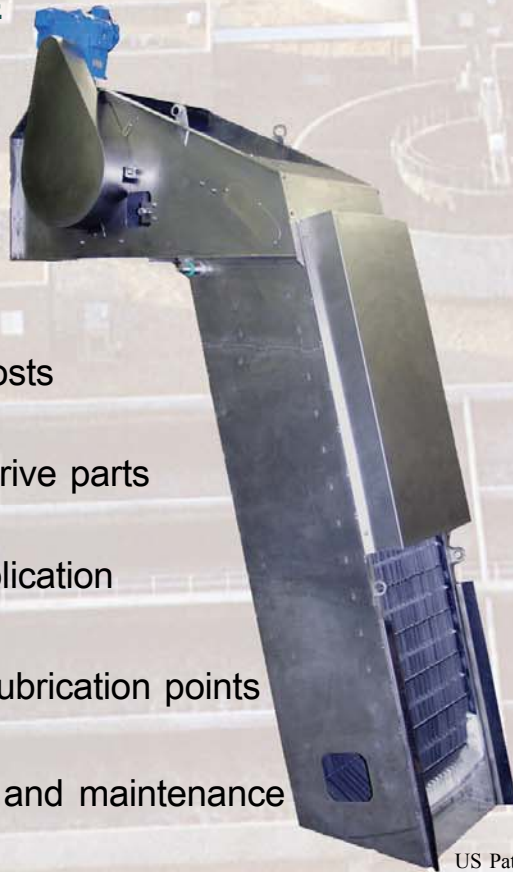


# FINE HEADWORKS SCREEN

**REAR  
DISCHARGE**

**LOW HEAD LOSS**

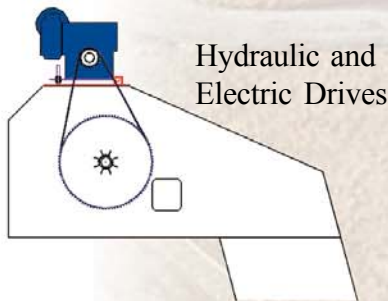
**1-25MM  
GRID OPENINGS**



- Large particle removal
- Continuously cleaned
- Low operating costs
- No submerged drive parts
- Good prison application
- Easy access to lubrication points
- Easy installation and maintenance

- Quality engineered  
Quality manufactured
- 304 SS construction standard
- Sensible design and material selection provides safe and consistent operation
- Thin bottom shoe and brush limit screen bypass
- Compact/Low Profile design
- UHMWPE wear surfaces reduce friction and repair

US Patents



Hydraulic and Electric Drives

Standard Features

- Cycloidal gear reducer
- All SS low hp motor
- Chain guard cover
- Simple speed adjustment

OPTIONS

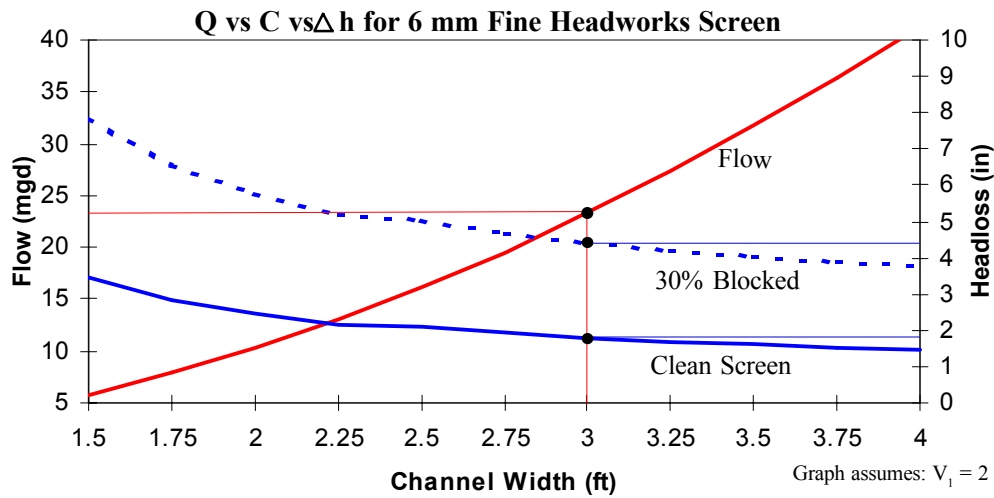
- 316 SS Construction
- Heavy Duty Models
- Low Flow Models
- No Motion Alarm
- Covers and Heaters
- Conveyors
- Deluge wash, spray bar or dry unloading



Washing Compactor

Standard Features

- Returns organics and wash water to channel
- Reduces disposal volume
- Conveys screenings for collection

