

Sewage Cup & Drum Screen



For the fine filtration of water at:

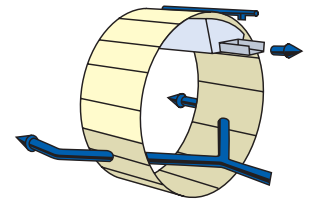
- Waste water treatment plants
- Sewage treatment plants
- Water reclamation facilities
- Combined storm water overflows
- Potable water treatment plants
- Various screening applications

ADVANCED WATER SCREENING TECHNOLOGY™

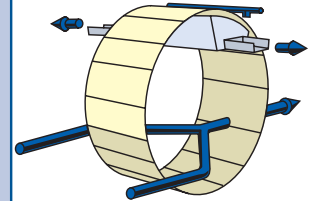
Single Entry Cup & Double Entry Drum Screens

The Brackett Green® Single Entry Cup and Double Entry Drum Screens are designed to meet increasing requirements of fine screening necessary with today's advanced treatment processes of domestic sewage and waste water. Brackett Green's Cup & Drum Screens have proven to be reliable and highly efficient on new installations of the headworks of raw sewage inlets (WWTP's, WRF's) and combined storm water (CSO's) plants. Cup & Drum Screens utilize the in-to-out central flow pattern that totally eliminates the possibility of material larger than the media aperture from bypassing the screen. Single Entry Cup and Double Entry Drum Screens are ideal for the protection of debris-sensitive membranes.

ADVANTAGES { No debris carryover or bypassing to clean side
Virtually maintenance free operation
Extremely reliable performance



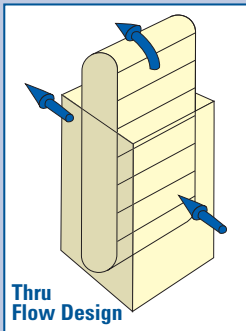
Single Entry Cup Screen



Double Entry Drum Screen

The Problem

A variety of different screen flow patterns and screening media have been applied to the headworks of sewage treatment plants over the past century. Each type of screen came with numerous inherent flaws which prevented efficient screening, required constant maintenance or needed multiple screens, civil channels, and/or redundant equipment and services. Brackett Green's Cup & Drum Screens are highly suited for the fine screening of large flows, in lieu of multiple parallel operating band screens, civil channels and ancillary solids handling equipment with a single channel and fine screening system.



Thru Flow Design

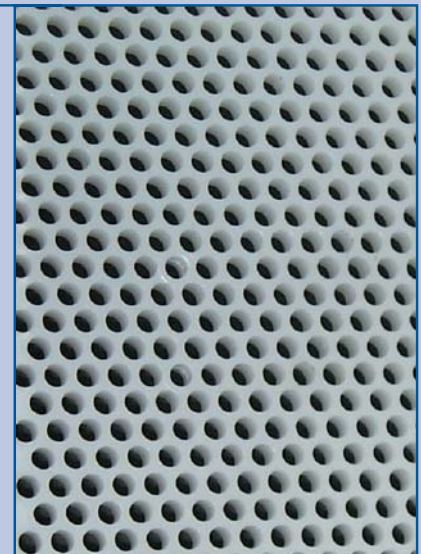


Thru Flow Design

Pursuant to discharge demands requiring a round hole, ordinary perforated plate has been applied to the oldest mechanical screen design — the Thru Flow band screen. The thin perforated plate (usually 1/8" or 2mm thick) allows fibrous debris such as body hair, cotton and rags to staple or hair pin around the plate eventually blinding the screen. Removal requires constant attention and/or an additional rotating brush. The Thru Flow pattern also allows material missed by the brush or spray to simply "carry over" to the clean side thus fouling other down stream equipment and operations within the plant.

