

ADVANCED WATER SCREENING TECHNOLOGY

In-to-out flow pattern eliminates screen bypassing

High debris handling capacities

Can operate with high headloss without tripping

Option of a Fish Recovery and Return system

Suitable for nuclear power plant safety
cooling water



Patented
ProPaPanel®
technology for
wastewater
applications prevents
hairpinning

BRACKETT GREEN®

DOUBLE AND SINGLE ENTRY DRUM SCREEN



BRACKETT GREEN® DRUM SCREEN

HIGH CAPACITY • LOW MAINTENANCE

Ovivo's Brackett Green® drum screens are designed to meet the increasing demand for high capacity fine screening of raw or waste water coupled with a robust low maintenance operation.

Over the last century a large variety of fine screen types and flow patterns have been developed for both raw water intakes and for preliminary treatment of municipal waste water. Each has one or more limitations in terms of capacity, process performance, reliability, maintenance requirements, and capital cost. However, Ovivo's range of drum screens offers a superior performance in all of these key areas and this makes drum screens particularly suited to applications that demand the highest level of process performance combined with superior reliability and very low maintenance requirements.

Ovivo can offer either the Double Entry (DE) flow pattern, used primarily for larger flows typically ranging from 8 to 35+m³/sec or the Single Entry (SE) flow pattern which offers all the advantages of the DE drum screen in a format more suited to flows of less than approximately 10 m³/sec, depending on the specific application.

Ovivo's SE and DE drum screens both use an in-to-out flow pattern that eliminates the possibility of material larger than the media aperture bypassing the screen or being carried-over to the clean side, making them ideal for the protection of debris sensitive processes such as MBR's or condensers.



DE DRUM SCREEN

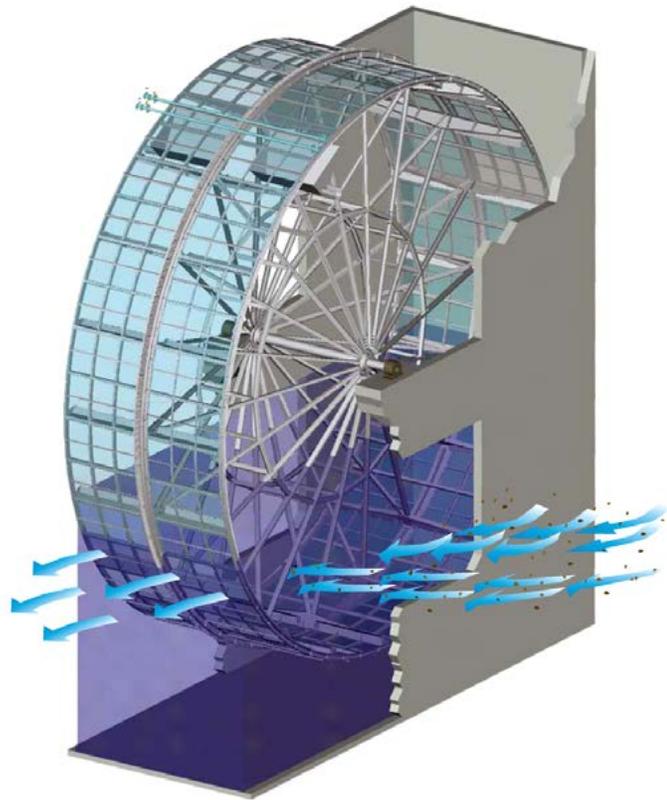
HOW IT WORKS

The Brackett Green® double entry drum screens consists of a robustly constructed drum structure with a solid horizontal centre-shaft, which revolves slowly in heavy duty, self-aligning double roller bearings, lubricated by deck mounted oil reservoirs.

Water flows from the inside to the outside of the drum through mesh panels arranged around its periphery. Mesh panels are cleaned with great efficiency by backwashing, with the assistance of gravity, at deck level.

