
- Low operating costs

**Applications:**

- Pre-MBR screening — no bypass or carryover of solids for maximum protection of membranes
- Preliminary treatment
- Sludge thickening — with chemical addition
- Single screen throughput up to 20 MGD

**Screen Mediums**

- Wedge Wire 0.010 – 0.120”
- Woven Mesh 0.5 – 1 mm
- Perforated Plate 0.6 – 25 mm

**CleanFlo™ Infloscreen**

Internally fed drum screening with the convenience of in-channel installation.

- In-channel installation
- Inclined and horizontal orientations
- Low operating costs

**Direct Drive for Drum Screens**

By eliminating the chain drive, WesTech removes common problems such as chain stretch, chain corrosion, chain lubrication, and tracking problems.

Maintenance is simplified and the annual or biannual expense of chain replacement is eliminated.
**Deep Channel Screens**  
**CleanFlo™ MultiRake Bar Screen**

The CleanFlo MultiRake Bar Screen is a strong, versatile, and economical fine or coarse screen with bar spacing available from 6 – 50 mm (0.25 – 2 inches). The screen is ideal for a wide range of channel sizes — up to 13 feet wide and 50 feet in depth, with installation angles from 70 – 80 degrees.

A single screen has the ability to handle flows over 150 MGD. The rake speed is available at a fixed rate or adjustable via VFD control. This ensures fast cleaning and eliminates the risk of flooding during high flow events.

- Strong multiple rake design
- Eliminate upstream coarse screens
- High screenings load without high headloss
- Rake speed up to 50 ft/min
- Designed to automatically clear jams
- Variable speed operation to handle storm flows / high flow events

**CleanFlo™ Element Screen**

The CleanFlo Element Screen features a unique self-cleaning action of the filter elements, making the screen suitable for a wide range of flows. The Cleanflo Element is ideal for screening of particles from 1 – 30 mm in size in deep channels.

Like most screens, the operation is intermittent and based on water level. As debris builds on the screen media and the water level rises, the screen media advances to present a clean screen surface to the incoming flow. Slowly, the debris will be lifted to the top of the screen. At this point the fingers of the screen retract within each other and are efficiently scraped clean.

- No submerged bearings
- Self-cleaning elements
- Inclinations up to 85 degrees
Screenings Washing and Dewatering

CleanWash™ SWP/CPS
Unlike screw wash presses in which the design of the discharge pipe creates the back pressure necessary to dewater screenings, WesTech’s CleanWash Screw Wash Press and Counter Pressure Screw regulates just the right amount of back pressure to meet the highly variable influent. The positive conveyance of the screenings after each washing cycle delivers up to 70% dry solids without fear of plugging through 10, 20 or even 30 feet of discharge piping.

- Superior dewatering
- Dry solids content of up to 70%
- Volume reduction of up to 80%
- No plug = No plugging
- Patented CPS design

CleanWash™ SWP
Using a conventional discharge pipe, the CleanWash SWP is capable of producing light gray, relatively odorless material without using expensive, maintenance-intensive mechanical agitators.
Get More Out of Your Headworks

WesTech provides single-source systems for your headworks specifications. Whether in-channel gravity or pumped flows, WesTech can apply the right equipment solution for both large and small installations.

**In-Channel Flow**

- CleanWash SWP
- CleanFlo Monoscreen®
- Vortex Grit Separator

**Pumped Flow**

- Gritt Mitt Classifier with Hydrocyclone
- CleanWash SWP with CPS
- CleanFlo Shear Drum Screen
- Pump
- Vortex Grit Separator
- CleanWash SWP with CPS
- Concrete Tank Design
- Steel Tank Design
Grit Removal

**Vortex Grit Separator**
The WesTech Vortex Grit Separator is a forced-vortex type grit separator. The influent enters the vortex chamber tangentially and flows around the upper chamber, exiting at either 270 or 360 degrees from the influent point.

The main advantage of this type of separator is that its footprint is much less than other types of grit separators such as aerated grit chambers and detritors.