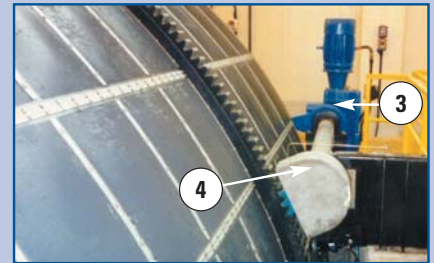
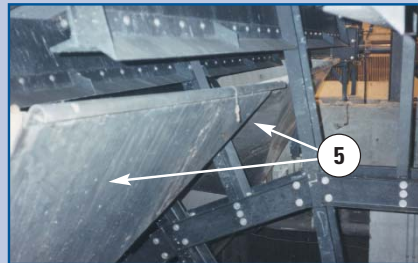
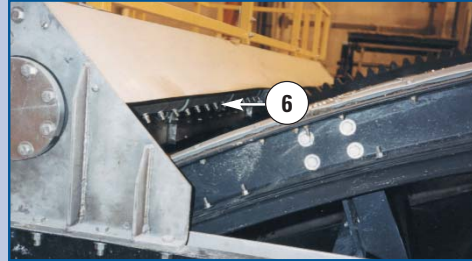
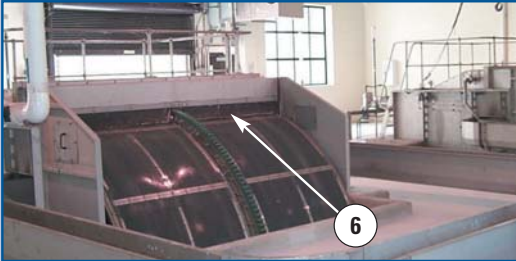
The Solution

Brackett Green's engineers spent several years working with various combinations of plate thickness and hole diameters to develop a screening media that would resist hairpinning. The end result is known today as the ProPaPanel® (US Patent No. 5407563). This thick plate screening media resists hairpinning, contains a tapered hole to prevent plugging, and is made of a corrosion resistant polyurethane. The combination of unique benefits of the ProPaPanel and the superior in-to-out dual flow pattern establish the Sewage Cup and Drum Screen as highly economical, low maintenance solutions. ProPaPanels are available from 6mm (~1/4") diameter to 2mm (~1/16") diameter. For finer screens, polyester mesh with 1.0 or 0.5 mm can be applied. The ProPaPanel also requires a low backwash pressure (~30 PSI) to positively clean the screen. This same wash water is typically used up to three times: once to backwash the screen, again to transport the screenings via gravity conveyance and a third time in the screenings conditioning process. Today Brackett Green has hundreds of Cup & Drum Screens installed at sewage treatment, water reclamation facilities and combined stormwater overflow plants around the world.



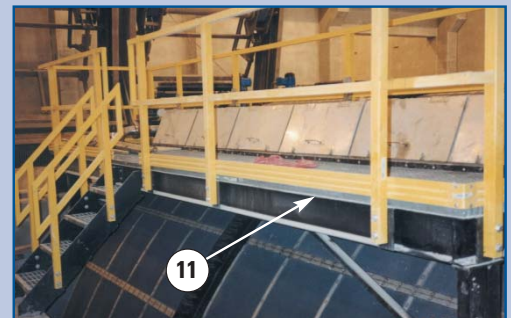
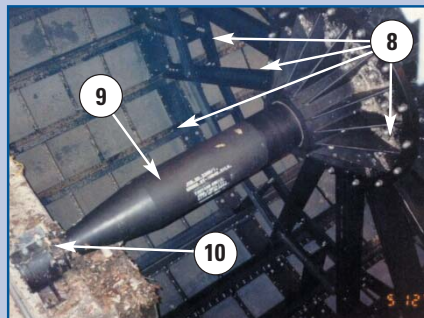
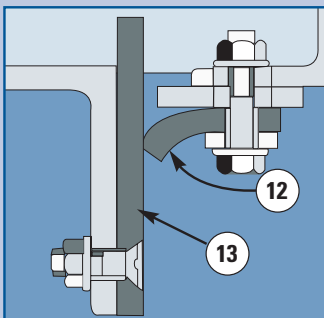
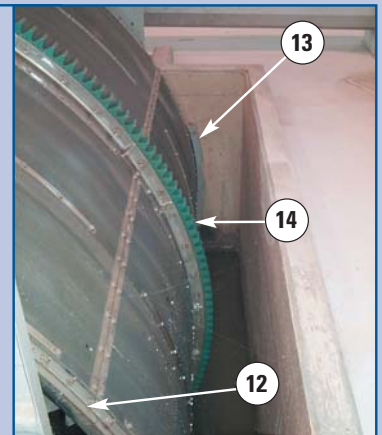
The Process

The influent water enters the Single Entry Cup or Double Entry Drum Screen in the center of the screen, flowing radially from the inside to the outside of the cup/drum as it revolves. ProPaPanels (1) retain the smaller debris while lifting lips (2) (debris scoops) mounted on the inside capture and elevate the larger screenings to deck level. A shaft mounted drive (3) with gear box and drive pinion (4) make up the only two mechanical parts of the Cup/Drum Screen. As the Drum rotates and the debris laden panels reach deck level, the captured screenings are deposited into a center trough (5) by gravity and a light backwash (6) (typically 30 PSI) rinses the panels clean. The captured screenings then exit via a sluice trough (7) eliminating the need for screw conveyors. A "Single Entry Drum Screen" may include overflow weir (wall) for flows higher than design rates.