The screen is driven by a simple drive unit positioned at deck level. The final drive is a nylon pinion, which engages with a gear ring on the outside of the drum.

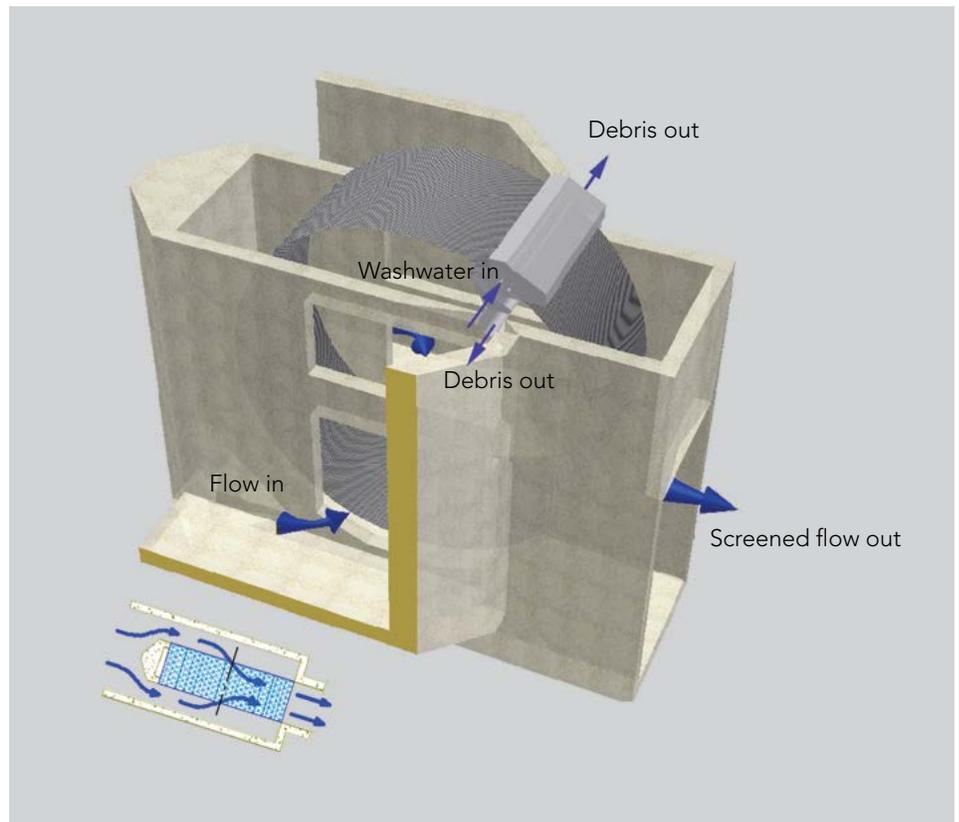
The drum screen structure can be designed to support high differential loading without failure of the mesh panels, thereby ensuring that downstream plant does not become contaminated by unscreened water and debris.



FLOW PATTERN

Water enters from both sides and flows radially from the inside to the outside of the drum, creating a structure that is balanced both hydraulically and mechanically. This flow pattern ensures that the water level inside the drum is higher than outside of it, with the loads acting downwards onto the concrete foundation, thus eliminating the risk of the drum screen breaking free from its foundations and floating in the chamber which can lead to lengthy plant down time.

The DE flow pattern produces an outlet flow that converges and this makes this flow pattern particularly suitable for close coupling to the inlet of the CW pump.



DE DRUM SCREENS FEATURES AND BENEFITS

COST-EFFECTIVE

The high unit capacity of double entry drum screens compared with, traveling band screens means that fewer units are required for a given intake flow which can result in savings in capital cost for the intake civil structure and a reduction in ancillary plant such as control systems, coarse screens, StopGate™ technology, and wash-water system. Furthermore, because of the high reliability of drum screens, a standby unit is rarely required and plant maintenance and outage costs are very low, further contributing to the drum screen's low whole-life costs.