**Aerated Grit Chamber**
This style of grit separator uses air injection to create a rolling pattern in the chamber causing heavy solids to settle to the floor and lighter organics to remain in suspension.

**ZICKERT Shark™ Grit Removal**
The ZICKERT Shark bottom scraper is a proven design to continuously remove and transport grit to a hopper or sump. The Shark is based on the forward and return movement of the hydrodynamically designed scraper profiles.

- Few moving parts
- Low maintenance
- Optional grease removal skimmer
- Easy to adapt to existing tanks
- Replaces submerged screws or chain and flight systems

**Pump Options**

- Self-Priming Pump
- Air Lift Pump
- Flooded Suction Pump

The specially designed scrapers are welded together to form a single unit so it functions as a moving floor in the tank. The Shark is easy to install and requires very little maintenance.
Gritt Mitt™ Classifiers

The WesTech grit removal system is not only available with the CleanGrit Washer but is also offered with either the WesTech Gritt Mitt Shaftless or Shafted Grit Classifier. The WesTech classifiers are designed with a range of hopper sizes, screw diameters, and screw lengths to meet any specification. The classifier system produces very good quality dewatered grit suitable for most landfills.

The WesTech classifier can be equipped with a hydrocyclone to optimize performance in systems with mechanical grit pumps.

The cyclone reduces the flow entering the classifier hopper by 80 – 90% and allows a smaller footprint to be used to handle the same pumped flow.

Gritt Mitt™ Shaftless Classifier

- No submerged bearing
- Hardened carbon steel or stainless steel shaftless screw
- Screw supported by stainless steel wear bars

Gritt Mitt™ Shafted Classifier

- Heavy duty design perfect for high capacity applications
- Continuous operation allows increased solids transport
- Optional wear shoes available
Grit Washing and Dewatering

**CleanGrit™ Washer**

WesTech CleanGrit products remove organic matter from grit collected at the headworks of a wastewater plant. Unwashed grit can consist of up to 80% organics.

Removal of the organic matter from grit will reduce disposal costs and nuisance odor complaints while improving biological plant processes. WesTech offers the largest variety of grit washing systems available in the North American market.

- Less than 5% organics discharge
- Dry solids discharge greater than 85%
- Odor reduction
- Reduce grit disposal by 50%

**CleanGrit™ SW400C**

The CleanGrit™ Model SW400C rinses organic matter from dewatered grit or a concentrated grit slurry by incorporating a hydrocyclone. Organic matter is loosened mechanically by an agitator and rinsed by an upcurrent backwash water process. Cleaned grit is discharged by the shaftless spiral conveyor for disposal.

The CleanGrit Model SW400C is our most compact model to wash organic material from dewatered grit.

**CleanGrit™ SWA Series**

The CleanGrit SWA Series is designed to dewater and wash grit from grit collection tanks, without the need for a hydrocyclone.

The SWA series features multiple sizes of washing tanks and disposal screws to meet a wide variety of flows and solids loading.

- Flows of up to 500 gpm
- Solids handling capacities of up to 100 cubic feet per hour
Specialty Systems

**CleanFlo™ All-In-One**

The CleanFlo All-In-One unit combines screening, grit removal, and solids dewatering all in a single system. The CleanFlo All-In-One is suitable for indoor or outdoor installation with capacities from 0.3 – 3 MGD.

- Integrated approach
- Small footprint
- Eliminates complex concrete structures

**Septage Receiving**

WesTech supplies packaged systems specifically designed for septage receiving applications. These versatile units can be especially beneficial when haulers discharge downstream of the plant headworks, or at remote plant entry points.

**Optional features include:**

- Magnetic flow meter
- Hauler access station
- Management software for full integration, tracking, billing and record keeping
- Automated rock removal

**Getting the Job Done with Experience and Options**

Since every job is unique, we take a comprehensive approach by assessing conditions and determining the particular requirements of downstream equipment and processes. The result is improved solids removal even when circumstances are less than ideal.

With multiple options in equipment selection, WesTech provides the best solution to your particular needs. With hands-on experience and hundreds of installations, we are committed to providing timely and practical consultation from initial design through project startup.