Other Features

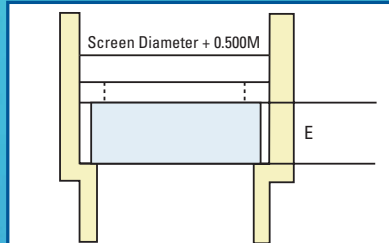
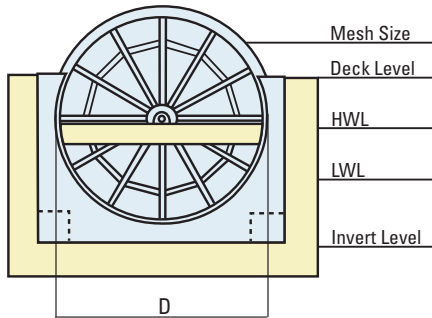
High strength frame (8), shaft (9) and automatically lubricated anti friction bearings (10) provide for trouble free operation. Platforms (11) allow instant access to spray nozzles and mesh panels. Positive sealing between the rotating screen structure and chamber wall is provided by the patented Brackett Green Contact Seal (Patent No. 0026.661). This is a preformed neoprene seal, fitted to the screen (12) and running in contact with a low friction sealing face fixed to the chamber wall (13). Screen rotation is by a drive pinion (4) working with a cast iron or nylon rack (14).



Screen Selection

The Cup or Drum Screen must be of a large enough diameter to extend upwards above deck level to a height to accommodate debris discharge and downwards to a sufficient depth to submerge enough mesh to pass the required flow at low water level

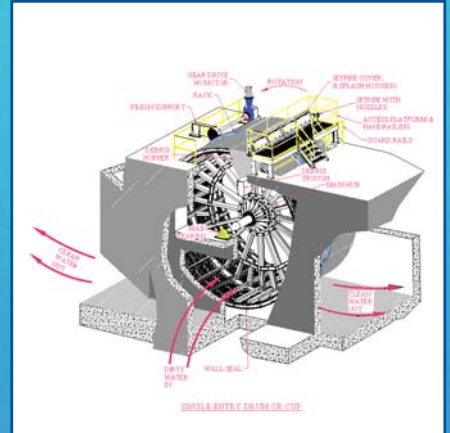
Single Entry Cup Screen



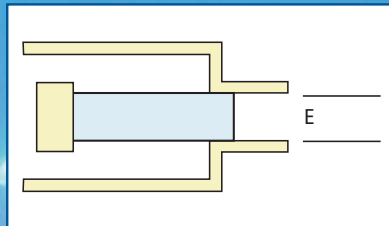
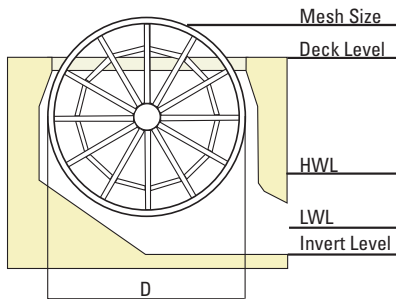
Single Entry Cup Screens

"D" – Diameter
From 5.0 ft. to 33 ft.

"E" – Effective Width
From 1.5 ft. to 8.2 ft.



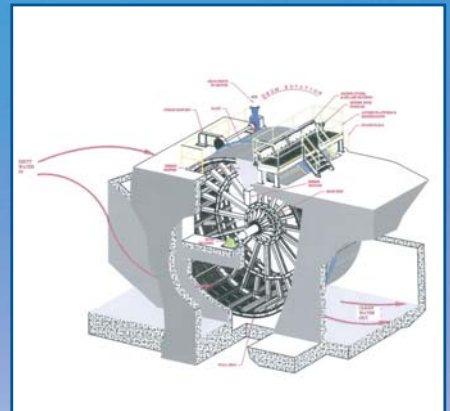
Double Entry Drum



Double Entry Drum Screen

"D" – Diameter
From 10 ft. to 65 ft.

"E" – Effective Width
From 3 ft. to 16 ft.



To confirm the selection, the following information should be provided:

Deck Level	
High Water Level at Peak Flow	
Low Water Level at Average Flow	
Invert Level	
Mesh Size	
Average Flow Rate per Screen	Peak Flow Rate per Screen
Number of Screens Required	



1335 Regents Park Drive • Suite 260 • Houston, Texas 77058
Tel: 281.480.7955 • Fax: 281.480.8225
www.bgusa.com • e-mail: main@bgusa.com