PURPOSE DESIGNED

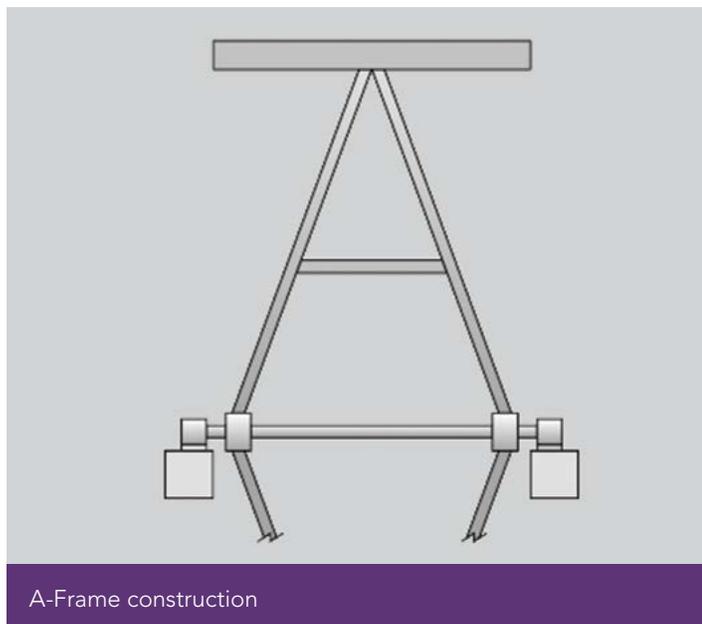
Brackett Green's double entry drum screens are purpose designed for each individual intake, with specific features to suit the particular operating and site conditions installed as necessary. These can include seismic qualification and nuclear safety related duty. Our experienced engineers have designed drum screens with a unit capacity of 35m³/sec, larger capacities are currently being designed.

SOLID SHAFT

Ovivo does not compromise in the design of the main shaft and bearing assembly. A substantial solid, high tensile steel shaft is used to support the screen.

A-FRAME CONSTRUCTION

A-Frame construction provides a light but rigid structure that is particularly suitable for drum screens constructed from stainless steel or drum screens that have to be seismically qualified.



A-Frame construction



BRACKETT GREEN® DRUM SCREEN

SE DRUM SCREEN – HOW IT WORKS

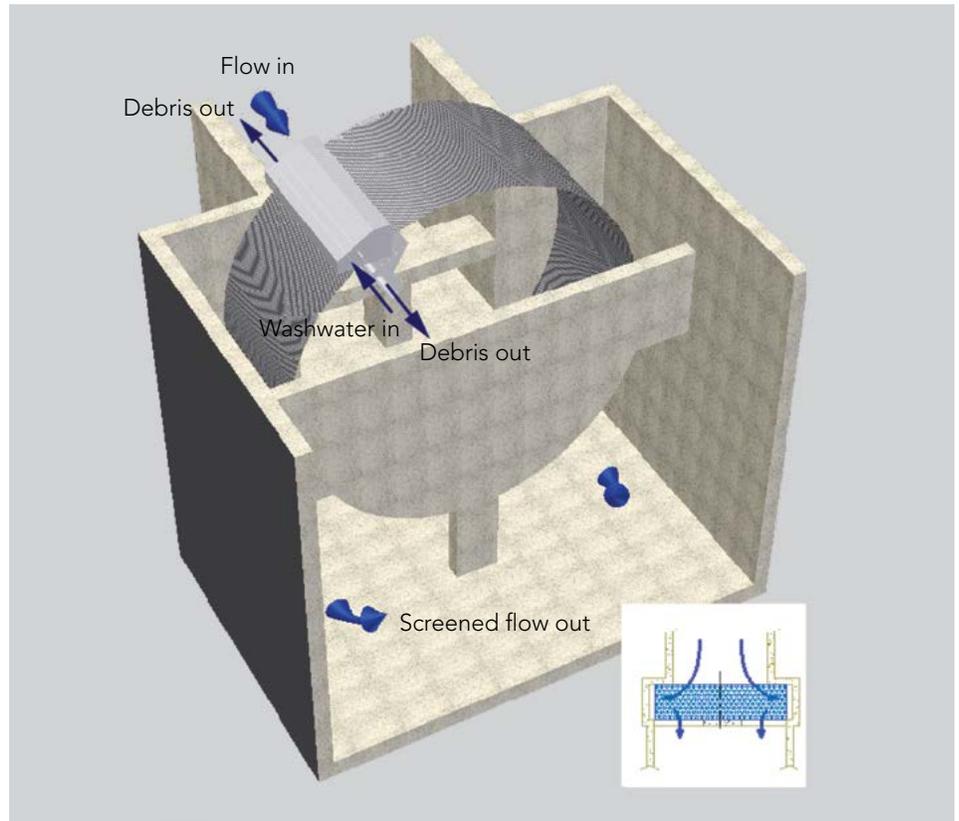
The Brackett Green® single entry drum screen is very similar in construction and operation to that of a DE drum screen, and therefore shares the same advantages such as high reliability, low maintenance and excellent screening performance.