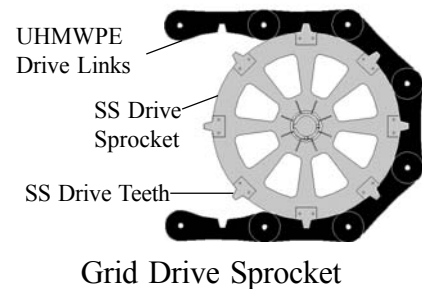
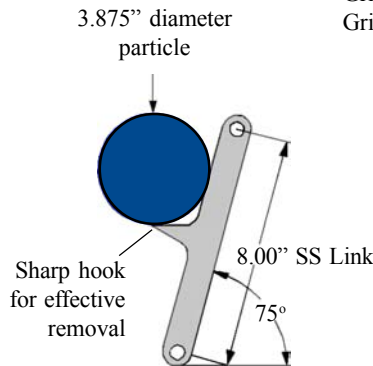
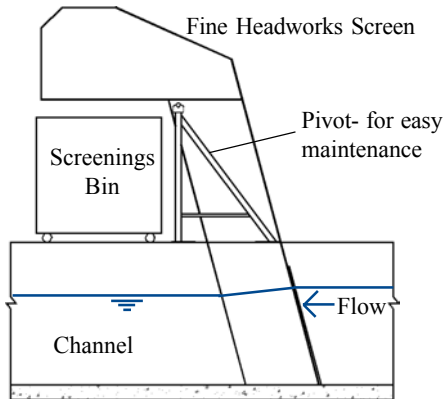
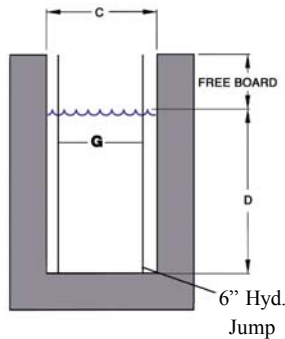


### Example Calculation for Existing Channel

Given:  $C = 3'$   $D = 6'$   $V_1 = 2$  fps  
 $G = C - 6'' = 30''$   
 $Q = C (D) V_1 = 36 \text{ ft}^3/\text{s} = 23.27 \text{ mgd}$   
 To determine headloss for a 6 mm grid with clean screen  
 find:  $\text{Open Area} = G (D_1) \text{ eff} = 9.60 \text{ ft}^2$   
 $V_2 = Q / \text{Open Area} = 3.75 \text{ fps}$   
 $h = (V_2^2 - V_1^2) 0.186$   
 $h = 1.87 \text{ in}$

### Nomenclature

$C$  = channel width  
 $D$  = depth of flow  
 $D_1$  = depth on grid  
 $G$  = grid width  
 $Q$  = flow  
 $h$  = headloss  
 $V_1$  = inlet velocity  
 $V_2$  = exit velocity  
 $\text{eff}$  = grid efficiency



### Recommendations for Designing a Channel

Maintain  $V_1$  above 2 fps to ensure scouring  
 Keep  $V_1$  acceptable during off-peak flows by setting  $D = 2$  (C)  
 Channel Depth =  $D + 12''$  freeboard  
 Narrower grid openings will reduce efficiency

### Conversion Factors

Headloss in inches =  $(V_2^2 - V_1^2)(0.186)$  where  $V_1$  and  $V_2$  are in ft/s  
 Flow 1 mgd = 694.44 gal/min = 1.5472 ft<sup>3</sup>/s  
 Length 1 ft = 0.3048 meters  
 1 in = 2.54 centimeters  
 Volume 1 ft<sup>3</sup> = 7.4805 gallons = 28.317 liters

Screen Opening Sizes	6mm	9mm	12mm
eff % with clean screen	69.78	74.83	77.64
eff % with 30% blocked	48.85	52.38	54.35

Grid eff =  $\frac{\text{Grid Open Area}}{\text{Grid Total Area}}$       Screen eff =  $\frac{\text{Grid Open Area}}{\text{Flow Area}}$

Grid Open Area = Grid Total Area - Grid Closed Area (due to the spacers and grid elements)      Flow Area =  $(C) (D)$   
 Grid Width (G) = Channel Width (C) - 5'' for  $C \leq 30''$   
 Grid Width (G) = Channel Width (C) - 6'' for  $C \leq 48''$   
 Depth on Grid  $D_1 = D - 6''$

### Other Products and Services

- Filter Stepper® Screens
- Drum Screens
- Conveyors
- Unique Application Engineering
- Wiese-Flo® Screens
- Screenings Washers
- Remanufacturing Services
- Heavy Duty Screens
- Compactors

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