FLOW PATTERN

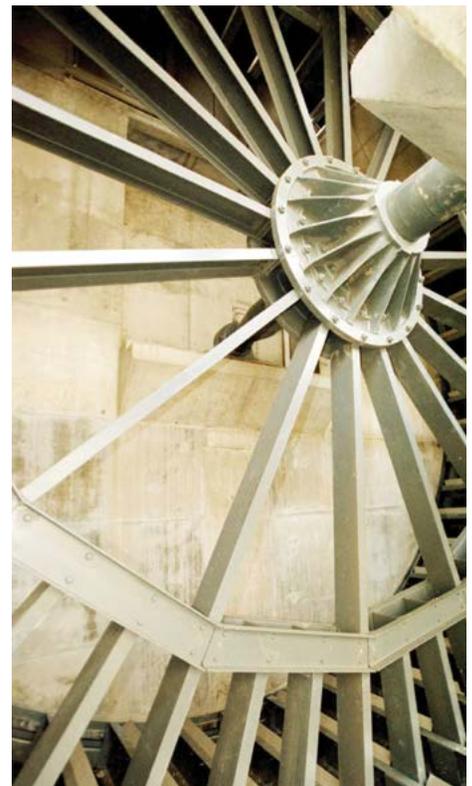
What distinguishes the SE from the DE drum screen is the flow pattern and screen orientation. With the SE arrangement the screen main shaft is aligned with the direction of influent flow which enters the screen via a single inlet port, then passes radially out through the screening media and exits by two outlet ports located in the downstream civilwork wall.

This arrangement simplifies the civilwork construction. The SE drum screen is principally suited to smaller flows where there is not a pump located immediately downstream of the outlet.

The SE flow pattern has some features that make it particularly suitable for municipal waste water applications. For example any solids that may settle to the invert of the inlet channel get swept by the flow and fall directly in to the screen inlet. Also an overflow weir can be incorporated in the back wall which allows the screen chamber to bypass the incoming flow in the event of overload or power loss.



Outlet port of SE drum screen



SE drum screen from the inlet side

DRUM SCREEN APPLICATIONS

COOLING WATER INTAKES

Ovivo's Brackett Green double entry drum screens are ideal for installation on large volume raw water intakes. They need little maintenance, and effectively remove floating and suspended solids, protecting pumps, heat exchangers and other critical equipment. Fitted with mesh ranging from 1.5mm to 10mm, these screens can be installed as a single unit or as part of a two- or three-stage system.

WASTEWATER TREATMENT

SE or DE drum screens are frequently employed on wastewater applications for screening of large inlet work flows, or for storm water screening. The screening of municipal waste water poses some particular challenges due to the nature of the solids, in particular hair, fibres and grease.

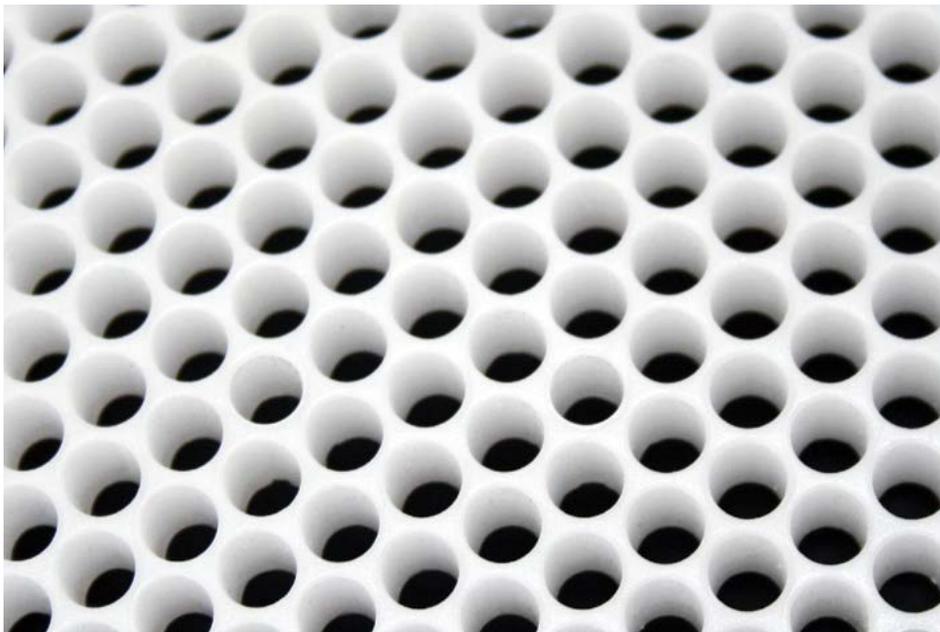
PROPANEL® SCREENING MEDIA

After several years in development, our engineers patented a screening media that would resist "hairpinning" for municipal sewage screening applications. The ProPaPanel® technology is a thick screening media

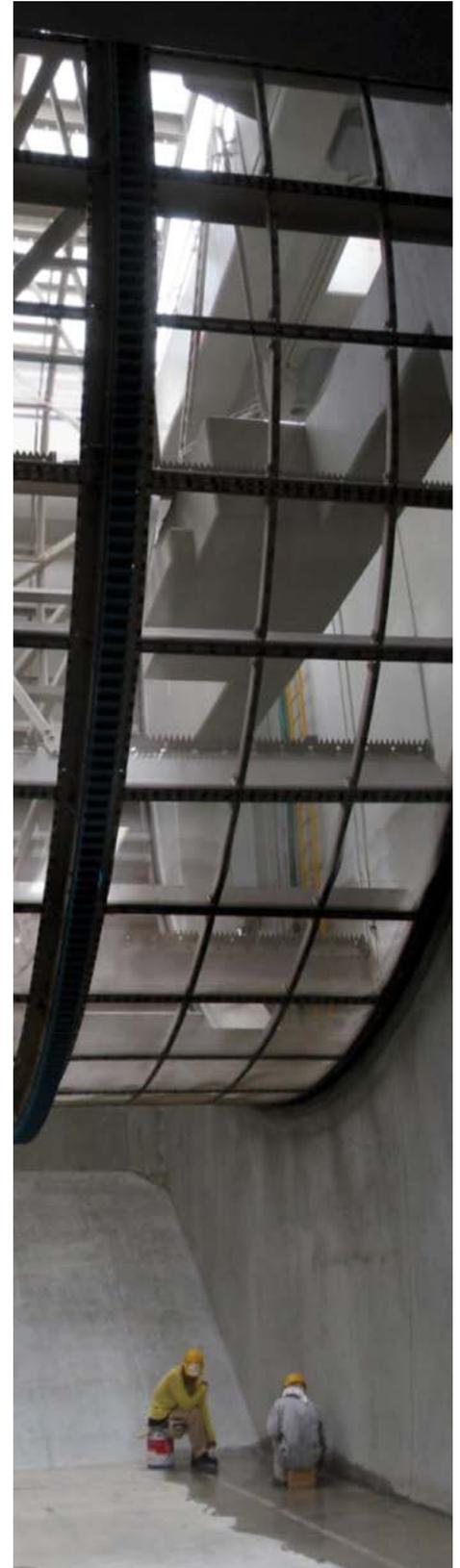
in corrosion-resistant non metallic material that resists hairpinning. Ordinary perforated plate panels allow fibrous deposits such as body hair, cotton and rags to staple or 'hair-pin' around the plate, eventually blinding the screen.

Ovivo's Brackett Green SE and DE drum screens for municipal sewage screening applications incorporate patented ProPaPanel technology to achieve high volume fine screening without the need for multiple screens and multiple ancillary plant. The ProPaPanel screening media is available from 6mm (~ 1/4") to 2mm (~ 1/16") in diameter.

The ProPaPanel system requires only a low backwash pressure of 2.0 bar (~ 30 PSI) to clean the screen. The 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. ProPaPanel screening media help establishes Ovivo's Brackett Green DE and SE drum screens as efficient, economical, low-maintenance solutions for fine screening of municipal waste water.



Close up of Ovivo's ProPaPanel® technology



Underneath of a DE drum screen



ENGINEERING SERVICES

DESIGN AND ANALYSIS

Ovivo uses state-of-the-art computer aided design programmes with AutoDesk Inventor used as the basis for design and drafting activities. With advanced 3D graphics and modeling, products are designed for different operating conditions and requirements for its customers. This system, in conjunction with our finite analysis package, always ensures sound engineering is always applied to each project.

INSTALL, COMMISSION, MAINTAIN

Ovivo's service engineers can install, commission and maintain all machines. Our team of international engineers will visit sites around the world to advise on all aspects of our products.

Ovivo is able to provide long-term agreements covering spares and maintenance, relieving you of costly overheads by providing trained personnel where and when you need them – particularly during planned shut downs.

SPARE PARTS

Ovivo retains comprehensive records of all the machines they have built. The records can be accessed quickly on our computerized spare parts database. All spares supplied are genuine, guaranteed and supported by our detailed knowledge of all historical modifications or upgrades which may have occurred since the machines were supplied.

Our Aftermarket managers are available for advice at any time. We can recommend suitable spare parts for both holding on site as strategic spares, and for your long term needs for planned maintenance shut downs. Spares can be ex-works or delivered to site for installation.

TRAINING

As a supplier of engineered capital equipment, we naturally offer our end users on-site or in-house training courses. We have skilled instructors available, and can train your team in all aspects of equipment use, including detailed instructions for replacing parts, adjustment and monitoring.

Training courses are for individuals on a one-to-one basis or for groups of up to eight, either on-site or in our worldwide offices. Contact our spares and service managers for details of the courses available.

BRACKETT GREEN® DRUM SCREEN BENEFITS

HOW WE CREATE VALUE

Highly reliable with low maintenance requirements

Expert knowledge and extensive experience ensures optimal plant selection and sizing

Robust, cost-effective design

Effectively cleaned by low pressure backwashing, minimizing energy costs

Consistent screening quality



ovivo®connectSM

Ovivo® ConnectSM portal is an innovative and intuitive application that allows our customers to use 'SmartTags' installed on our equipment (or a web URL) to access a personalized customer zone. Access your equipment documentation, find contract references, track service logs, manage spare parts, and plan your next maintenance to get the most out of your equipment.

NEED **ACCESS** TO YOUR **O&M MANUAL**?
NEED **SPARE PARTS**?
WANT THE **LATEST TIPS AND NEWS** ON YOUR ASSET?



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